BY ORDER OF THE SECRETARY OF THE AIR FORCE

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Maintenance

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 Enterprise*. It provides the strategic structure for Air Force munitions units and provides the policy framework for uniform and effective management of nuclear, conventional, and missile organizations. This publication applies to individuals at all levels who manage, steward, and maintain munitions, nuclear weapons, Intercontinental Ballistic Missiles (ICBM), and related systems and components, including the Air Force Reserve (AFR) and Air National Guard (ANG). The ANG is a MAJCOM for the purpose of this instruction. MAJCOMs 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. 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 missile maintenance community. Where specific requirements exist relative to a specific functional specialty, the requirement is delineated in the applicable Air Force Instruction (AFI). This publication applies to all major commands (MAJCOMs) and their subordinate units. Units will contact the applicable MAJCOM for interpretations of the guidance contained in this publication. 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 AFI 33-360, *Publications and*

Forms Management, Table 1.1 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 Publication Office of Primary Responsibility (OPR) for non-tiered compliance items. MAJCOM supplements to this publication must be routed to the OPR of this publication for coordination prior to certification and approval. Units will not supplement this publication. Ensure all records created as a result of the processes prescribed in this publication are maintained in accordance with AFMAN 33-363, *Management of Records*, and disposed of in accordance with Air Force Records Disposition Schedule (RDS) in the Air Force Records Information Management System (AFRIMS). 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.

SUMMARY OF CHANGES

This Interim Change (IC) revises AFI 21-200, *Munitions and Missile Maintenance Management*, 2 Jan 2014 & rescinds AFI 21-200 AFGM01, 27 Feb 2015. This Interim Change also incorporates permanent changes to AFI 21-200 guidance to specify implementation period, clarify key and lock storage requirement, unsatisfactory board member requirements, key issue, turn-in and audit (inventory) requirements, QA inspections, and tool and equipment management requirements for any installation where active flightline operations occur. A margin bar (|) indicates newly revised material. In advance of the pending complete revision of AFI 21-200, the following items are updated to provide important changes that are effective immediately:

Chapter 1

GENERAL

1.1. Introduction. This instruction contains general information to support Air Force munitions and missile maintenance communities and provides broad responsibilities for these organizations. This Air Force instruction is the capstone document that defines munitions and missile 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 will notify the MAJCOM staff of conflicts. (T-2).

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

1.3. Defining Duty Periods. Ensure 2WX and 2M0 personnel (except those dispatched as noted in **paragraph 1.3.2.2**) handling, loading, or performing maintenance actions on nuclear or conventional weapon systems or explosives do not exceed 12-hours of continuous duty (may be waived up to a maximum of 16 hours) followed by a period which provides at least 8 hours of uninterrupted rest. (T-0). Duty time begins when personnel report for duty and ends when their supervisor releases them; however, timeframe must not exceed the limits specified in this AFI.

1.3.1. Ensure maintenance personnel are provided the appropriate rest period and do not exceed maximum duty periods. (T-0). ***EXCEPTION:*** The Group Commander or equivalent may waive these provisions during actual advanced defense readiness conditions, actual emergencies as defined in DoD Directive 3150.2, *DoD Nuclear Weapons Surety Program*, AFPD 91-1, *Nuclear Weapons and Systems Surety*, and AFI 91-101, *Air Force Nuclear Weapons Surety Program*, or to resolve an unexpected event (e.g., disabled vehicle, alarm fault, hoist failure, weather). The maximum duty period cannot be waived solely to support exercises or inspections. Consider climatic conditions for local work/rest cycles during extreme temperatures.

1.3.2. Ensure all personnel who dispatch within the missile field complex receive a 12-hour rest period prior to beginning their scheduled duty period, unless they remain overnight (RON) at a Missile Alert Facility (MAF). **(T-1).** Duty time begins when personnel report for duty or start their standby period (whichever is earlier). The duty period ends when personnel turn in all equipment and vehicles or release these items to another individual/team, or when personnel arrive at a MAF to RON.

1.3.2.1. All personnel will receive an uninterrupted 12-hour rest period upon completion of an off-base dispatch, or after a Remain Overnight (RON) at support base. **(T-1).** Personnel who RON at a MAF will be provided at least 10 hours of uninterrupted rest. **(T-1).**

***NOTE:** Maintenance team-initiated, mission-related communication with official agencies does not constitute an interruption of crew rest.

1.3.2.1.1. All ICBM dispatching personnel will contact MMOC upon entering RON status and establish a duty start time upon completion of required crew rest. **(T-1).**

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

1.3.2.1.3. Any official business conducted during the designated crew rest period that is not initiated by personnel in crew rest is considered an interruption to the crew rest period. If crew rest is interrupted, individuals are to immediately inform appropriate leadership and be given the allotted time back to ensure the full 10 or 12 hours of uninterrupted rest is attained.

1.3.2.2. The maximum duty period for dispatching personnel is 16 hours in any combination of on/off-base duty. This maximum duty period may be waived to meet mission requirements consistent with **paragraph 1.3.1.**

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

Chapter 2

ORGANIZATION ROLES AND RESPONSIBILITIES

2.1. 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 (FDE) 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.

2.2. Munitions Squadrons (MUNS) and Munitions Flights. Munitions organizations are aligned IAW AFI 38-101, *Air Force Organization*, and amplifying guidance in **Figure 2.1** and **2.2** as well as **Table 2.1** and **2.2** 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 (IT) systems. Squadron and flight personnel manage and maintain all assigned tools, test, munitions handling equipment, and associated support equipment.

2.2.1. Munitions Squadron (MUNS) Organizational Structure. The MUNS commander is directly responsible to the group commander (or equivalent) and is organized in accordance with **Figure 2.1** The Unit Manning Document (UMD) is aligned according to the Air Force approved template at **Table 2.1** Dependent upon assigned mission, a MUNS may consist of Production, Materiel, Systems, Armament, Conventional Air Launched Cruise Missile (CALCM), and Special Weapons flights.

2.2.1.1. The Combat Munitions Training (CMT) Section is typically aligned under the Production Flight; however, CMT may be combined with squadron training under the Systems Flight. ACC and PACAF units are not required to meet CMT 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.

2.2.1.2. 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 (GSU) may be authorized other specialties such as Aerospace Ground Equipment (AGE) and Vehicle Maintenance in accordance with applicable manpower standards.

2.2.1.3. 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 2WX and/or 2M0 or other specialty skills on a scale broader than what a Munitions Flight can provide.

2.2.2. Munitions Functions/Activities. Munitions squadrons and flights may physically or functionally consolidate internal workcenters and activities to maximize operational efficiency. (T-2). MAJCOM functional staff will be notified. However, MAJCOM approval is not required. UMDs will not be changed to reflect local consolidation. When consolidating, the organizational structure outlined in **Figure 2.1** and **Figure 2.2** will remain the approved structure. (T-3). Munitions organizations may establish consolidated tool room, resource, supply, training, and support functions, as they deem necessary. 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 2.2.3** for small and unique munitions organizational structure.

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

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

2.2.2.3. 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. For nuclear capable units, specific training requirements are prescribed in AFI 21-204, *Nuclear Weapons Maintenance Procedures.*

2.2.2.4. Armament Systems Flight. The Armament Systems Flight performs off-equipment maintenance of weapons release systems, guns, munitions racks, adapters, pylons, and launchers. Specific responsibilities are described in AFI 21-101, *Aircraft and Equipment Maintenance Management,* and appropriate MAJCOM supplemental guidance. The Wing Weapons Manager is the wing's focal point for all weapons loading and armament systems related matters.

2.2.2.5. Conventional Air-Launched Cruise Missile Flight. The CALCM Flight performs on-equipment and off-equipment maintenance on assigned CALCM and associated equipment. Specific responsibilities are described in AFI 21-202V2, *Missile Maintenance Management,* and appropriate MAJCOM supplemental guidance.

2.2.2.6. 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, missiles, Reentry Systems (RS), Reentry Vehicles (RV), and associated equipment. Specific responsibilities are described in AFI 21-202V2, *Missile Maintenance Management,* AFI 21-203, *Nuclear Accountability Procedures,* AFI 21-204, *Nuclear Weapons Maintenance Procedures,* and appropriate MAJCOM supplemental guidance.

Figure 2.1. Munitions Squadron (MUNS) Organizational Structure.

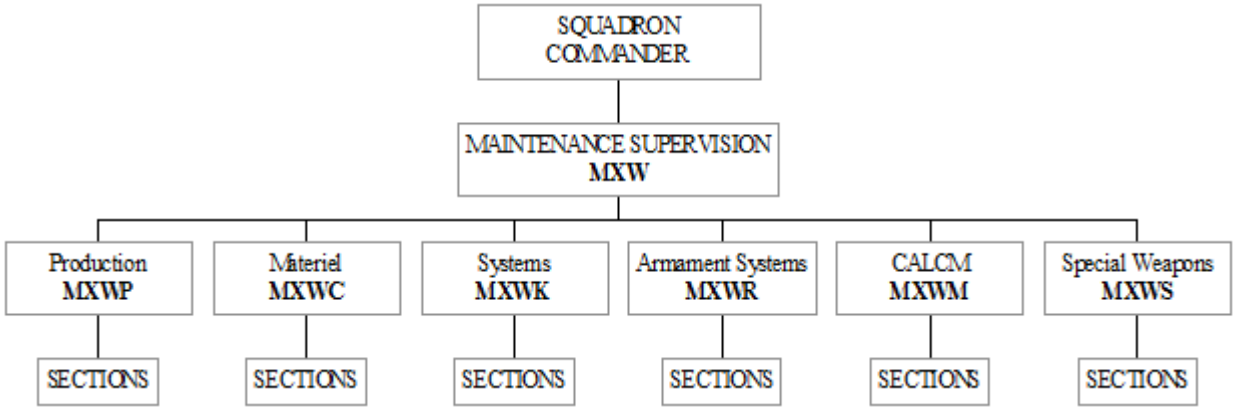


Table 2.1. Munitions Squadron (MUNS).

OSC	TITLE	LEVEL
CC	COMMANDER	SQDN
MXW	MAINTENANCE SUPERVISION	SQDN
MXWC	MUNITIONS MATERIEL	FLIGHT
MXWCA	MUNITIONS OPERATIONS	SECTION
MXWCB	MUNITIONS INSPECTION	SECTION
MXWCC	MUNITIONS STORAGE/HANDLING	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	CALCM	FLIGHT
MXWMM	MISSILE MAINTENANCE	SECTION
MXWMS	SUPPORT	SECTION
MXWMA	ANALYSIS	SECTION
MXWML	LLA/PLA MAINTENANCE	SECTION

OSC	TITLE	LEVEL
MXWMV	VERIFICATION AND CHECKOUT EQUIPMENT	SECTION
MXWR	ARMAMENT SYSTEMS	FLIGHT
MXWRM	MAINTENANCE	SECTION
MXWRS	SUPPORT	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
MXWSV	VERIFICATION AND CHECKOUT EQUIPMENT	SECTION

Figure 2.2. Munitions Flight Organizational Structure.

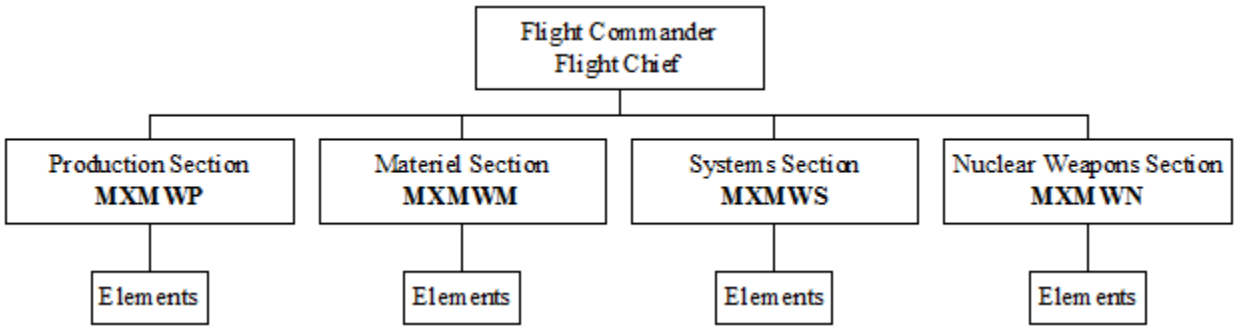


Table 2.2. Munitions Flight.

OSC	TITLE	LEVEL
MXMW	MUNITIONS FLIGHT	FLIGHT
MXMWP	MUNITIONS PRODUCTION	SECTION
MXMWPA	CONVENTIONAL MAINTENANCE	ELEMENT
MXMWPB	LINE DELIVERY	ELEMENT
MXMWPC	PRECISION GUIDED MUNITIONS	ELEMENT
MXMWPD	MUNITIONS SUPPORT EQUIPMENT	ELEMENT
MXMWM	MUNITIONS MATERIEL	SECTION
MXMWMA	MUNITIONS OPERATIONS	ELEMENT
MXMWMB	MUNITIONS INSPECTION	ELEMENT
MXMWMC	MUNITIONS STORAGE/HANDLING	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
MXMWNW	WEAPONS MAINTENANCE	ELEMENT

2.2.3. 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 2.3** Organization structure codes will be recommended by AF/A4LW and approved by AF/A1MO.

2.2.3.1. Criteria for a small unit organizational structure:

2.2.3.1.1. Have less than 60 authorized full time personnel.

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

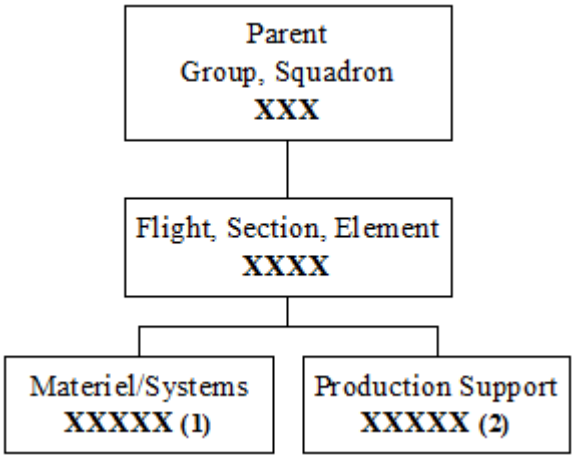
2.2.3.1.3. Provides sole support for activities on an installation or for the parent MAJCOM.

2.2.3.2. Criteria for a unique unit organizational structure:

2.2.3.2.1. Have a unique function (e.g., Air Force Research Laboratories, Flight Test Squadron).

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

Figure 2.3. Small and Unique Organizational Structure.



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.

2.2.4. Air Reserve Component (ARC) units. ARC units are organized differently from other Air Force units primarily due to their manning posture. The ARC Munitions Flight or Element day-to-day peacetime organizational structure is designed to sustain minimal core munitions activities.

2.2.4.1. 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.

2.2.4.2. 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).

2.3. 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 munitions, missiles, RS, guidance sets, security and electrical systems, coding, corrosion control, power and environmental control, and periodic inspections. **Figure 2.4** and **Table 2.3** depict the MMXS organizational structure.

2.3.1. Generation Flight. The Generation Flight generates and maintains assigned ICBM forces by removing, installing, and transporting Minuteman aerospace vehicle equipment, RS, and missiles. The flight performs electronic, electro-mechanical, security, electrical system troubleshooting, repair, and coding of ICBM weapon systems.

2.3.2. 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.

2.3.3. Rivet Minuteman Integrated Life Extension (Rivet MILE). Rivet MILE is a depot-level GSU stationed at each ICBM wing embedded within the MMXS. Rivet MILE provides depot level maintenance supporting ICBM activities. As depot field operating units, Rivet MILE operations will be governed by this instruction, AFI 21-101, *Aircraft and Equipment Maintenance Management*, AFI 21-202V1, *Missile Maintenance Management*, and Air Force Global Strike Command (AFGSC)/Air Force Materiel Command (AFMC) Memorandum of Agreement (MOA).

Figure 2.4. Missile Maintenance Squadron Organizational Structure.

