

**BY ORDER OF THE COMMANDER
AIR FORCE SPACE COMMAND**



**AIR FORCE SPACE COMMAND
INSTRUCTION 21-108**

18 APRIL 2019

**50TH SPACE WING
Supplement**

15 JANUARY 2020

Maintenance

**SPACE SYSTEMS
MAINTENANCE MANAGEMENT**

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

ACCESSIBILITY: Publication are forms are available for downloading or ordering on the e-Publishing website at www.e-Publishing.af.mil.

RELEASABILITY: There are no releasability restrictions on this publication

OPR: HQ AFSPC/A4UX

Certified by: AFSPC/A4U
(Mr. Craig Howe)

Supersedes: AFSPCI 21-108,
26 July 2017

Pages: 62

(50SW)

OPR: 50 SCS/SCP

Certified by: 50 SCS/SC
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Supersedes: AFSPCI21-108_50WSUP,
24 January 2017)

Pages: 9

This instruction implements Air Force Policy Directive (AFPD) 21-1, *Maintenance of Military Materiel*. It establishes Air Force Space Command (AFSPC) roles and responsibilities relating to space weapon system maintenance activities. This instruction is consistent with Department of Labor Occupational Safety and Health Act (OSHA) standards. It applies to: Headquarters Air Force Space Command (HQ AFSPC); Space and Missile Systems Center (SMC); Air Force Life Cycle Management Center (AFLCMC) for those systems owned and operated by AFSPC, and acquired or maintained by AFLCMC for AFSPC or under the Space Program Executive Officer (PEO); 14th Air Force (14 AF); the 21st Space Wing (21 SW), 30th Space Wing (30 SW), 45th Space Wing (45 SW), 50th Space Wing (50 SW), and 460th Space Wing (460 SW), AFSPC gained Air Force Reserve and Air National Guard units. It also applies to all military, government service,

and applicable contractor personnel whose duties directly relate to the management, operations, maintenance, mission assurance, preparation, and conduct of activities required in support of AFSPC space mission areas. This instruction will be updated every four years, or as needed, to reflect the most current roles and responsibilities as future capabilities and concepts become operational. Wherever this instruction is inconsistent with current contracts that support HQ AFSPC mission, the contract shall govern but will be changed at the first opportunity to comply with this AFSPCI. For a glossary, list of references, and acronyms, see **Attachment 1**, Glossary of References and Supporting Information. **Attachment 1** is not inclusive of all required directives, but is an excellent starting point to find needed information. Send comments and suggested improvements on an AF Form 847, *Recommendation for Change of Publication*, through appropriate command channels to HQ AFSPC A4UX, 150 Vandenberg Street, Suite 1105, Peterson AFB, CO 80914 with an informational copy to 14 AF (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 wing/unit level requirements in this publication are identified with a Tier (“T-2, T-3”) number following the compliance statement. See AFI 33-360, *Publications and Forms Management*, Table 1.1 for a description of the authorities associated with the Tier numbers. Submit requests for waivers through the chain of command to the appropriate Tier waiver approval authority, or alternately, to the Publication OPR for non-tiered compliance items. Subordinate organizations are encouraged to supplement this instruction. Supplements will not lessen the requirements nor change the basic content or intent of this instruction. Coordinate all supplements with appropriate Major Command (MAJCOM) Office of Primary Responsibility (OPR). Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with (IAW) Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS).

(50SW) This supplement implements and extends the guidance of Air Force Space Command Instruction (AFSPCI) 21-108, *Space Systems Maintenance Management*. It establishes 50th Space Wing roles and responsibilities relating to space systems maintenance activities. It applies to: 50th Space Wing (50 SW) units and to the Air Force Life Cycle Management Center (AFLCMC) for those systems owned and operated by AFSPC, and acquired or maintained by AFLCMC for AFSPC or under the Space Program Executive Officer (PEO). It applies to all 50 SW units. It also applies to all military, government service, and applicable contractor personnel whose duties directly relate to the management, operations, maintenance, mission assurance, preparation, and conduct of activities required in support of 50 SW mission areas. This instruction does not apply to Reserve and Guard units of the 50 SW. This instruction is consistent with Air Force Occupational Safety and Health (AFOSH) standards and Department of Labor Occupational Safety and Health Act (OSHA) standards. Refer recommended changes and questions about this publication to the OPR listed above using the AF Form 847, *Recommendation for Change of Publication*; route AF Forms 847 from the field through the appropriate chain of command. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of in accordance with Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS). This publication may be supplemented at any level, but all supplements must be routed to the Office of Primary Responsibility (OPR) listed above for coordination prior to certification and approval.

SUMMARY OF CHANGES

This document has been substantially revised and must be completely reviewed. Major changes include the addition of Maintenance Management Analysis Responsibilities chapter.

(50SW) This document supplements AFSPCI 21-108 and must be completely reviewed. Changes include identifying aligning procedures for 50 SW units requesting Emergency/Urgent Depot Level Maintenance with the parent document.

