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SPACE OPERATIONS COMMAND

SPACE OPERATIONS COMMAND
INSTRUCTION 21-108

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Maintenance

SPACE SYSTEMS MAINTENANCE MANAGEMENT

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This publication implements AFPD 21-1, *Maintenance of Military Materiel*. It is the basic SpOCI for all space weapon systems and support equipment maintenance management guidance. It provides the minimum essential guidance and procedures to safely and effectively maintain, service, and repair space weapon systems and support equipment. It establishes SpOC and subordinate organization roles and responsibilities relating to space weapon system maintenance activities. This instruction applies to: HQ SpOC; All SpOC assigned organizations, SpOC gained Air Force Reserve and Air National Guard units and SpOC equipment assigned to Air Force Reserve and Air National Guard units. It also applies to all North American Aerospace Defense (NORAD) military, government service and those with contractual obligation to comply with Air Force and Space Force publications whose duties directly relate to the management, operations, maintenance, mission assurance, preparation and conduct of activities required in support of SpOC systems. This instruction does not apply to the United States Air Force. USSF Personnel will follow Department of the Air Force (DAF), United States Space Force (USSF) and Field Command (FLDCOM) guidance as applicable. Wherever this instruction is inconsistent with current contracts that support SpOC missions, the contract shall govern but will be changed at the first opportunity to comply with this SpOCI. Notify HQ SpOC/S4WZ with any questions about applicability or waiver requests associated with Special Access Programs. Send comments and suggested improvements on a DAF Form 847, *Recommendation for Change of Publication*, through appropriate command channels to the HQ SpOC/S4W workflow box: **SpOC.DCG-S.S4WGWorkflow@spaceforce.mil** with an informational copy to applicable Delta's as appropriate. Organizations requesting document changes should ensure all units that could be affected by the change are included as informational addressees. The authorities to waive

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SUMMARY OF CHANGES

This document has been substantially revised and must be completely reviewed. Major changes include references to new Space Force organizations, a standardized organizational maintenance structure within SpOC, and updates to roles and responsibilities.

Chapter 1

SPACE MAINTENANCE MANAGEMENT

1.1. Introduction. The USSF must maintain a ready, resilient, secure and modern space capability to meet warfighter and other national security mission needs. "Space-based power projection and persistent mission generation are predicated on the health, security and strength of employed weapon systems, facilities and infrastructure. It is the duty of the Mission Sustainment Enterprise to ensure the readiness and resilience of these systems and infrastructure, thus facilitating freedom of action, joint lethality and effectiveness and our ability to respond to emerging threats" (Lt Gen DeAnna Burt, Deputy Chief of Space Operations for Operations, Cyber and Nuclear; *Mission Sustainment Strategy March 2023*). All levels of leadership and management within SpOC must strive to meet this basic requirement for missions and resources under their control.

1.2. Purpose. The primary purpose of maintenance is to ensure space weapon systems are available and able to support SpOC mission requirements. For purposes of this instruction, space weapon systems are defined as: satellites; ground stations; data links among spacecraft; mission or user terminals, which may include initial reception, processing, exploitation, space control, space surveillance, battle management and/or command, control, communications and computers; electronic warfare systems; range systems; and systems directly supporting infrastructure, which may include networks, communications, computers, generators and environmental controls.

1.3. Maintenance Concept. Per Title 10 United States Code (USC) Section 2460, *Definition of Depot-Level Maintenance and Repair*, and Office of the Assistant Secretary of Defense for Sustainment (OASD (Sustainment)), the USSF will maintain field level and depot level maintenance capabilities to ensure effective and timely response throughout the Competition Continuum, from cooperation to armed conflict/war. DoD 4151.18-H, *Depot Maintenance Capacity and Utilization Measurement Handbook*, Maintenance of Military Systems requires maintenance programs allocate tasks to appropriate levels of maintenance based on criteria derived from warfighter requirements and cost-effective analysis. The application of specific levels/sub-levels will vary from weapon system to weapon system. Minimum capabilities for each level are listed below:

1.3.1. Field Level Maintenance consists of two sub-levels, on-equipment (organizational) and shop-type (intermediate) or off-equipment work. Per Joint Pub 1-02, *Department of Defense Dictionary of Military and Associated Terms,* organizational level maintenance describes the maintenance that is the responsibility of and performed by the using organization, or "day-to-day" support. Intermediate level maintenance is defined as the responsibility of and performed by a designated maintenance activity IAW the Expendability, Recoverability, Repairability Category (ERRC: USAF) or Source/Maintenance and Recoverability (SMR: DoD) codes. Capabilities for organizational and field level maintenance include but are not limited to:

1.3.1.1. Organizational: launch, recover, maintain, inspect, service, lubricate, adjust, remove and replace, and repair materiel coded for organizational level repair.

1.3.1.2. Intermediate: materiel coded for organizational and intermediate level repair/calibration in back shops or centralized repair facilities, parts or assemblies.

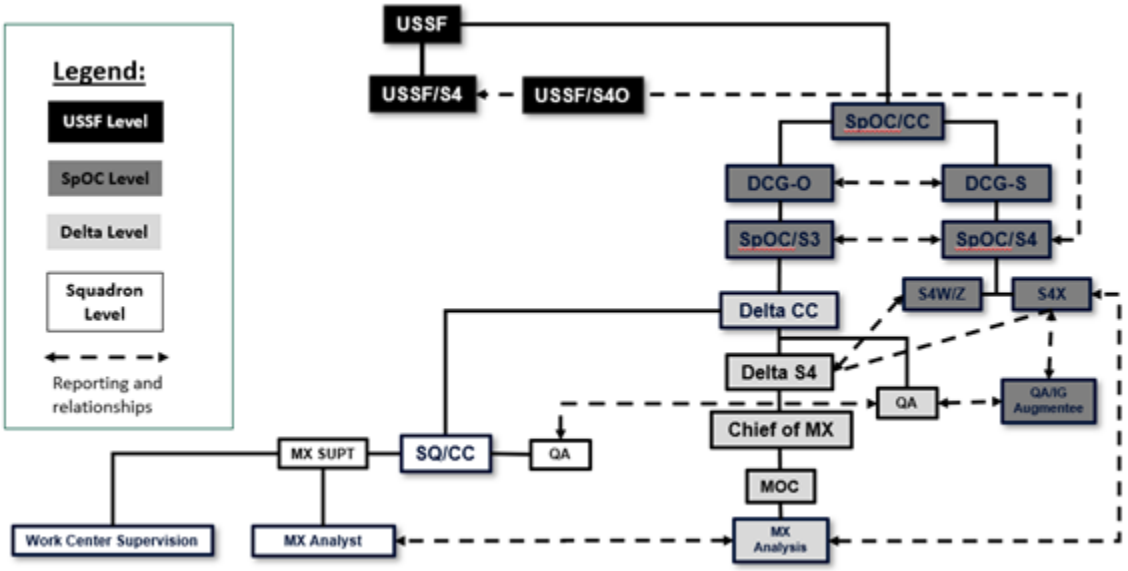
1.3.2. Depot level Maintenance is defined in 10 USC 2460 as materiel maintenance or repair requiring overhaul, upgrading, or rebuilding of parts, assemblies, or subassemblies and the testing and reclamation of equipment as necessary. It also encompasses all aspects of software maintenance. It does not include procurement of major modifications or upgrades designed to improve performance.

1.3.3. Request For Assistance (RFA). If a maintenance activity requires assistance for evaluation and/or repair beyond unit capability, requests are made IAW DAFI 21-103, *Equipment Inventory, Status and Utilization Reporting*, T.O. 00-25-107, *Maintenance Assistance*, T.O. 00-25-108, *Communications-Electronics (C-E) Depot Support*, and T.O. 00-20-14, *Air Force Metrology and Calibration Program*, or automated process as approved by the Mission Design Series (MDS) Program Manager (PM) (e.g., AN/FSQ-213, Satellite Control Network (SCN)). **(T-2)**

1.4. Organization. Space Deltas will organize according to AFI 38-101, *Manpower and Organization*, or as authorized by HQ USSF/S1M. Contractor maintenance functions are not required to organize IAW AFI 38-101 but will implement the organization as outlined in their contract as accepted by the government. **(T-2)**

1.4.1. Maintenance Organization Overview. The general top-down maintenance structure for Space Force is: HQ USSF (COO/S4O), FLDCOMs (HQ SpOC/DCG-S/S4, SSC/S4, STARCOM/S4), Space Deltas (S4 or equivalent) and squadron field-level maintenance team (or equivalent contractor support). Within the FLDCOMs there will be a dedicated maintenance management organization (S4). Deltas will consist of a Maintenance Operation Center (MOC) headed by the Chief of Maintenance (CoM), a Quality Assurance section and inspection team. These functions may be consolidated at the Delta level. **(T-2)** See **Figure 1.1**.

Figure 1.1. Maintenance Organization Overview.



1.4.2. Contract Maintenance Management. Space weapon systems employ a mix of USSF, Air Force (AF), non-DoD government agencies, contracted agencies and foreign partners to

support maintenance and operations activities. To ensure proper mission conduct and contractor compliance, SpOC personnel should understand Government rights and responsibilities embodied in contracts and their provisions. A general understanding of the contract between the USSF and the contractor is of particular importance for commanders and mission personnel. Organization Commanders owning maintenance activities are responsible for ensuring maintenance management actions and activities comply with DoD and USSF instructions and directives, whether maintenance is performed by military, civilian or contractors.

1.4.2.1. SpOC, utilizing contract maintenance, including Outside the Continental United States (OCONUS) locations, will ensure the Quality Assurance Surveillance Plan (QASP) is developed IAW AFI 63-138, *Acquisition of Services*, in coordination with SSC and Deltas.

1.4.2.2. The QASP shall include performance metrics to enable accurate assessment of contractor performance. Space Deltas will provide Contracting Officer Representative (COR) specific training to ensure CORs can provide technical oversight of contractor performance. **(T-2)**

1.5. Equipment Status Reporting (ESR) and Maintenance Data Documentation (MDD). The PM is responsible for ensuring maintenance planning sufficiently addresses how ESR and MDD will be accomplished including compliance with all applicable DAF and USSF instructions. PMs managing systems with classified maintenance data will present MDD solutions to HQ SpOC/S4, via the respective Delta, for approval prior to initiating development of program unique Maintenance Information Systems (MIS) and/or MDD processes. **(T-2)**

1.5.1. Accurate ESR and MDD are critical for situational awareness of mission capability and ability to accurately identify negative trends and issues as part of Reliability and Maintainability (R&M) metrics analysis. Maintenance actions will be recorded in the appropriate MIS based on the classification requirements and USAF/USSF mandates. **(T-2)**

1.5.1.1. The Integrated Maintenance Data System (IMDS) - Central Database (CDB) is the USAF and USSF standard Maintenance Data Collection (MDC) system and is mandatory for use for unclassified USSF systems and equipment.

1.5.1.2. The Logistics Information and Operations Network System (LIONS) - CDB is the USSF standard MDC system and is mandatory for use for classified USSF systems and equipment.

1.5.1.3. Maintenance organizations will accomplish MDD IAW T.O. 00-20-2, *Maintenance Data Documentation,* and ESR IAW DAFI 21-103. Requested deviations or waivers to IMDS/LIONS CDB shall be submitted to HQ SpOC/S4X who will ensure applicable approvals by HQ USSF/S4. Include sufficient justification and explanation of why the deviation or waiver is required. **(T-2)**

1.5.2. Do not input classified data into the IMDS-CDB. Data within IMDS-CDB is unclassified and marked as Controlled Unclassified Information (CUI). Programs with classified maintenance data are required to utilize LIONS or submit an IMDS-CDB deviation or waiver request to formally document and approve the exemption. Waiver requests are forwarded to HQ SpOC/S4 for approval by HQ USSF/S4. Programs with classified maintenance data are not exempt from the MDD procedures contained in T.O. 00-20-2.

LIONS is available on SIPRNet and some higher classification level networks. Requests for LIONS access should be submitted to HQ SpOC/S4.

1.6. Reliability, Availability, and Maintainability (RAM) Metrics Analysis. The ability to accurately define readiness is fundamental to mitigating operational risk, fulfilling strategic requirements and aligning resources (USSF *Mission Sustainment Strategy)*. Maintaining high readiness levels is dependent on having a robust RAM program with the ability to identify system deficiencies and negative trends before they impact operational capability. HQ SpOC/S4, System Program Offices (SPO) and operational Deltas are responsible for accomplishing RAM metrics analysis for assigned systems/programs. In addition to internal periodic reviews, RAM metrics shall be included as part of the following meetings/conferences: Sustainment Working Groups (SWG), Product Improvement Working Groups (PIWG), and weekly SpOC status updates. **(T-2)**

1.7. Configuration Control. Maintaining system configuration is critical to meeting Life Cycle Systems Engineering (LCSE) requirements. Maintenance organizations/personnel shall not make changes to the system configuration without prior approval IAW AFI 63-101/20-101, *Integrated Life Cycle Management*, and SPFI 13-604, *System Acceptance*. **(T-2)**. Following all appropriate modification management guidance is vital to ensuring sound configuration control practices are employed consistently by all organizations with maintenance management responsibilities.

1.8. Technical Orders and T.O. Supplements. Maintenance personnel will perform maintenance IAW system T.O.s or approved locally developed procedures and will report any T.O. improvements or corrections IAW T.O. 00-5-1, *Air Force Technical Order System*. Use of the prescribed technical data to maintain equipment is mandatory. **(T-2)**. Maintenance personnel will support T.O. verification activities IAW T.O. 00-5-3 *Air Force Technical Order Life Cycle Management*. **Note:** For systems considered to be a part of the Integrated Tactical Warning and Attack Assessment system (ITW/AA), refer to NORAD Instruction 10-3, *Mission Integrity and Change Control Management and Test* Control *for the ITW/AA system* for additional configuration management requirements.