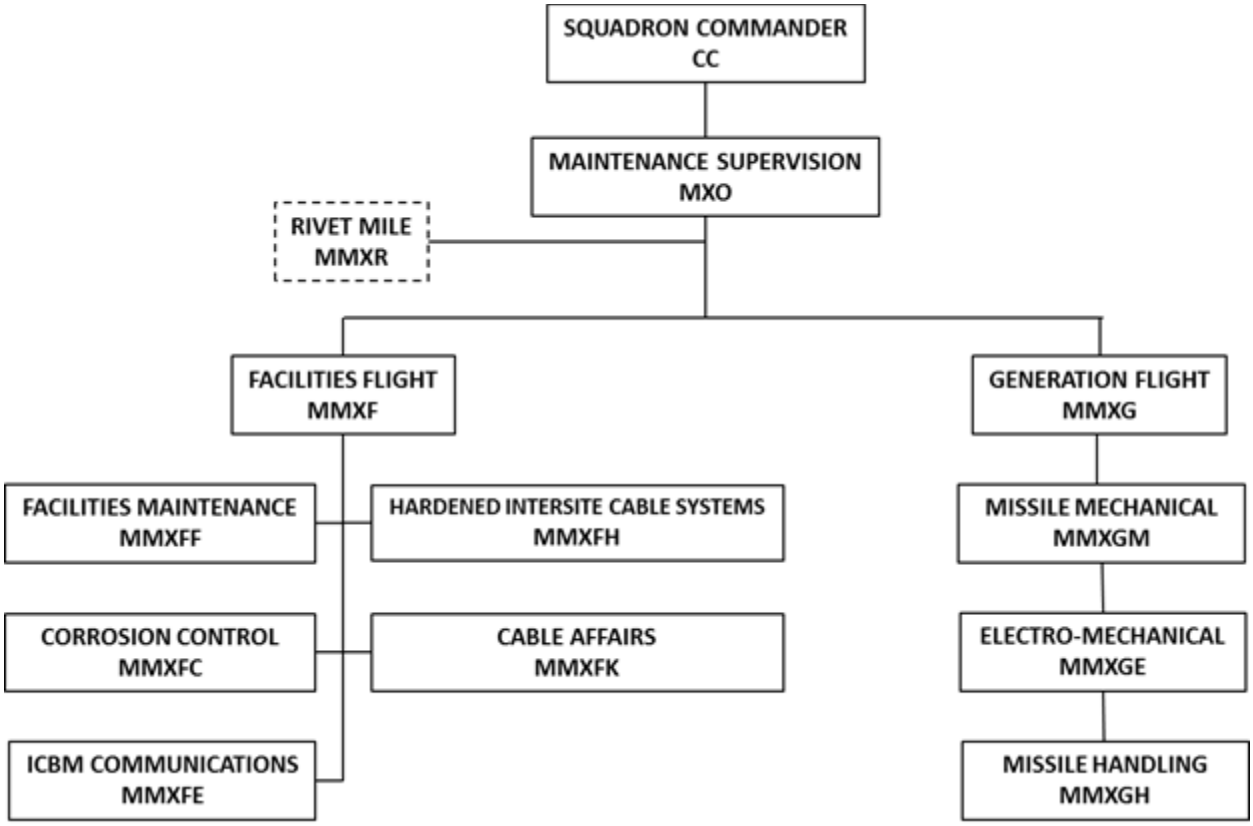


Table 2.3. Missile Maintenance Squadron.

OSC	TITLE	LEVEL
CC	COMMANDER	SQDN
MXO	MAINTENANCE SUPERVISION	SQDN
MMXG	GENERATION	FLIGHT
MMXGE	ELECTRO-MECHANICAL	SECTION
MMXGM	MISSILE MECHANICAL	SECTION
MMXGH	MISSILE HANDLING	SECTION
MMXF	FACILITIES	FLIGHT
MMXFF	FACILITIES MAINTENANCE	SECTION
MMXFE	ICBM COMMUNICATIONS	SECTION
MMXFH	HARDENED INTERSITE CABLE SYSTEMS	SECTION
MMXFC	CORROSION CONTROL	SECTION
MMXFK	CABLE AFFAIRS	SECTION
MMXR	RIVET MILE	GSU

2.4. Maintenance Squadron (MXS) (Missile Units). Missile wing MXSs are different from those outside missile 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. The squadron administers initial and recurring training, to include ancillary and on-the-job programs, and accomplished off-equipment maintenance and limited on-equipment repair. Additionally, missile wing MXSs provide centralized management of manpower, finances, and support equipment for the missile maintenance complex. **Figure 2.5** and **Table 2.4** depict the missile wing MXS organizational structure.

2.4.1. 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. The flight functions as the centralized manager for manpower, materiel control, mission support equipment, technical orders, facilities, and long range planning.

2.4.2. Maintenance Training Flight. The Maintenance Training Flight manages ICBM maintenance training and provides ancillary training to all personnel assigned to the maintenance group.

2.4.3. Resources Flight. The Resources Flight maintains assigned AGE 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.

2.4.4. Technical Engineering - Operating Location. Technical Engineering operates as a GSU stationed at each ICBM wing. The organization is embedded in the MXS and provides

expertise to solve unique weapon system problems that are beyond the normal scope of field-level technical data. Technical Engineering serves as the ICBM Program Office representative and ensures the Program Office helps develop problem solutions or concurs with proposed solutions before implementation. Technical Engineering operations will be governed by this instruction, AFI 21-202V1, *Missile Maintenance Management*, and the AFGSC/AFMC MOA.

Figure 2.5. Maintenance Squadron Organizational Structure (Missile Units).

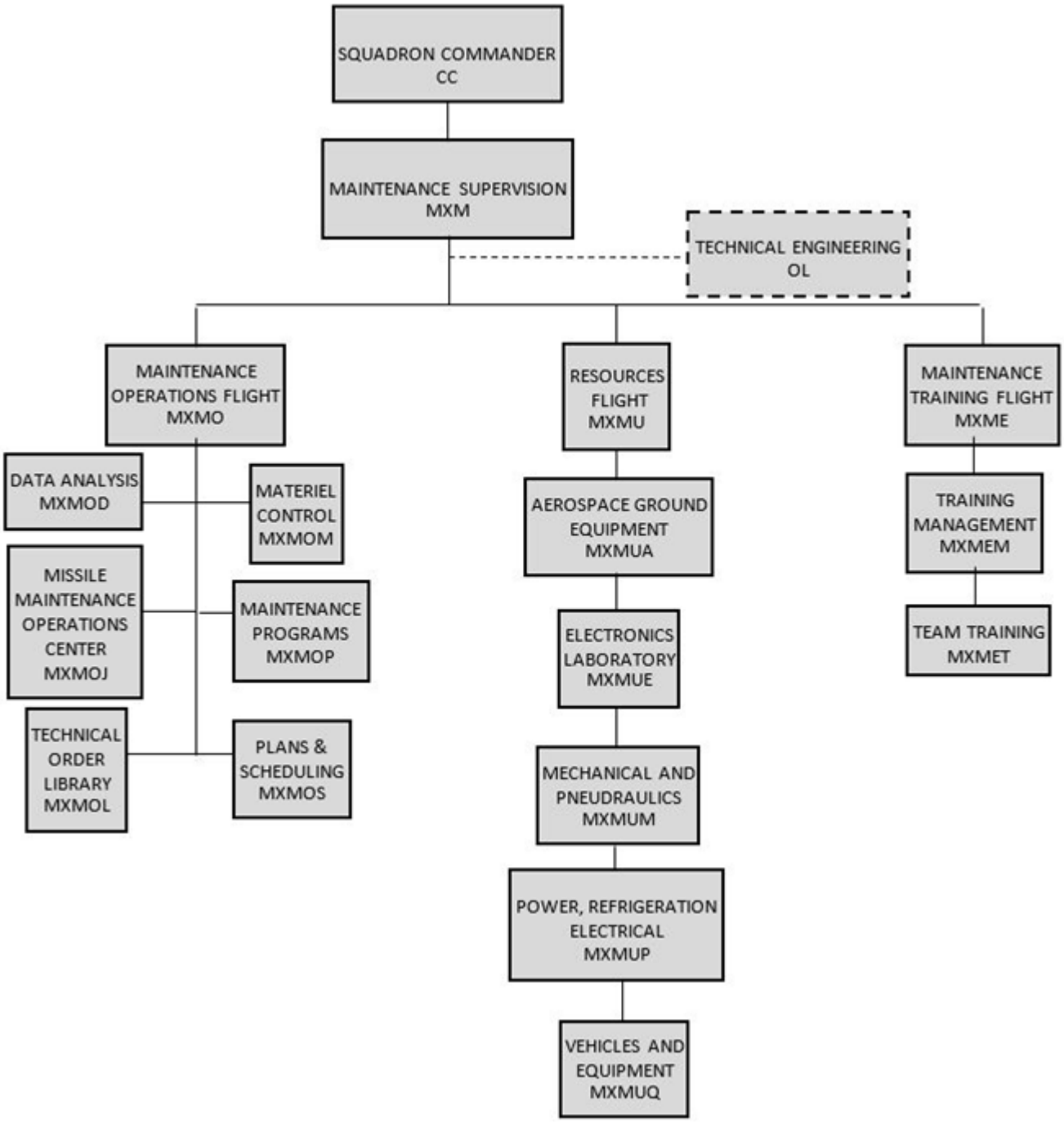


Table 2.4. Maintenance Squadron (Missile Units).

OSC	Title	Level
CC	COMMANDER	SQDN
MXM	MAINTENANCE SUPERVISION	SQDN
MXMO	MAINTENANCE OPERATIONS FLIGHT	FLIGHT
MXMOD	DATA ANALYSIS	SECTION
MXMOJ	MISSILE MAINTENANCE OPERATIONS CENTER	SECTION
MXMOL	TECHNICAL ORDER LIBRARY	SECTION
MXMOM	MATERIEL CONTROL	SECTION
MXMOP	MAINTENANCE PROGRAMS	SECTION
MXMOS	PLANS & SCHEDULING	SECTION
MXMU	RESOURCES FLIGHT	FLIGHT
MXMUA	AEROSPACE GROUND EQUIPMENT	SECTION
MXMUE	ELECTRONICS LABORATORY	SECTION
MXMUM	MECHANICAL AND PNEUDRAULICS	SECTION
MXMUP	POWER, REFRIGERATION, ELECTRICAL	SECTION
MXMUQ	VEHICLES AND EQUIPMENT	SECTION
MXME	MAINTENANCE TRAINING FLIGHT	FLIGHT
MXMEM	TRAINING MANAGEMENT	SECTION
MXMET	TEAM TRAINING	SECTION
OL	TECHNICAL ENGINEERING	GSU

2.5. Munitions Support Squadron (MUNSS). Munitions Support Squadrons are GSUs 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 2.6** and **Table 2.5** depict the MUNSS organizational structure. MUNSS units report directly to the 52d Munitions Maintenance Group (MMG) located at Spangdahlem Air Base, Germany.

2.5.1. 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.

2.5.2. 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.

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

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

2.5.5. Operations Flight. The Operations Flight is comprised of an OIC, Superintendent, and Emergency Action Controllers. The flight operates the Command Post providing 24/7 coverage.

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

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

Figure 2.6. Munitions Support Squadron Organizational Structure.

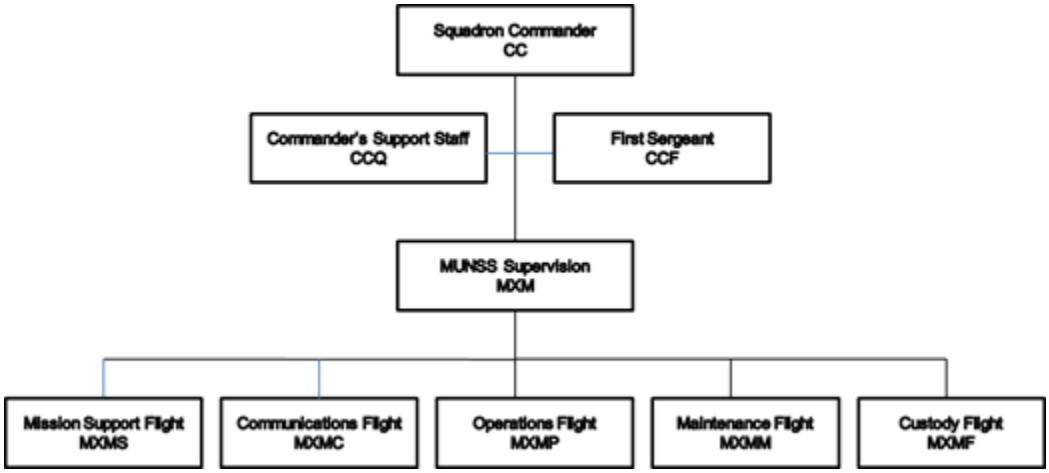


Table 2.5. Munitions Support Squadron.

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

2.6. 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 MMHE durability testing and validation. AFCOMAC provides subject matter expertise to the 561st Joint Tactics Squadron in the development of combat munitions tactical doctrine.

Chapter 3

MUNITIONS MAINTENANCE RESPONSIBILITIES

3.1. Headquarters Air Force (HAF).

3.1.1. AF/A4LW will:

3.1.1.1. Develop, articulate, and clarify Air Force munitions and armament systems maintenance and logistics policies and produce applicable HAF core functional checklists based on these policies.

3.1.1.2. Serve as the HAF point of contact for matters relating to munitions and armament logistics.

3.1.1.3. Serve as a voting member and coordinate on applicable portions of the quarterly Air Force Maintenance Executive Board (AFMEB) with the Air Force Directorate of Logistics and division co-chairs.

3.1.1.4. Manage force development, including the accession, education and training, retention, and optimum utilization of the active duty, 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 (AFCFM).

3.1.1.5. Execute Functional Area Manager (FAM) duties and responsibilities for the 2M, 2W, 8S, and 21M career fields as outlined in AFI 10-401, *Air Force Operations Planning and Execution*.

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

3.2. MAJCOMs.

3.2.1. All MAJCOM nuclear weapons, munitions, missile, armament systems, and space launch maintenance divisions will:

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

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

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

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

3.2.1.5. 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.

3.2.1.6. Execute MAJCOM FAM duties and responsibilities outlined in AFI 10-401, *Air Force Operations Planning and Execution*.

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

3.2.1.8. 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.

3.2.1.9. Review, validate, and coordinate maintenance and Engineering Technical Assistance Requests (ETAR) 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.*

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

3.2.1.11. Serve as voting members for the AFMEB, World Wide Senior Munitions Manager's Conference (WWSMMC), and Utilization and Training Workshops (U&TW) conferences and the Tactical Munitions Reporting System (TMRS) Steering Group. Provide functional representatives to working groups as required by the AFMEB and WWSMMC.

3.2.1.12. Supplement HAF core functional checklists, as required, with MAJCOM unique items for all armament system, munitions, and/or space launch maintenance functions.

3.2.1.13. 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.

3.2.2. Lead Commands will:

3.2.2.1. Execute responsibilities identified in AFPD 10-9, *Lead Command Designation and Responsibilities for Weapon Systems.*

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

3.2.2.2.1. 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.

3.2.2.2.2. Develop procedures to meet AFI 91-107, *Design, Evaluation, Troubleshooting, and Maintenance Criteria for Nuclear Weapons Systems*, 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.

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

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

3.2.2.5. Request and allocate number of quotas for munitions training courses based on Supported MAJCOM requirements.

3.2.3. Supported MAJCOMs will:

3.2.3.1. 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.

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

3.2.3.3. Determine requirements for munitions training courses and submit to Lead Command for quota allocation.

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

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

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

3.2.4.1. In conjunction with the AFCFMs, assist in the development of Career Field Education and Training Plans (CFETP), Career Development Courses, and other training materials based on requirements established in U&TWs.

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

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

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

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

3.2.5.2. Lead, plan, and schedule T.O. validation and verification efforts.

3.2.5.3. Develop, test, verify, rewrite, and publish organizational and depot-level maintenance T.O.s.

3.2.5.4. Provide guidance and technical expertise during weapon system software updates and final qualification testing.

3.2.5.5. Create and maintain a life cycle management plan for all supported aerospace equipment and/or weapons systems in accordance with AFI 21-118, *Improving Air and Space Equipment Reliability and Maintainability*.

3.2.5.6. Process munitions unit requests to establish a DoDAAC after MAJCOM validation.

3.2.5.7. 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 (GAP) conference, Product Improvement Working Groups, Nuclear Weapons Technical Interchange Meetings, etc.

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

3.2.5.9. Ensure inspection of suspected defective items and publish Time Compliance Technical Orders (TCTO) as required.

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

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

3.2.5.12. Report critical munitions issues to affected MAJCOMs.

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

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

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

3.2.5.15.1. 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*.

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

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

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

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

3.2.5.15.6. 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 DOE-DOE Nuclear Weapons Life-Cycle Activities*, and

AFI 63-103, *Joint Air Force-National Nuclear Security Administration (AF-NNSA) Nuclear Weapons Life Cycle Management.*

3.2.5.15.7. 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.

3.2.5.15.8. Provide Air Force Explosive Ordnance Disposal (EOD) nuclear technical expertise to AF/A7CX, HQ Air Force Civil Engineering Support Agency (AFCESA), and joint/interdepartmental agencies. In accordance with AFI 32-3001, *EOD Program*, the AFNWC EOD 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.

3.2.5.15.9. 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.

3.2.5.15.10. 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 and to AF/A4LW for coordination. The AFNWC serves as the final Air Force approving office for changes to JNWPS T.O.s. Changes affecting Air Force policy directives, instructions, or manuals must be approved by AF/A4LW.

3.2.5.15.11. 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 (POG) 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 POG Subgroups.

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

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

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

3.2.5.15.15. Track location and status of nuclear weapons and Nuclear Weapons-Related Materiel (NWRM).

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

3.2.5.16. The GACP will operate and manage Air Force conventional munitions stockpiles IAW AFI 21-201, *Conventional Munitions Maintenance Management*, and applicable DoD and Air Force directives.

3.2.6. Air Force Global Strike Command Additional Responsibilities. AFGSC will:

3.2.6.1. Monitor daily status of missiles and mission equipment critical to CDRUSSTRATCOM commitments.

3.2.6.2. Participate in the Joint Nuclear Weapons POG and the Maintenance and Logistics subgroup to ensure issues affecting weapon development, modification, and sustainment are addressed.

3.2.6.3. Coordinate with AFMC to determine depot supportability requirements.

3.2.6.4. Ensure procedures are developed to control and document cruise missile, ICBM LF, MAF, training LF, and support equipment cannibalization actions.

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

3.2.6.6. Develop requirements, budget, and advocate for nuclear weapons trainers. Provide requirements to the AFNWC Nuclear Weapons Logistics Division.