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Chapter 1

SPACE MAINTENANCE MANAGEMENT GUIDANCE

1.1. Introduction. HQ AFSPC must maintain a safe, secure, and modern space capability to meet warfighter and other national security mission needs. All levels of leadership and management within HQ AFSPC must strive to meet this basic requirement for all missions and resources under their control. The primary purpose of maintenance is to ensure space weapon systems are available and able to support HQ AFSPC 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, and exploitation; space control, space surveillance, battle management, and/or command, control, communications and computers and electronic warfare systems, range systems; and systems directly supporting infrastructure, which may include networks, communication, and computers.

1.2. Maintenance Concept. Per AFPD 21-1, organizational, intermediate and depot maintenance capabilities for operational readiness shall be maintained to ensure effective and timely response to peacetime operations, mobilizations, national defense contingencies, and other emergencies.

1.2.1. As a minimum each capability will be able to:

1.2.2. Organizational: launch, recover, maintain and repair materiel coded for organizational level repair.

1.2.3. Intermediate: repair materiel coded for organizational and intermediate level repair in back shops and/or centralized repair facilities.

1.2.4. Depot: repair materiel coded for organizational, intermediate and depot; overhaul; rebuild; modify and manufacture.

1.2.5. Request for Assistance (RFA). If a maintenance activity requires assistance for evaluation and/or repair beyond unit capability, requests are made In Accordance With (IAW) AFI 21-103, *Equipment Inventory, Status And Utilization Reporting*; T.O. 00-25-108, *Depot Communication-Electronics (C-E)*; and T.O. 00-20-14, *AF Metrology and Calibration Program*, or automated process as approved by the Mission Design Series (MDS) Program Manager (PM) (e.g., AN/FSQ-215, AFSCN). All requests for assistance must be coordinated through the originating MAJCOM and Lead Command as applicable. **(T-2).**

1.3. Organization. Space wings will organize according to AFI 38-101, *Air Force Organization*, or as authorized by HQ USAF/A1M. Contractor and civil service 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).**

1.3.1. Contract Maintenance Management. Space weapon systems employ a mix of AF, non-Department of Defense (DoD) government agencies, contracted agencies, and foreign partners to support maintenance and operations activities. To ensure proper mission conduct and contractor compliance, Air Force (AF) personnel should understand Government rights and responsibilities embodied in contracts and their provisions. A general understanding of the contract between the AF 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, AF and AFSPC instructions and directives regardless if maintenance is performed by military, civilian or contractor.

1.3.1.1. HQ AFSPC organizations utilizing contract maintenance, including OCONUS locations, will ensure the Quality Assurance Surveillance Plan (QASP) is developed IAW AFI 63-138, *Acquisition of Services*. The QASP shall include performance metrics to enable accurate assessment of contractor performance. Space Wings will provide Contracting Officer's Representative (COR) contract specific training to ensure COR can provide technical oversight of contractor performance. (T-2).

1.4. Equipment Status Reporting (ESR) and Maintenance Data Documentation (MDD). The Program Manager (PM) is responsible for ensuring that maintenance planning sufficiently addresses how ESR and MDD will be accomplished including compliance with all applicable DoD, AF, and AFSPC instructions. PMs managing systems with classified maintenance data will present MDD solutions to HQ AFSPC A4 for approval prior to initiating development of program unique Maintenance Information Systems (MIS) and/or MDD processes. (T-2).

1.4.1. 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 & Maintainability (R&M) metrics analysis. The Integrated Maintenance Data System (IMDS) - Central Database (CDB) is the AF standard maintenance data collection (MDC) system and is mandatory for use for unclassified HQ AFSPC systems/equipment. Maintenance organizations will accomplish MDD IAW Technical Order (T.O.) 00-20-2, *Maintenance Data Documentation*, and ESR IAW AFI 21-103, *Equipment Inventory, Status, and Utilization Reporting*. Requested deviations or waivers to IMDS-CDB/LIONS shall be submitted to HQ AFSPC/A4U or HQ AFSPC/A4I, as applicable and should include sufficient justification and explanation of why the deviation or waiver is required. An approved waiver for IMDS-CDB/LIONS does not cover the maintenance documentation processes contained in T.O. 00-20-2; a separate waiver request must be submitted for this purpose. Requested waivers to MDD requirements within T.O. 00-20-2 shall be submitted through HQ AFSPC/A4 and will only be approved under exceptional circumstances. (T-2).

1.4.1.1. **(Added-50SW)** Users requiring access to the Integrated Maintenance Data System (IMDS) database will contact the 50th Space Communications Squadron, Special Missions Analyst Flight (50 SCS/SCPA) to obtain the required SYSTEM AUTHORIZATION ACCESS REQUEST (SAAR), DD FORM 2875. The completed DD FORM 2875 will be returned to 50 SCS/SCPA for account creation. The DD Form 2875 can be obtained by contacting the 50 SCS/SCPA section.

1.4.2. Do not input classified data into the IMDS-CDB. Data within IMDS-CDB is unclassified and marked as For Official Use Only (FOUO). Programs with classified maintenance data are still required to submit an IMDS-CDB deviation or waiver request to formally document and approve the exemption due to security classification reasons. Waiver requests are forwarded to HQ AFSPC/A4I. Programs with classified maintenance data are not exempt from the MDD procedures contained in T.O. 00-20-2. The Logistics Information and Operations Network System (LIONS) is the HQ AFSPC approved MDC system for the collections of classified maintenance data. LIONS is available on SIPRNet and select higher classification level systems. Submit requests for LIONS access to HQ AFSPC/A4I.