1.9. Deficiency Reporting. Operations, maintenance, and sustainment organizations shall submit deficiency reports IAW T.O 00-35D-54, *USAF Deficiency Reporting, Investigation, and Resolution*. **(T-2)**

1.10. Maintenance Training. Training is essential to ensure personnel safety, prevent equipment damage and support system availability. Maintenance organizations at all levels shall ensure personnel, including contractor support personnel, are trained and qualified on the maintenance tasks they are performing. **(T-2)**

1.10.1. Military and government civilian supervisors at all levels are directly responsible for ensuring organic maintenance personnel are trained and qualified on maintenance tasks they are performing. If pipeline training is inadequate, contact the HQ SpOC/S3/5T workflow **,SpOC.DCG-O.S35TWorkflow@spaceforce.mil,** STARCOM S2/3E at__workflow at **https://usaf.dps.mil/sites/ussf-starcom/HQ/S23/E/TRRP** and STARCOM/S4_workflow at **hq.starcom.s46s@us.af.mil** for action/resolution. **(T-2)**

1.10.2. Weapon System Maintenance Personnel, including Contractor Logistics Support (CLS), shall support and receive training on assigned Hardware/Software (HW/SW) modifications.

1.11. Publications. Organizations supplementing this instruction must tailor procedures to the unique aspects of their own maintenance operation and publish directives, instructions, supplements and operating instructions for areas where more detailed guidance or specific procedures will ensure smooth and efficient operations.

1.11.1. Coordinate directives with all appropriate agencies.

1.11.2. Supplements to this instruction must be coordinated through the OPR. **(T-2)**

1.11.3. A Delta may publish Maintenance Operating Instructions (MOIs) as required. MOIs cannot be used to change or supplement T.O.s. **(T-2)**

Chapter 2

RESPONSIBILITIES

2.1. General. This chapter outlines responsibilities for commanders and key leaders involved in maintenance activities. For Interim Contract Support or CLS providing contract maintenance on space weapon systems where responsibilities and activities outlined in this instruction are out-of-scope, the contract will be brought into compliance with this instruction at the next available opportunity whether through a contract re-negotiation or re-competition of the contract. If a contract is currently not in compliance with this instruction, contact HQ SpOC/S4 immediately for coordination. **(T-2)**

2.2. Directorate of Installations and Mission Support (HQ USSF/S4). HQ USSF/S4 oversees and advocates for weapons system sustainment resourcing, provides policy and strategic guidance, reviews and validates portfolio requirements.

2.3. Mission Sustainment (HQ USSF/S4O). HQ USSF/S4O will provide guidance, assistance and subject matter expertise for USSF mission sustainment, garrison support and infrastructure. Review requirements, set priorities and resource space system sustainment and mission support functions**.**

2.4. HQ SpOC/S3 Mission Area Teams (MAT). MATs communicate, coordinate and prioritize readiness and maintenance sustainment efforts between systems, squadrons, Deltas, SpOC directorates, combatant commands and Higher Headquarters (HHQ). Identify maintenance operational impacts, risk trade-offs, funding shortfalls or issues to command leadership through HQ SpOC/S4 and HQ SpOC/S8 for inclusion in Planning, Programming, Budgeting and Execution (PBBE) submissions.

2.5. HQ SpOC Deputy Commanding General-Support (DCG-S). DCG-S will provide logistics, engineering and physical security coordination of mission and sustainment support to ensure continued space joint warfighting operational readiness.

2.6. HQ SpOC/S4. The Space Force must provide persistent mission sustainment in any environment. Uninterrupted logistics, engineering, weapon system sustainment and physical security are critical to power projection and the Joint Force mission. As known threats evolve and new threats emerge, they jeopardize the ability to provide persistent mission sustainment. For example, extreme and unpredictable environmental conditions impose high costs on DAF installations. Global Intelligence and the National Defense Strategy (NDS) emphasize that pacing adversaries will aggressively target power projection platforms and supply chains (USSF *Mission Sustainment Strategy* 2023). As a Directorate under DCG-S, HQ SpOC/S4 will:

2.6.1. Coordinate operational risk assessments and pursue options to ensure uninterrupted support of globally integrated operations.

2.6.2. Establish a Policy and Compliance function.

2.6.3. Approve SpOC maintenance, logistics, and sustainment policies and waivers, as required.

2.6.4. Establish a QA and inspection process responsible for compliance verification. Provide direct support to the SpOC/CC on space weapon system maintenance and sustainment issues.

2.6.5. Assist subordinate organizations in implementing DoD, DAFI, USSF and SpOC maintenance and logistics management directives and instructions.

2.6.6. Oversee the Logistics Requirements Determination Process (LRDP) used to plan, budget and execute Depot Purchased Equipment Maintenance (DPEM) Sustaining Engineering, T.O.s and CLS requirements.

2.6.7. In coordination with HQ SpOC/S3, HQ USSF/S4O and SSC/S4, ensure the LRDP process is simplified, integrated, standardized, repeatable and allows for trade-off optimization. The results of the LRDP are validated, prioritized and utilized by HQ USSF in determining Space Force sustainment requirements.

2.7. HQ SpOC/S4W. Identify Weapon System Managers (WSM), MAJCOM System Managers (MSM) for each assigned system (Refer to T.O. 00-33A-1001, *General Cyberspace Support Activities Management Procedures and Practice Requirements*, Chapter 15 for duties and responsibilities).

2.7.1. Review LRDP brochures and requirements developed by the SSC Centralized Asset Management (CAM) office, AFLCMC, DAF Rapid Capabilities Office (DAFRCO)and the Space Rapid Capabilities Office (SpRCO) which outline the end-to-end logistics requirements and Space Force costing processes.

2.7.2. Review and implement standardized policy and guidance for SpOC organizations supporting space weapon system maintenance. Assist subordinate organizations with compliance when resolution is beyond their scope or resources.

2.7.3. Provide support and direction to Deltas and Squadrons as required ensuring successful implementation of maintenance practices and long-term sustainment of space weapon systems.

2.7.4. Advocate for the necessary resources (funding, equipment, manpower, etc.) to sustain space weapon system capabilities and provide support to external agencies and users as required by directives, regulation and Public Law.

2.7.5. Support HQ SpOC/IG, as required, on matters related to maintenance, logistics and sustainment.

2.7.6. Support SpOC directorates and HHQs in the Integrated Planning Process (IPP), Program Objective Memorandum (POM), Analysis of Alternatives (AoA) and High-Performance Teams (HPT) in development of Initial Capability Documents (ICDs), Capability Development Documents (CDDs) and Capability Production Documents (CPDs). This could involve providing PIWG and/or Sustainment Logistics Review (SLR) results for use in IPP-related Capability Needs Analysis (CNA) activities and/or analysis supporting POM funding recommendations.

2.7.7. Support SSC, DAFRCO and SpRCO in the development and coordination of Life Cycle Support Plans (LCSPs), Maintenance Concepts, Provisioning Plans, etc.

2.7.8. Review and coordinate on proposed space weapon system maintenance government manpower strength and grade adjustments.

2.7.9. Review equipment status, mission status, evaluations, inspection reports and analysis reports to identify and analyze system or equipment trends across each Delta and determine the appropriate courses of action to mitigate or resolve issues.

2.7.10. Review system metrics and perform trend analyses and special studies on fielded systems and equipment to identify adverse performance.

2.7.11. Develop maintenance management inspection checklists.

2.7.12. Monitor space weapon system deficiency reporting; ensure deficiency investigations and resolutions are funded, resolved in a timely manner and closed IAW T.O. 00-35D-54.

2.7.13. Monitor Programmed and Mobile Depot Maintenance and approve Urgent and Emergency Depot Level Maintenance requests IAW T.O. 00-25-108 and review scheduled depot maintenance with depot service providers to identify and leverage potential efficiencies across multiple organizations assigned to one location.

2.7.14. Assist HQ SpOC/S4X to review and approve/disapprove all subordinate organization policy waiver requests and submit approved waivers to HHQ, as required.

2.7.15. HQ SpOC DCG-S/S4WZ will review and approve/disapprove classified MDC solutions and waiver requests submitted by program offices for classified maintenance data collection.

2.7.16. Review, coordinate and approve/disapprove either Enhanced Technical Management System (ETIMS) T.O. change requests or hard copy AFTO Form 22, *Technical Manual (TM) Change Recommendation and Reply,* or AFTO Form 27, *Preliminary Technical Order (PTO) Publication Change Request (PCR)/T.O. Verification Record/Approval,* submittals from subordinate organizations IAW T.O. 00-5-1 and 00-5-3.

2.7.16.1. Ensure Technical Order Change Requests are processed and implemented by the program office within the appropriate timeframes defined in T.O. 00-5-1.

2.7.16.2. Ensure Delta/Squadron support for T.O. verification efforts by personnel of a "like skill set" and oversee verification efforts in conjunction with the SPO.

2.8. HQ SpOC/S4X

2.8.1. As Maintenance Managers, provide oversight of Maintenance Management Analysis (MMA) support and guidance.

2.8.2. Develop, review and implement standardized policy and guidance for SpOC organizations supporting space weapon system maintenance.

2.8.3. Weapon system maintenance and assist subordinate organizations with compliance when resolution is beyond their scope or resources.

2.8.4. Review HHQ published logistics and maintenance management policy and guidance; update SpOC guidance as required. Changes to policy and guidance will be sent to Delta S4s and/or the Chief of Maintenance (CoM).

2.8.5. Develop supplemental policy, procedures and directives for equipment status and maintenance data reporting for classified systems.

2.8.6. Review and coordinate on Delta MOI and supplements as required.

2.8.7. Review equipment status, mission status, evaluations, inspection reports and analysis reports to identify and analyze system or equipment trends across all Deltas and determine the appropriate courses of action to mitigate or resolve issues.

2.8.8. Review system metrics and perform trend analyses and special studies on fielded systems and equipment to identify adverse performance.

2.8.9. QA. HQ SpOC/S4X will develop a QA program IAW **Chapter 5** of this instruction. Review and approve/disapprove all subordinate organization policy waiver requests and submit approved waivers to HHQ, as required.

2.9. Delta Commander. Accountable and responsible for operations, maintenance, safety and resource protection for all personnel, systems, facilities and equipment for assigned space weapon systems. The Delta/CC allocates resources to meet all mission requirements. The Delta/CC will:

2.9.1. Ensure maintenance organizations are not overtasked with augmentation duties outside maintenance functional areas. **(T-2)**

2.9.2. Ensure Delta instructions/supplements are developed that implement procedures to control tools, equipment, electronic devices, ensure effective management and quality control of all maintenance and establish cyber discipline and reporting requirements. **(T-2)**

2.9.3. Require strict adherence to technical documentation and management policy. **(T-2)**

2.9.4. Enforce sound maintenance, supply discipline and financial management. **(T-2)**

2.9.5. Provide oversight of subordinate maintenance activities ensuring operational effectiveness. Aid with compliance issues to subordinate maintenance organizations when resolution is beyond their scope or resources. **(T-2)**

2.9.6. Will not permit unauthorized modifications to weapon systems or equipment and will ensure request for modification are submitted to the appropriate FLDCOM modification control point IAW AFI 63-101/20-101 and AFI 10-601, *Operational Capability Requirements Documentation and Validation.* **(T-2)**

2.9.7. Ensure maintenance organizations, including Delta-managed contractors and contractors vertically aligned under the applicable program office comply with maintenance and supply data documentation and equipment status reporting requirements IAW T.O. 00-20-2, T.O. 00-33A-1001, T.O. 00-35D-54, DAFI 21-103, and AFMAN 23-122 *Materiel Management Procedures.* **(T-2)**

2.9.8. Ensure maintenance organizations and Performance Work Statements (PWS) for contracted maintenance comply with DoD, DAF, USSF and SpOC maintenance management policy, directives and instructions. **(T-2)**

2.9.9. Identify maintenance funding shortfalls, operational impacts, or issues to SpOC leadership through the MATs, S4, and S8 for inclusion in PPBE documents. **(T-2)**

2.9.10. Provide Weapon System Sustainment (WSS) priorities to SpOC MATs, HQ SpOC/S4W and the HQ USSF/S4O Corporate Process for consideration during POM deliberations. **(T-2)**

2.9.11. Ensure Quality Assurance Evaluation Program requirements are implemented IAW T.O. 00-33A-1001, **paragraph 2.6**. **(T-2)**

2.9.12. Ensure maintenance and communications organizations have procedures in place to effectively collaborate and expeditiously respond to cybersecurity incidents for maintenance Platform Information Technology (PIT) and report in accordance with AFI 17-130,

Cybersecurity Program Management, and AFI 17-203, *Cyber Incident Handling*, or equivalent publication. **(T-2)**

2.10. Delta S4. The S4 is responsible for sustainment of all assigned weapons systems, equipment and personnel and coordinates Delta infrastructure and physical security with the Space Base Delta (SBD) or host unit. This position may be consolidated with other directorates (e.g S4/6) or operate independently.

2.10.1. Contract Maintenance.

2.10.1.1. Writes and reviews contractor PWS and Statements of Work (SOW) for Delta contracts to ensure they include requirements to comply with maintenance, training and logistics management policies.

2.10.1.2. Ensures QASP for surveillance of contracted maintenance functions are in place.

2.10.1.3. Ensures COR duties are accomplished.

2.10.1.4. Review, collaborate and coordinate on contractor PWS, SOW and QASPs for contracts held by external agencies that provide contracted maintenance functions to the Delta or subordinate units.