3.2.7. Air Combat Command (ACC) Additional Responsibilities. ACC will:

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

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

3.2.8. Air Force Space Command (AFSPC) Additional Responsibilities. AFSPC will:

3.2.8.1. Oversee Spacelift Maintenance.

3.2.8.2. Space and Missile Systems Center (SMC). SMC, a subordinate unit of AFSPC, is responsible for research, development, acquisition, fielding, sustainment management, logistics support, depot level maintenance, and disposal of assigned military space launch systems. SMC's Space Logistics Group provides maintenance and logistics support management for the sustainment phase of a space weapon system. SMC will:

3.2.8.2.1. Assign a System Program Manager/Single Manager for each assigned AFSPC system to perform system acquisition and sustainment management responsibilities. Managers will act as the Engineering Cognizant Oversight Authority/Configuration Management Authority in support of AFSPC weapon system operational requirements.

3.2.8.2.2. Assign a System Support Manager to ensure maintenance and logistics supportability as assigned weapon systems transition to operations and sustainment.

3.2.8.2.3. Provide AFSPC with logistics, engineering, and RDT&E support.

3.2.8.2.4. Maintain configuration management of assigned systems through the System Program Manager/Single Manager.

3.2.8.2.5. Provide guidance for space weapon system unique acquisition, logistics, and sustainment.

3.3. Wing/Installation Commander (or equivalent). These responsibilities will be 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, *Aircraft and Equipment Maintenance Management*, Wing/Installation Commanders will:

3.3.1. Appoint the Munitions Accountable Systems Officer (MASO) in accordance with AFI 23-111, *Management of Government Property in Possession of the Air Force*, AFI 21-201, *Conventional Munitions Maintenance Management* (for conventional munitions accounts), and AFI 21-203, *Nuclear Accountability Procedures* (for nuclear munitions accounts). (T-0). These appointment authorities will not be delegated.

3.4. Group Commander (or equivalent). In addition to the responsibilities found in AFI 21-101, *Aircraft and Equipment Maintenance Management*, Group Commanders will:

3.4.1. Ensure a Maintenance Standardization & Evaluation Program (MSEP) is implemented in compliance with the requirements established in **Chapter 8**. (T-1).

3.4.2. Ensure the Special Certification Roster (SCR) is managed per **Chapter 6**. (T-1).

3.4.3. Ensure IPI listings (if applicable) are approved and published per **Chapter 6** and **8.** (T-1).

3.4.4. Develop procedures for control and management of tools and equipment per **Chapter 10**. (T-1).

3.4.5. Ensure management of data automation activities, maintenance documentation, and maintenance analysis. (T-2).

3.4.6. Notify parent MAJCOM functional of any significant issue that results in an inability to meet mission requirements. This includes the inability to meet minimum Maintenance Capability Letter, Test/Training Munitions Listing, Unit Committed Munitions List, or Mobility Standard Configuration Load requirements, as applicable. (T-1).

3.5. Squadron Commander (or equivalent). In addition to the munitions-related responsibilities found in AFI 21-101, *Aircraft and Equipment Maintenance Management*, Squadron Commanders will:

3.5.1. Ensure individuals receive, as required, Missile/Weapons Academic, Explosive/Missile Safety, Nuclear Surety, Personnel Reliability Program (PRP), Intrinsic Radiation, and NWRM training as applicable. Refer to AFI 21-201, *Conventional Munitions Maintenance Management*, AFI 21-202, *ICBM and Cruise Missile Maintenance Management*, AFI 21-204, *Nuclear Weapons Maintenance Procedures*, and AFI 20-110, *Nuclear Weapons-Related Materiel Management*, for applicable functional specific requirements. (T-0).

3.5.2. Ensure applicable Emergency Action Checklists (EAC) 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).

3.5.2.1. Coordinate checklists with supporting base agencies (e.g., Fire, Security Forces). (T-2).

3.5.2.2. Coordinate explosive and mishap checklists with wing weapons safety office. (T-2).

3.5.2.3. Ensure EACs are reviewed for accuracy annually by all affected agencies. (T-2).

3.5.3. Ensure compliance with storage, control, and custodial responsibilities for possessed munitions and munitions items. (T-0).

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

3.5.5. Ensure that munitions/missile 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 up-channel of munitions reporting depends upon this connectivity.

3.5.5.1. 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.

3.5.6. Ensure computer equipment is compatible with the following software applications/capabilities as required to meet mission (T-1):

3.5.6.1. TMRS Web

3.5.6.2. Combat Ammunition System (CAS)

3.5.6.3. AFMC2 and/or NMC2

3.5.6.4. AIT

3.5.6.5. Digitized T.O.s.

3.5.6.6. Integrated Maintenance Data System/G081

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

3.5.7. 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 AFI 31-101, *Integrated Defense (FOUO).* (T-1).

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

3.5.9. Ensure Special Experience Identifiers are awarded to personnel upon qualification in accordance with AFI 36-2101, *Classifying Military Personnel*. (T-3).

3.5.10. Review applicable host tenant support agreements, inter-service support agreements, and MOAs. (T-3).

3.5.11. Ensure all individuals and organizations which physically control, possess, store, and maintain nuclear weapons protect and account for these resources IAW DoD S-5210.41-M, *Nuclear Weapon Security Manual*, as supplemented by AFMAN 31-108, *The Air Force Nuclear Weapon Security Manual*, and CJCSI 3150.04, *Nuclear Weapons Stockpile Logistics Management and Nuclear Weapons Reports Under the Joint Reporting Structure.* (T-0).

3.5.12. Ensure the Access, Approval, and Authority List (AAAL) (or equivalent) and Change Letters are managed per **Chapter 9**. (T-1).

3.6. 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, *Aircraft and Equipment Maintenance Management*, OO/MX SUPTs will:

3.6.1. Ensure safe, secure, and efficient use of resources. (T-3)

3.6.2. Ensure compliance with T.O.s and applicable governing directives. (T-0).

3.6.3. Ensure the highest degree of weapons and munitions capability, reliability, and accountability. (T-1).

3.6.4. In a Conventional Munitions Flight, the Flight Commander/Chief is responsible for these duties in addition to those identified in **paragraph 3.7**.

3.6.5. Ensure explosives operations are performed by a minimum of two personnel, one of which must be task-qualified. (T-1). Approve single-person explosives operations in writing with controls for safety and oversight (e.g., periodic radio contact). (T-1).

3.7. 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. In addition to the munitions-related responsibilities found in AFI 21-101, *Aircraft and Equipment Maintenance Management*, Flight Commanders/Chiefs will:

3.7.1. Review and correct discrepancies in the UMD and Unit Personnel Management Roster. (T-3).

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

3.7.3. Designate sections and elements responsible for maintaining deployment packages and equipment (if applicable). (T-3).

3.7.4. Ensure Master Training Plans cover peacetime and contingency tasks. (T-1).

3.8. 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, *Aircraft and Equipment Maintenance Management*, Section OIC/NCOICs will:

3.8.1. Ensure Munitions Control/Missile Maintenance Operations Center (MMOC) is notified of changes to fire symbol, line number, 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 (VSA) as soon as possible after they occur. (T-1).

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

3.8.3. Report personnel and support equipment status, shortfalls, job starts, delays and completions, and any other significant operational issues to Munitions Control/MMOC as soon as possible. (T-3).

3.8.4. Ensure repairs or modifications are not made to weapon system or related support equipment unless authorized by T.O.s or authorized and coordinated through appropriate channels. (T-1).

3.8.5. Ensure personnel use verbal demand-response techniques on all nuclear weapon maintenance, mate/demate, handling, and final assembly tests. (T-1).

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

3.9. Munitions Control. Munitions control is the focal point for planning, coordinating, directing, and controlling munitions activities. Munitions Control will coordinate with other maintenance activities and emergency response agencies to ensure effective scheduling and use of available resources. It must be located, equipped, and arranged to ease the collection, recording, and dissemination of information essential for command, control, and communications. Specific requirements are outlined in **Chapter 5**.

3.10. Missile Maintenance Operations Center (MMOC). MMOC serves as the focal point for planning, coordinating, directing, and controlling activities in the missile complex at ICBM units.

3.11. Munitions Accountable Systems Officer (MASO). The MASO oversees all aspects of daily accountability and management of the conventional and/or nuclear weapons stockpile. MASO are 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 AFI 21-201, *Conventional Munitions Maintenance Management*. For specific nuclear MASO responsibilities, refer to AFI 21-203, *Nuclear Accountability Procedures*.

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, missile 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 (DDL)/workload requirements file, and TCTO programs and assigns priorities in the event of scheduling conflicts (this function 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. 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). Data Analysis will perform this function for ICBM squadrons. (T-2).

4.1.3. In MUNS/MUNSS, maintain the DDL/workload requirements file for munitions specific scheduling purposes. (T-2). Data Analysis will perform this function for ICBM squadrons. (T-2).

4.1.4. 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-1).

4.1.4.1. Coordinate with QA for review of all TCTOs, MCL, modifications, retrofits, and alterations. (T-1).

4.1.4.2. Coordinate with Missile Engineering to schedule MCL as required. (T-1).

4.1.4.3. Coordinate applicable TCTO requirements with Munitions Operations Materiel Control, Logistics Readiness Squadron representative, and other supporting organizations, as applicable. (T-1).

4.1.4.4. Notify the AFNWC Nuclear Weapons Logistics Division on completion of retrofit per T.O. 11N-40-1, *Field Modernization and Retrofit Orders*, and T.O. 00-5-15, *Air Force Time Compliance Technical Order Process*. (T-2).

4.1.5. Authorize the performance of maintenance by assigning a Job Control Number (JCN) and initiating a work order through a MIS for scheduled maintenance tasks. (T-2). Munitions Control, MMOC, or P&S will issue job control numbers for all unscheduled tasks. (T-3). Line numbers will not be used to schedule maintenance activities. (T-2). Develop a manual work order system (e.g., blocks of job control numbers, logs) for backup during interrupted Maintenance Information System (MIS) service. (T-3).

4.1.6. Forecast time change requirements in accordance with T.O. 00-20-9, *Forecasting Replacement Requirements for Selected Calendar and Hourly Time Change Items*. (T-1).

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, VSA, and organizations that perform major activities within these areas provide the Munitions Squadron/Flight with a current activity schedule. (T-2). MUNSS will work with host nation to obtain activity schedule. (T-2). 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-3). 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 OPSEC is maintained.

4.1.7.3. Rolling forecasts are updated monthly and refined by developing weekly maintenance schedules. Munitions/Maintenance Supervision approves the weekly schedule before the upcoming work week. (T-3). Weekly schedule meeting may be held at the direction of Munitions/Maintenance Supervision.

4.1.7.3.1. Once the weekly schedule is approved, it becomes the planning guide for maintenance and the basis for deviation reporting. Any nuclear weapons maintenance schedules will be included in the supported maintenance plan. (T-2).

4.1.7.3.2. Changes to the approved weekly schedule which add or remove nuclear weapons operations require an AF Form 2407, *Weekly/Daily Flying Schedule Coordination* (or equivalent). (T-3).

4.1.7.3.2.1. Additions and removals of nuclear weapons operations (i.e., maintenance, mate/demate, handling, and final assembly tests) are subject to source document verification as defined in AFI 21-204, *Nuclear Weapons Maintenance Procedures*.

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. (T-3).

4.1.7.3.2.3. The organization requesting the change to the weekly schedule initiates the AF Form 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: (T-1)

4.1.8.1. Maintenance, periodic inspection, and inventory requirements.

4.1.8.1.1. Conventional munitions periodic inspections will be listed by item, lot or serial number, and quantity of each item scheduled.

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.

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

4.1.8.3. Mobility equipment inspections.

4.1.8.4. Hazardous waste disposal equipment inspections and maintenance.

4.1.8.5. 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.

4.1.8.6. Munitions allocations status and supportability. For conventional munitions, review status of War Reserve Materiel (WRM), training allocations, and available munitions levels.

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

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

4.1.8.9. Vehicle and equipment turn-ins/pick-ups.

4.1.8.10. Projected personnel/team availability compared to requirements.

4.1.8.11. Required outside organization support for certifications or logistics/operational movements.

4.1.9. Maintain the following records and documentation: (T-1)

4.1.9.1. TCTO status to include:

NOTE: Kits may be parts, software, or other materiel required for TCTO completion.

4.1.9.1.1. TCTO number.

4.1.9.1.2. Number of affected items.

4.1.9.1.3. Number of kits ordered (quantities, document numbers, and status).

4.1.9.1.4. Number of kits received (quantity and date).

4.1.9.1.5. Number completed.

4.1.9.1.6. Number not completed.

4.1.9.1.7. Rescission date.

4.1.9.1.8. Lot/Serial Number.

4.1.9.1.9. Ground removal date.

4.1.9.2. Current master identification listing from MIS. This may be kept digitally.

4.1.9.3. Fire Drills for explosives areas per AFMAN 91-201, *Explosive Safety* Standards, excluding launch facilities.

4.1.9.4. Status of all assets in the CAS Intransit Asset Table originating from or destined to the local FV DoDAAC. Include transportation control number, date departed origin, and follow-up or tracer actions with transportation unit to address any problems or delays.

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. Testing and visual inspection will be performed at intervals according to AFMAN 91-201, *Explosive Safety Standards*, and AFI 32-1065, *Grounding Systems*. Notify wing weapons safety when deficiencies or discrepancies exist involving lightning protection or static ground systems for risk assessment code application.

4.1.9.6. The last six inspection cycles for all inspections and continuity checks conducted by munitions personnel as identified in AFI 32-1065, *Grounding Systems*, Table 1.

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-1).

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 missile 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-2).

5.2. Facilities and Communications.

5.2.1. Munitions Control must be located, equipped, and arranged to ease the collection, recording, and dissemination of information essential for command, control, and communications. (T-3).

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.

5.2.3. Room(s) must be completely enclosed, air conditioned, and heated. (T-3). Depending on location and mission, walls, ceilings, and floors may require covering with acoustical material to reduce noise levels.

5.2.4. Door must be of solid wood or metal faced construction with a peephole or other suitable method to identify personnel before granting entry. (T-3). Doors must be mechanically or electrically locked to control access. (T-3).

5.2.5. Standby power and emergency lighting are required. (T-3). 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-3). An uninterrupted power supply does not satisfy this requirement.

5.2.6. Obtain sufficient Land Mobile Radio (LMR) nets to meet operational needs. (T-1). Two dedicated LMR nets may be necessary when operational requirements impose a need for heavy radio communications.

5.2.7. Maintain secure voice communication capability (e.g., STE, Voice over Secure Internet Protocol). (T-1). Provide the phone numbers to the applicable MAJCOM. (T-2).

5.2.8. Establish a SIPRNET capability within Munitions Control. (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. SIPRNET must be capable of reading from/recording to a Personal Computer Memory Card International Association (PCMCIA card) for the download of classified conventional weapon tactical software, as required. (T-1).

5.2.8.2. Provide SIPRNET information to the applicable MAJCOM. (T-2).

5.2.9. Maintain dedicated telephone lines to activities identified below. (T-2). Dedicated telephone requirements may be met by an internal intercom system. Establish procedures for two methods of emergency notification to Security Forces and Fire Department. (T-1). Units unable to establish dedicated lines must develop a process to immediately contact the following agencies in case of emergencies:

5.2.9.1. Base Defense Operations Center (or equivalent)

5.2.9.2. Law Enforcement (or equivalent).

5.2.9.3. MSA/WSA Entry Control Point (as applicable).

5.2.9.4. EOD.

5.2.9.5. Base Fire Department.

5.2.9.6. Command Post.

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 3.5.2.** (T-1).

5.3.4.1. Nuclear capable units will maintain the following EACs: 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-1).

5.3.4.3. Develop and integrate EACs with the MOC/MMOC where applicable to ensure efficient use of communication and notification systems. (T-2).

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-2).

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-2). Notifications will be documented in AFMC2 or NMC2. (T-1).

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 number quantities and all notifications will be documented in AFMC2 or NMC2 (nuclear units). (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. Attend applicable scheduling meetings to update munitions support requirements. (T-3).

5.3.7. Manage keys and locks or modules to assigned storage and maintenance facilities. (T-1). Munitions/Maintenance Supervision may delegate management of this program 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 7** for specific program requirements.

5.3.8. Process CAS transactions. (T-1). All controllers shall be able to process movement and expenditure transactions in accordance with AFI 21-201, *Conventional Munitions Maintenance Management*, and the Air Force Munitions Accountability Procedures Guide. (T-1).

5.3.9. 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). Ensure munitions maintenance teams are aware of evacuation points prior to starting explosives operations. (T-3).

5.3.10. 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 annually. (T-3).

5.3.11. 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).

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

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

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

5.3.15. Support conventional operations in accordance with AFI 21-201, *Conventional Munitions Maintenance Management*.

5.3.16. Accomplish the following in support nuclear operations:

5.3.16.1. Verify nuclear weapon, RS, and/or launch gear activities match mission requirements prior to any weapon movement. (T-1).

5.3.16.2. Verify work orders are valid against the approved schedule and MIS when sections call to open work orders. (T-3).

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

5.3.16.4. 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).

5.3.17. Update the following systems with the identified information as changes occur. (T-3) Locally developed databases will not be used.

5.3.17.1. AFMC2/NMC2. All units will utilize the mandatory fields (* items) identified in SharePoint. For changes to AFMC2 or NMC2 content, including mandatory fields, contact the appropriate system OPR. (T-3).

5.3.17.2. CAS. (T-3)

5.3.17.2.1. Manage Net Explosive Weight (NEW) and Quantity Distance utilizing CAS. Use AFMC2/NMC2 or manual processes to manage NEW for bulk stock assets or when CAS is off-line due to lack of connectivity or power. (T-3).

5.3.17.2.2. Track conventional munitions, tactical missiles, and TYPE trainers per AFI 21-201, *Conventional Munitions Maintenance Management*. (T-3).