1.5. Reliability, Availability, and Maintainability (RAM) Metrics Analysis. Maintaining high readiness levels is dependent on having a robust RAM program enabling the ability to identify system deficiencies and negative trends before they impact operational capability. HQ AFSPC, system program offices, and operational wings 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:

1.5.1. Space Logistics Review (SLR): Every SLR will focus on space wing, operations, and program office issues. Individual SLRs will focus on specific funding processes as determined throughout the fiscal year as well as special topics. The SLR is co-chaired by HQ AFSPC/A4U, AFLCMC/HBQ, and SMC/SL.

1.5.2. Product Improvement Working Group (PIWG). The PIWG is designed to bring all organizations responsible for product support together to address RAM issues beyond the scope of field organizations to resolve and require a coordinated approach between multiple organizations. After any Interim Contractor Support (ICS) periods, space programs will conduct a PIWG at least annually unless a waiver is granted by the MAJCOM co-chair. PIWG co-chairs will be HQ AFSPC/A4U (or delegated official) and the system PM (or delegated official). **(T-2).**

1.5.2.1. All Space weapon system programs will develop a PIWG charter to describe the scope of their specific PIWG program as well as individual roles and responsibilities. This charter will be reviewed annually and signed by co-chairs. **(T-2).**

1.5.2.2. The Space Working Group (SWG) is the classified counterpart to the PIWG and SLR for space control and electronic warfare systems and performs the same functions. The SWG is conducted quarterly unless a waiver is granted by the MAJCOM co-chair. The SWG co-chairs are HQ AFSPC/A4I and SMC/SYL.

1.6. Skip-echelon. Maintenance functions will make maximum use of skip-echelon processes. Under the skip-echelon concept, maintenance management functions are consolidated at the MAJCOM. Wing maintenance activities shall communicate directly with MAJCOM elements via Chief of Maintenance (CoM) or designee for assistance with maintenance and sustainment issues. MAJCOM organizations shall communicate directly with wing maintenance organizations via CoM or designee on issues related to maintenance management and weapon system sustainment. The component Numbered Air Force (NAF) should be included in an “information only” capacity in any skip-echelon communications in order to maintain awareness of any issues having operational impact.

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*. 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 (T.O.) and T.O. Supplements. Maintenance personnel will perform maintenance IAW system technical orders or approved locally developed procedures and will report any technical order improvements or corrections IAW T.O. 00-5-1, *AF Technical Order System*. Use of the prescribed technical data to maintain equipment is mandatory. **(T-2).**

1.9. Deficiency Reporting. Operations, maintenance, and sustainment organizations shall submit deficiency reports IAW T.O. 00-35D-54. **(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. Supervisors at all levels are directly responsible for ensuring AF military and civilian maintenance personnel are trained and qualified on maintenance tasks they are performing. If training is inadequate, contact career field manager or HQ AFSPC Command Logistics Manager (CLM). **(T-2).**

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.

1.11.3. The Wing may publish Maintenance Operating Instructions (MOI) as required covering maintenance routines. MOIs cannot be used to change or supplement T.O.s. **(T-2).**

Chapter 2

RESPONSIBILITIES

2.1. Directorate of Logistics, Engineering and Force Protection (HQ AFSPC/A4):

2.1.1. Provides direct support to HQ AFSPC/CC on space weapon system maintenance issues, as required.

2.1.2. Provides assistance as required, to subordinate organizations implementing DoD, AF, and HQ AFSPC maintenance and logistics management directives and instruction.

2.1.3. Approves HQ AFSPC maintenance and logistics policy.

2.1.4. Oversee the Logistics Requirements Determination Process (LRDP) used to plan, budget and execute Depot Purchased Equipment Maintenance (DPEM); Sustaining Engineering (SE); Technical Orders (T.O.) and Contractor Logistics Support (CLS) requirements.

2.1.4.1. The LRDP, developed by the Air Force Materiel Command (AFMC) Centralized Asset Management (CAM) Office, outlines the end-to-end logistics requirements and costing process for the Air Force. The process is simplified, integrated, standardized and repeatable, and allows for trade-offs (optimization) at the AF-level vice at the MAJCOM level. The results of the LRDP are validated, prioritized, and utilized in AF sustainment requirements.

2.2. Space Sustainment Divisions (A4U/A4I):

2.2.1. Develops, implements, and reviews standardized policy and guidance for HQ AFSPC organizations supporting space weapon system maintenance and provides assistance to subordinate organizations with compliance instructions when resolution is beyond their scope and/or resources.

2.2.1.1. Provides direction, advocates and supports subordinate organizations (e.g., Wings, NAF, and Center) as required ensuring successful implementation of maintenance management functions and long term sustainment of HQ AFSPC space weapon systems.

2.2.2. Advocates for the necessary resources (equipment, manpower, etc.) to sustain HQ AFSPC space weapon system capabilities, and provide support to other external agencies and users as required by directive, regulation, and Public Law.