2.10.1.5. May assume QA or COR duties in collaboration with and when delegated by contract owning agencies.

2.10.1.6. Provide assessment/feedback (e.g., Award Fee inputs) to the contracting officer upon request.

2.10.2. Chief of Maintenance**.** The Delta S4 may establish and delegate sustainment responsibilities to a Delta CoM. The Delta S4 will delineate roles and responsibilities to ensure effective implementation of maintenance management. In the absence of a CoM, the Delta S4 will assume the CoM responsibilities. **(T-2)**

2.10.3. Maintenance Operations and the Maintenance Operations Center. The MOC monitors and coordinates mission generation, maintenance production and execution of the operations and maintenance schedules while maintaining visibility of fleet/system health status and indicators. Through coordination with the units, the MOC communicates priorities for competing limited resources based on the daily operations schedule and maintenance priorities. The exchange of information between squadrons and the MOC must be of sufficient detail to allow the MOC to comply with reporting requirements and identify potential problems. The MOC must be capable of operating up to the highest classification of assigned systems. **(T-2)**

2.11. Squadron Commander

2.11.1. Ensure compliance with AFI 90-821, *Hazard Communication (HAZCOM) Program*, AFI 91-202, *The US Air Force Mishap Prevention Program*, DAFMAN 91-203, *Air Force Occupational Safety, Fire, and Health Standards*, and other publications necessary to perform the commander functions assigned to the squadron. **(T-2)**

2.11.2. Establish and administer squadron training programs IAW AFI 36-2650, *Maintenance Training*, and DAFI 36-2670, *Total Force Development*; ensure FLDCOM Mandatory Course List requirements are met, if applicable. **(T-2)**

2.11.3. Ensure upgrade training and maintenance qualification programs emphasize quality and are not primarily focused on meeting minimum upgrade time frames. **(T-2)**

2.11.4. Ensure all maintenance personnel who utilize DoD Information Technology have received appropriate Maintenance Cyber Discipline Training. **(T-2)**

2.11.5. Monitor all personnel working outside of their primary AFSC to ensure other duties do not degrade mission accomplishment. **(T-3)**

2.11.6. Establish a squadron Vehicle Control Program IAW AFI 24-302, *Vehicle Management*. **(T-2)**

2.11.7. Ensure procedures are followed to properly turn in recoverable and consumable items IAW AFI 23-101, *Materiel Management Policy*. **(T-2)**

2.11.8. Establish a Precious Metals Recover Program IAW T.O. 00-25-113, *Conservation and Segregation of Critical Alloy and Precious Metal Bearing Parts and Scraps*.

2.11.9. The Squadron Commander is accountable and responsible for operations, maintenance, safety and resource protection for all personnel, systems, facilities, and equipment for assigned space weapon systems. The Squadron/CC allocates resources to meet all mission requirements.

2.11.10. In coordination with the Delta, appoint equipment custodians to manage the Custodian Authorization/Custody Receipt Listing (CA/CRL) (R14) of assigned equipment (also known as a Custodian Inventory Report (CIR)) IAW AFI 23-101 and AFMAN 23-122. **(T-2)**

2.11.11. Ensure personnel and equipment are identified and prepared to deploy for taskings IAW AFI 23-101, AFI 10-403, *Deployment Planning and Execution*, Space Force Guidance Memorandum (SPFGM) 2023-10-401, *Space Force Operations Planning and Execution*, DAFI 36-3802, *Force Support Readiness Programs*, and AFMAN 10-409-O, *Support to Adaptive Planning*. **(T-2)**

2.11.12. Recommend personnel for QA duty positions to the CoM. **(T-2)**

2.11.13. Designate Flight CC/Chiefs. **(T-2)**

2.11.14. Ensure the Unit Manning Document (UMD) is consistent with the approved organizational structure. **(T-2)**

2.11.15. Coordinate support from the local communication squadron or equivalent functional entity to ensure proper eTools configuration (operating system, virus checkers) are maintained. **(T-2)** The SQ/CC will coordinate with lead Technical Order Distribution Office (TODO)/Functional System Administrator to resolve T.O. requirements that are not being satisfied. **(T-2)**

2.11.16. Ensure licenses, certification, maintenance and security of eTools (hardware and software) is conducted IAW 33/17-series AFIs, T.O. 31S5-4-ETOOL-1 and **Chapter 7** of this instruction. **(T-2)**

Chapter 3

DELTA S4/CHIEF OF MAINTENANCE

3.1. Introduction. The Delta S4/CoM functionally directs and controls the maintenance effort and has overall responsibility for accomplishing the maintenance mission.

3.2. Maintenance Management

3.2.1. Coordinate actions to resolve maintenance management, weapon system and equipment deficiencies with HQ SpOC/S4 for issues that exceed the scope of Delta resources. This includes Emergency Depot level Maintenance (EDLM), Urgent Depot Level Maintenance (UDLM) and Programmed Depot Maintenance (PDM) when the equipment has not been transferred to a depot.

3.2.2. Communicate directly, as required, to HQ SpOC/S4 divisions for support in resolving issues with implementing day-to-day maintenance, logistics and supply management and execution functions.

3.2.3. Establish a radiation protection program IAW AFI 48-109, *Electromagnetic Field Radiation (EMFR) Occupational & Environmental Health Program*, when applicable. **(T-2)**

3.2.4. Designate a focal point for all functional, technical and COR matters pertaining to performance-based activities. **(T-2)**

3.2.5. Establish Minimum Equipment Levels (MELs) for essential maintenance assets to include Aerospace Ground Equipment (AGE), vehicles or testing equipment, advocate and reconcile authorized shortfalls and overages. **(T-2)** Coordinate with the applicable FLDCOM functional manager to advocate with the respective PM to address any requests to change authorized quantities. **(T-2)**

3.2.6. Develop a 10-year facility plan specifying maintenance, upgrade and replacement projections for the Delta's facilities. **(T-2)** Coordinate plan updates with the SBD installation Civil Engineer (CE) annually. **(T1)** Coordinate and prioritize maintenance facility work orders monthly. **(T2)**

3.2.7. Ensure repair cost evaluations are performed and appropriate levels of review and repair authorization are established in squadrons, flights and repair sections IAW T.O. 00-20-3, *Maintenance Processing of Repairable Property and The Repair Cycle Asset Control System,* and T.O. 00-25-240, *Uniform Repair/Replacement Criteria for Selected USAF Support Equipment (SE)* and T.O. 35-1-24, *Air Force Economic Repair/Replacement Criteria For Selected Warner Robins Logistics Complex (ALC) Managed Support Equipment (SE).* **(T-2)**

3.2.8. Establish a read file or equivalent for distributing maintenance crosstalk messages, QA newsletters, HHQ and local policy announcements, technical notifications and other important maintenance information to all assigned Airmen/Guardians. **(T-2)**

3.2.9. Incorporate space weapon system maintenance requirements into IPP-related CNA activities by utilizing information received from forums such as the SLR, PIWG or SWG. **(T-2)**

3.2.10. Provide Delta leadership a monthly readiness update IAW AFI 10-201, *Force Readiness Reporting*. **(T-2)**

3.2.11. Ensure squadron Precious Metals Recovery Programs are established and managed IAW AFI 23-101 and T.O. 00-25-113.

3.2.12. Develop and implement standardized maintenance/mission assurance policies, procedures and instructions.

3.2.13. Develop and approve MOIs as necessary to delineate maintenance responsibilities for assigned weapon systems.

3.2.14. Ensure maintenance practices comply with DoD, AF and SpOC directives and instructions governing maintenance and maintenance management activities. **(T-2)**

3.2.15. Ensure WSS priorities are considered during budget and execution year planning and distribution and provided to the CAM Corporate Structure for consideration during execution year reviews and unfunded exercises. **(T-2)**

3.2.16. Designate a primary and alternate Product Improvement Manager (PIM) to perform PIWG functions and AFTO Form 22 processing for weapon systems operated and maintained by Delta organizations IAW T.O. 00-5-1. **(T-2)**

3.2.17. Ensure maintenance work centers accomplish maintenance historical documentation IAW T.O. 00-20-1, *Aerospace Equipment Maintenance Inspection, Documentation, Policies, and Procedures.*

3.2.18. Ensure squadrons are aware of changes to applicable DoD, AF and SpOC policy, instructions and other directives.

3.2.19. Ensure effective safety and radiation protection practices are established IAW AFI 48-137, *Respiratory Protection Program*.

3.2.20. Establish a Quality Control program IAW **Chapter 5** of this instruction.

3.3. Maintenance Training

3.3.1. Ensure maintenance is only performed by personnel who are trained, qualified and certified, unless under the direct supervision of a trainer or certifier. **(T-2)**

3.3.2. Ensure standardization of maintenance discipline, training, procedures, organizational structures, compliance and management philosophy. **(T-2)**

3.3.3. Ensure effective management of the Delta's total maintenance training program IAW DAFI 36-2670 and AFI 36-2650. **(T-2)**

3.3.4. Ensure Master Training Plans (MTPs) are developed IAW DAFI 36-2670 training is accomplished according to AFI 36-2650. **(T-2)**

3.3.5. Assign and manage Special Experience Identifier (SEI) referenced in the Air Force Enlisted Classification Directory in the AF Portal.

3.3.6. Support the maintenance training program by allocating personnel, facilities and equipment. **(T-2)**

3.3.7. Ensure an orientation program is developed and conducted for all personnel newly assigned to Delta maintenance or equivalent maintenance activities IAW AFI 36-2650. **(T-2)**

3.4. Corrosion Control

3.4.1. Implement an effective Corrosion Prevention and Control Program IAW T.O. 1-1-8, *Application and Removal of Organic Coatings, Aerospace and Non-Aerospace Equipment*; T.O. 35-1-3, *Corrosion Prevention and Control, Cleaning, Painting, and Marking of USAF Support Equipment*; T.O. 1-1-691, *Cleaning and Corrosion Prevention and Control, Aerospace and Non-Aerospace Equipment*. **(T-2)**

3.4.2. Appoint a Delta Corrosion Manager (5C041R) to implement local requirements, ensure implementation of FLDCOM directed requirements and act as the focal point for communicating with external stakeholders. **(T-2)**

3.5. Technical Orders and eTools.

3.5.1. Establish procedures to ensure assigned units have sufficient eTools availability for T.O. viewing. **(T-2)**

3.5.2. The S4 or CoM may publish Local Work Cards (LWCs) when Periodic Maintenance Inspections (PMI) are not published in the T.O. system or available in other locally developed maintenance procedures. Refer to T.O. 00- 5-1, *Air Force Technical Order System* and T.O. 00-20-1 for additional guidance on LWC development and limitations on their use. **(T-3)**

3.5.3. The S4 or CoM approves and publishes QA-validated LWCs prior to use. The CoM approves LWCs for publication and use by signing the LWC title page. **(T-2)**

3.5.4. LWCs cannot modify existing PMIs, they must comply with all parent T.O. procedures and will not introduce new requirements for tools or test equipment. Locally prepared technical instructions must not be used to circumvent centrally managed responsibilities. **(T-2)**

3.5.5. Ensure maintenance work centers accomplish Time Compliance Technical Orders (TCTOs) IAW T.O. 00-20-1 and T.O. 00-5-1.

3.6. Maintenance Operations

3.6.1. Establish Maintenance Operations functions outlined in **Chapter 4** of this instruction. **(T-2)**

3.6.2. Supervise/direct the MOC.

3.6.3. Ensure MOC personnel are properly trained and qualified to perform MOC duties.

3.6.4. Ensure the MOC establishes processes to control all maintenance actions that cause creation of an equipment status report according to guidance contained in DAFI 21-103. **(T-2)**

3.6.5. Establish processes to review/approve/disapprove cannibalization requests by the MOC. **(T-2)**

3.6.6. Establishes processes to review IMDS-CDB and/or LIONS maintenance documentation and equipment status reporting to identify and correct errors through a Data Integrity Team (DIT). **(T-2)**

3.7. Depot Maintenance

3.7.1. Establish a depot level and radome maintenance requirement submission program IAW AFTO Form 227, *C-E Depot Maintenance Requirements and Schedule process,* for assigned weapon systems IAW T.O. 00-25-108. **(T-2)**

3.7.2. Validate and submit requests for unscheduled depot maintenance, EDLM and UDLM support IAW T.O. 00-25-108 for outages that require special tools, facilities or knowledge/procedures which are beyond the scope of organizational level maintenance. **(T-2)**

3.7.3. Approve requests for assistance IAW T.O. 00-25-107 and/or T.O. 00-25-108 after they are coordinated with QA and all applicable maintenance organizations. Forward approved requests to the FLDCOM. **(T-2)**

3.8. Contract Maintenance

3.8.1. Review contractor PWS and SOW to ensure they include requirements to comply with maintenance, training and logistics management policies. Coordinate all SOW and PWS with HQ SpOC/S4. Any deviation from standard maintenance management processes contained in DoD, AF and SpOC directives and instructions shall be coordinated with HQ SpOC/S4 for approval prior to finalizing the PWS and/or SOW. **(T- 2)**

3.8.2. Ensure QASP is in place for surveillance of contracted maintenance functions and COR duties are accomplished IAW AFI 63-138. **(T-2)**

3.9. Monthly Metrics

3.9.1. Ensures monthly metrics inputs are submitted to assigned Weapon System Managers and FLDCOM maintenance management analysts in HQ SpOC/S4X. **(T-2)**

3.9.2. Metric inputs will be provided in the format prescribed by HQ SpOC/S4X. **(T-2)**

3.9.3. Maintenance Indicator Reports will be submitted with the metric inputs in the format prescribed by HQ SpOC/S4X. **(T-2)**

3.10. Test Measuring and Diagnostic Equipment (TMDE)

3.10.1. The CoM shall ensure TMDE management is accomplished IAW AFMAN 21-113, *Air Force Metrology and Calibration (AFMETCAL) Management*, T.O. 00-20-14 and T.O. 33-1-27, *Logistic Support of Precision Measurement Equipment*. **(T-2)**

3.10.2. Ensure maintenance work centers possessing TMDE comply with the requirements detailed in T.O. 00-20-14 and have TMDE calibrated IAW published calibration schedules, T.O. 33K-1-100-1, *Calibration Procedure for Maintenance Data Collection Codes and Calibration Measurement Summaries*, T.O. 33K-1-100-2, *TMDE Calibration Interval, Technical Order and Work Unit Code Reference Guide* and/or applicable Calibration and Measurement Summaries. **(T-2)**

3.10.3. The CoM shall ensure TMDE coordinators are appointed to act as the focal point between the maintenance activity and Precision Measurement Equipment Laboratory (PMEL) to address and resolve any TMDE calibration and repair support problems. In addition, the TMDE coordinator will forward TMDE calibration schedules to the appropriate work centers and establish procedures for TMDE turn-in and pick-up. **(T-2)**

3.11. Deployed Maintenance Management

3.11.1. The Delta S4 or CoM shall be responsible for developing written deployed maintenance management guidance for any assigned weapon system/equipment with a deployment/mobility mission. At a minimum, deployed maintenance management planning should address the following: **(T-3)**

3.11.2. Describe procedures for planning, scheduling, controlling and documenting maintenance actions during equipment deployment.