5.3.17.3. DIAMONDS. Nuclear weapon package configuration will be tracked in accordance with nuclear weapon configuration record (build-up sheet) procedures in AFI 21-204, *Nuclear Weapons Maintenance Procedures*. (T-1).

Chapter 6

IN-PROCESS INSPECTIONS AND SPECIAL CERTIFICATION ROSTER

6.1. In-Process Inspection (IPI). An IPI is an additional supervisory inspection or verification step at a critical point in the installation, assembly, or reassembly of a system, subsystem or component. These inspections are either T.O., MAJCOM, or locally directed and are accomplished by qualified personnel as identified on the SCR. The weapon system Lead Command as defined in AFPD 10-9, *Lead Command Designation and Responsibilities for Weapon Systems,* will determine what IPIs are required and incorporate any requirements into applicable T.O.. If utilized, follow management procedures in AFI 21-101, *Aircraft and Equipment Maintenance Management*, and documentation requirements in T.O. 00-20-1, *Aerospace Equipment Maintenance Inspection, Documentation, Policies, and Procedures*.

6.2. Special Certification Roster (SCR). SCR is a management tool providing supervisors a clear and concise listing of personnel who have been appointed to perform, evaluate, and/or inspect work of a critical nature. Normally, only maintenance requirements that have a definite potential for personnel injury or damage to equipment shall be included in the SCR. Other tasks requiring special training or qualifications may be managed on the SCR. Refer to **Table 6.1** for mandatory SCR tasks and prerequisites. Conventional munitions and armament personnel will follow SCR requirements established in AFI 21-101, *Aircraft and Equipment Maintenance Management*. (T-1).

6.2.1. General SCR Guidelines.

6.2.1.1. Contract organizations must submit waiver requests through their respective Contracting Officer Representative and contracting officer for consideration and approval. Contracting officer shall ensure Group Commander is informed as to waiver status. (T-2).

6.2.1.2. MAJCOMs may add mandatory critical tasks or inspections. Each task on the SCR must be identified by a specific course code. (T-1).

6.2.1.3. The AF Form 2426, *Training Request and Completion*, or MAJCOM form is used by the workcenter supervisor to add or remove an individual to the SCR. (T-3).

6.2.1.4. Workcenter supervisor, flight supervision, Operations Officer/Superintendent, Squadron Commander, or Group Commander may decertify individuals at any time and remove them from the SCR.

6.2.2. SCR Responsibilities

6.2.2.1. Group Commander (or equivalent) will:

6.2.2.1.1. Approve specific items identified in **Table 6.1**, Note 1. (T-1).

6.2.2.1.2. Authorize selected 5-skill level personnel, in the rank of SrA or higher, for tasks normally requiring a 7-skill level requirement to facilitate the production effort. (T-1). Waived 5-skill level personnel should be closely monitored and kept to the minimum required to accomplish the mission.

6.2.2.1.3. Approve SCR actions for individuals administratively assigned to the group. (T-1). This may be delegated to the Group Chief Enlisted Manager.

6.2.2.2. Squadron Commander (or equivalent) will appoint NWRM packaging individuals as specified in **Table 6.1**.

6.2.2.3. Operations Officer/Maintenance Superintendent (or equivalent) will:

6.2.2.3.1. Approve individuals in their primary Air Force Specialty Code (AFSC) based on experience and technical expertise regardless of assigned skill position. (T-1). 7-skill level personnel may be certified outside their primary AFSC only when specific cross utilization task qualification is documented in their training records. (T-1).

6.2.2.3.2. Maintain file copies of Group Commander approved waivers. (T-3)

6.2.2.3.3. Review and sign the SCR at a minimum semi-annually. (T-1).

6.2.2.3.4. Ensure SCR entries are reviewed quarterly by workcenter supervisors to verify that all entries are current and accurate. (T-3).

6.2.2.3.5. Decertify and/or recertify personnel, as required, affected by legal or other administrative actions affecting maintenance qualifications. (T-1).

6.2.2.3.6. Ensure a sufficient number of personnel are qualified to perform mission critical tasks listed on **Table 6.1**. (T-1).

6.2.2.4. Flight Commanders/Chiefs (or equivalent) will:

6.2.2.4.1. Review each individual's qualifications and training prior to recommending approval to perform SCR tasks to the appropriate approval level. (T-1).

6.2.2.4.2. Retain copy of nomination paperwork until proper system loading has been verified. (T-3).

6.2.2.4.3. Ensure a current copy of the SCR is taken on all deployments. (T-1). SCR may be digital.

Table 6.1. Mandatory Special Certification Roster (SCR) and Prerequisites.

	A	B
Item	**Mandatory SCR Item Titles**	**Prerequisites**
	All Systems "Red-X"	MSgt or higher (or civilian equivalent) (Notes 1,3).
	All systems "Red-X" Down Grade	
	All Systems IPI	
	"Red-X" by Primary AFSC (PAFSC) and Mission Design Series (MDS) (For multiple MDSs, list separately)	SSgt or higher, minimum 7-level (or civilian equivalent) or Group Commander-appointed IAW 6.2.2.1.2. (Notes 1,3)
	IPI by PAFSC and MDS (For multiple MDSs, list separately)	
	"Red-X" and/or IPI - limited (For multiple MDSs, list separately), for tasks outside PAFSC through cross-utilization training or limited tasks within the PAFSC	SSgt or higher, minimum 7-level (or civilian equivalent), Use for personnel certified on tasks in other AFSCs through cross-utilization training or personnel certified on limited tasks within their AFSC as determined by the unit (Notes 2,3).
	MICAP Approval	MSgt or higher, (or civilian equivalent) (Note 1).
	CANN Authority	
	NRTS and Serviceability Tag	SSgt or higher, minimum 7-level (or civilian equivalent) or Group Commander-appointed IAW 6.2.2.1.2. (Note 1)
	Clear Red-X when a lost tool/item cannot be located	OO/MX SUPT or above (Note 1,3)
	NWRM packaging	Minimum 7-level (or civilian equivalent). Must have sufficient subject matter expertise of packaged item to identify asset, must be tasked qualified on accompanying documentation and must have appropriate security clearance and background investigation for asset. (Note 2, 4)

	A	**B**
	Calibration Limitation Approval	SSgt or higher, minimum 7-skill level (or civilian equivalent). (Note 2).

NOTES:

1. Approved by Group Commander (or equivalent)
2. Approved by Operations Officer/Maintenance Superintendent (or equivalent)
3. Red-Ws will be treated as Red-Xs
4. Appointed by the Unit Commander (or equivalent) of Units Possessing NWRM

Chapter 7

MUNITIONS KEY AND LOCK MANAGEMENT

7.1. General.

7.1.1. 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.

7.1.2. 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 to high security locks will not be duplicated. (T-1).

***NOTE:** USAFE units that utilize the WS3 or dedicated secure rooms for TYPE 3 A/B/C trainer storage, do not require a key and lock program solely for the purpose of TYPE trainer storage. Ensure dedicated secure rooms meet all the requirements in AFI 16-1404, *Air Force Information Security Program.*

7.1.3. Keys and locks to conventional munitions storage and maintenance facilities will be controlled and secured in accordance with DoDM 5100.76, *Physical Security of Sensitive Conventional Arms, Ammunition, and Explosives,* AFI 31-101, *Integrated Defense (FOUO),* and the procedures in this chapter. (T-0). 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-1).

7.1.4. Keys and locks to nuclear weapons storage and maintenance facilities will be controlled per DoD S-5210.41-M, *Nuclear Weapons Security Manual*, AFMAN 31-108, *The Air Force Nuclear Weapon Security Manual*, and the procedures in this chapter. (T-0). Cell unlock devices and Protective Aircraft Shelter (PAS) keys that house weapon storage vaults do not fall under the high security key and lock management program. Keys and locks will be secured with a General Services Administration (GSA)-approved lock requiring a minimum of two separate combinations or two GSA-approved locks. (T-0). 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).

7.1.5. Rooms where keys and locks are stored will be secured during non-duty hours. (T-0). Access to the room is restricted to authorized personnel. (T-0).

7.1.5.1. 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 restricted area during non-duty hours. **(T-2).**

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

7.1.6. Store primary keys separate from spare/control (maintenance) keys. (T-0).

7.1.6.1. Keys and locks may be stored within the same safe as long as they are stored in separate drawers. **(T-1)**. Keys and locks to nuclear weapons storage and maintenance facilities must maintain compliance per **paragraph 7.1.4**. **(T-0).**

7.1.6.2. Both primary and spare keys may be issued when required to support daily operations. Monitor this practice closely to identify adverse key control trends. (T-3).

7.1.7. Keys to conventional munitions facilities will not be 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.

7.1.8. All keys removed from their storage container shall remain under the constant surveillance of personnel authorized to receive or issue keys to preclude unauthorized access or duplication. For Example: Keys will not be taken to lunch, home, etc. (T-1).

7.1.9. External Locking Devices. Locks and cylinders are received with a control key (for lock maintenance) and two non-control keys. Designate one non-control key as primary and the remaining non-control key as a spare. (T-1). Control keys may be designated and issued as spare keys in the event that a non-control key becomes unserviceable. A minimum of two serviceable keys for each lock or cylinder must be maintained.

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

7.1.9.1.1. Unserviceable high-security padlocks, keys, and cylinders will be controlled until properly destroyed or sent to the DoD Lock Program for disposal. (T-1). Contact the DoD Lock and Hasp Program Technical Support Hotline ((800)290-7607, (805) 982-1212, DSN 551-1212 or send an email to **NFESCLock-TSS@navy.mil**) for proper demilitarization and disposal or ship to:

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

7.1.9.1.2. 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.

7.1.9.2. Padlocks will be physically retained or locked 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).

7.1.10. 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, remove the

cylinder and replace with another operating cylinder that has two keys associated with it. (T-1). Annotate changes on an AF IMT 2427, *Lock and Key Control Register*. (T-2).

7.1.10.1. 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. (T-0).

7.1.10.2. For ILD field support contact:

DSN 551-5625, Commercial (805) 982-5625
https://portal.navfac.navy.mil/portal/page/portal/NAVFAC/NAVFAC_WW_PP/NAVFAC_NFESC_PP/LOCKS/DoDlock_request?_DoDlpid=ILD

7.1.11. Replace cylinders of compromised keys (i.e., lost, found in the possession of an unauthorized individual, or discovered to have been removed from the storage area). (T-0). Never use compromised keys or cylinders to secure munitions storage structures or facilities. (T-0).

7.1.12. Units may establish reserve stocks of locks and cylinders to support preventative maintenance, scheduled rotation, or replacement. Control reserve locks and cylinders in a safe, metal box, or similar container protected by a GSA-approved 3-position combination lock. (T-0). Reserve cylinders and keys will be inventoried prior to locking the storage container and during the key and lock audit. (T-1).

7.1.13. Upgrade locks and hasps as required to meet the minimum penetration delay requirements set forth in DoDM 5100.76, *Physical Security of Sensitive Conventional Arms, Ammunition, and Explosives*, DoD S-5210.41-M, *Nuclear Weapons Security Manual*, AFMAN 31-108, and MIL HBDK 1013-1/A. (T-0).

7.2. Responsibilities.

7.2.1. The Group Commander in the munitions organization's chain of command will:

7.2.1.1. Establish a key and lock program for munitions facilities. (T-0). Ensure program meets all the requirements in AFI 31-401, *Information Security Program Management*. (T-1).

7.2.1.2. Establish a key and lock program for non-munitions facilities where nuclear weapon TYPE 3 A/B/C trainers are stored. (T-0). Units having both munitions and non-munitions facilities may utilize one program but most stringent requirements must be in place. (T-1). Ensure program meets all the requirements in AFI 31-401, *Information Security Program Management*. (T-1).

7.2.1.3. Appoint a primary and alternate key and lock custodian per DoDM 5100.76, *Physical Security of Sensitive Conventional Arms, Ammunition, and Explosives*, and DoD S-5210.41-M, *Nuclear Weapons Security Manual*, to manage custody and handling of keys and locks used to secure nuclear and munitions maintenance and storage facilities. (T-0). The Group Commander may delegate this in writing to a subordinate Squadron Commander responsible for storage facilities.

7.2.1.3.1. Key and lock custodians and appointing authority will have a security clearance equal to or greater than the items being secured by the keys and locks and

will not have unescorted access to the munitions facilities per DoDM 5100.76, *Physical Security of Sensitive Conventional Arms, Ammunition, and Explosives*. (T-0).

7.2.1.3.2. Appointment letters shall include full name, enlisted/officer/civilian, and security clearance. (T-1).

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

7.2.2. Munitions/Maintenance Supervision will:

7.2.2.1. Determine munitions elements to control (e.g., issue, receive) keys, cylinders, and locks. (T-2). Develop written procedures specifying responsibilities, ensuring all requirements of applicable directives are met. (T-1).

7.2.2.2. Authorize personnel to issue and receive keys essential to perform assigned duties in writing. Personnel authorized to issue keys may also be authorized to receive keys. (T-1).

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

7.2.2.2.2. Pen and ink additions are prohibited; however, pen and ink deletions are authorized. (T-1).

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

7.2.2.3. Sign the automated listing or letter authorizing individuals to sign for keys to conventional munitions maintenance and storage facilities. (T-1). The key issuing authority maintains the documentation.

7.2.2.4. 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).

7.2.3. Key and Lock Custodians will:

7.2.3.1. 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, *Physical Security of Sensitive Conventional Arms, Ammunition, and Explosives* or DoD S-5210.41-M, *Nuclear Weapons Security Manual* and AFMAN 31-108, *The Air Force Nuclear Weapons Security Manuals*. (T-0).

7.2.3.2. Order replacement cylinders IAW T.O. 44H2-3-1-101, *Operation and Maintenance Instruction, High, Medium, Low Security Hardware*. (T-1).

7.2.3.3. If desired, units may maintain manufacturer's serial number if present. If serial number is not present, engrave/stamp local serial number onto keys of high security padlocks. (T-1). Annotate local serial number on the AF IMT 2427, *Lock and Key Control Register* (do not record manufacturer's serial number) and destroy the manufacturer's tag. (T-1). Do not engrave or stamp serial number on cylinders or lock bodies. (T-1). If manufacturer's serial number is present on packaging material (e.g., box), either obliterate serial number or destroy packaging material. (T-1). **Exception:**

Units having ILDs will use the manufacturer's assigned serial numbers and will not obliterate the numbers on the keys or lock cylinders. (T-1). These numbers are needed to order replacement keys. At no time will there ever be more than two keys available for each ILD lock cylinder.

7.2.3.4. Brief responsibilities to personnel who perform key and lock audits. (T-1).

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

7.2.3.6. Ensure all keys are inventoried 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).** Units not manned 24 hours will inventory keys at the beginning and end of each shift during which keys are issued. 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 IMT 2432, *Key Issue Log*.

7.2.3.6.1. Units responsible for keys and locks at remote sites are only required to perform these inventories when at those sites.

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

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

7.2.3.7. 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 IMT 2427, *Lock and Key Control Register* or initiate a new one and dispose of the old one per Air Force RDS. (T-2).

7.2.3.8. Ensure locks and hasps are inspected and lubricated at least every 6 months. (T-1). 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. (T-1). Do not interchange cylinders when replacing cylinders on high security lock Models H-831B and LK1200. (T-1). Document all lock and cylinder maintenance. (T-1).

7.2.3.8.1. 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.

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

7.2.3.9. Locally dispose of unserviceable keys, locks, and cylinders. **Exception:** ILD unserviceable keys and cylinders will be sent to the address listed in **paragraph 7.1.9.1**. (T-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, annotating the AF IMT 2427, *Lock and Key Control Register* is required. (T-1). Destruction of individual keys will be completed as follows:

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

7.2.3.9.2. All serial numbers are obliterated. (T-1).

7.2.3.9.3. Record on AF IMT 2427, *Lock and Key Control Register*. (T-1).

7.2.3.10. Document combination changes by letter. (T-1). Written combinations shall be minimized and when written shall be stored according to the required classification. If a safe is used for the sole purpose of securing keys, the AFTO Form 36, *Maintenance Record for Security Type Equipment*, must be used. (T-1).

7.2.4. Key Issuing Authorities will:

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

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

7.2.4.2.1. Individuals must have a security clearance equal to or greater than the munitions items being secured. (T-1).

7.2.4.2.2. 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. (T-1).

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

7.3. Key and Lock Management.

7.3.1. Initiating an AF IMT 2427, *Lock and Key Control Register*. The AF IMT 2427, *Lock and Key Control Register* is used to control locks, cylinders, and keys, including reserve cylinders and keys (**Figure 7.1**). All entries will be typed or in ink. **Exception:** columns 2 and 3 may be in pencil. (T-1). Dispose of AF IMT 2427, *Lock and Key Control Register* per Air Force RDS located at **https://www.my.af.mil/afrims/afrims/afrims/rims.cfm** and DoDM 5100.76, *Physical Security of Sensitive Conventional Arms, Ammunition, and Explosives*. Complete the AF IMT 2427, *Lock and Key Control Register* as follows: (T-1).

7.3.1.1. Column 1: Annotate locally assigned serial numbers. Units having ILDs will use the original serial numbers provided by the manufacturer.

7.3.1.2. Column 2: Enter the specific location (e.g., building, cubicle, bay) of the cylinder associated with the key serial number listed in column 1 (e.g., Igloo 1, Bldg 2410). When an item is removed from the inventory (e.g., destroyed, disposed of, replaced) draw a single line through the entry and enter the date of removal in this column.

7.3.1.3. Column 3: Enter date the lock was installed at the location specified in Column 2. Use the auto-format on the AF IMT 2432, or YYYYMMDD format (e.g. 20160115).