2.2.3. HQ AFSPC/A4U is the Precision Measurement Equipment Laboratory (PMEL) command functional manager.

2.2.4. HQ AFSPC/A4U is the aircraft maintenance functional manager for units with active airfields.

2.2.5. Supports/augments HQ AFSPC/IG, as required for maintenance management functions.

2.2.6. Supports HQ AFSPC A5/9 as requested (e.g., Integrated Planning Process (IPP) activities, Program Objective Memorandum (POM), High Power Teams (HPT) for writing Capability Development Documents (CDD), Capability Production Documents (CPD), and Analysis of Alternatives (AoA). This could involve providing PIWG and/or SLR results for use in IPP-related Capability Needs Analysis (CNA) activities and/or analysis supporting POM funding recommendations.

2.2.7. Reviews, comments, and coordinates on Wing MOI and supplements to HQ AFSPC maintenance guidance.

2.2.8. Reviews published logistics and maintenance management policy and guidance; updates MAJCOM specific guidance as required.

2.2.9. Reviews and coordinates on proposed space weapon system maintenance government manpower strength and grade adjustments.

2.2.10. Reviews equipment status, mission status, evaluations, and analysis reports to identify and analyze systems or equipment deficiency trends.

2.2.10.1. Reviews system metrics and performs trend analyses and special studies on fielded systems and equipment to identify adverse equipment performance.

2.2.11. Develops maintenance management and logistics inspection checklists.

2.2.12. Develops supplemental policy, procedures and directives for equipment status and maintenance data reporting for classified systems.

2.2.13. Monitors space weapon system deficiency reporting; ensures Deficiency Reports (DRs) are investigated fully, resolved effectively and closed in a timely manner IAW procedures defined in T.O. 00-35D-54.

2.2.14. Reviews/coordinates maintenance planning and management requirements addressed in the Life Cycle Sustainment Plans prepared by PM/PSM for assigned programs/systems.

2.2.15. Co-chairs SLR conferences and participate in other logistics meetings as appropriate.

2.2.16. Monitors Programmed and Mobile Depot Maintenance to include Urgent and Emergency Depot Level Maintenance IAW T.O. 00-25-108, *Depot Support, Communications-Electronics*.

2.2.16.1. Reviews scheduled depot maintenance with depot maintenance providers.

2.2.17. Reviews and approves/disapproves IMDS-CDB/LIONS, and T.O. 00-20-2 waiver requests.

2.2.17.1. Submits approved waivers for final approval IAW T.O. 00-20-2.

2.2.17.2. Reviews and approves/disapproves classified MDC solutions submitted by the system program office.

2.2.18. Reviews and approves AFTO Form 22, *Technical Manual (TM) Change Recommendation and Reply*, to ensure T.O.s are updated IAW T.O. 00-5-1.

2.3. HQ AFSPC Directorates (A1, A3/6, A5/9, A8) as required:

2.3.1. Advocates for the necessary resources (equipment, manpower, etc.) to sustain HQ AFSPC space weapon system capabilities, and provide support to other external agencies and users as required by directive, regulation, and Public Law.

2.3.2. Reviews Weapon System Sustainment (WSS) requirements for space programs utilizing current AF/A4 LRDP, and CAM processes/guidance.

2.3.3. Reviews, as required, maintenance planning and management requirements included in program LCSP IAW AFI 63-101/20-101.

2.3.4. Participate in PIWG/SWG for assigned systems/programs. **(T-2).**

2.4. The 614 Air Operations Center (AOC):

2.4.1. The 614 AOC/CC: AOC/CC are accountable and responsible for operations and maintenance of space weapon systems under their control. The 614 AOC/CC reports directly (no Ops Group or Wing) to 14 AF/CC and executes daily mission for the Combined Space Operations Center (CSpOC) supporting Combined Functional Space Component Command (CFSCC). The 614 Air Communications Squadron (ACOMS) performs all maintenance functions for the 614 AOC.

2.4.2. The 614 AOC shall:

2.4.2.1. Implement and supplement policies and requirements established by DoD, AF, and HQ AFSPC directives and instructions, and ensure effective management and quality control of all maintenance activities for assigned systems. **(T-2).**

2.4.2.2. Require strict adherence to technical data and all other written management procedures.

2.4.2.3. Enforce sound maintenance, supply discipline, and financial management practices.

2.4.2.4. Supervise subordinate maintenance activities, ensuring operational effectiveness. Provide assistance on compliance issues to subordinate organizations when resolution is beyond their scope and/or resources.

2.4.2.5. Assign CoM responsibilities to 614 AOC/CC **(T-2).**

2.4.2.5.1. Although CoM authority, accountability, and responsibilities reside with the 614 AOC/CC, day-to-day execution can reside at the squadron level if designated in writing. **(T-2).**

2.4.2.6. Submit requests for modifications to the appropriate HQ AFSPC Modification Control Point using procedures published in AFI 63-101/20-101. **(T-2).**

2.4.2.7. Submit requests for revisions to maintenance procedures IAW applicable instructions. **(T-2).**

2.5. Space Wing (SW):

2.5.1. Commander, Space Wing (SW/CC): Space Wing Commanders are accountable and responsible for operations, maintenance, safety and resource protection for all personnel, systems, government facilities, and equipment for space weapon systems under their control.