3.11.3. Ensure equipment status reporting and maintenance documentation is accomplished. Include procedures for manual documentation when IMDS-CDB/LIONS or government approved MIS is unavailable for use and describe process for loading data once maintenance information systems are available.

3.11.4. Ensure all weapon system spares and assigned support equipment are managed and accounted for IAW AFMCMAN 20-106, *Provisioning*, AFMAN 23-122 and AFH 23-123V1, *Materiel Management Reference Information*. **(T-2)**

3.11.5. Ensure Readiness Spares Package (RSP) storage availability, issue and turn-in procedures are followed and establish procedures for RSP replenishment at deployed locations as applicable. Refer to AFMCMAN 20-106, AFMAN 23-122 and AFH 23-123V1 for additional information. **(T-2)**

3.11.6. Ensure technical data, tools and other support items are available and ready to support system deployment. **(T-2)**

3.12. Maintenance Plan. The maintenance plan is a schedule of known or predicted future maintenance events/actions. A sample maintenance plan is located at **Attachment 2**.

3.12.1. The CoM or designee determines the content of the maintenance plan and how it is to be published. The maintenance plan is maintained by the MOC with input from other work centers such as QA.

3.12.2. Mandatory items include safety related information, deferred PMIs, mission communications link outages, other formal scheduled outages, scheduled mission down times, preplanned and time change requirements, modification schedule, depot support, QA evaluations schedule and overdue QA evaluations.

3.12.3. Optional areas to include an in maintenance plan may include scheduled PMIs, TMDE schedule, technical order management information, training updates and reports, scheduled training courses, parts status information, system and equipment metrics, MIS Procedure Review, scheduled staff assistance visits and Inspector General (IG) inspections, special interest items, cross-feed information, noticeable trends/concerns, status of AFTO Form 22, SMR change requests, modifications proposal statuses, recurring suspense's, lost/missing tool reports, best practices and other relevant communications related information.

3.12.4. Ensures the coordination of system down-time for maintenance, modification, upgrade and testing with the operational mission requirements.

3.12.5. Establish requirements in a Delta-level maintenance operating instruction.

Chapter 4

MAINTENANCE OPERATIONS CENTER (MOC)

4.1. Introduction. The MOC is directly responsible to the S4/CoM for the administration, analysis and management of personnel, programs and resources dedicated to the maintenance production effort. It is the central agency responsible for monitoring and developing long range strategies to sustain the health of the weapon system or systems and is responsible for the effective utilization of available resources to accomplish the support cycle from planned maintenance events to the execution of operations. The MOC ensures the availability and reliability of the weapon system(s) to support operational events, training events, scheduled maintenance inspections, system configuration control, modification schedules and equipment deployment and recovery, as applicable.

4.2. Responsibilities

4.2.1. Monitor the status of weapon systems as directed through the use of electronic or manual visual aids and/or systems including Estimated Time for Completion (ETIC), progress of system checkouts and calibrations and the location of weapon systems at home stations, in garrisons and at deployed locations (if classified, refer to applicable Security Classification Guides for assigned mission areas and/or systems). **(T-2)**

4.2.2. Track contingency and exercise mission generation activities. **(T-2)**

4.2.3. Monitor and report mission generation/deployment progress with a minimum of the following information: ETIC, arrival/departure time of transport aircraft, location of each system, status of generation actions, progress against timeline to meet mission requirements. **(T-2)**

4.2.4. Track systems supported or maintained by the Delta but not on station (deployed). **(T-2)**

4.2.5. Coordinate maintenance on any equipment placed in an alert or standby status with the unit and supported C-FLDCOM. **(T-2)**

4.2.6. Ensure status displays/boards that depict system status and location comply with security program guidelines. **(T-2)**

4.2.7. Monitor the status and ETIC of Mission Essential AGE equipment (generators, ECUs, light carts, etc.) if it falls below critical levels (the ability to meet unit DOC Statement requirements). **(T-2)**

4.2.8. Classify information IAW AFI 17-130. **(T-2)**

4.2.9. Verify equipment status and ETICs with the Delta and Squadron Maintenance Superintendents (MX SUPT) and ensure they are properly document in the MIS. **(T-2)**

4.2.10. The MOC will verify equipment status using the MIS before reporting. **(T-2)**

4.2.11. Inform affected activities of changes in priorities, plans and schedules. **(T-2)**

4.2.12. Coordinate changes to the operations schedule with applicable agencies. **(T-2)**

4.2.13. Ensure deviations to the operations and maintenance schedules are reviewed and accurately reported. **(T-2)**

4.2.14. Request support services outside the scope of the Delta. **(T-2)**

4.2.15. The MOC will develop and maintain MOC checklists that implement all approved FLDCOM and local requirements. **(T-2)**

4.2.16. Upon notification of deployments, the MOC will ensure all deploying equipment is identified and loaded into the applicable MIS. **(T-2)**

4.2.17. Review MIS maintenance documentation and equipment status reporting to identify and correct errors through a DIT.

4.2.18. Ensure monthly metrics inputs are submitted to the assigned Weapon System Managers and FLDCOM maintenance management analysts in HQ SpOC/S4X.

4.2.19. Submit Maintenance Indicator Reports (MIRs)with the metric inputs in the format prescribed by HQ SpOC/S4X.

4.2.20. Control all maintenance actions that require Mission Impaired Capability Awaiting Parts (MICAP) reporting or cause the creation of an ESR according to DAFI 21-103.

4.2.21. Control all maintenance actions that impact an assigned mission system from meeting mission requirements (e.g., cause creation of an ESR, Situation Report (SITREP), MICAP reportable condition, scheduled and unscheduled maintenance, system modifications, etc.).

4.2.22. Establish local reporting procedures for non-reportable equipment or missions, provided the reporting level is set to local only (IMDS-CDB/LIONS reporting level R). **(T-2)**

4.2.23. Establish an after-duty hours contact point to perform MOC duties when a 24-hour MOC is not used. **(T-3)**

4.2.24. Provide detailed local written procedures for the after-duty hours function.

4.2.25. Enter and update ESR data as events occur.

4.2.26. Establish reporting procedures for tracking non-ESR system outages and maintenance actions. **(T-2)**

4.2.27. Review IMDS-CDB/LIONS management products (e.g., Communications-Electronics (C-E) Open Incident List, C-E Status Summary, etc.) for accuracy to ensure usable data is available for analysis and management decisions. **(T-2)**

4.2.28. Correct ESR errors.

4.2.29. Maintain the status of all active and deferred discrepancies. Reconcile deferred Job Control Numbers (JCNs) in Awaiting Parts (AWP) status with the maintaining organization or materiel control activity. Ensure Estimated Delivery Date (EDD) is current and verify Urgency Justification Code (UJC).

4.2.30. Maintain a current inventory of all mission critical end items maintained by the Delta's organizations. **(T-2)**

4.2.31. Maintain the status of all on-call technicians and dispatch as required to respond to system outages. **(T-2)**

4.2.32. Control and document approved cannibalization actions according to T.O. 00-20-2.

4.2.33. Ensure a demand is placed on the supply system and verify the part is not available prior to recommending cannibalization action to CoM. Present cannibalization action to CoM for approval.

4.2.34. Ensure all JCNs are properly assigned. Refer to T.O. 00-20-2 for additional guidance on the construction, assignment and use of JCNs. **(T-2)**

4.2.35. Blocks of local JCNs may be allocated to work centers for work that does not require control by the MOC. When a work center-controlled maintenance action changes the system or equipment status, the JCN and control of the maintenance effort reverts to the MOC.

4.2.36. Coordinate scheduled mission downtime with the appropriate operations organization and the affected maintenance work center. Coordination may be delegated to the maintenance work center if appropriate.

4.2.37. Use IMDS-CDB/LIONS to initiate and control maintenance actions that change equipment status. Use locally generated means if IMDS-CDB/LIONS is temporarily unavailable and update in IMDS-CDB/LIONS once the system becomes available. **(T-2)**

4.2.38. Use the approved system to initiate and control maintenance actions for any systems or equipment items which have an approved waiver to use a system other than IMDS-CDB/LIONS.

4.2.39. Notify the performing work centers for scheduled TCTO, time change items and other anticipated maintenance actions which require documentation IAW T.O. 00-20-2.

4.2.40. Create a work order in IMDS-CDB/LIONS for each item in stock or assigned to the Delta that requires TCTO accomplishment.

4.2.41. When kits, parts or tools are not required, the MOC enters the TCTO into IMDS-CDB/LIONS and creates a work order for each item assigned to the Delta or kept in the base supply stock that requires TCTO accomplishment.

4.2.42. When the TCTO is a repair, inspection or modification, enter the TCTO into IMDS-CDB/LIONS.

4.2.43. Ensure squadron work centers complete proper TCTO documentation in IMDS-CDB/LIONS.

4.2.44. MOC personal serve as the IMDS-CDB/LIONS focal point for all equipment maintenance status and inventory reporting. **(T-2)**

4.2.45. Perform equipment maintenance status and inventory reporting IAW DAFI 21-103.

4.3. MOC Facilities

4.3.1. Unit Commanders will establish a MOC as soon as possible using existing resources or pursue the resources through the Corporate Process as a priority, keeping HQ SpOC/S4X and HQ SpOC/S4W appraised of the specific actions and progress for resourcing the MOC no later than the beginning of each year's POM cycle. **(T-2)** Ensure that MOC facilities meet the following minimum standards: **Note:** This section creates no new requirements but delegates waiver authority from the T-2 FLDCOM level to the T-3 Delta level.

4.3.2. A completely enclosed room with air-conditioning and heating. **(T-3)** An observation room is permitted.

4.3.3. Doors to the MOC and observation room (if equipped) will be either mechanically or electrically self-locking to control access. **(T-3)**

4.3.4. Isolate MOC electrical power circuits and provide a standby power source and emergency lighting. **(T-3)**

4.3.5. The MOC will develop procedures to operate the standby power source if necessary. **(T-3)**

4.3.6. The MOC will have reliable, redundant and effective communication systems. **(T-3)**

4.3.7. Develop and exercise comm-out procedures to include loss of radios, local area network (LAN) and phone service. **(T-3)**

4.4. MOC Training

4.4.1. Government civilian and military MOC personnel will accomplish AFJQS 1D7XX-201F, *Communications Focal Point* and other applicable AFJQSs (e.g., IMDS- CDB and Database Managers) training for task qualification and duty position training. (T-2). Applicable JQS may be found at the Qualification Training Flight (Q-Flight) SharePoint site at **https://usaf.dps.mil/teams/10445/default.aspx**. LIONS training is available under contract. Personnel utilizing LIONS should contact SpOC/S4W as needed.

4.4.2. Contractor training will be IAW contract requirements. It is highly recommended that contractor training, utilize the training requirements specified in **paragraph 4.4.1**.

Chapter 5

QUALITY ASSURANCE

5.1. Quality Assurance Program

5.1.1. The QA program as defined in T.O. 00-33A-1001 is designed to standardize and improve processes, assess personnel proficiency, ensure effectiveness of space weapon systems maintenance management and provide feedback to supervision. The evaluation and analysis of deficiencies and problems are key functions of QA that highlight and identify underlying causes of degraded quality and processes. QA validates use of technical data, effective training programs, proven maintenance processes, safety procedures, supply discipline, security procedures and good housekeeping standards for maintenance work centers.

5.2. Responsibilities

5.2.1. Provide advice and authoritative references to work center supervisors and the CoM.

5.2.2. Implement and administer the QA Product Improvement Programs (PIP).

5.2.2.1. Product Improvement Manager. The CoM will assign a PIM within their organization with responsibilities as specified in this chapter. **(T-2)**

5.2.2.2. Deficiency Reporting (DR). DR is the process of reporting deficiencies prescribed by T.O. 00-35D-54. The PIM will:

5.2.2.2.1. Monitor the DR process to ensure items are properly loaded in the MIS database. **(T-2)**

5.2.2.2.2. Ensure DRs are submitted using Joint Deficiency Reporting System (JDRS) unless waived in accordance with T.O. 00-35D-54. **(T-2)**

5.2.2.2.3. Verify each DR is assigned the appropriate category and priority as defined by T.O. 00-35D-54. **(T-2)**

5.2.2.2.4. Perform/coordinate a technical review of DRs returned to the unit without an adequate response to determine whether resubmitting with additional information is warranted.

5.2.2.2.5. Perform exhibit processing oversight by coordinating with the program office and the Logistics Readiness Squadron (LRS) to ensure proper exhibit control and handling. **(T-2)**

5.2.3. Technical Order Improvement Program (AFTO 22). The PIM will:

5.2.3.1. Ensure proper evaluation is performed and forms are properly filled out and processed IAW T.O. 00-5-1. **(T-2)**

5.2.3.2. Ensure control numbers are assigned and forward all AFTO 22s to the appropriate action agency and provide a courtesy copy to the originator.

5.2.3.3. Maintain an AFTO 22 suspense file. **(T-2)**

5.2.3.4. Conduct/coordinate a technical review of disapproved AFTO 22s to determine whether to resubmit with additional information.

5.2.4. SMR code change request. Submit code change requests IAW T.O. 00-25-195, *Air Force Technical Order System Source, Maintenance, and Recoverability Coding of Air Force Weapons, Systems, and Equipements.* The PIM will:

5.2.4.1. Track the status of SMR change requests. **(T-2)**

5.2.4.2. Conduct/coordinate a technical review of disapproved SMR change requests to determine whether to resubmit with additional information. **(T-2)**

5.2.5. Configuration Control and Modification Management. QA is responsible for configuration control and modification management. This includes reviewing, submitting and tracking unit modification proposals being worked by FLDCOMs/Lead Commands and ensuring proper implementation of approved modification instructions or TCTOs.