7.3.1.4. Column 4: Enter the building number where the primary, spare, and control keys are stored. If the spare and control keys are stored in different buildings, both locations will be entered in the "spare" block of column 4 (e.g., Sp. - Bldg 2410, Con. - Bldg 1240). **NOTE:** Only one line entry is required in column 5 and 6 (below) to document the audit of an entire page.

7.3.1.5. Column 5: Enter the date that locks, cylinders, and keys were audited. Use the auto format on the AF IMT 2432, or YYYYMMDD format (e.g. 20160115).

7.3.1.6. Column 6: Both individuals performing the audit will sign and print last name to certify completion of the audit. (See **Figure 7.1**).

7.4. 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 local serial numbers and location of all keys and cylinders are verified (including spare cylinders) with the AF IMT 2427, *Lock and Key Control Register*. The key serial numbers of the remaining key sets not used for the physical check are verified with the AF IMT 2427, *Lock and Key Control Register*.

7.4.1. Key audits will be accomplished when appointing new Key and Lock Custodians. (T-0)

7.4.2. Key audits will be accomplished monthly for nuclear weapons maintenance and storage facilities. (T-0).

7.4.3. Supervisory personnel will ensure key audits (inventories) are accomplished semi-annually for conventional maintenance and storage facilities by a disinterested party (ie, someone with no stake in the outcome of the audit/inventory/munitions accountability) or person not responsible for that particular AA&E resource. Person conducting audit cannot be someone authorized unaccompanied access to that particular AA&E resource. **(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).**

7.5. Key Transactions. Key Issue, Turn-in, Transfer and Inventory Procedures. The AF IMT 2432, *Key Issue Log* is used to document key activity for keys. The log is annotated when keys are issued, turned in, transferred, or inventoried (**Figure 7.2**). Separate forms are used for each primary, spare, and control key set. Mark forms with the appropriate set title. Dispose of forms IAW Air Force RDS located at **https://www.my.af.mil/afrims/afrims/afrims/rims.cfm**. (T-1).

7.5.1. Accountability records must 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).

7.5.2. Dual signature is required for keys to nuclear facilities and is only required for keys to conventional munitions facilities when directed by DoDM 5100.76, *Physical Security of Sensitive Conventional Arms, Ammunition, and Explosives* and AFI 31-101, *The Air Force Installation Security Program*. (T-0). If required, two line entries with the same structure number will be used. (T-1). Both individuals will remain at the facility while it is open, and these keys will not be transferred to a lone individual. (T-1).

7.5.3. 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. Use a separate log to document key re-issue and receipt actions. (T-1). Submit all completed forms to Munitions Control where historical documents will be maintained. (T-1).

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

7.5.5. Key Issue Documentation must be completed as follows: (T-1).

7.5.5.1. Enter structure and bay (as applicable) number in the structure column. Multiple structures and bays may be entered on one line as long as all entries are legible (e.g., Igloo 1).

7.5.5.2. Enter time in "Out-Time" block using the 24-hour format (e.g., 0800).

7.5.5.3. Enter date in "Out-Date" block using the day, month, and year format (e.g., 24 Jan 13).

7.5.5.4. Individual 1 (receiving key) will sign his/her full name and print his/her last name in the "Out-Signature" column, block 1.

7.5.5.5. Individual 2 (receiving key, nuclear unit) will sign his/her full name and print his/her last name in the "Out-Signature" column, block 2.

7.5.5.6. Individual 2, (key issuing authority, conventional units) will sign his/her full name and print his/her last name in the “Out-Signature” column, block 2.

7.5.6. Key Turn-in Documentation must be completed as follows: (T-1).

7.5.6.1. Locate entry signing out applicable keys. If more than one key was signed out in the structure block and a portion of those keys are being turned in, all keys must be turned in and required keys must be re-signed out.

7.5.6.2. Enter time in "In-Time" block using the 24-hour format (e.g., 0900).

7.5.6.3. Enter date in "In-Date" block using the day, month, and year format (e.g., 24 Jan 06).

7.5.6.4. Individual 1 will sign his/her full name and print his/her last name in the "In-Signature" column, block 1.

7.5.6.5. Individual 2 (nuclear units) will sign his/her full name and print his/her last name in the "In-Signature" column, block 2.

7.5.6.6. Individual 2 (key issuing authority, conventional units) will sign his/her full name and print his/her last name in the "In-Signature" column, block 2.

7.5.7. Key Transfer Documentation. The Key Issuing Authority (Key IA), as applicable will:

7.5.7.1. Locate original key sign out entry for the applicable keys. Ensure that if more than one key was signed out in the same structure block and portions of those keys are being transferred, all keys must be turned in and keys signed out as required. **(T-1).**

7.5.7.2. Reissue Transferred Keys:

7.5.7.2.1. On a new sign out line, enter structure or bay (as applicable) number(s) of transferred keys in the "Structure" column and the words "Key Transfer". **(T-1).**

7.5.7.2.2. Enter time key transfer took place in the "Out-Time" block using the 24-hour format (e.g., 1230). **(T-1).**

7.5.7.2.3. Enter date key transfer took place in the "Out-Date" block. Use the auto-format on the AF IMT 2432, or YYYYMMDD format (e.g. 20160115). **(T-1).**

7.5.7.2.4. Print the name (Last, First) of Individual 1 receiving transferred keys in the "Out Signature" column, block 1. **(T-1).**

7.5.7.2.5. **(nuclear unit)** Print the name (Last, First) of Individual 2 receiving transferred keys in the "Out Signature" column, block 2. **(T-1).**

7.5.7.2.6. **(conventional unit)** Key issuing authority (Key IA) will sign their full name and print their last name in the "Out Signature" column, Block 2. **(T-1).**

7.5.7.3. Annotate original key sign out line:

7.5.7.3.1. Enter time key transfer took place in the "In-Time" block using the 24-hour format (e.g., 1230). **(T-1).**

7.5.7.3.2. Enter date key transfer took place in the "In-Date" block. Use the auto-format on the AF IMT 2432, or YYYYMMDD format (e.g. 20160115). **(T-1).**

7.5.7.3.3. In the "In-Signature" column, block 1, the key issuing authority prints "Key Transfer", then signs his/her full name and prints his/her last name in the "In-Signature" column, block 2, verifying the key transfer entry is complete. **(T-1).**

7.5.7.4. Ensure that when individual(s) receiving the transferred key(s) turn(s)-in the keys, they complete the "In-Time, In-Date and In-Signature" blocks per procedures in **paragraph 7.5.6.** **(T-1).**

7.5.7.5. Print the name of the personnel receiving the transferred keys in the "Out Signature" column, Block 1. Key issuing authority performing the key transfer transaction will print and sign his/her name in the "Out Signature" column, Block 2.

7.5.7.6. On the original key sign out line, the key issuing authority will:

7.5.7.6.1. Enter time key transfer took place in the "In-Time" block using the 24-hour format (e.g., 1230).

7.5.7.6.2. Enter date key transfer took place in the "In-Date" block using the day, month, and year format (e.g., 24 Jan 13).

7.5.7.6.3. In the "In-Signature" column of the original key sign out line, the key issuing authority prints "Key Transfer" in block 1 and signs his/her full name and prints his/her last name in the "In-Signature" column, block 2, verifying the key transfer entry is complete.

7.5.7.7. When the individual(s) receiving the transferred key(s) turns-in the keys, they complete the "In-Time, In-Date and In-Signature" blocks per procedures in **paragraph 7.5.6**.

7.5.8. Key Inventory Documentation must be accomplished as follows: (T-1).

7.5.8.1. Enter "Key Inventory" in the structure column.

7.5.8.2. Place diagonal line "/" in the "Out-Time, Out-Date and Out-Signature" blocks

7.5.8.3. Enter time in "In-Time" block using the 24-hour format (e.g., 1800).

7.5.8.4. Enter date in "In-Date" block using the day, month, and year format (e.g., 24 Jan 13).

7.5.8.5. Individual 1 will sign his/her full name and print his/her last name in the "In-Signature" column, block 1.

7.5.8.6. Individual 2 (nuclear units) will sign his/her full name and print his/her last name in the "In-Signature" column, block 2.

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

7.6.1. 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 shall not be used for routine activities or convenience. (T-1). Exceptional circumstances include:

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

7.6.1.2. 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).

7.6.2. Keys to munitions structures located within the MSA are not generally released to organizations outside the munitions activity. Under unique circumstances, Munitions/Maintenance Supervision 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, agreed to by all units involved, and approved. Before implementing these options, 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).

7.6.3. 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-0).

7.6.4. Personnel appointed to maintain primary/spare keys to munitions facilities outside the Munitions Activity must comply with all provisions of DoDM 5100.76, *Physical Security of Sensitive Conventional Arms, Ammunition, and Explosives*, and AFI 31-101, *Integrated Defense (FOUO)*, 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, submit these documents to the host Munitions Control activity for filing and disposition. (T-0).

7.7. Conventional Automated Key and Lock Control Procedures. (T-0).

7.7.1. 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.

7.7.2. The automated key and lock control system must be 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.

7.7.3. There is no requirement for printed automated key control records. However, an automated record must be retrievable on-demand and display all required information for the same time period that printed copies are required to be maintained on file.

7.7.4. 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.

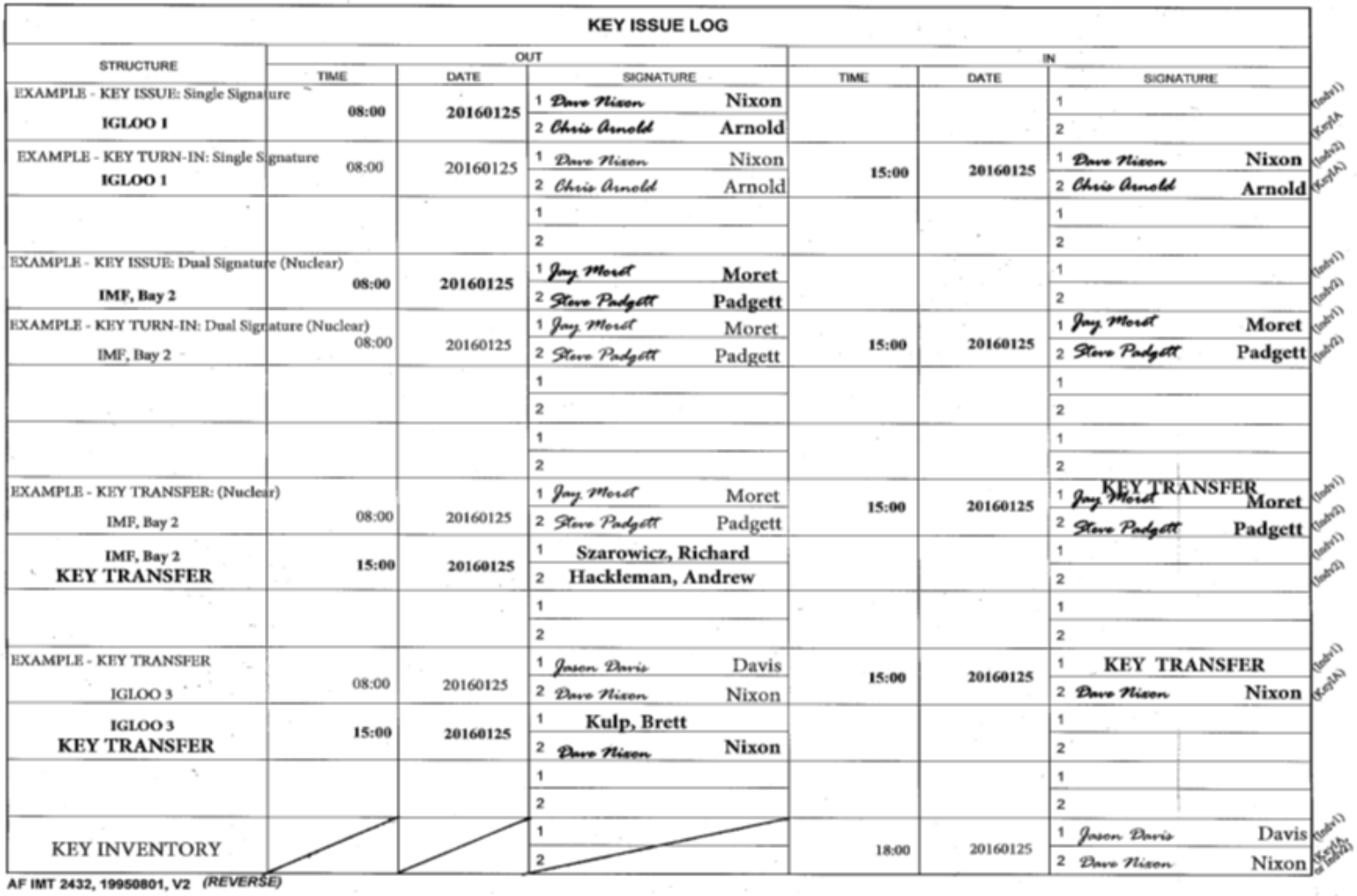
7.8. Weapons Storage and Security System (WS3). For USAFE units maintaining WS3, see USAFEI 33-201, *Operational Doctrine for Safeguarding and Control of Weapons Storage and Security System*, for code module access procedures.

Figure 7.1. Sample AF IMT 2427, *Lock and Key Control Register*.

LOCK AND KEY CONTROL REGISTER						I certify that locks and keys listed hereon were audited on date indicated.
1. SERIAL NUMBER	2. LOCATION	3. DATE INSTALLED	4. KEY STORAGE LOCATION PRIMARY	SPARE	5. DATE	6 SIGNATURE
4806262	BLDG 2410(A)	01 APR 13	BLDG 1200	BLDG 3600	01 APR 13	SMITH Eric Smith LAROCK Corey LaRock
6925331	BLDG 2410(B)	01 APR 13	BLDG 1200	BLDG 3600	01 APR 13	SMITH Eric Smith LAROCK Corey LaRock
~~2447100~~	~~IGLOO 1(A)~~ 05 MAY 13	~~01 APR 13~~	~~BLDG 2410~~	~~BLDG 2410~~	~~01 APR 13~~	ACURI Allen Acuri FORDHAM Whitney Fordham
5742428	IGLOO 1(B)	01 APR 13	BLDG 2410	BLDG 2410	01 APR 13	ACURI Allen Acuri FORDHAM Whitney Fordham
9863969	SHELTER 2(A)	06 APR 13	BLDG 2410	BLDG 2410		
5832136	SHELTER 2(B)	06 APR 13	BLDG 2410	BLDG 2410		
7812387	SHELTER 4(A)	06 APR 13	BLDG 2410	BLDG 2410		
6328461	SHELTER 4(B)	06 APR 13	BLDG 2410	BLDG 2410		
7755551	SHELTER 5(A)	06 APR 13	BLDG 2410	BLDG 2410		
2712094	SHELTER 5(B)	06 APR 13	BLDG 2410	(B)BLDG 2410 (C)BLDG 3600		
4304147	2410 SAFE		BLDG 2410	BLDG 2410		
4525288	2410 SAFE		BLDG 2410	BLDG 2410		
2250809	IGLOO 1(A)	15 APR 13	BLDG 2410	BLDG 2410		
5576201	IGLOO 4(A)	20 APR 13	BLDG 2410	BLDG 2410		
6501152 TWO KEYS REMAIN	IGLOO 4(B)	20 APR 13	BLDG 2410	BLDG 2410		

AF IMT 2427, 19950701, V2 PREVIOUS EDITION IS OBSOLETE.

Figure 7.2. Sample AF Form 2432 *Key Issue Log.*



KEY ISSUE LOG

STRUCTURE	OUT TIME	OUT DATE	OUT SIGNATURE	IN TIME	IN DATE	IN SIGNATURE
EXAMPLE - KEY ISSUE: Single Signature **IGLOO 1**	**08:00**	**20160125**	1 Dave Nixon **Nixon** 2 Chris Arnold **Arnold**			1 (Indiv1) 2 (KeyIA)
EXAMPLE - KEY TURN-IN: Single Signature **IGLOO 1**	08:00	20160125	1 Dave Nixon Nixon 2 Chris Arnold Arnold	**15:00**	**20160125**	1 Dave Nixon **Nixon** (Indiv2) 2 Chris Arnold **Arnold** (KeyIA)
			1 2			1 2
EXAMPLE - KEY ISSUE: Dual Signature (Nuclear) **IMF, Bay 2**	**08:00**	**20160125**	1 Jay Moret **Moret** 2 Steve Padgett **Padgett**			1 (Indiv1) 2 (Indiv2)
EXAMPLE - KEY TURN-IN: Dual Signature (Nuclear) IMF, Bay 2	08:00	20160125	1 Jay Moret Moret 2 Steve Padgett Padgett	**15:00**	**20160125**	1 Jay Moret **Moret** (Indiv1) 2 Steve Padgett **Padgett** (Indiv2)
			1 2			1 2
			1 2			1 2
EXAMPLE - KEY TRANSFER: (Nuclear) IMF, Bay 2	08:00	20160125	1 Jay Moret Moret 2 Steve Padgett Padgett	**15:00**	**20160125**	1 KEY TRANSFER Jay Moret **Moret** (Indiv1) 2 Steve Padgett **Padgett** (Indiv2)
IMF, Bay 2 **KEY TRANSFER**	**15:00**	**20160125**	1 **Szarowicz, Richard** 2 **Hackleman, Andrew**			1 (Indiv1) 2 (Indiv2)
			1 2			1 2
EXAMPLE - KEY TRANSFER IGLOO 3	08:00	20160125	1 Jason Davis Davis 2 Dave Nixon Nixon	**15:00**	**20160125**	1 KEY TRANSFER (Indiv1) 2 Dave Nixon **Nixon** (KeyIA)
IGLOO 3 **KEY TRANSFER**	**15:00**	**20160125**	1 **Kulp, Brett** 2 Dave Nixon **Nixon**			1 2
			1 2			1 2
KEY INVENTORY			1 2	18:00	20160125	1 Jason Davis **Davis** (Indiv1) 2 Dave Nixon **Nixon** (KeyIA or Indiv2)

AF IMT 2432, 19950801, V2 *(REVERSE)*

Chapter 8

QUALITY ASSURANCE (QA)

8.1. General Purpose and Scope.

8.1.1. Purpose. The MSEP is designed to provide logistics managers and wing 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. Quality assurance personnel are not normally an extension of the work force and will not be tasked to support unit operations without Group Commander approval. QA is responsible to the Group Commander and serves as the primary technical advisory agency, assisting supervision at all levels to resolve quality problems and manage the logistics effort. For units not aligned under a maintenance group or geographically separated from a parent group, quality assurance inspectors may be directly responsible to the assigned Squadron Commander. Munitions equipment condition and personnel proficiency are validated through the MSEP and shall be recorded using a MAJCOM-approved quality assurance database. Conventional Munitions and Armament Systems will follow the MSEP in AFI 21-101, *Aircraft and Equipment Maintenance Management*.