2.5.2. Space Wings, CSpOC shall:

2.5.2.1. Implement and supplement policies and requirements established by DoD, AF, and HQ AFSPC directives and instructions, and ensure effective management and quality control of all maintenance activities for assigned systems. **(T-2)**.

2.5.2.2. Require strict adherence to technical data and all other written management procedures.

2.5.2.3. Enforce sound maintenance, supply discipline, and financial management practices.

2.5.2.4. Supervise subordinate maintenance activities, ensuring operational effectiveness. Provide assistance on compliance issues to subordinate organizations when resolution is beyond their scope and/or resources.

2.5.2.5. Assign CoM responsibilities to Operations Group Commander (OG/CC) or Network Operations Group Commander (NOG/CC) where both groups reside. **(T-2)**.

2.5.2.5.1. Although CoM authority, accountability, and responsibilities reside with the Operations Group commander, day-to-day execution can reside at the squadron level if designated in writing. **(T-2)**.

2.5.2.6. Submit requests for modifications to the appropriate HQ AFSPC Modification Control Point using procedures published in AFI 63-101/20-101. **(T-2)**.

2.5.2.7. Submit requests for revisions to maintenance procedures IAW applicable instructions. **(T-2)**.

2.5.3. Ensure maintenance organizations, including wing-managed contractors and contractors aligned vertically 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. 00-35D-54, AFI 21-103, AFMAN 23-122, *Materiel Management Procedures*.

2.5.4. Ensure maintenance organizations comply with DoD, AF and HQ AFSPC maintenance and maintenance management directives and instructions.

2.5.4.1. Ensure performance work statements (PWS) for contracted maintenance comply with DoD, AF and HQ AFSPC maintenance policies.

2.5.5. Identify maintenance funding shortfalls or issues to Command leadership through the SLR, A4U, A4I, Program Element Monitor, or A8 for inclusion in planning, programming and budgeting documents.

2.6. Operations Group Commander (OG/CC)/ Network Operations Group Commander (NOG/CC):

2.6.1. OG/CC or NOG/CC is the CoM and will establish roles and responsibilities to ensure effective implementation of maintenance management guidance requirements.

- 2.6.1.1. **(Added-50SW)** If a 50 SW antenna goes into single motor drive, the affected antenna's Operational Capability (OPSCAP) will be changed to "RED." As a safety precaution, the antenna will not be moved, while in single-motor drive condition, intentionally, except to stow the antenna or to execute troubleshooting operations. The NOG/CC is the final determining authority to allow any 50 SW antenna to operate in a degraded mode. Examples of using an antenna in single motor drive are vehicle emergencies, mandatory launch support and war contingencies.
- 2.6.2. Incorporates space weapon system maintenance requirements into IPP-related CNA activities by utilizing information received from forums such as SLR and PIWG/SWG.
- 2.6.3. Ensures weapon system sustainment priorities are provided to the HQ AFSPC Corporate Structure for consideration during POM deliberations.
- 2.6.4. Will provide wing leadership a monthly readiness update IAW AFI 10-201, *Force Readiness Reporting*. (T-2).

2.7. Operations/Warning/Range Management Squadron:

- 2.7.1. Ensure there are adequate levels of supervision on all shifts.
- 2.7.2. Ensure strict adherence to technical data and all other written management procedures.
- 2.7.3. Ensure the Unit Manning Document (UMD) is consistent with the organizational structure in AFI 38-101.

2.8. Maintenance Flight/Work center:

- 2.8.1. This section is the primary work center responsible for maintaining assigned weapon systems and equipment. This section performs tasks to include servicing, scheduled and unscheduled maintenance, special inspections, corrosion control, cleaning, troubleshooting and adjustment, on-equipment repairs and component removal and replacement, and documents maintenance actions.
- 2.8.2. Maintenance technicians manage and maintain assigned space weapon systems and equipment. Maintenance technicians will:
- 2.8.2.1. Enforce strict adherence to and comply with technical data and management procedures.
- 2.8.2.2. Ensure space weapon systems and equipment documentation and Maintenance Information System (MIS) documentation are completed, accurate and accomplished IAW T.O. 00-20-2, *Maintenance Data Documentation*. Ensure system status is accurately reported to Maintenance Operation Center (MOC).
- 2.8.2.3. Ensure replacement parts are requisitioned and documented accurately.
- 2.8.2.3.1. **(Added-50SW)** Coordinate all parts requests through the Maintenance Operations Center (MOC) using the Sample Part Request (Maintenance Part Request Template), see Attachment 3. Ensure replacement parts are requisitioned and Maintenance Information System (MIS) documentation is accurately completed.

2.8.2.3.2. **(Added-50SW)** All mission system part requests will be sent to the MOC email address MOCMPR@us.af.mil. If a site is OPSCAP "RED" the site has permission to use any part to get the system back to an "AMBER" status with the exception of cannibalization of equipment. (See para. 3.4.1.1.1) A request must be sent and approved from the 50 SW Chief of Maintenance (CoM) to use a part out of the Mobil Readiness Spares Package (MRSP). A parts request will be sent to the MOC as soon as possible after the fix action is complete for approval from 50th Space Communications Squadron, Special Missions Maintenance Flight (50 SCS/SCPM).