5.2.6. Establish a TODO and ensure the adequacy and accuracy of T.O. files in the maintenance activity according to T.O. 00-5-1. QA ensures current method and procedures T.O.s, TCTOs, work cards, work unit code manuals and other required T.O.s are available to the entire maintenance activity. **(T-2)**

5.2.6.1. TODO Responsibilities. The TODO will ensure the adequacy and accuracy of T.O. files in the maintenance activity according to T.O. 00-5-1. **(T-2)**

5.2.6.2. QA initiates TCTO processing actions IAW T.O. 00-5-15, *Air Force Time Compliance Technical Order Process*. Review each incoming TCTO and advises the MOC on its applicability. Ensure copies of each TCTO are distributed to the MOC, supply management function and affected work centers.

5.2.6.3. Set up eTools software subaccounts with each appropriate work center/section/Unit Type Code (UTC) and ensure each work center/section/UTC has the most current software on hand. **(T-2)**. Include Computer Program Identification Number System/Automated Computer Program Identification Number Systems (CPINS/ACPIN) in routine and annual checks required by T.O. 00-5-1.

5.2.6.4. Provide special attention to all electronically transmitted TCTOs and T.O.s due to the urgent nature of this type of change.

5.2.6.5. Ensure current Methods and Procedures T.O.s, TCTOs, evaluation work cards, work unit code manuals and other TMs are available to the entire communications activity. The primary consideration is availability of T.O.s, with minimum duplication.

5.2.6.6. Limit use of local work cards, local job guides, or local checklists to accomplish maintenance on assigned equipment. The TODO must review and manage all locally developed products in accordance with MIL-PRFs, T.O. 00-5-1and FLDCOM supplements for formatting technical data. QA shall establish a deficiency analysis program for identifying patterns of errors and deficiencies found during all forms of evaluations. **(T-2)**

5.2.6.7. QA personnel, in conjunction with the affected work center supervisor, shall attempt to identify the underlying problem or cause and provide a recommended corrective action.

5.2.7. QA will provide the CoM a deficiency analysis summary quarterly unless waived. **(T-2)** The deficiency summary should identify the following at a minimum:

5.2.7.1. Trends and deficiency patterns from evaluation results.

5.2.7.2. Identify the underlying cause of the deficiency or trend.

5.2.7.3. The impact of any identified deficiencies or trends.

5.2.7.4. Identification of any corrective actions already taken to resolve or correct the deficiency or trend.

5.2.7.5. Any recommended management action(s) to permanently correct deficiencies or trends.

5.2.7.6. A comparison of the current quarter trends and deficiencies with those presented during previous summary reports.

5.2.8. Review work center facility, system installation and equipment records management.

5.2.9. Serve as the Corrosion Control Lead for the Corrosion Prevention and Control Program according to DAFI 63-140, *Aircraft Structural Integrity Program and Air and Space Equipment Structural Management,* and T.O. 00-33A-1001. **(T-2)**

5.2.10. Serve as the focal point for Electrostatic Discharge (ESD) control and conduct work area ESD control surveys according to T.O. 00-25-234, *General Shop Practice Requirements for the Repair, Maintenance, and Test of Electrical Equipment.*

5.2.11. Validate MOIs and assist in the development as needed. **(T-2)**

5.2.12. QA validates LWCs and assists in the development, as needed. T.O. 00-5-1 procedures for LWCs apply.

5.2.13. Ensure government personnel are fully trained and certified to support assigned UTC taskings. **(T-2)**

5.2.14. QA personnel can serve as CORs for services contract functions.

5.3. Training Requirements. QA and QA Representatives (QARs) will complete the following training requirements once selected: **(T-2)**

5.3.1. Personnel assigned to QA offices or appointed as QAR supporting a QA office will be trained by experienced QA personnel on evaluation procedures.

5.3.2. QA personnel will complete AFJQSXXXXX-201G, Quality Assurance and use it as a guide for training QARs. If the QA personnel and/or the QAR is a 5-level, completion of Air Force Qualification Training Plan (AFQTP) is required within 180 days of assignment. JQS can be found on the Qualification Training Flight (Q-Flight) SharePoint site at: **https://usaf.dps.mil/teams/10445/default.aspx**.

5.3.3. Training will cover these minimum areas:

5.3.3.1. Management

5.3.3.2. Procedures

5.3.3.3. Objectivity

5.3.3.4. Evaluation methods

5.3.3.5. Root cause analysis techniques.

5.3.4. Contract Surveillance. QA may be used to act as a COR for maintenance functions that are performed by contract. COR functions do not have to be performed by QA personnel; however, by their nature, COR duties can be defined as quality assurance related functions. The basic COR responsibilities have been included in the QA chapter.

5.3.4.1. QA personnel performing COR duties will attend training to ensure compliance with the AF equipment maintenance contract surveillance program.

5.3.4.2. Contracting Officer Representative. The COR observes and documents the performance-based activity's overall performance and provides the Procuring Contracting Officer/Administrative Contracting Officer (PCO/ACO) with documentation that identifies contractual compliance or noncompliance. The COR will:

5.3.4.2.1. Complete mandatory training requirements prior to performing surveillance duties unsupervised. **(T-2)**

5.3.4.2.2. Be knowledgeable of the specifications of the contract.

5.3.4.2.3. Maintain proficiency in contract assessment methods.

5.3.4.2.4. Be knowledgeable of the procedures for documenting surveillance.

5.3.4.2.5. Perform surveillance according to the QASP. **(T-2)**

Chapter 6

MAINTENANCE MANAGEMENT ANALYSIS (MMA)

6.1. Introduction. Tracks, analyzes and presents information to help senior leadership assess the health of the units' weapon systems and equipment. MMA acts as the group Point of Contact (POC) for MIS issues and performs analyses to assess and improve unit performance (i.e., effectiveness and efficiency of unit resources and logistical support processes). The MIS provides the main source of information used by analysts to assess unit performance and capability. IMDS-CDB/LIONS and Reliability and Maintainability Information System (REMIS) are the prime sources of data.

6.2. Responsibilities

6.2.1. Establish working relationships with unit leadership through visits to work centers and other means of communication (e.g., phone, email, video teleconference, etc.) providing assistance to all unit personnel with the MIS, data extraction and interpretation. **(T-2)**

6.2.2. Review data for anomalies and identify areas requiring further study. **(T-2)**

6.2.3. Brief Delta leadership/CoM monthly on the health of the weapon system(s). **(T-2)**

6.2.4. Provide information on analysis services and capabilities to unit supervision. **(T-2)**

6.2.5. Provide signed copies of statistical studies performed at base level to HQ SpOC/S4X NLT 30 days after the final report is provided the CoM. **(T-2)**

6.2.6. Assist unit leaders with the application and interpretation of maintenance data. **(T-3)**

6.2.7. MMA will provide HQ SpOC/S4X required metrics by the 8th calendar day each month and the MIR by the 10th calendar day unless otherwise specified in writing from HQ SpOC/S4X. Submit all metrics to the USSF All 2R Team on Microsoft Teams. (T-2)

6.2.7.1. Maintenance data will be considered final out of IMDS or a HQ SpOC/S4X approved MIS by the fifth calendar day of every month unless otherwise specified in writing by HQ SpOC/S4X.

6.2.7.2. MMA sections will inform HQ SpOC/S4X as soon as they are aware of any situation that may cause a late submittal. Exercises, down-days and inspections are not valid reasons for late submittals. **(T-2)**

6.2.7.3. After the monthly report and MIR have been submitted on the HQ SpOC/S4X Analysis SharePoint site, any corrections to reports must be submitted via SharePoint with a “heads-up” e-mail to: SpOC DCG-S S4X Workflow with reference to the original reported data as well as the corrected data. **(T-2)**

6.2.7.4. If there are any reporting errors identified after the reports are submitted to HQ SpOC/S4X, the unit OPR will be contacted. The OPR, in turn, will notify the appropriate base agency to correct erroneous data. **(T-2)**

6.2.7.5. MMA sections will ensure corrected reports are provided within one calendar day unless an extension of two calendar days is requested. **(T-2)**

6.2.8. Analyze equipment performance trends to identify problems affecting the unit mission and, whenever possible, provide predictive analytical information with recommendations to the unit's Maintenance Supervision. **(T-2)**

6.2.9. Verify accuracy of the Job Data Documentation (JDD) subsystem of MIS. **(T-2)** MMA will:

6.2.9.1. Validate MIS data as part of daily analysis duties and informs affected agencies of discrepancies. **(T-2)**

6.2.9.2. Identify erroneous or missing data to the responsible agency for correction or completion. **(T-2)**

6.2.10. MMA is responsible for the overall management of the JDD subsystem and provides overall management and control of the maintenance deferred code listing. **(T-2)**

6.2.11. Control the assignment of unit work center and mnemonic codes. **(T-2)**

6.2.12. Be responsible for system database management. **(T-2)** Work centers throughout the organization manage those applications and functions applicable to their environment.

6.2.13. Assists MIS users in developing procedures for collecting information when the MIS is not available. **(T-2)**

6.2.14. Ensure a 2R analyst representative attends quarterly HQ SpOC 2R meetings. **(T-2)**

6.3. MMA Section NCOIC/Supervisor

6.3.1. Ensure each analyst assigned attends a local familiarization course for 2R0X1 personnel. **(T-3)**

6.3.1.1. As a minimum, the course will include weapon system/communications electronics familiarization, organizational structure and roles of each squadron and work center. **(T-3)**

6.3.1.2. Analysts will attend the course within three months of assignment to the unit. **(T-3)**

6.3.1.3. For Air Reserve Component (ARC), analysts will attend the course within six months of assignment to the unit. (T-3)

6.4. Maintenance Information System Management

6.4.1. For management of IMDS-CDB/LIONS and REMIS, follow Air Force Computer Systems Manual (AFCSM) 21-556, Vol 2, *Introduction to IMDS CDB, FLDCOM/Lead Command* guidance, unit procedures and REMIS user manuals. Personal computers and software used as "stand–alone" systems are not considered MIS.

6.4.2. Ensure IMDS-CDB/LIONS security is maintained.

6.4.3. Analysis personnel provide expertise on IMDS-CDB/LIONS for resolution of problems beyond the work centers' and subsystem monitors' control.

6.4.4. Ensure support is provided to tenant organizations and users.

6.4.5. Coordination with the Defense Enterprise Computing Center (DECC) or AF Network Control Center (AFNCC) on all matters concerning IMDS-CDB/LIONS.

6.4.5.1. The DECC supports all requirements concerning the operation and maintenance of IMDS-CDB/LIONS.

6.4.6. Notify work centers of scheduled IMDS-CDB/LIONS system downtime and other outages as required.

6.4.7. Analysis personnel control and monitor submissions of IMDS- CDB/LIONS Difficulty Report (DIREP).

6.4.8. Coordinate on matters pertaining to the interface of other automated systems with IMDS-CDB/LIONS.

6.4.9. Develop a functional checklist to establish timelines and MIS data capture requirements for use in the event of a weapon system mishap.

6.4.9.1. The checklist must require immediate capture and isolation of the historical data for the mishap weapon system regardless of the time or day of week. Contact the Database Manager (DBM) to immediately put the IMDS- CDB/LIONS in File Update Mode (FUD) until the functional checklist can be completed. **(T-2)**

6.4.10. Support of the C-E maintenance community IAW DAFI 21-103 and T.O. 00-33A-1001.

6.4.11. Control access to specific IMDS-CDB/LIONS programs and subsystems by utilizing Transaction Identification Codes (TRICs) security profiles. Develop local tracking procedures for TRIC, batch and green screen privileges for all users. Review IMDS-CDB/LIONS security profiles quarterly and take appropriate measures when a compromise is suspected or reported.

6.4.12. IMDS-CDB/LIONS subsystem managers are informed of the status of applicable TRICs prior to turning the TRIC on or off.

6.4.13. Request to modify/create new functionality within IMDS-CDB/LIONS IAW AFCSM 21-556, Vol 2.

6.4.14. Documentation Accuracy and Completeness. Data integrity is the responsibility of every member of the unit. All personnel are responsible for ensuring data accuracy and completeness.

6.4.15. Subsystem Managers are the first line of support when dealing with IMDS issues within their set of IMDS screens.

6.4.15.1. For problems outside of the capability of the Subsystem Manager, the Host IMDS Database Manager will provide assistance until the issue is resolved. **(T-2)**

6.5. Maintenance Metrics. Maintenance leaders must review maintenance health constantly and be knowledgeable about maintenance indicators that highlight trends before they become problems. This section lists primary maintenance metrics with their description and formula. Metrics are subject to change as directed by HQ SpOC/S4X. C-E Maintenance Metric calculations can be found in the following publications: 00-33A-1001, T.O. 00-20-2 and DAFPAM 63-128, *Integrated Life Cycle Management*. Key required metrics are defined below:

6.5.1. Mean Time Between Maintenance (MTBM). MTBM measures the average operating time between maintenance events - scheduled and unscheduled. The operating hours is composed of all active hours *minus* Non-Mission Capable (NMC) hours. It provides valuable

guidance and is used as an input to manpower analyses. MTBM is used as the principal indicator of the logistics reliability of system, subsystem or lower-level replacement action. The MTBM is computed as follows:

6.5.2. MTBM = Operating Hours/Total Number of Maintenance Events.

6.5.3. Mean Time Between Scheduled Maintenance (MTBSM) = Operating Hours/Number of Scheduled Maintenance Events.

6.5.4. Mean Time Between Unscheduled Maintenance (MTBUM) = Operating Hours/Number of Unscheduled maintenance Events.

6.5.5. Mean Time Between Failure (MTBF). MTBF is calculated to provide an average equipment operating time before a failure occurs. MTBF is expressed in hours. Two basic types of failure are used for this indicator, Inherent and Induced. Inherent (Type 1), identifies inherent failures (*item fails due to its own internal failure pattern*) and it is the actual failure of an item. Induced (Type 2), identifies induced failures (*item fails but not due to its own internal failure*) where the failure of an item is caused by an outside influence. MTBF is expressed as follows:

6.5.5.1. MTBF = Active Time x Quantity per Application (QPA) x Usage Factor (UF)/Total Maintenance Actions.

6.5.5.2. MTBF Type 1 = Active time x QPA x UF/Inherent Failures (T.O. 00-20-2, says possessed hrs. vs active time).

6.5.5.3. MTBF Type 2 = Active time x QPA x UF/Induced Failures (T.O. 00-20-2, says possessed hrs. vs active time).

6.5.6. Mean Repair Time (MRT). MRT measures the average on-equipment and/or off-equipment corrective maintenance time in an operational environment. MRT starts when the technician arrives at the system or equipment for on-equipment maintenance or receives the assembly, subassembly, module, or circuit card assembly at the off-equipment repair location. MRT includes all maintenance done to correct the malfunction, including preparation, Line Replaceable Unit (LRU) access, troubleshooting, removing and replacing parts, repair, adjusting and conducting functional checks. MRT does not include maintenance, supply, or other delays. MRT uses crew size in the calculation of man-hours. Repair Hours (on-equipment) are the labor hours for Action Taken Codes (ATCs) R, P, G, K, L, V, Z, or F. Repair Actions (on-equipment) are the number of repair actions reported under ATCs R, P, F, G, K, L, V, or Z (Type Maintenance Code will not equal T). Repair Hours (off-equipment) are the labor hours on ATCs A, F, G, K, L, M, N, V, or Z. Repair Actions (off-equipment) are the number of repair actions reported under ATCs A, F, G, K, L, V, or Z (ATC M and N are not included). See T.O. 00-20-2 for a list of ATCs and their definitions. Note: Support General WUCs beginning with a zero are not included.