8.1.2. Scope.

8.1.2.1. Nuclear, ICBM, and Cruise Missile units. QA will assess 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.

8.1.2.1.1. If conventional munitions units or armament systems sections support nuclear operations, personnel will meet applicable requirements for Nuclear Certified Equipment within this chapter. (T-1).

8.1.2.1.2. 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.

8.1.2.2. 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 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 Surviellance Plan as applicable. (T-1).

8.1.2.3. 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.

8.1.2.4. The use of the word “semi-annual” or “semi-annually” within this chapter means not to exceed a 6-month interval.

8.1.2.5. The use of the word "quarter" or "quarterly" within this chapter means not to exceed a 3-month interval.

8.1.2.6. The use of the terms "Pass/Fail" and "Satisfactory/Unsatisfactory" may be used interchangeably if the MAJCOM approved QA database does not support both rating/grading systems.

8.2. Responsibilities.

8.2.1. 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.

8.2.1.1. Ensure QA is properly staffed based on workload and experience. (T-1).

8.2.1.2. Approve technicians recommended to fill full-time and augmentee evaluator positions. (T-1)

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

8.2.1.4. Direct group wide activity inspections as required. (T-1).

8.2.1.5. Chair Unsatisfactory Boards as required. (T-3).

8.2.1.6. Chair the quarterly MSEP review. (T-3).

8.2.1.7. Approve the Group's Routine Inspection List (RIL). (T-1).

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

8.2.2.1. Develop and implement MSEP program using the MAJCOM-approved QA database. (T-1).

8.2.2.2. Notify appropriate agencies when AFI or T.O. deficiencies are found. (T-1).

8.2.2.3. Ensure required evaluations and inspections are performed. (T-1).

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

8.2.2.5. Set evaluation/inspection report content, format, distribution and routing procedures. (T-1).

8.2.2.6. Develop the RIL, in coordination with Operations Officer/Maintenance Superintendent, and provide copies of approved lists to all affected organizations. (T-1).

8.2.2.7. Develop Acceptable Quality Level (AQL) standards for tasks included in the RIL. (T-1).

8.2.2.8. Ensure agendas and presentations are compiled for the quarterly MSEP meeting. (T-1).

8.2.2.9. Manage the Activity Inspection Program. (T-1).

8.2.2.10. Designate, in writing, the Chief Inspector. (T-1).

8.2.2.11. Designate individuals to lead the Technical Order Distribution Office (TODO), unless contracted. (T-1).

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

8.2.2.13. 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.

8.2.2.14. Verify and publish combined Group IPI listing biennially. (T-1).

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

8.2.2.15.1. Addresses local conditions and requirements in augmentation of the approved MAJCOM training plan as applicable.

8.2.2.15.2. Requires personnel selected as evaluators to:

8.2.2.15.2.1. Be qualified on QA evaluator and workcenter CFETP tasks associated with any operation the evaluator inspects or evaluates.

8.2.2.15.2.2. Complete unit evaluator training program.

8.2.2.15.2.3. Complete a MAJCOM sponsored evaluator course (e.g., 20 AF Maintenance Evaluator Course, other equivalent course) if they will evaluate nuclear weapons, cruise missile, RS/RV, or ICBM maintenance tasks. If the evaluator is unable to attend the course due to reasons beyond the unit's control, the QA OIC/SUPT may waive this requirement and allow the individual to perform evaluations unsupervised. However, the individual must be scheduled to attend an evaluator course for the earliest available class.

8.2.2.15.2.4. Possess a 7-skill level or above and be qualified to conduct QA evaluations on the applicable nuclear weapons certifiable tasks identified in **Table 8.4**. 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.

8.2.2.15.2.5. Complete required Evaluator Proficiency Evaluation (EPE) per **Table 8.5**. with a Satisfactory rating.

8.2.2.16. Develop a QA Augmentation Program if required functional areas do not warrant full-time positions but specialized expertise is required. (T-1).

8.2.2.16.1. Augmentees will meet all selection and qualification requirements of QA evaluators. (T-1).

8.2.2.16.2. Coordination augmentee duties and deconflict schedules for augmentee use with Operations Officer/Maintenance Superintendent (or equivalent). (T-1).

8.2.2.17. Develop and execute a plan to rotate QA personnel. (T-1). Personnel should normally be assigned to QA for 24 months with a maximum of 36 months.

8.2.3. Chief Inspector will:

8.2.3.1. Use assigned inspectors to provide on-the-spot assistance to correct problems. (T-1).

8.2.3.2. Review QA database and inspection summary inputs for accuracy and content. (T-1).

8.2.3.3. Initiate actions when additional attention is required to resolve adverse maintenance trends or training problems. Actions may include preparing crosstell information bulletins and messages for Group Commander release within the group and to the MAJCOM. (T-1).

8.2.3.4. Review and compile inputs for the IPI listing (if applicable) biennially. (T-1). Maintain a copy of the approved IPI listing with the signature and date of review. (T-1).

8.2.3.5. Review major discrepancies for trends and perform root cause analysis of 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 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, *Air Force Technical Order System*. (T-1).

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

8.2.3.7. 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).

8.2.3.8. Ensure applicable scheduling meetings are attended by a QA representative. (T-1).

8.2.4. Quality Assurance Inspectors will:

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

8.2.4.2. Perform RIL inspections as required. (T-1).

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

8.2.4.4. Evaluate forms documentation and MIS inputs. (T-1).

8.2.4.5. 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).

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

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

8.2.4.8. Make recommended changes for maintenance tasks requiring IPIs to the Chief Inspector. (T-1).

8.2.4.9. Attend scheduling meetings to determine evaluation and inspection opportunities. (T-1).

8.2.4.10. Evaluate and document contractor's performance per AFI 63-138, *Acquisition of Services*. (T-1).

8.2.5. General Quality Assurance Responsibilities.

8.2.5.1. Develop a management system that reflects required evaluations/inspections, completion dates and due dates. (T-2).

8.2.5.2. Oversee One Time Inspections (OTI) per T.O. 00-20-1, *Aerospace Equipment Maintenance Inspection, Documentation, Policies, And Procedures*. (T-1).

8.2.5.3. Review the DDL for appropriateness and timely resolution of deferred discrepancies. (T-1).

8.2.5.4. Assist with local exercises/inspections. (T-3).

8.2.5.5. Participate in CFETP reviews and assist the Training Flight and workcenter supervisors in identifying training requirements. (T-3).

8.2.5.6. Review maintenance related instructions, supplements, operating instructions, forms, and local checklists in accordance with AFI 33-360, *Publications and Forms Management*. (T-1).

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

8.2.5.8. Review locally produced lesson plans and training outlines for adequacy and technical accuracy. (T-1).

8.2.5.9. Conduct the QA Orientation Course for technicians who are evaluated under MSEP prior to their first evaluation. (T-1). Document course completion in MIS or TBA. (T-1).

8.2.5.10. Manage the PIP. (T-1). PIP includes the following programs:

8.2.5.10.1. Deficiency Reporting (DR). Report as prescribed by T.O. 00-35D-54, T*echnical Manual USAF Deficiency Reporting*, and AFMAN 23-122, *Materiel Management Procedures*. (T-1).

8.2.5.10.2. T.O. Improvement Program (AFTO Form 22)/Civil Engineering Manual change requests. Process proposed changes in accordance with T.O. 00-5-1 *Air Force Technical Order System*. (T-1). Assign control numbers and maintain an AFTO Form 22 suspense file. (T-1).

8.2.5.10.3. Modification Management. All modifications to nuclear munitions or their associated support and training equipment shall be in accordance with AFI 91-103, *AF Nuclear Safety Design Certification Program*. QA or the designated PIM will: (T-1).:

8.2.5.10.3.1. Conduct a technical review of the approved modification instruction, Retrofit Orders (RO), MCL, and TCTOs. Determine:

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

8.2.5.10.3.1.2. If technicians require additional training.

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

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

8.2.5.10.3.2. Evaluate modification progression and sampling effort per **Table 8.4**.

8.2.5.10.4. 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*.

8.2.5.10.5. Reliability and Maintainability (R&M). Manage the program in accordance with AFI 21-118, *Improving Air and Space Equipment Reliability and Maintainability*.

8.2.5.11. 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 (reference AFI 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). Commanders may direct unsatisfactory/fail boards for any other evaluation/inspection at their discretion. GSUs may do these boards via telecom or video teleconference where distance prevents in-person participation. **(T-3).**

8.2.5.11.1. Board members will include the failed individual and/or team, and the following members (or designated representatives after coordination with MXG/CC/CD): **(T-2).**

8.2.5.11.1.1. Chair - Group Commander.

8.2.5.11.1.2. QA OIC/Superintendent.

8.2.5.11.1.3. Squadron Commander.

8.2.5.11.1.4. Operations Officer/Maintenance Superintendent.

8.2.5.11.1.5. Chief Inspector.

8.2.5.11.1.6. QA evaluator(s) who awarded the rating.

8.2.5.11.1.7. Trainer/instructor of applicable task.

8.2.5.11.1.8. Flight Commander/Chief.

8.2.5.11.1.9. Section OIC/NCOIC.

8.2.5.11.1.10. **DELETED.**

8.2.5.11.2. The board will cover: (T-2)

8.2.5.11.2.1. An overview of the unsatisfactory performance.

8.2.5.11.2.2. Technician(s) and/or team evaluation history.

8.2.5.11.2.3. Unit’s related unsatisfactory ratings for trend analysis.

8.2.5.11.2.4. Root cause(s).

8.2.5.11.2.5. Corrective actions.

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

8.2.5.13. Review all applicable Job Standards annually and document the review. (T-1).

8.3. Maintenance Standardization & Evaluation Program. QA shall assess unit compliance and look for areas to improve unit performance. (T-1). The program will be established in a manner that assists QA inspectors in readily identifying and tracking all minimum inspection and evaluation. (T-1). QA will review and update the plan quarterly in association with maintenance managers. (T-1). This plan will include applicable requirements from **Table 8.3, 8.4,** and **8.5**. (T-1). When developing the plan, QA will: (T-1).

8.3.1. Address areas of concern identified by maintenance managers.

8.3.2. Tailor the plan for each squadron, flight, or section mission.

8.3.3. Include the following QA Focus Areas:

8.3.3.1. T.O.s, directives, and publications compliance.

8.3.3.2. Maintenance documentation.

8.3.3.3. Compliance and management of safety, environmental, and housekeeping programs.

8.3.3.4. Training and qualification of personnel.

8.3.3.5. TCTO, RO, MCL, and modification program management.

8.3.3.6. Management of unit directed programs.

8.3.4. Include input from the Operations Officer/Maintenance Superintendent to ensure evaluation efforts are focused on specific known or suspected problem areas.

8.3.5. Establish a RIL. 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:

8.3.5.1. Equipment maintenance and equipment forms documentation.

8.3.5.2. T.O. currency and use.

8.3.5.3. Consolidated Tool Kit (CTK) Program.

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

8.3.5.5. Housekeeping.

8.3.5.6. Vehicles and associated documents.

8.3.5.7. Environmental compliance.

8.3.5.8. Training programs and records.

8.3.5.9. NWRM Program.

8.3.5.10. Nuclear Certified Equipment.

8.3.5.11. Personnel hoists and associated lifting bridle.

8.3.5.12. Industrial/support equipment and special tools.

8.3.5.13. Shelf Life Items.

8.3.5.14. Plans and Scheduling.

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

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

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

8.3.6. 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.

8.3.6.1. AQLs for selective nuclear weapons maintenance, cruise missile maintenance, weapons mate/demate, nuclear weapons handling, and final assembly tests defined in **Table 8.4** are maximums and shall not be adjusted higher than indicated. AQLs are defined for each task, program, process, and product identified in the RIL.

8.3.6.2. A nuclear weapon maintenance, weapon mate/demate, or final assembly test 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.

8.3.6.3. AQL will be published in the unit's MSEP.

8.4. Evaluations and Inspections. (T-1 unless otherwise specified).

8.4.1. 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. Ancillary discrepancies found during PEs, such as an improperly etched tool, shall not be assessed against the evaluation unless it directly contributes to improper task completion (e.g., overdue torque wrench utilized to attach hardware). Ancillary discrepancies noted during the evaluation will be assessed in a separate Special Inspection on the affected item or program.

8.4.1.1. Personnel Proficiency Evaluation (PPE). This is a QA over-the-shoulder evaluation of a technician or supervisor performing a technical task.

8.4.1.2. Trainer Proficiency Evaluation (TPE). The TPE is an over-the shoulder evaluation of a trainer conducting qualification, certification, and recurring training. TPEs are used to verify technical accuracy and completeness of training provided, not the proficiency of the trainees themselves. Each trainer must pass an initial TPE prior to

performing unsupervised training. A trainer who fails or is overdue their semi-annual TPE will be restricted from performing unsupervised training.

8.4.1.3. Evaluator Proficiency Evaluation (EPE). The QA OIC/SUPT or Chief Inspector knowledgeable of applicable task requirements will perform EPEs on QA inspectors per Table 8.5. Each QA inspector must pass an initial EPE prior to performing unsupervised evaluations and inspections. QA inspectors who fail or are overdue their semi-annual EPE will be restricted from performing evaluations and inspections unsupervised. EPEs will be tracked in the MIS or MAJCOM-approved QA database. QA inspectors who are also nuclear weapons certifying officials must also meet AFI 21-204, Nuclear Weapons Maintenance Procedures, requirements.

8.4.1.3.1. For units with a currently assigned QA OIC/SUPT and Chief Inspector not possessing the requisite AFSC, the QA OIC/SUPT or Chief Inspector qualified on QA requirements may conduct the EPE. A 7-skill level technician qualified on the applicable task being inspected, and QA evaluations where possible, may assist and serve as technical advisor.

8.4.1.4. Personnel Evaluation Guidelines:

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

8.4.1.4.2. Ensure evaluations cover all weapon systems in which a technician is qualified and/or certified in accordance with **Table 8.5**.

8.4.1.4.3. Use no-notice evaluations whenever possible.

8.4.1.4.4. PEs will only be accomplished while observing actual task. Evaluators will not be part of the task being performed; however, QA may be part of the Two-Person concept team when required. Under normal circumstances, do not consider the evaluator as the second person to satisfy Two-Person Concept or buddy care requirements.

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

8.4.1.4.6. 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.

8.4.1.4.7. Verify the technician, instructor, or evaluator is qualified to perform, instruct, or evaluate the maintenance task. If not completed prior to the evaluation, verification must be completed before the grade is rendered.

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

8.4.1.4.9. 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, or after determining individuals under evaluation cannot correctly or safely perform a task without excessive outside intervention or assistance.

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:

8.4.1.4.9.1. Notify the bay chief or critical task supervisor (as applicable) and the Section NCOIC.

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

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

8.4.1.4.9.2.2. 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 AFI 21-204, *Nuclear Weapons Maintenance Procedures*.

8.4.1.4.9.2.3. Terminate the task.

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

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

8.4.1.4.12. Evaluators will brief all personnel to be evaluated prior to the start of the evaluation. If a task is already in progress, notify the individuals being evaluated that they are under evaluation and brief them as soon as possible. The brief must advise the technicians of the following:

8.4.1.4.12.1. All personnel involved in the operation are subject to evaluation.

8.4.1.4.12.2. Evaluated personnel may take breaks during the evaluation.

8.4.1.4.12.3. Evaluated personnel must notify the evaluator of any steps previously complied with, simulations, and/or deviations affecting the evaluation.

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

8.4.1.4.12.5. The evaluator will stop the task per **paragraph 8.4.1.4.9**, if required.

8.4.1.4.12.6. If conducting a TPE, the evaluator must also advise the instructor/trainer of the following additional items:

8.4.1.4.12.6.1. The 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.

8.4.1.4.12.6.2. The instructor must correct all noted errors before completing the training session. The training session is considered complete when the instructor critiques the student's performance.

8.4.1.4.12.6.3. Evaluators will consider the instructor's familiarity with procedures, adherence to T.O.s and lesson plans, verbal skills, ability to precisely describe procedures, and control over trainees.

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

8.4.1.4.13. Determine a PE grade for each individual per **paragraph 8.5.2.2**.

8.4.1.4.14. Technicians and instructors will be critiqued as soon as practical after an evaluation. The evaluator must cover the following:

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

8.4.1.4.14.2. Explain the mission impact of each error.

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

8.4.1.4.14.4. Review the technician, instructor, or evaluator strengths and weaknesses.

8.4.1.4.15. Render QA reports IAW **paragraph 8.6**.

8.4.2. 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.