2.8.2.3.3. **(Added-50SW)** All Emergency or Urgent Depot Level Maintenance (E/UDLM) requests will start out as a Maintenance Assistance (M/A) request using 50 SW Form 3. Users and sites requiring a M/A will submit the request via email to the MOC email address MOCMPR@us.af.mil. The MOC will send the request via email to the Space and Missile Support Center (SMC) sustainment organization for approval. Once approved by SMC the request will be forwarded to the Level 2 Depot Level Maintenance (DLM) team. The Level 2 DLM team will contact the user or the site having the outage directly. If Level 2 cannot resolve the outage over the phone, based on the recommendation of Level 2, the user or the site will contact the MOC to upgrade the M/A to an EDLM or UDLM depending on each Mission System-specific OPSCAP matrix.

2.8.2.4. Coordinate with MOC for downtime to accomplish scheduled and unscheduled maintenance.

2.8.2.5. Conduct On-the-job (OJT) training/certifying as required.

2.9. Space and Missile Systems Center (SMC), AFLCMC/HBQ Program Manager/Product Support Manager (PM/PSM):

2.9.1. The PSM is responsible for the sustainment portion of an assigned weapon system's lifecycle in support of PM. The PM retains overall responsibility for lifecycle sustainment however may delegate the following required functions to the PSM: **(T-3)**.

2.9.1.1. Perform acquisition and sustainment program management for assigned weapon systems. Perform LCSE oversight, system engineering cognizant oversight and approval, product design/configuration baseline management, technical/engineering data/T.O. approval, requirements analysis and materiel solution development, modification program execution, supply support management, depot maintenance management and execution as assigned, and other program responsibilities per applicable DoD, Air Force and HQ AFSPC policy. **(T-2)**.

2.9.2. Ensures space weapon systems meet LCSE requirements IAW AFI 63-101/20-101. **(T-2)**.

2.9.3. Executes Deficiency Reporting, Investigation and Resolution (DRI&R) program pursuant to T.O. 00-35D-54 for all space weapon systems. SMC Single Point of Contact Office (SPOCO) administers the center's DRI&R program and ensures compliance with T.O. 00-35D- 54 processes. **(T-2)**.

2.9.4. Implements/schedules programmed and mobile depot maintenance IAW T.O. 00-25-108. **(T-2)**.

2.9.5. Supports emergency and urgent depot maintenance requests for assigned weapon systems IAW T.O. 00-25-108. **(T-2)**.

2.9.6. Plans/programs depot sustainment activities/requirements for assigned weapon systems. All depot maintenance to be performed on site/system be fully coordinated with the CoM. **(T- 2)**.

2.9.6.1. Prepares and submits WSS requirements for assigned weapon systems utilizing current AF/A4 LRDP, and CAM processes/guidance. **(T-2)**.

2.9.7. Reviews and updates as required, maintenance planning and management included in program LCSP IAW AFI 63-101/20-101. Ensure maintenance planning accurately reflects implementation of depot level maintenance.

2.9.8. PM or PSM co-chairs PIWG/SWG with HQ AFSPC A4U/A4I. **(T-2)**.

2.9.8.1. PM/PSM develop solutions to correct reliability and maintainability issues identified during PIWG/SWG.

2.9.9. Monitors compliance with depot maintenance data for assigned programs/systems IAW T.O. 00-20-2. **(T-2)**.

2.9.10. Reviews maintenance data to identify RAM issues and develop corrective actions. **(T-2)**.

2.9.11. Develops/utilizes Diminishing Manufacturing Sources and Materiel Shortage (DMSMS) program to identify, track, analyze and resolve materiel obsolescence issues for assigned weapon systems. **(T-2)**.

2.9.12. Ensures processes and POCs are established to manage deficiency reporting for assigned weapon systems IAW T.O. 00-35D-54. **(T-2)**.

2.9.13. Develops/utilizes requirement to process suspected counterfeit materiel to Government Industry Data Exchange Program (GIDEP) using the Deficiency Report (DR)/Product Quality Deficiency Report (PQDR) process IAW AFMCMAN 20-106, *Provisioning*, and T.O. 00- 35D-54. **(T-2)**.

2.9.14. Ensures depot maintenance requirements are identified through the LRDP process.

2.9.15. Maintains LCSE for assigned weapon systems, ensure no system configuration or maintenance procedure changes are made without proper approval IAW AFI 63-101/20-101.

Chapter 3

CHIEF OF MAINTENANCE (COM) RESPONSIBILITIES

3.1. Functional Direction.

3.1.1. The CoM functionally directs and controls the maintenance effort and has overall responsibility for accomplishing the maintenance mission. Coordinates actions to resolve maintenance management, weapon system and equipment deficiencies with HQ AFSPC A4 for issues that exceed the scope of wing resources

3.1.2. CoM is responsible and has authority over all on-site maintenance activities on operational weapon systems. This includes on site depot, Emergency Depot Level Maintenance (EDLM), Urgent Depot Level Maintenance (UDLM) and Programmed Depot Maintenance (PDM) action.