6.5.6.1. MRT = On-Equipment + Off-Equipment Repair Hours/On-Equipment + Off-Equipment Repair Actions.

6.5.6.2. MRT On-Equipment = On-Equipment Repair Hours/On-Equipment Repair Actions.

6.5.6.3. MRT Off-Equipment = Off-Equipment Repair Hours / Off-Equipment Repair Actions.

6.5.7. Operational Availability (Ao). Ao rate reflects the probability that, at any point in time, the system is either operating or can operate satisfactorily under specified conditions. The downtime includes all periods in which the equipment was in red condition status. The formula for calculating the Ao is as follows:

6.5.7.1. Ao = Active hours – Total downtime/Active Hours x 100.

6.6. Monthly Report Templates. Each MMA section has a Teams monthly metric template specifically designed for its Delta/unit space systems located in the Teams Channel: USSF All 2R Team. **(T-2)**

6.6.1. MMAs should check this site every month to ensure they have the most current template.

6.6.2. HQ SpOC/S4X maintains sole responsibility for template modifications. Do not modify any templates. If changes are required, contact HQ SpOC/S4X Analysis section for assistance.

6.6.3. Monthly Reports:

6.6.3.1. The monthly metrics and MIR are the primary source documents used to populate the SLR quarterly metrics slides.

6.6.3.2. Maintenance metric standards will be developed by HQ SpOC/S4X on a biannual basis.

6.6.3.3. MIR will contain detailed information on all HQ SpOC/S4X required metrics failing to stay within the FLDCOM provided control limits and/or equipment showing a previous three-month negative trend. The MIR will provide the FLDCOM with an outline of the problem and what the unit/FLDCOM/Program Office is currently doing to correct the issue long term. Any anomalies will be identified with specific cause/corrective actions. This report will be endorsed/signed by the HQ SpOC/S4X.

6.7. Data Integrity Team. MMA is the OPR for the DIT. All assigned work centers will establish a DIT. **(T-2)**

6.7.1. The purpose of the DIT includes: ensuring the unit has complete and accurate data in the MIS, identifying and quantifying problems within the unit preventing complete and accurate documentation and identifying and correcting the root causes for poor data integrity. The DIT is established to evaluate/isolate/eliminate documentation problems in IMDS-CDB/LIONS. MMA is the OPR for the team and will ensure all assigned DIT members are trained in the use of MIS applicable programs for the data integrity review/correction process. **(T-2)** Identify suspected report errors by circling or marking the error before providing to the appropriate work center for corrections. **(T-2)**

6.7.2. The DIT will include, at a minimum, one representative from each squadron under the CoM. It will include participation from MOC, maintenance work center, MSL/LRS and QA. **(T-2)**

6.7.3. The MMA will determine the frequency of DIT meetings.

6.7.4. Representatives will be at least 5-levels or civilian equivalent and familiar with the unit's assigned weapon system(s). **(T-2)**

6.7.5. At a minimum, the following functions will be performed by the DIT:

6.7.5.1. Develop a system to track the number of errors by work center and squadron. **(T-2)**

6.7.5.2. Process and distribute Maintenance Action Review Reports to work centers and coordinate error correction. **(T-2) Note:** JDD corrections are limited to the previous 10-day timeframe.

6.7.5.3. Establish a five-day suspense to correct errors and report back to the DIT OPR. **(T-2)**

6.7.5.4. Meet with work centers' representatives to review maintenance documentation errors and establish corrective actions. **(T-2)**

6.7.5.5. Maintain cumulative uncorrected and corrected error rate databases. Analyze the error rate data, prepare reports and identify where the errors are occurring. Error rates and causes will be briefed to the CoM monthly. **(T-2)** Provide DIT error rate data to HQ SpOC/S4X monthly and include with metric reporting.

6.7.5.6. Ensure work centers comply with maintenance documentation and equipment status review processes established by the CoM.

Chapter 7

SQUADRON MAINTENANCE AND WORK CENTER RESPONSIBILITIES

7.1. Squadron Mission Assurance (MA) Responsibilities. Maintenance Supervision consists of the MA officer and/or MX SUPT. Maintenance Supervision advises the SQ/CC and Delta S4 and/or CoM on technical matters, leads a mission-focused maintenance effort and manages resources necessary to accomplish the mission. They provide necessary administration to manage assigned responsibilities and control maintenance activities. The MX SUPT is responsible to the MA. Contract Maintenance Supervision is responsible to the MA or squadron commander. **SSC contracted organizational maintenance (level 1) shall report to the squadron MA, or equivalent, for normal daily maintenance work**. Members of the using squadron shall be appointed by SSC as QAEs and/or CORs. In the absence of an organic organizational level maintenance capability, these responsibilities may be contracted; however, inherently governmental functions will be performed by the Site/Detachment CC, Superintendent and/or a squadron level COR/QAE or be assigned to organizational level military or government service personnel. **(T-2)**

7.1.1. Maintenance Supervision

7.1.1.1. Ensure adequate levels of supervision and manning are balanced across all shifts to accomplish the mission safely and efficiently. **(T-2)**

7.1.1.2. Personnel will not be scheduled for more than 12 hours of continuous duty time. **(T-3)** Duty time begins when personnel report for duty and ends when their supervisor releases them. Time spent in exercise or contingency deployment lines and in-transit counts towards the total. Delta CCs are the final authority for duty time extensions exceeding the 12-hour limit up to a maximum of 16 hours **(T-2) Note:** Deployment commanders assume this responsibility in temporary duty (TDY)/travel status.

7.1.1.3. Commanders and supervisors will ensure individuals are afforded adequate duty rest periods and breaks to prevent fatigue or thermal injury. **(T-3)**

7.1.2. Ensure a sufficient number of personnel are qualified to perform mission critical tasks. **(T-3)**

7.1.3. Ensure systems and equipment are available to support unit training objectives. **(T-3)**

7.1.4. Ensure distribution of maintenance cross-tell messages, QA newsletters, policy announcements, technical notifications and other important maintenance information to all members of the organization. **(T-3)**

7.1.5. Review and evaluate management and production effectiveness. **(T-3)** Maintenance Supervision will analyze personnel and equipment performance history. **(T-3)** Initiate management actions to meet new workloads or correct reported/perceived deficiencies. **(T-3)**

7.1.6. Ensure a squadron Corrosion Control Program is implemented and managed IAW T.O. 1-1-8, T.O. 35-1-3, T.O. 1-1-691, MDS-specific T.O.s and FLDCOM instructions. **(T-2)**

7.1.7. Ensure deferred maintenance, reported discrepancies and back-ordered parts are properly managed. **(T-2)**

7.1.8. Review supply products to monitor supply discipline. **(T-2)**

7.1.9. Maintenance Supervision will manage DIFMs IAW AFI 23-101. **(T-2)**

7.1.10. Monitor and reconcile changes in base-level repair capabilities as they occur with the LRS/Materiel Management activities IAW AFI 23-101. **(T-2)**

7.1.11. Ensure lost, damaged, destroyed, or stolen government assets are dispositioned IAW DoD 7000.14-R, *DoD Financial Management Regulation*, Vol 12, *Special Accounts, Funds and Programs,* Chapter 7, *Financial Liability for Government Property Lost, Damaged or Destroyed (Formerly Report of Survey)*. **(T-2)**

7.1.12. Ensure Special Purpose Recoverable Authorized Maintenance (SPRAM) accounts are established IAW Chapter 9 of DAFI 21-103, Chapter 9 of DAFI 21-101, *Aircraft and Equipment Maintenance Management,* and maintained IAW AFI 23-101. **(T-2)**

7.1.13. Ensure reporting of materiel deficiencies IAW T.O. 00-35D-54. **(T-2)**

7.1.14. Ensure training requirements are executed to support established training plan and individual SFSC (Space Force Specialty Code) Career Field Education and Training Plans (CFETP) in accordance with DAFI 36-2670 and AFI 36-2650. **(T-2)**

7.1.15. Ensure Maintenance Cyber Discipline Training is accomplished annually in MyLearning or equivalent system. **(T-2)**

7.2. Maintenance Superintendent

7.2.1. Senior NCO responsible for squadron maintenance production. The MX SUPT directs the overall maintenance effort of their unit. The MX SUPT will be a SNCO or civilian equivalent **(T-2)** Squadron specific MX SUPT responsibilities are outlined in DAFI 21-101.

7.2.2. Participate in developing and executing the monthly and weekly operations and maintenance schedules and plans. **(T-3)**

7.2.3. Manage the maintenance production effort by assigning priorities to meet the operations and maintenance schedules. **(T-3)**

7.2.4. Fully understand the actions required by the squadron under applicable OPLANS or contingence plans. **(T-3)**

7.2.5. Develop, ensure currency of, and direct the mission generation/deployment sequence. **(T-3)**

7.2.6. Fully understand and be prepared to implement specific disaster control duties and squadron responsibilities pertaining to space systems and SE movement and personnel evacuation procedures developed in accordance with AFI 10-2501, *Emergency Management Program.* **(T-3)**

7.2.7. Maintain a current copy of the on-base disaster map with cordon overlay and appropriate functional checklists outlining duties during disaster scenarios. **(T-2)**

7.2.8. Determine, track and report system status in accordance with DAFI 21-103. **(T-2)**

7.2.9. Establish and track ETICs. **(T-2)**

7.2.10. Inform MOC of maintenance efforts and coordinate with MOC and other squadrons for support. **(T-2)**

7.2.11. Provide MOC with system status updates as required. **(T-2)**

7.2.12. Track, as a minimum, the following weapon system status information: serial number, location, priority, status and ETIC, configuration and remarks. Show all limitations of the system. Ensure devices depicting system status comply with program security requirements. **(T-2)**

7.2.13. Follow established cannibalization (CANN) procedures and ensure all CANNs are accurately documented in system forms (AFTO Form 95, *Significant Historical Data*) and MIS. **(T-2)**

7.2.14. Ensure parts are ordered with the appropriate priorities and relay document numbers/information to the MA, MOC and appropriate technicians. **(T-2)**

7.2.15. Ensure timely and accurate system status (e.g., discrepancies, WUC/LCN, ETIC, job completion) and configuration status is reported in accordance with DAFI 21-103 to the MA and MOC. **(T-2)**

7.2.16. Manage assigned supply point and bench stock assets accounts IAW AFMCMAN 20-106, AFMAN 23-122 and AFH 23-123V1. **(T-2)**

7.2.17. Designate personnel in writing to manage supply points and bench stock accounts and ensure personnel are trained appropriately to execute assigned responsibilities IAW AFMAN 23-122 and AFH 23-123V1. **(T-2)**

7.2.18. Order/requisition parts IAW procedures in AFMCMAN 20-106, AFMAN 23-122 and AFH 23-123V1. **(T-2)**

7.3. Maintenance Work Centers. The production elements responsible for accomplishing all assigned maintenance. Maintenance work centers are directly responsible to the MX SUPT, MA and squadron commander; maintenance supervisors will ensure the following:

7.3.1. Section Chief/NCOIC/Work Center Supervisor. The Section NCOIC/Chief is responsible to the MA/MX SUPT for the leadership, supervision and training of assigned personnel. The Section NCOIC/Chief is a first-line manager and supervisor of maintenance production and is the technical authority and advisor in that area. When sections are subdivided, element leaders perform the appropriate functional responsibilities. The Section Chief/NCOIC/Work Center Supervisor will:

7.3.2. Establish Work Center Safety Program IAW AFI 91-202 and DAFMAN 91-203. **(T-2)**

7.3.3. Monitor, track and ensure occupational safety, fire prevention, occupational and environmental health requirements are accomplished for assigned personnel. **(T-2)**

7.3.4. Ensure Job Safety Training is documented IAW AFI 91-202 (Air Force Form 55 or equivalent) for each assigned individual. **(T-2)**

7.3.5. Ensure maintenance is performed by personnel who are trained, qualified and certified unless under the direct supervision of a trainer or certifier. **(T-2)**

7.3.6. Advocate use of the T.O. improvement program and ensure work center T.O. files are maintained in accordance with T.O. 00-5-1. **(T-2)**

7.3.7. Establish procedures and ensure configuration control for all applicable software required for the sections assigned systems. **(T-2)**

7.3.8. Access CPINS in ETIMS or equivalent systems/documentation. **(T-2)**

7.3.9. Ensure technicians check ETIMS/equivalent system for software updates for assigned systems. **(T-2)**

7.3.10. Ensure software configuration control is maintained IAW T.O. 00-5-16, *Computer Program Identification Number (CPIN) Management,* and equivalent systems are maintained using a USSF approved and authorized publication. **(T-2)**

7.3.11. Perform production and supervisory inspections. **(T-2)**

7.3.12. Validate classified parts/materiel are managed IAW AFI 23-101. **(T-2)**

7.3.13. Be aware of all maintenance jobs and their statuses and ensure completion of tasks, to include control and timely reporting. Success depends on the ability to manage and use available resources.