8.4.2.1. 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. QVIs shall not be conducted after equipment operation when such operation could invalidate indications of proper job accomplishment. Limit QVIs to the same inspection card deck or T.O.s required for the job. The QVI report will reflect all discrepancies and identify the individuals who performed the maintenance; however, grades for individuals will not be given.

8.4.2.2. 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.

8.4.2.3. 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.

8.4.2.4. 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.

8.5. QA Grading and Rating Standards. (T-1).

8.5.1. 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. 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.

8.5.2. Categorizing Errors, Grading, and Rating Inspections/Evaluations. Discrepancies discovered during inspections and errors committed during evaluations will be categorized as either major or minor. The performance of personnel during evaluations will be graded as "Satisfactory" or "Unsatisfactory." Grades above "Satisfactory" may be used if included in the unit plan. Overall inspections will be rated as either "Pass" or "Fail."

8.5.2.1. Definitions of Major and Minor.

8.5.2.1.1. 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 will result in an automatic inspection or evaluation failure. Specific examples of major findings include, but are not limited to, those items identified in **Table 8.1**.

8.5.2.1.2. 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 8.1**.

Table 8.1. 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).
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 TRAINER PROFICIENCY EVALUATION CRITERIA

MAJOR FINDING:

1. Failure to have available/utilize lesson plan or technical data.

2. Failure to provide students 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. 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.

8.5.2.2. Determining grades for PEs.

8.5.2.2.1. 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.

8.5.2.2.2. Once errors are properly categorized in accordance with **paragraph 8.5.2.1** and charged to an individual, utilize **Table 8.2** to determine the proper grade to award.

Table 8.2. 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	

8.5.3. Rating inspections**.**

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

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

8.5.4. Detected Safety Violations (DSV), Technical Data Violations (TDV), and Unsatisfactory Condition Reports (UCR). Observed events or conditions with safety

implications or technical violations not related to an ongoing inspection or evaluation and that are considered unsafe, in violation of established procedures, or in the case of equipment, unfit to operate. Render "Unsatisfactory" grades to technicians who commit a DSV/TDV and all those who were in a position to detect or correct the unsafe act or technical data violation. Do not generate a separate DSV/TDV on a PE as the error automatically results in an "Unsatisfactory" rating.

8.5.4.1. Detected Safety Violation (DSV). An unsafe act by an individual. The evaluator must stop the unsafe act immediately. Render a DSV for significant violations of personnel or weapon system safety.

8.5.4.2. Technical Data Violation (TDV). An observation of any person performing maintenance without the proper technical data available, available but not open and in use, or not following the correct sequence of steps if required. The technician must have knowledge of all general directives associated with the job; however, those general directives need not be present at the job site.

8.5.4.3. Unsatisfactory Condition Report (UCR). An unsafe or unsatisfactory condition chargeable to the workcenter supervisor. UCRs will be documented even when it is not possible to determine who created the condition. In these circumstances, do not provide individual ratings.

8.6. Reporting QA Findings. (T-1).

8.6.1. Every unit must capture and catalog the minimum data elements depicted in the following paragraphs for trending, cross tell, and benchmarking purposes. Report all evaluations and inspections, on the AF Form 2419**,** *Routing and Review of Quality Control Reports*, or equivalent, using a MAJCOM-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. Minimum data fields contained in the MAJCOM-approved database include:

8.6.1.1. Workcenter.

8.6.1.2. Inspector.

8.6.1.3. Employee.

8.6.1.4. Date.

8.6.1.5. Time (24-hour clock).

8.6.1.6. Shift.

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

8.6.1.8. AQL.

8.6.1.9. Rating/Grade.

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

8.6.1.11. Equipment identification number.

8.6.1.12. Discrepancy Category (major or minor).

8.6.1.13. Discrepancy root cause code: QA will identify the root cause of each major discrepancy and input the applicable cause code(s) from **Table 8.6**.

8.6.1.14. Remarks: The narrative of inspector observations.

8.6.2. Dissemination of reports will be determined locally, but as a minimum, all reports will be routed in-turn through the responsible workcenter supervision, Flight Commander/Flight Chief, and Operations Officer/Maintenance Superintendent for review/comment. QA will retain commented reports per AFRIMS Table 21-09, Rule 02.00.

8.6.3. All AF Forms 2419, *Routing and Review of Quality Control Reports*, or equivalent, identifying major findings, TDVs, UCRs, DSVs, and any failed/unsatisfactory rated reports for nuclear certified tasks or nuclear certified equipment inspections will be routed through Group and Squadron Commanders.

8.7. Monthly MSEP Summary. (T-1).

8.7.1. The monthly summary shall be published and distributed (may be electronic) to Wing, Group, and Squadron Commanders and appropriate activities in the maintenance complex.

8.7.2. Compile summary from inspection data and load crew evaluation statistics. The MSEP summary will include visual information, graphs, narratives, quality trends identified through inspections and evaluations, discussion of common problem areas, and descriptions of successful programs or initiatives.

8.7.3. As a minimum, the monthly narrative report must contain an analysis of the MSEP results, a summary of major discrepancies, technical inspections, and recommendations for improvement.

8.7.4. Classified information will not be included in unclassified MSEP summaries.

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

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

8.7.5. 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.

8.7.6. 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.

8.7.7. If QA is unable to meet any of the required minimum sampling requirements identified in **Table 8.3, 8.4** or **8.5** 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.

8.7.7.1. This memorandum will be maintained by QA for 18 months.

8.7.7.2. Missed evaluations and/or inspections must be made up during the next quarter whenever possible.

8.7.8. If QA is unable to meet any of the required minimum sampling requirements identified in **Table 8.3, 8.4** or **8.5** 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. This memo will also be maintained by QA for 2 years.

8.8. Quarterly MSEP Meeting. (T-1)

8.8.1. The Group Commander or designated representative will chair the quarterly MSEP meeting.

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

8.8.3. Quarterly MSEP meeting will refine QA direction, address logistics issues, and resolve problems. It provides cross-tell to all logistics activities by reviewing QA inspections, evaluations, and trends. Additionally, QA minimum sampling requirement compliance will be presented.

Table 8.3. Minimum Sampling requirements for Inspections.

Tasks	Frequency	Remarks
Tools, Test, Tiedown and Handling (TTT&H) equipment	One SI Semi-annually*	
Nuclear Certified Hoists including: - Payload Transporter - Transportable Maintenance System - Nuclear certified slings and attachments - Cruise Missile Hoisting Equipment (MHU-186/E/F, MHU-166/E, MHU-224/E, and HLU-290/E)	100% Annually	
Munitions Control, Missile Maintenance Operations Center	One SI Quarterly*	
TYPE 3 trainers, BDUs, Inert/Dummy Training Items	25% Annually	Deficiencies to training assets will also be identified as SIs during PEs, certifications, etc.
Nuclear Storage and Maintenance Facilities	100% Annually	
Weapons stockpile.	50% Semi-annually, 100% Annually	
Cruise Missile Stockpile	100% Annually	All missiles loaded on launchers and pylons; does not

Tasks	Frequency	Remarks
		include demil coded assets
High Security Key and Lock, Cell Unlock Device (CUD), and WS3 Communication Security (COMSEC) Programs	One SI Quarterly*	
PAL and CDS Management Program	One SI Quarterly*	
Nuclear Accountability & Reporting Programs (accountable records, USAL, SEV/SIR packages)	One SI Quarterly*	
AF Form 2435, *Load Training and Certification Documents*.	100% Annually	
Unit managed lesson plans	100% Annually	Not applicable for headquarters managed lesson plans
Single Missile Final Assembly Inspection	25% Quarterly	
Fully Loaded Pylon or Full EWO Load	25% Quarterly	In IMF after final Supervisory Inspection
Fully Loaded Launcher or Full EWO Load	25% Quarterly	In IMF after final Supervisory Inspection
NOTE: 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, weapons handling or final assembly tests. This also includes Plans and Scheduling, Munitions Control or Missile Maintenance Operations Center supporting these operations. *The scope and focus of the SI will be determined jointly among QA, the OO/MX SUPT, and the Flight Chief		

Table 8.4. 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
CDS	Determine Locally	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% monthly	2 (based on tasks 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
Inspect RV Components	25% per quarter	4
Inspect RS Components	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 MGS	10% per quarter	2
Launcher/Pylon Tasks		
ALCM Mate to Pylon	25% per quarter	4
ALCM Mate to CSRL	25% per quarter	4
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

Tasks	Frequency[2]	AQL
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	As a minimum, evaluate the first, last, and 10% of each modification or inspection.	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, weapons handling or final assembly tests.

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.)

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. 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 will be 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.

Table 8.5. Minimum Sampling Requirements for PEs.

Requirement	Frequency	Remarks
Technicians		
PE for each technician certified IAW AFI 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 technicians	Initial	TT trained technicians receive PE prior to graduation. Non-TT trained technicians receive PE within 90 days of initial interview
	Quarterly	Eligibility begins the first full quarter following graduation/initial evaluation. PE will be conducted on JQS qualified task.
	Semi-Annually	(ICBM) Trainer Maintenance technicians performing maintenance on training launch facilities and related ICBM components
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		
TPE	Initial	Prior to conducting unsupervised training
	Semi-Annually	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 either a PE or TPE.

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 2M0X2 technicians certified IAW AFI 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.

Table 8.6. QA Trend Analysis and Reporting Root Cause Codes.

Cause Code	Cause Description
A.	**Oversight:**
A.1.	Inadequate Supervision:
A.1.1.	Experience: Error committed despite adequate training & guidance
A.1.2.	Training: Insufficient supervisor training
A.1.3.	Lack of attention-to-detail
A.1.4.	Supervisor aware, but delayed action
A.1.5.	Supervisor aware, but ignored established guidance
A.2.	Military Equal Opportunity (MEO) Environment
A.3.	Funding Shortage:
A.3.1.	Unit misprioritized funding
A.3.2.	Parent unit provided inadequate funding
A.3.3.	Cause of funding shortage unknown
B.	**Personnel:**
B.1.	Training Shortfall:
B.1.1.	Training course/guidance not available or inadequate
B.1.2.	On-the-Job training inadequate
B.2.	Inexperienced / Unqualified Personnel
B.3.	Lack of Attention-to-Detail
B.4.	Aware, but Ignored Established Procedures or Guidance
C.	**Manning:**
C.1.	Manning Inadequate to Accomplish Task or Mission Needs:
C.1.1.	Insufficient number of assigned personnel
C.1.2.	Insufficient personnel with appropriate PRP-certification or security clearance
C.1.3.	Insufficient personnel due to TDY/deployment
D.	**Guidance:**
D.1.	Complexity of Guidance Prevented/Precluded Task Accomplishment
D.2.	No/Inadequate Guidance Prevented/Precluded Task Accomplishment
D.3.	Incorrect Guidance Prevented/Precluded Task Accomplishment
D.4.	Outdated/Non-current Guidance Prevented/Precluded Task Accomplishment
D.5.	Conflicting Guidance Prevented/Precluded Task Accomplishment
E.	**Equipment/Tools:**
E.1.	Equipment Reliability:
E.1.1.	Attributed to equipment defect or design flaw
E.1.2.	Attributed to inadequate equipment maintenance
E.2.	Inadequate / Unavailable Support:
E.2.1.	Base-Level support
E.2.2.	HHQ-Level support

E.3.	Accountability inadequate
F.	**Safety:**
F.1.	Operations Not Conducted in a Safe/Efficient Manner and Error/Unintended Consequences Attributed to:
F.1.1.	Perceptual Error
F.1.2.	Slip in attention or distraction
F.1.3.	Knowledge-based error
F.1.4.	Training
F.2.	Violation/Deliberate Act with Intended Outcome
G.	**Other:**
G.1.	Explain in Clear Text

Chapter 9

ACCESS, APPROVAL, AND AUTHORITY LIST (AAAL)

9.1. General Guidance.

9.1.1. The AAAL is used to identify personnel authorized to accept custodial responsibility and perform specific actions associated with a WSA or the 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).

9.1.2. 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 Form 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 9.2** and **9.3** to ensure continued operations. (T-1).

9.2. AAAL Management.

9.2.1. AAALs identify, as a minimum, personnel authorized to:

9.2.1.1. 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.

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

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

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

9.2.1.5. WS3 AAAL specific:

9.2.1.5.1. Issue and receive alternate controller.

9.2.1.5.2. Issue and receive Universal Release Code Cards.

9.2.1.5.3. Perform WS3 maintenance.

9.2.2. AAAL will include 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 PRP status (None, Interim, or Certified). (T-1).

9.2.3. Pen and ink additions without authenticated Change Letter are prohibited. (T-1).

9.2.4. Quantities of AAALs will be determined locally. (T-1).

9.2.5. Original signatures are required on all copies of the AAAL. (T-1). 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 must be authenticated.

9.2.6. Code descriptions will be clear, concise, and not repetitive. (T-1).

9.2.7. AAALs will be published when determined by Operations Officer/Maintenance Superintendent or AAAL OPR. (T-1).

9.3. Change Letters. Change Letters will be used for interim changes to the AAAL (see **Figure 9.3**). (T-1). A single letter may be used to add and delete individuals. Change Letters to an AAAL will be consecutively numbered, beginning with number one, and will identify the date of the AAAL it changes. (T-1). With each revision of the AAAL, the Change Letter sequence number starts with one. These letters will be authorized, certified, authenticated (except for deletion letters), and distributed in the same manner as the AAAL. (T-1) Entries will be pen and inked (handwritten or typed) on referenced AAAL with Change Letters filed with or attached. (T-1).

9.3.1. 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).

9.3.1.1. As soon as practical, the AAAL OPR will produce a Change Letter. (T-1). Letter 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, annotate the deleted entry with the Change Letter sequence number. (T-1).

9.3.1.2. 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 (temporary or permanent) must be removed from the AAAL. (T-1).

9.3.2. Additions. In cases where information is to be added, Operations Officer/Maintenance Superintendent or AAAL OPR will initiate a Change Letter. (T-1). Letter will include all information listed in **paragraph 9.2.2** and be processed using same procedures as processing AAAL. (T-1). Upon receipt of the authenticated Change Letter, the entry will be pen and inked on the AAAL and annotated with the Change Letter sequence number. (T-1).

9.4. Responsibilities.

9.4.1. Squadron Commander will:

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

9.4.1.2. 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).

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

9.4.2. Operations Officer/Maintenance Superintendent will:

9.4.2.1. 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-1).

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

9.4.3. The MASO will review and sign (authorize) AAALs and addition letters. (T-1). If the MASO is unavailable, appointed MASO delegate or the MASO's appointing authority will sign the AAAL. (T-1).

9.4.4. 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).

9.4.5. AAAL OPR will:

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

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

9.4.5.3. 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).

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

9.4.5.5. Hand-carry certified AAALs to Security/Custodial Forces for authentication. (T-1).

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

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

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

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

9.4.6.3. 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).

9.5. **Figure 9 1**, **9.2**, and **9.3** are AAAL examples only. The AAAL and Change Letter format is at unit discretion.

Figure 9.1. Example AAAL (Legend Page).

PREPARED: 1 January 2005

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

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Figure 9.2. Example AAAL (Personnel Authorization Listing).

PREPARED: 1 January 2005

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

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Figure 9.3. Example Change Letter.

3 Jan 05

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 1 January 05, by neatly writing the following information after the last entry:

NAME	CODES	GRD	SSN/CN	Sec Clear	PRP
Guester, Roy S.	01, 04	ENL	45-67890	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 10

TOOL AND EQUIPMENT MANAGEMENT

10.1. 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. Conventional, Armament Systems, and other munitions activities at *any* installation where active flightline operations occur will follow tool and equipment management policies and procedures in AFI 21-101, *Aircraft and Equipment Maintenance Management*. The tool management program outlined in this instruction represents Air Force minimum program requirements. MAJCOMs may dictate additional requirements.

10.2. Guidelines for Program Management. The Group Commander is the OPR for the development of wing procedures for control and management of tools/equipment used on weapon systems, and aerospace equipment maintenance industrial areas. (T-1). As a minimum, guidance will address the following: (T-1).

10.2.1. Standardized procedures for security, control, and accountability of tools and equipment. Chits are not authorized.

10.2.2. Inventory requirements. As a minimum, conduct and document an annual inventory of all tools and equipment.

10.2.3. Procedures for management of warrantied tools.

10.2.4. Procedures for control and management of replacement, expendable, and consumable hand tools, hazardous materials, and other items contained in CTKs.

10.2.5. Assignment of equipment identification designators (EID) for CTKs, non-Custodian Authorization/Custody Receipt Listed (CA/CRL) equipment, and assignment of CTK numbers for tools.

10.2.6. Procedures for issue and control of personal protective equipment (e.g., ear protectors, reflective belts, headsets). Mark work-center assigned equipment that is issued to individuals.

10.2.7. Procedures to limit numbers of personnel authorized to procure tools.

10.2.8. Procedures for control of locally manufactured or developed tools and equipment.

10.2.9. Procedures for depot teams, factory representatives, and contract field teams (CFT) when working on equipment within the unit.

10.2.10. Procedures and responsibilities when two or more workcenters operate out of the same tool room or support section, or when workcenters elect to dispatch tools and equipment to the field.

10.2.11. Procedures directing a second party or on-duty supervisor inspection of the tool kit at turn-in. The same individual that signs out a CTK cannot sign it back in.

10.2.12. Procedures for controlled access to tool rooms.

10.2.13. Procedures for transfer of tools and equipment at the job site (on-site transfers). 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-3).