3.1.2.1. Communicates directly (skip echelon) as required to HQ AFSPC A4 divisions for support in resolving issues with implementing day-to-day maintenance, logistics, and supply chain management and execution functions. **(T-2).**

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

3.1.2.2.1. Validates and submits 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).**

3.2. Develops and implements standardized maintenance/mission assurance policies, procedures, and instructions.

3.2.1. Develops and approves MOIs as necessary to delineate maintenance responsibilities for assigned weapon systems.

3.2.2. The CoM may publish Local Work Cards (LWC) 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 and T.O. 00-20-1, *Aerospace Equipment Maintenance Inspection, Documentation, Policies, and Procedures* for additional guidance on LWC development and limitations on their use. **(T-3).**

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

3.2.2.2. LWCs cannot modify existing PMIs, 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.

3.2.3. Ensures maintenance practices comply with DoD, AF and HQ AFSPC directives and instructions governing maintenance and maintenance management activities. **(T-2).**

3.2.4. Reviews contractor Performance Work Schedule (PWS) and Statements of Work (SOW) to ensure they include requirements to comply with maintenance, training, and logistics management policies. Any deviation from standard maintenance management processes contained in DoD, AF and HQ AFSPC directives and instructions shall be coordinated with HQ AFSPC A4 for approval prior to finalizing the PWS and/or SOW. **(T-2).**

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

3.2.6. Ensures 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).**

3.2.7. 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 Wing organizations IAW T.O. 00-5-1. **(T-2).**

3.3. Oversee maintenance work centers.

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

3.3.2. 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 23-123. **(T-2).**

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

3.4. Supervises/directs the Maintenance Operations Center (MOC).

3.4.1. Ensures MOC personnel are properly trained and qualified to perform MOC duties. Ensure the MOC establishes processes to control all maintenance actions that cause creation of an equipment status report according to guidance contained in AFI 21-103. **(T-2).**

3.4.1.1. Approves cannibalization requests submitted by the MOC. **(T-2).**

3.4.1.1.1. **(Added-50SW)** All cannibalization requests shall be sent to the MOC via e-mail for CoM approval and coordination. The MOC email address is MOCMPR@us.af.mil. The MOC will contact the CoM for approval via email and courtesy copy 50 SCS/SCPM representative for tracking purposes. No work action will be started until approval is received.

3.4.2. 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).**

3.4.2.1. Ensures maintenance work centers accomplish maintenance historical documentation IAW T.O. 00-20-1.

3.4.2.1.1. **(Added-50SW)** 50 SCS/SCP is responsible for performing Data Integrity Team (DIT) functions on all 50 SW Mission Systems. IMDS is the Air Force System of Record for all 50 SW Mission Systems. It is 50 SCS/SCPs responsibility to ensure the most accurate data is entered into IMDS. DIT review will be conducted during 50 SCS normal duty hours. All errors will be reported back to the Site Chief of Support (COS) or Maintenance Lead daily for correction. A monthly rollup of errors will be reported to the CoM.

3.4.2.2. Ensures maintenance work center accomplishes Time Compliance Technical Orders (TCTO) IAW T.O. 00-20-1 (*Aerospace Equipment Maintenance Inspection, Documentation, Policies, and Procedures*), T.O. 00-5-1 Air Force Technical Order System.

3.4.2.3. Coordinates proposed PIWG/SWG agenda items through Wing PIM for submission to MAJCOM POC. **(T-2)**.

3.4.2.4. Provide Wing data input and participate in HQ AFSPC command-level SLR/SWG.

3.5. Monthly Metrics.

3.5.1. Ensures monthly metrics inputs are submitted to assigned Weapon Logistics Managers and MAJCOM maintenance management analysts (HQ AFSPC A4U/A4I). (T-2).

3.5.1.1. Metric inputs will be provided in the format prescribed by HQ AFSPC A4U/A4I.

3.5.1.1.1. **(Added-50SW)** 50 SCS/SCPA will ensure monthly metrics inputs are submitted to assigned Weapon Logistics Managers and MAJCOM Maintenance Management Analysts (HQ AFSPC A4U/A4I) no later than the prescribed date given by A4U/A4I without prior coordination and approval.

3.5.1.2. Maintenance Indicator Report will be submitted with the metric inputs in the format prescribed by HQ AFSPC A4U/A4I.

3.6. Directive Changes.

3.6.1. Ensures squadrons are aware of changes to applicable DoD, AF and HQ AFSPC policy, instructions and other directives.

3.7. Wing Oversight.

3.7.1. Provides wing oversight for technical management function for daily maintenance operations of assigned weapon.

3.8. Training Plans.

3.8.1. Ensures training plans are developed for maintenance organizations and only trained personnel perform maintenance actions on assigned systems. (T-2).

3.8.2. Ensures effective training programs are established in work centers, MOC, Materiel Control, QA and other assigned maintenance staff functions. For non-CLS maintenance the CoM is responsible for the identification of training requirements and will ensure completion of training is documented according to applicable training instructions, Career Field Education and Training Plans (CFETP), Air Force Job Qualification Standards (AFJQS), and local Job Qualification Standards (JQS), or contractor specific instructions. For CLS maintenance, the CoM is responsible for ensuring training and training documentation requirements are adequately identified in CLS contracts.