7.3.13.1. Review, monitor and correct the work center's scheduled and deferred events in the MIS daily. **(T-2)**

7.3.13.2. Close, reschedule, or defer all events beyond their scheduled start date and time in the MIS. **(T-2)**

7.3.13.3. Review AFTO Forms 349, *Maintenance Data Collection Record,* or equivalent, work center MIS data entries for the previous day and all preceding non-duty days for job accuracy and completeness. **(T-2)**

7.3.14. Develop and manage the Work Center Training Program. **(T-2)**

7.3.15. Determine requirements and ensure training documentation is complete and accurate. **(T-2)**

7.3.16. Conduct On-The-Job training (OJT)/certifying as required. **(T-2)**

7.3.17. Review, evaluate and take corrective action based on QA and other inspection reports. **(T-2)**

7.3.18. Ensure all required work center publications and technical orders necessary for the work center to meet functional requirements are current and available for use. **(T-2)**

7.3.19. Ensure section personnel coordinate all maintenance with operations and the MOC. **(T-2)**

7.3.20. Manage tool and supply programs such as bench stocks and operating stocks IAW AFI 23-101 and AFH 23-123V1 and other applicable publications and directives. **(T-2)**

7.3.21. Ensure sections are organized with tools, equipment and materiel as close to the Point of Maintenance as possible, as approved by the Maintenance Supervision without jeopardizing accountability and control procedures. **(T-2)**

7.3.22. Ensure the Bench Stock Review Listing (M04) or equivalent is reviewed monthly. and all recommendations are adjudicated to efficiently meet mission needs. **(T-2)**

7.3.23. Ensure custodial responsibilities are accomplished on all assigned equipment IAW AFI 23-101, DoDI 5000.64_DAFI 23-111, *Accountability and Management of DoD Equipment and Other Accountable Property,* and DAFMAN 23-122. **(T-2)**

7.3.24. Manage the section's Repair Cycle Program. **(T-2)** The Section Chief will review the D23 and other pertinent supply products to ensure proper supply discipline daily. **(T-2)**

7.3.25. Establish procedures to control, store and manage Mission Equipment, Alternate Mission Equipment, Maintenance, Safety and Protective equipment IAW DAFI 21-103.

7.3.26. Identify items requiring calibration (does not include TMDE calibrated by the PMEL) or operational check before installation and provide a list of these items to Maintenance Supervision. **(T-2)**

7.3.27. Implement an effective TMDE program IAW T.O. 00-20-1, 33-K-1-100-1 and 33K-1-100-2.

7.3.28. Manage Hazardous Materiel (HAZMAT) and Environmental Safety and Occupational Health (ESOH) items IAW AFI 32-70XX series instructions and AFI 90-821. **(T-2)**

7.3.29. Ensure HAZMATs are used IAW T.O.s and conform to indicated Military Specification (MIL-Spec) and monitor the Qualified Products List/Qualified Product Database for changes to specified HAZMAT. **(T-2)**

7.3.30. Ensure system PMI cards (or digital equivalent inspections), TCTOs, and functional checks are accomplished to prevent overdue equipment. **(T-2)**

7.3.31. Comply with TCTO performing work center requirements below:

7.3.31.1. Report all deficiencies in technical instructions and applicability to the TCTO managing agency and QA. **(T-2)**

7.3.31.2. Attend TCTO planning meetings. **(T-2)** Review the TCTO prior to the meeting and request clarification of any requirements from QA and appropriate TCTO managing agency during the meeting.

7.3.31.3. Inventory TCTO kits for completeness prior to starting work. **(T-3)** If a discrepancy exists, contact the TCTO management agency to resolve shortages.

7.3.31.4. Perform the inspection or modification procedures outlined in the TCTO and document results or findings in the MIS. **(T-2)**

7.3.31.5. If an inspection TCTO generates a requirement for parts, the performing work center will create a new JCN and enter the discrepancy in the AFTO 349 or applicable MIS or equipment record and order the required part. **(T-3)** Inspection TCTOs are complete when the inspection is finished. Do not keep the TCTO open for awaiting parts.

7.3.31.6. Order and maintain all HAZMAT required to comply with TCTOs and provide document numbers/status to the TCTO managing agency and supply TCTO monitor. **(T-3)**

7.3.31.7. Validate technical instructions and data on AFTO Form 82, *TCTO Verification Certificate*, when performing TCTO kit proofing IAW T.O. 00-5-15. **(T-2)**

7.3.31.8. Space systems modification proposals will be managed and processed IAW AFI 63-101/20-101, Space Force Requirements Interim Guidance Memorandum (IGM 20-02) and SpOC supplemental guidance.

7.4. Work Center Safety

7.4.1. Work center supervisors will enforce safety practices according to DAF, USSF and SpOC instructions. **(T-2)**

7.4.2. Implement and effectively manage the work center HAZMAT and HAZCOM programs IAW AFI 90-821. **(T-2)**

7.4.3. Implement and effectively manage the work center Confined Space program. **(T-2)**

7.4.4. Implement and effectively manage climbing safety training IAW DAFMAN 91-203.

7.4.5. Implement and effectively manage the work center corrosion prevention and control program IAW T.O. 1-1-689-1, *Organizational, Intermediate and Depot Maintenance Cleaning and Corrosion Control – Volume 1 Corrosion Program and Corrosion Theory*. **(T-2)**

7.4.6. Ensure compliance with Electrostatic Discharge practices, where applicable IAW T.O. 00-25-234.

7.4.7. Ensure physical/visual grounding and lightning protection inspections are performed as part of PMIs and required site inspections.

7.4.8. Ensure Base Civil Engineer performs facility and systems grounding and lightning protection checks IAW AFMAN 32-1065, *Grounding & Electrical Systems*. Ensure physical/visual grounding and lightning protection inspections are performed as part of PMIs and required site inspections.

7.5. Supply Management

7.5.1. Use AF Form 2005, *Issue/Turn-In Request*, or any other control register to document requests for direct demands on supply. Verify Urgency of Need (UND) "A" and "B" requests prior to call-in IAW AFMAN 23-122 and AFH 23-123V1. **(T-2)** Ensure repair cycle assets are properly managed IAW T.O. 00-20-3.

7.5.2. Process repairable property under warranty or guarantee IAW T.O. 00-35D-54 and AFMCMAN 20-106.

7.5.3. Submit Maintenance Turn Around (TRN) IAW T.O. 00-20-3, AFMAN 23-122 and AFH 23-123V1. **(T-2)**

7.5.4. Coordinate with LRS to ensure RSP assets requiring functional checks are identified. Notify LRS when functional checks are complete. **(T-2)**

7.5.5. Submit deficiency reports or reports of discrepancy when deficient materiel is received according to T.O. 00- 35D-54. For items not addressed in T.O. 00-35D-54, follow the manufacturer's instructions. Organizational Refusals will be IAW AFMCMAN 20-106, AFMAN 23-122 and AFH 23-123V1. **(T-2) Note:** The organization can refuse the asset if the asset is physically damaged. See AFMCMAN 20-106, AFMAN 23-122 and AFH 23-123V1 for guidance.

7.5.6. Review applicable Allowance Standards (AS) to identify additions, deletions and changes to work center support equipment authorizations. Perform AS review semiannually. **(T-2)** Submit recommended changes according to AFMCMAN 20-106, AFMAN 23-122 and AFH 23-123V1.

7.5.7. Notify equipment custodians when TCTO actions result in equipment stock number changes and initiate AFTO 22, as applicable.

7.5.8. Identify preplanned items, time change items and TCTOs. Complete required actions when scheduled.

7.5.9. Ensure TCTO kits are correct and complete when received from the LRS according to AFMCMAN 20-106, AFMAN 23-122 and AFH 23-123V1.

7.5.10. When authorized by Maintenance Supervision, establish and manage work order residue. Maintain a list of items on work order residue and develop procedures to encourage consumption of work order residue prior to using bench stock.

7.5.11. Develop written guidance to monitor and control shop/operating stocks IAW DoDI 5000.64_DAFI 23-111. **(T-2)** Shop operating stocks are defined as those items (e.g., Government Services Administration (GSA) purchased cable stocks, connectors, hardware, etc.) purchased with AF funds to fulfill mission requirements (e.g., PMIs, equipment maintenance, jobs, etc.) that cannot be loaded on bench stock or other accounts.

7.5.12. Ensure items critical to deploying equipment are stocked, maintained and secured. These items should not be used for in-garrison requirements. **(T-2)**

7.5.13. Ensure forward supply point assets are managed IAW AFMAN 23-122 and AFH 23-123V1. Coordinate with the local LRS, Equipment Accountability Element (EAE) and work center personnel to identify deploying assets IAW AFMCMAN 20-106, AFMAN 23-122 and AFH 23-123V1.

7.5.14. Identify all deploying assets to the applicable base-level EAE upon receipt of a mission tasking order during pre-deployment actions. For IT assets, follow the local procedures from the Base EAE. For supply assets, follow the LRS procedures IAW AFMCMAN 20-106, AFMAN 23-122 and AFH 23-123V1.

7.5.15. Ensure lists of deploying assets accompany the UTCs and the deploying equipment custodian to the Area of Responsibility (AOR). Start asset transfers in the Standard Base Supply System (SBSS) as soon as possible depending on the AOR policy and mission-tasking instructions. Custodians will complete the required training prior to deploying.

7.5.16. Upon return to in garrison status, identify the assets that were returned to the LRS and Equipment Control Officer (ECO) IAW AFMCMAN 20-106, AFMAN 23-122 and AFH 23-123 V1. **(T-2)**

7.5.17. Complete, at a minimum, annual Equipment Inventory List (EIL) and master PMI review. **(T-2)**

7.5.18. Notify the MOC if work center-controlled jobs change to Partial Mission Capable (PMC) or NMC status. The MOC assumes management of these jobs.

7.5.19. Coordinate downtime with applicable agencies/organizations and notify MOC of approved downtime.

7.5.19.1. Maintain a current inventory of all mission critical end items/systems and reportable missions, to include Commercial Off-The-Shelf (COTS)/Government Off The-Shelf (GOTS) items. Production work centers shall use a Space Force-approved MIS unless a waiver is approved. **(T-2)**

7.5.19.2. Submit deviations/waiver requests with proper justification to the HQ SpOC/S4W. **(T-2)**

7.6. Preventive Maintenance and Inspection Program

7.6.1. Ensure scheduled maintenance inspections for space weapon systems and equipment include periodic PDM IAW T.O. 00-25-108 and transfer inspections are accomplished IAW applicable inspection manuals, inspection work cards, repair manuals or commercial manuals. **(T-2)**

7.6.2. The Delta S4/CoM establishes the necessary controls to ensure periodic inspections are accomplished at or near the scheduled due time and is only authorized to deviate from the organization inspection schedules as required. **(T-3)**

7.6.3. Modified inspection work cards will be designed for use during a limited period of time as authorized by the FLDCOM. Submit request via e-mail through HQ SpOC/S4W for approval. **(T-2)**

7.6.4. The Delta S4/CoM will determine if local checklists and/or work cards are required for equipment. If required, ensure they are developed IAW instructions contained in this manual, T.O. 00-5-1 and the 00-20 series manuals. **(T-3)**

7.6.4.1. Additional Guidance for Procured Equipment Items. Procured equipment that does not have a dictated PMI schedule must still be inspected on a recurring basis. These items should also be inspected to ensure they are serviceable before initially placed in storage. **(T-3)**

7.6.4.2. Some systems, especially electronic components, are COTS purchased and do not have PMIs published in the T.O. System. In this case, follow manufacturer recommended maintenance schedules provided in the technical guidance or complete PMIs per the Delta S4/CoM or designee direction. Local work cards may be developed.

7.6.5. Work centers must ensure LWC, Local Job Guides (LJGs) and Local Checklists (LCL) are reviewed for currency when source references change, or at least annually and annotate the review on the inside cover according to DAFI 90-160, *Publications and Forms Management*. **(T-3)**

7.6.6. The majority of assets procured thorough commercial sources will have commercial manuals that will dictate the PMI requirements. If commercial PMI (or equivalent) schedules are available, follow the guidance in the commercial manual. Document completed inspections and re-inspections on the appropriate condition tags or in an approved MIS.

7.6.6.1. Commercial procedures must be verified IAW T.O. 00-5-3 and a verification status page attached if not already done by the system program office. Where there is no record of a verification, either develop LWC or submit the manual to the HQ SpOC/S4W Weapon System Manager for a MIL-PRF-32216 review. **(T-2)**

7.6.6.2. Items/assets not in use where the inspection requirements are not governed by AF or Space Force (SF) guidance must be maintained in serviceable condition and available when needed to meet mission requirements.

7.7. Equipment Storage

7.7.1. Equipment with open jobs cannot be placed in storage. All open maintenance events must be resolved and closed prior to being placed in storage.

7.7.2. Equipment in storage will be placed in an inactive status in the appropriate MIS.

7.7.3. Preventive maintenance inspections/service with an interval less than 56-days are waived for equipment in storage IAW T.O. 00-33A-1001 and will be accomplished on the 56-day interval.

7.7.3.1. Equipment with only inspection intervals greater than 168-days will be accomplished every six months.

7.7.3.2. Equipment with only inspection intervals greater than 336-days will be accomplished every 18 months.

7.7.3.3. Inspection/Service PMIs related to environmental control, (i.e., waveguide or case desiccant) will be accomplished on their scheduled intervals.