10.3. General Program Guidelines.

10.3.1. The Flight Commander/Chief will

10.3.1.1. Designate CTK Custodians in writing. (T-1). CTK custodians are responsible for tool, HAZMAT, and consumable asset accountability and control. A separate person may be designated as the HAZMAT monitor.

10.3.1.2. Review and sign the Master Inventory List (MIL). (T-1).

10.3.2. Workcenter supervisors determine type, size, and number of CTKs required for their workcenters and will maintain a complete listing of all CTKs and tools/equipment issued as a single item. (T-1).

10.3.3. Design CTKs to provide a quick inventory and accountability of tools. Clearly mark all CTKs and tools with the EID. (T-1) Inspect all tools at least annually or when the CTK/TK custodian changes for serviceability IAW T.O. 32-1-101, *Use and Care of Hand Tools and Measuring Tools.* (T-1).

10.3.3.1. CTK contents will be standardized to the maximum extent possible within functional elements of a squadron that have similar missions. (T-1).

10.3.3.2. Each tool, item of equipment, or consumable contained in a CTK has an assigned location identified either by inlay cuts in the shape of the item, shadowed layout, or silhouette. (T-1). No more than one item is stored in a cutout, shadow, or silhouette except for tools issued in sets such as drill bits, Allen wrenches, apexes, or paired items (e.g., gloves, booties).

10.3.4. A MIL is required for each tool kit, series of identical kits, and equipment and will be filed by the CTK custodian in the master MIL file. (T-1). The MIL remains valid until contents change and do not require replacement solely to update signature.

10.3.4.1. A copy of the MIL will be kept in the tool and equipment storage facility at all times. (T-1). For dispatchable CTKs, a copy of the MIL must be kept with the dispatched CTK at all times. (T-1).

10.3.4.2. If identification tags or dust caps are attached to tools or equipment, they will be secured in a manner that will preclude any possibility of foreign object damage. (T-1). Locks(s), key(s), and tie down strap(s), if not permanently attached, will be marked with the appropriate CTK number. (T-1).

10.3.4.3. Consumables may be placed in CTKs provided they are identified on the MIL as consumables. Examples of consumables include safety wire, adhesive, wire bundle lacing, solder, etc. Do not include common hardware items such as bolts, nuts, or screws unless they are required as tools or part of equipment required for use in missile field. (T-1).

10.3.4.4. Document removed or broken tools and equipment on all copies of the MIL and in MIS. The EID will be removed from any broken or removed item. (T-1).

10.3.5. Equipment and accessories that do not present a foreign object damage potential and will not leave the workcenter, support section, or tool room, do not need to be included in a CTK. Designated storage locations, such as work area or station, must be established for such equipment. (T-1).

10.3.6. Industrial shop machinery accessories and attachments dispatched to the field do not need to be controlled as tools. Designate and label storage locations for accountability. (T-1).

10.3.7. Discard removable pocket clips from tools prior to placement in tool kits. (T-1). Do not damage tools for sole purpose of removing clips, rubber switch guards, etc.

10.3.8. Personal tools are not authorized for use in any maintenance area (e.g., flashlights, multi-use tools, knives). (T-1).

10.3.9. All items dispatchable to the missile field will conform to the requirements of T.O. 21M-LGM30F-12, *Minuteman Nuclear Surety Procedures*, and AFMAN 91-201, *Explosive Safety Standards*, when used in explosive environments. (T-1).

10.4. Tool Accountability. Flight Commanders/Chiefs and workcenter supervisors, through CTK custodians, are responsible for tool and equipment accountability and control. Members are accountable for items until returned to the tool room and accountability returns back to CTK custodian.

10.4.1. Units must use an Air Force approved MIS per provisions in AFI 21-101, *Aircraft and Equipment Maintenance Management*, for accountability and control of tools and equipment. (T-1). Use system to:

10.4.1.1. Track issuance and receipt of all CTK assigned tools, equipment, tool kits, HAZMAT items, and T.O.s.

10.4.1.2. Track authorizations and restrictions for special tools and equipment.

10.4.1.3. Track required inspections.

10.4.1.4. Track spare, damaged, and removed tools

10.4.1.5. Develop and manage tool and equipment inventories.

10.4.1.6. Use the AF Form 1297, *Temporary Issue Receipt*, or MAJCOM approved form for accountability and control of CTKs, equipment, and tools during periods of MIS outage. (T-1). Usage is allowed until such time has occurred that the system is returned to operation and all tools signed out under the manual system have been signed-in.

10.4.2. Account for all CTKs, tools, and dispatchable equipment at the beginning and end of each shift. (T-1). Separate shift inventories must be documented by both outgoing and incoming personnel. (T-2). CTKs present during tool room shift inventories do not need to be opened for inventory.

10.4.2.1. Perform a visual inventory of all CTKs, tools, and equipment when issued for use, at the completion of job or tasks, and when returned to the tool storage facility. (T-1)..

10.4.2.2. Conduct a comprehensive inventory of all tools, non-CA/CRL equipment, and CTKs at least annually or at CTK custodian change. (T-1). Inventory should include condition, identification markings, and MIL accuracy. Document and maintain the most current inventory documentation on file. (T-1).

10.4.3. Inventory Procedures:

10.4.3.1. Inspect and inventory all CTKs quarterly regardless of utilization levels and document inspectors name, rank, and the date accomplished in an AF approved MIS. (T-1).

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

10.4.3.3. Maintenance teams shall inventory CTKs, tools, and equipment prior to dispatch and prior to departing any job site. (T-1).

10.4.3.4. Handle lost or missing items in accordance with **paragraph 10.8**.

10.4.3.5. Tool room personnel shall visually inspect and document all CTKs for discrepancies and accountability at the beginning of each tool room shift. (T-1).

10.4.4. Electronic Tools (E-Tools). E-Tools are common infrastructure, allow access to logistics information systems, update T.O.s, provide automated change requests, and integrate with other MIS. Workgroup managers shall monitor E-Tool configuration (e.g., operating system, virus checkers) in accordance with applicable Air Force instructions. (T-1).

10.4.4.1. E-Tools purchased and used for the purpose of viewing digital technical data and/or for maintenance documentation must be accounted as automated data processing equipment (ADPE) and tracked in an Air Force approved system. (T-1). This does not apply to E-Tools managed and accounted for by non-Air Force organizations (e.g., DIAMONDS).

10.4.4.2. Licenses, certification, maintenance, and security of E-Tools hardware and software must be in accordance with 33-series Air Force instructions. (T-1). Units must make maximum use of E-Tool warranties and ensure only serviceable E-Tools with charged batteries, up to date system software, and current technical data are available for checkout. (T-1).

10.4.4.3. Per 33-series Air Force instructions, E-Tools are for official use and authorized purposes only. MAJCOMs will establish policy for use of E-Tools for purposes other than viewing digitized tech data and maintenance documentation. (T-1). Group Commanders will establish procedures to ensure sufficient E-Tool availability for T.O. viewing. (T-1).

10.4.4.4. TODOs may not have a traditional role in managing tech data when management is accomplished by another agency (e.g., manufacturer).

10.4.4.5. The Lead TODO(s) shall work with other TODOs, TODAs, and computer systems administrators to ensure E-Tools are configured with current software to support T.O. and maintenance documentation. (T-1).

10.5. Marking and Tool Identification.

10.5.1. All units must mark their CTKs, tools, and equipment with the standard EID and utilize an Air Force approved MIS. (T-1).

10.5.1.1. The EID will consist of nine characters of which the first four characters will be a unique World Wide Identification (WWID) code.

10.5.1.1.1. The first two letters of the WWID in the EID 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.

10.5.1.1.2. The third and fourth characters designate the unit or shop by using unique characters. To ensure tool rooms have unique identifiers, units will ensure other units within the same wing do not duplicate the first 4 characters of the EID.

10.5.1.1.3. The unit establishes the remaining five characters (any combination of numbers/letters) for CTKs, tools, and dispatchable equipment identification.

10.5.1.2. Units must place the 9-digit EID on all CTKs, tools not assigned to a box, and dispatchable equipment that is of sufficient size. (T-1).

10.5.1.2.1. The 9-digit EID must be placed on the outside of dispatchable CTKs. (T-1). Tools located inside the tool box may be marked with less than 9-digits but must contain the 4-digit WWID and identifying character(s) that ties the tool back to the CTK.

10.5.1.2.2. Tools will be marked with the most current EID. (T-1). All previous CTK identifiers will either be removed or marked out. (T-1) Units may affix non-metallic bar code labels on tools to prevent re-etching as long as the use of the tool and its work environment does not normally result in excessive damage to the label making it unreadable.

10.5.1.2.3. Small tools or items that cannot be marked as described above (e.g., drill bits, Allen wrench sets, apexes) are to be maintained in a container marked with EID. (T-1). The container is counted as one item.

10.5.1.2.4. Etch fiberglass handled hammers on the metal head only in a non-impact area.

10.5.1.2.5. Assembled items that are not intended to be disassembled during use require only one marking and entry in the MIL.

10.5.1.3. Group Commanders may require use of the EID in addition to AFTO Form 65, *TMDE Bar Code Label, Aluminum Stock,* or AFTO Form 66, *TMDE Bar Code Label, Polyester Stock,* for TMDE routinely dispatched from a workcenter. Do not etch or stamp calibrated items in any manner that affects calibration or the ability to calibrate. (T-1).

10.5.2. Permanently mark grease guns, dispensing cans, spray bottles, pump oilers, and similar containers with the type of grease, fluid, or other liquids and military specification of the contents. (T-1). If no specification exists, mark the item with the manufacturer's name and part number or NSN from the applicable Material Safety Data Sheet or Safety Data Sheet. (T-1). Keep hoses and fittings separate for each type of grease. If containers hold

substances classified as hazardous materials, label per AFI 90-821, *Hazard Communication*, and local directives. (T-1).

10.5.3. Remove EIDs from unserviceable tools and tools removed from the CTK. (T-1). Update the MIL accordingly. Utilize procedures developed per **paragraph 10.2.3** to tag and segregate unserviceable warranty tools per procedures developed in. (T-3). Do not remove EIDs from warranty tools where removal of EID would void the tool warranty. (T-1).

10.6. Locally Manufactured, Developed, or Modified Tools and Equipment.

10.6.1. Group Commander (or designated representative) will approve all locally manufactured, developed, or modified tools and equipment. (T-1). If a T.O. or the MMHE focal point located in Air Force Life Cycle Management Center's Armament Directorate contains the option of a locally designed tool, coordination and approval for use is not required as long as the tool remains approved in the source document.

10.6.2. QA will:

10.6.2.1. Coordinate on all requests for approval and use of locally designed tools or equipment. (T-1).

10.6.2.2. Maintain records of all approved locally designed tools and equipment, including pictures or drawings and a description of the use for each item. (T-1). If pictures, drawings, or authorizations are not available, they will be re-accomplished. (T-1).

10.6.2.3. Forward locally approved tools and equipment designs to appropriate system program office for possible inclusion into technical data or MMHE focal point website. (T-2).

10.6.3. Workcenters will review approved items biennially for applicability and current configuration. (T-1).

10.7. Support Section/Tool Room and Security. Limit tool issue sections to no more than one per workcenter. (T-3). Establish procedures to ensure custodial control and ensure accountability. (T-1). Process reports for CTKs, tools, and equipment that are lost, damaged, or destroyed where negligence is suspected per AFMAN 23-220, *Reports of Survey for Air Force Property*. (T-3).

10.7.1. The tool room must be capable of being locked and afford protective measures such as monitoring, 24-hour coverage, or controlled key access. (T-1). If CTKs are not capable of being secured in the tool room, the workcenter supervisor will design a process to prevent the unauthorized use or access to tools and equipment. (T-1).

10.7.1.1. Tool kit locks will be used to provide a physical barrier to opening the container lid, drawer, or door and prevent the unauthorized removal of tools. (T-1). Locks are not required on tools and equipment that are stored within secured tool rooms or workcenters.

10.7.1.2. Dispatchable tools, equipment, and CTKs will be secured when left unattended. (T-1).

10.7.1.3. Modifications to tool containers are authorized unless modification voids the manufacturer's warranty. (T-1).

10.7.1.4. Individual tools will not be issued from dispatchable CTKs located within the tool room. (T-1).

10.8. Lost Item/Tool Procedures.

10.8.1. If a tool or equipment item, or a portion of, is found broken or discovered missing, the following procedures apply:

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

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

10.8.1.3. Complete initial search within 4 hours on base, or within 12 hours off base, of discovering the item missing. (T-1). Accomplish subsequent notifications within 8 hours on base, or within 24 hours off base. (T-1).

10.8.1.4. Secondary search and notifications shall be completed within 24 hours of loss on base, or 72 hours off base, whenever possible. (T-3).

10.8.1.5. Update tool accountability system and associated MILs to reflect the current inventory status of the CTK if the tool cannot be immediately found. (T-1). Replace item as soon as possible. (T-3).

10.8.2. QA will maintain completed reports for trend analysis.

JUDITH A. FEDDER, Lieutenant General, USAF
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Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

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None

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AF IMT 2427, *Lock and Key Control Register*

AF IMT 2432, *Key Issue Log*

AF Form 2435, *Load Training and Certification Document*

AF Form 2586, *Unescorted Entry Authorization*

Abbreviations and Acronyms

AAAL—Access, Approval, and Authority List

ACC—Air Combat Command

AETC—Air Education and Training Command

AFCESA—Air Force Civil Engineering Support Agency

AFCFM—Air Force Career Field Manager

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

AFMEB—Air Force Maintenance Executive Board

AFNWC—Air Force Nuclear Weapons Center

AFPD—Air Force Policy Directive

AFRC—Air Force Reserve command

AFRIMS—Air Force Records Information Management System

AFSC—Air Force Specialty Code

AFSOC—Air Force Special Operations Command

AFTO—Air Force Technical Order

AGE—Aerospace Ground Equipment

AGR—Active Guard Reserve

AIT—Automatic Identification Technology

AMC—Air Mobility Command

AMMOS—Advanced Maintenance and Munitions Officer School

ANG—Air National Guard

ARC—Air Reserve Component

CALCM—Conventional Air Launched Cruise Missile

CAS—Combat Ammunition System

CDS—Command Disable System

CE—Civil Engineering

CFETP—Career Field Education and Training Plan

CM—Cruise Missile

CMT—Combat Munitions Training

DDL—Delayed Discrepancy Listing

DIAMONDS—Defense Integration and Management of Nuclear Data Services

DoDAAC—DoD Activity Address Code

DOE—Department of Energy

DR—Deficiency Report

DS—Dull Sword

EAC—Emergency Action Checklist

EOD—Explosive Ordnance Disposal

EPE—Evaluator Proficiency Evaluation

ESTS—Electronics Systems Test Set

ETAR—Engineering Technical Assistance Requests

EWO—Emergency War Order

FAM—Functional Area Manager

FDE—Force Development Evaluation

FOUO—For Official Use Only

GACP—Global Ammunition Control Point

GAP—Global Asset Positioning

GSU—Geographically Separated Unit

HAF—Headquarters Air Force

ICBM—Intercontinental Ballistic Missile

ILD—Internal Locking Device

IPI-In—Process Inspection

IT—Information Technology

JCN—Job Control Number

JNWPS—Joint Nuclear Weapons Publication System

LF—Launch Facility

LLA/PLA—Launcher Loader Adapter/Pylon Loader Adapter

LMR—land Mobile Radio

MAF—Missile Alert Facility

MAJCOM—Major Command

MASO—Munitions Accountable Systems Officer

MCL—Master Change Log

MIS—Maintenance Information System

MMG—Munitions Maintenance Group

MMHE—Munitions Materiel Handling Equipment

MMOC—Missile Maintenance Operations Center

MMXS—Missile Maintenance Squadron

MOA—Memorandum of Agreement

MOC—Maintenance Operations Center

MOS—Maintenance Operations Squadron

MOU—Memorandum of Understanding

MSA—Munitions Storage Area

MSEP—Maintenance Standardization & Evaluation Program

MUNS—Munitions Squadron

MUNSS—Munitions Support Squadron

MXS—Maintenance Squadron

NATO—North Atlantic Treaty Organization

NCE—Nuclear Certified Equipment

NEW—Net Explosive Weight

NMC2—Nuclear Munitions Command & Control

NNSA—National Nuclear Security Administration

NWRM-Nuclear Weapons—Related Materiel

OTI—One Time Inspection

P&S—Plans and Scheduling

PACAF—Pacific Air Forces

PAS—Protective Aircraft Shelter

POG—Project Officers Group

PPE—Personnel Proficiency Evaluation

PRP—Personnel Reliability Program

QA—Quality Assurance

RDS—Records Disposition Schedule

RDT&E—Research, Development, Test, and Evaluation

RS—Reentry System

RV—Reentry Vehicle

SCR—Special Certification Roster

SEV—Stockpile Emergency Verification

SOF—Special Operations Forces

SPD—System Program Director

TCTO—Time Compliance Technical Order

TMDE—Test, Measurement and Diagnostic Equipment

TMRS—Tactical Missile Reporting System

T.O—Technical Order

TODO—Technical Order Distribution Office

TPE—Trainer Proficiency Evaluation

U&TW—Utilization and Training Workshop

UMD—Unit Manpower Document

UR—Unsatisfactory Report

USAFE—United States Air Forces Europe

USAL—Unit Spares Authorization Listing

VACE—Verification and Checkout Equipment

VSA—Vault Storage Area

WRM—War Reserve Materiel

WS3—Weapons Storage and Security System

WSA—Weapons Storage Area

WWSMMC—World Wide Senior Munitions Manager's Conference

Terms

None.