7.7.3.4. Submit waivers to inspection requirements to the HQ SpOC/S4W for approval.

7.8. Tool Management

7.8.1. Implement and effectively manage work center tools for accountability, serviceability and proper usage IAW T.O. 00-25-234 and T.O. 32-1-101, *Use and Care of Hand Tools and Measuring Tools*.

7.8.2. For maintenance purposes, tool kits are defined as all government-purchased tools to include tools provided by government-paid contractors utilized to perform maintenance (restore/sustain/maintain systems). In this publication, the term "tool" refers to all types of tool kits as well as a basic tool (e.g., Xcelite kits, drill, sockets kits, eTools, etc.). Use of personally procured tools is NOT authorized.

7.9. Maintenance Cyber Security Assurance

7.9.1. Maintaining positive cyber hygiene practices of maintenance-controlled PIT is critical to sustaining the maintenance mission. DoDI 8500.1 *Cybersecurity* defines PIT as, "IT, both hardware and software, that is physically part of, dedicated to, or essential in real time to the mission performance of a special purpose system." PIT is the most common IT encountered by maintainers and includes, but is not limited to, eTools, support equipment and weapon systems. The culture of positive cyber security must be fostered by every maintainer, regardless of AFSC/SFSC or weapon system to ensure mission success.

7.9.2. Authorized and Unauthorized usage of PIT**.** When using PIT, it is important for end users to have the ability to distinguish between authorized and unauthorized uses. Authorized uses for PIT have been vetted through a formal cyber security assessment process and are specific to T.O. guidance. To the maintainer, this translates to only using the system as defined by the governing T.O. (or T.O. equivalent).

7.9.2.1. Authorized uses for PIT are specifically defined by the governing T.O. (or T.O. equivalent).

7.9.2.2. Unauthorized uses for PIT include connecting, uploading, or downloading any hardware, software, or media not explicitly defined by the PIT T.O. This includes personal devices, such as: phones, tablets, computers, USB drives, etc. It also includes DoD IT, such as: other PIT, CPINS, devices acquired from local Communications Squadrons and media obtained from DoD contractors.

7.9.3. Malicious Code. Maintainers must have the skillset to detect, prevent and initiate remediation of suspected corrupted systems. Detection is governed by the PIT T.O.; not all

PIT systems have a detection method (such as virus scan capabilities). Prevention is established by the strength of the organization's cyber hygiene training and compliance. Remediation is initiated by the discovering personnel and involves immediate action by key players in the maintenance and communications organizations as defined in T.O. 33-1-38, *General Instructions Information Assurance and Security for Automatic Test Systems and Automatic Test Equipment FSC.*

7.10. Publications Management

7.10.1. Implement and effectively manage the work center publications by ensuring availability and strictly enforcing adherence to and compliance with instructions, technical publications and supplements.

7.10.2. Establish procedures for shipping instructions, technical publications and supplements to support mobility requirements.

7.10.3. eTools are portable electronic devices (e.g., laptop computer, hand-held device) that operate in a disconnected mode and/or, are certified to inter-operate on DAF networks and are mission critical because they are the primary method for viewing electronic technical publications and in some cases are used to exchange maintenance data with an approved MIS at the point of maintenance. **Note:** eTools do not include electronic devices and test equipment issued and configuration managed by a system PM (e.g., weapon system test/support equipment).

7.10.4. MA will develop guidance on proper cyber hygiene for all personnel utilizing eTools or other PIT. MA will request the Communication Squadron to perform annual assessments of all eTools and PIT to mitigate vulnerabilities and ensure compliance. **(T-2)**

7.10.5. Manage DAF Instructions and FLDCOM Instructions IAW DAFI 90-160.

7.10.6. Delta-level instructions or polices that impact missions outside the Delta's control will be coordinated with HQ SpOC/S3 and HQ SpOC/S4 for review.

7.10.7. Manage system technical orders IAW T.O. 00-5-1.

Dr Brian T. Kehl, SES, USSF
Deputy to the Commanding General – Support
(S1/S4/S8)

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

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Prescribed Forms

None

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AFTO Form 95, *Significant Historical Data*

AFTO Form 227, *C-E Depot Maintenance Requirements and Schedule*

AFTO Forms 349, *Maintenance Data Collection Record*

DAF Form 847, *Recommendation for Change of Publication*

Abbreviations and Acronyms

Ao—Operational Availability

AoA—Analysis of Alternatives

ACO—Administrative Contracting Officer

AFCSM—Air Force Computer Systems Manual

AFJQS—Air Force Job Qualification Standard

AFLCMC—Air Force Life Cycle Management Center

AFMC—Air Force Materiel Command

AFMETCAL—AF Metrology and Calibration

AFNCC—AF Network Control Center

AFQTP—Air Force Qualification Training Plan

AGE—Aerospace Ground Equipment

AOR—Area of Responsibility

ARC—Air Reserve Component

AS—Allowance Standard

ATC—Action Taken Code

AWP—Awaiting Parts

C-E—Communications Electronics

CAM—Centralized Asset Management

CC—Commander

CDB—Central Database

CDD—Capability Development Document

CFETP—Career Field Education and Training Plan

CLS—Contractor Logistics Support

CNA—Capabilities Needs Analysis

CoM—Chief of Maintenance

COR—Contracting Officer Representative

COTS—Commercial Off-The-Shelf

CPD—Capability Production Document

CPINS—Computer Program Identification Number System

CUI—Controlled Unclassified Information

DBM—Database Manager

DECC—Defense Enterprise Computing Center

DIREP—Difficulty Report

DIT—Data Integrity Team

DPEM—Depot Purchased Equipment Maintenance

DR—Deficiency Report

EAE—Equipment Accountability Element

ECO—Equipment Control Officer

EDD—Estimated Delivery Date

EDLM—Emergency Depot Level Maintenance

EIL—Equipment Inventory List

ESD—Electrostatic Discharge

ESR—Equipment Status Report

ETIMS—Enhanced Technical Management System

FLDCOM—Field Command

FUD—File Update Mode

GOTS—Government-Off-The-Shelf

HAZCOM—Hazardous Communications

HAZMAT—Hazardous Materiel

HHQ—Higher Headquarters

HPT—High Performance Team

HQ—Headquarters

ICS—Interim Contractor Support

IG—Inspector General

IMDS—Integrated Maintenance Data System

IPP—Integrated Planning Process

JCN—Job Control Number

JDD—Job Data Documentation

JDRS—Joint Deficiency Reporting System

LCL—Local Checklist

LCSE—Life Cycle Systems Engineering

LCSP—Life Cycle Sustainment Plan

LJG—Local Job Guide

LIONS—Logistics Information and Operations Network System

LRDP—Logistics Requirements Determination Process

LRS—Logistics Readiness Squadron

LRU—Line Replaceable Unit

LWC—Local Work Cards

MDC—Maintenance Data Collection

MDD—Maintenance Data Documentation

MDS—Mission Design Series

MICAP—Mission Impaired Capability Awaiting Parts

MIPRB—Materiel Improvement Program Review Board

MIR—Maintenance Indicator Report

MIS—Maintenance Information System

MMA—Maintenance Management Analysis

MOC—Maintenance Operations Center

MOI—Maintenance Operating Instruction

MRT—Mean Repair Time

MTBF—Mean Time Between Failure

MTBSM—Mean Time Between Scheduled Maintenance

MTBUM—Mean Time Between Unscheduled Maintenance

NMC—Non-Mission Capable

OI—Operating Instruction

OJT—On-the-Job-Training

PCO—Procurement Contracting Officer

PDM—Programmed Depot Maintenance

PEM—Program Element Monitor

PIM—Product Improvement Manager

PIP—Product Improvement Program

PIWG—Product Improvement Working Group

PIT—Platform Information Technology

PM—Program Manager

PMC—Partial Mission Capable

PMEL—Precision Measurement Equipment Laboratory

PMI—Periodic Maintenance Inspection

POC—Point of Contact

POM—Program Objective Memorandum

PWS—Performance Work Statement

QA—Quality Assurance

QAR—Quality Assurance Representatives

QASP—Quality Assurance Surveillance Plan

QPA—Quantity Per Application

R&Mv—Reliability & Maintainability

RAM—Reliability, Availability, and Maintainability

REMIS—Reliability and Maintainability Information System

RFA—Request For Assistance

RP—Real Property

RSP—Readiness Spares Package

SBSS—Standard Base Supply System

SE—Support Equipment

SFSC—Space Force Specialty Code

SITREP—Situation Report

SLR—Sustainment Logistics Review

SMR—Source Maintainability and Recoverability

SOW—Statement of Work

SF—Space Force

SPM—System Program Manager

SPO—System Program Office

SPOC—Space Operations Command

SSC—Space Systems Command

SWG—Sustainment Working Group

TCTO—Time Compliance Technical Order

TM—Technical Manual

TMDE—Test Measuring and Diagnostic Equipment

T.O.—Technical Order

TODO—Technical Order Distribution Office

TRIC—Transaction Identification Code

TRN—Maintenance Turn Around

UDLM—Urgent Depot Level Maintenance

UF—Usage Factor

UJC—Urgency Justification Code

UMD—Unit Manning Document

UND—Urgency of Need

UTC—Unit Type Code

WSS—Weapon System Sustainment

Terms

Annual—When used as a requirement, the term "annual" refers to a 12-month interval.

Contract Administration/Surveillance—Active surveillance of contractor performance to ensure compliance with various contract or statement of work requirements. Examples include safety, quality assurance, security, property management and base support. Surveillance tasks may be performed by the contracting office or delegated to another Government office, which has resident expertise and/or is co-located with contractor operations.

Contract Management—Active management of the contract and/or contractor by the contracting officer for the purpose of ensuring satisfactory delivery of end items meeting USSF requirements. This includes such activities as contract negotiation and business clearance, as delegated by SSC or AFLCMC.

Direct Support—Provide a comprehensive, structured, support process to bring workable systems to the customers. Maximize support of HQ functions to promote operational and administrative effectiveness.

Discrepancy—An unexpected or unplanned condition that does not meet system performance parameters, but which can be corrected by organizational maintenance resources in accordance with validated procedures at the organizational level.

Mission Assurance—Accomplished through the contractor's demonstration of their production, operation, maintenance and problem resolution processes with Government personnel performing

surveillance to ensure these processes result in an acceptable level of mission risk to the government.

Maintenance—all actions required to retain an item in, or restore it to, a specified condition. This includes diagnosis, repair and inspection.

Maintenance Functions—Transportation, assembly, checkout, preparation, corrective maintenance and preventative maintenance inspections of space lift vehicles, payloads, space launch complexes, support equipment, command and control equipment, tracking and communications complexes; and Real Property (RP) that support launch, surveillance, warning and on-orbit activities.

Maintenance Surveillance—Observations, risk analysis and activities conducted by maintenance personnel to include contract surveillance, which are used to ensure/determine if space systems system assets are reliable and ready for operation by ensuring adherence to technical procedures, general maintenance practices, safety requirements, security guidelines, environmental compliance, efficient utilization of resources and resource safety to include directing an immediate halt to actions detrimental to personnel or equipment.

Observation—Direct government observation of the execution and recording of a test procedure or task. An "Observed" test procedure or task is one in which all steps (or certain pre-defined steps) have been completed, all anomalies have been noted with appropriate documentation generated and all applicable data captured while being observed by a government representative. Observed test procedures or tasks are typically those that must be accomplished correctly, cannot be easily verified by data review or post-test and include a high risk of inducing collateral damage that could remain undetected.

Oversight—Maintaining watchful care or supervision over projects, processes, information, systems and/or services.

Real Property (RP)—Land, buildings, structures, utilities, improvements and appurtenances thereto. Includes equipment attached to and made part of buildings and structures but not movable equipment. Primarily consisting of facilities and other non-equipment support system infrastructure.

Resource Safety/Protection—The protection of Air Force and Space Force facilities, support equipment, or other property from damage due to mishaps.

System Program Manager—In accordance with DoDD 5000.01, *The Defense Acquisition System*, and the SPM is the designated individual with responsibility for and authority to accomplish system objectives for development, production, and sustainment to meet the user's operational needs.

System Sustainment Manager—The individual with functional responsibility for the sustainment portion of a system's life cycle in support of a System Program Manager.

Support Equipment—All equipment required to make or keep a space or space related system, subsystem or item of support equipment operational in its intended environment.

Verify—To review, inspect, test, check, measure, audit or otherwise confirm that products, processes, or documents conform to specified requirements. Verification may be performed after work completion, such as safety wiring.

Attachment 2

SAMPLE MAINTENANCE PLAN

Table A2.1. Sample Maintenance Plan.

Mandatory areas are indicated with an asterisk

(*). XXX (unit designation) Maintenance Plan

1. Flight Commander/Chief
   a. Comments/Opening Remarks
   b. Focus Areas
2. Maintenance Operations Center (MOC)
   a. MOC Comments
   b. Deferred PMIs *
   c. TCTO/TCNO/FCO Schedule *
   d. Schedule Mission Downtime
   e. Preplanned and Time Change Requirements *
   f. Modifications Schedule
   g. Schedule Depot Maintenance *
   h. Other Scheduled Events/Actions *
   i. Schedules PMIs
   j. Equipment/System Metrics
   k. MIS Procedure Review
3. Quality Assurance (QA)
   a. QA Comments
   b. QA Evaluations Schedule *
      i. Personnel Evaluations *
      ii. Equipment Evaluations *
      iii. Managerial Evaluations *
      iv. Noticeable Trends/Concerns
   c. Overdue QA Evaluations *
   d. Status of AFTO Forms 22, and SMR change requests
   e. Modifications Proposals
4. Training
   a. Various Training Reports
   b. Scheduled Training Courses
5. LRS Liaison
   a. Parts Statuses
   b. TRN Procedures and Statuses

c. DIFM Procedures and Review

6. Safety
7. TODO Comments
8. TMDE Schedule
9. Recurring Suspenses
10. Cross feed Information
11. Special Interest Items
12. Schedule of Staff Assistance Visits and IG Inspections