3.8.3. Maintainer training requirements (if any) for performance of operational tasks and associated documentation of training accomplishment, will be identified in System Training Plans (STP) and CLS contracts as appropriate.

3.9. Test Measuring and Diagnostic Equipment (TMDE).

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

3.9.2. Ensure maintenance work centers possessing AF 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).**

3.9.3. The CoM shall appoint a TMDE coordinator to act as the focal point between the maintenance activity and 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).**

3.10. Radiation Safety.

3.10.1. Ensure effective safety and radiation protection practices: Are established IAW AFI 48-137, *Respiratory Protection Program*.

3.11. Deployed Maintenance Management Guidance.

3.11.1. The 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.

3.11.2.1. Ensure equipment status reporting and maintenance documentation is accomplished IAW **paragraph 1.4**. 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.

3.11.3. Ensure all weapon system spares and assigned support equipment are managed and accounted for IAW AFMCMAN 20-106, AFMAN 23-122 and AFH 23-123. **(T-2)**.

3.11.3.1. 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 23-123 for additional information. **(T-2)**.

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

3.11.5. Ensure local TMDE equipment is managed IAW T.O. 00-20-14.

3.12. Establish and implement a maintenance plan.

3.12.1. The maintenance plan is a schedule of known or predicted future maintenance events/actions. A sample maintenance plan is attached as [Attachment 2](#).

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

3.12.2.1. Mandatory items include 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.

3.12.2.1.1. **(Added-50SW)** The 50 SW maintenance plan is updated and maintained by the 50 SCS/SCPM section and is published monthly.

3.12.2.2. Optional areas to include 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, safety related information, 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, Source Maintenance and Recoverability (SMR) change requests, modifications proposal statuses, recurring suspenses, lost/missing tool reports, best practices, and other relevant communications- related information.

3.12.2.2.1. An Air Force-approved centrally managed MIS is the tool used to track outages and other crucial data to help manage the equipment/system cradle to grave.

3.12.3. Ensures coordination of maintenance, modification, upgrade and testing activity down-time access with the operational schedule requirements. Establish wing-level requirements in a wing-level maintenance operating instruction.

Chapter 4

MAINTENANCE OPERATIONS CENTER (MOC) RESPONSIBILITIES

4.1. The MOC personnel shall:

4.1.1. Control of all maintenance actions that requires Mission Capability (MICAP) reporting or causes the creation of an Equipment Status Reporting (ESR) according to AFI 21-103. The MOC will maintain status visibility for space weapon systems assigned to their respective Wing. Each Wing shall establish a MOC under the direct supervision of the CoM. If the wing also has a Communication Focal Point (CFP) it can be combined within the MOC responsibilities IAW AFI 21-103.

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

4.1.2.1. Will 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).**

4.1.2.1. **(50SW)** Validation of Equipment Status Reporting (ESR) data that is entered into IMDS as part of a daily work day is critical to mission success. The MOC shall enter equipment status changes in the ESR portion of IMDS within 15 minutes of notification from the User, Site, associated Work Center, or the government according to AFI 21-103, Chapter 6. The MOC will identify erroneous or missing ESR data, and inform the responsible agency or site for correction or completion.

4.1.2.2. **(Added-50SW)** Delayed reporting: In cases where current outages are classified but become unclassified, the MOC shall ensure equipment status is reported in IMDS, once equipment status data is in unclassified condition. Refer to security classification guide for specifics regarding delayed reporting requirements.

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

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

4.1.3.1.1. **(Added-50SW)** The MOC duty hours are Monday through Friday 0600L – 2300L Mountain Standard Time (MST). Federal holidays are considered after-duty hours.

4.1.3.1.2. **(Added-50SW)** After-duty hours, the MOC phone will be answered by a 24-hour work center on Schriever Air Force Base (SAFB). The 24-hour work center will triage calls and determine level of urgency.

Table 4.1. (Added-50SW) SAFB MOC Duty Hours.

Location	Hours of Operation	After Duty Hour Support	Remarks
SAFB Para 4.1.3.1.1	Mon -Fri 0600-2300 MST DSN: 560-6979 Commercial: 719-567-6979	E/UDLM	Processed by after hours work center
		SAFB RED Outages	Processed by after hours work center
		Remote Site Technican Recall	Processed by after hours work center
		RED/AMBER for reporting only	Processed by the MOC NLT next duty day
		ESR for AFSCN Sites	Processed by the MOC NLT next duty day
		Routine GREEN Jobs	Processed by the MOC NLT next duty day
<i>NOTE: In the event the After Hours Work Center cannot address the request, the MOC on call person will be notified</i>			

4.1.3.1.3. **(Added-50SW)** For issues that do not require immediate action, all personnel are requested to email the details to the MOC organizational mailbox keeping in mind classification requirements; NIPR, MOCMPR@us.af.mil, SIPR, USAF.schriever.50sw-nog.mbx.50-scs-maint-control@mail.smil.mil. Potential issues include: routine GREEN jobs; reporting ESR RED or AMBER Time; not requiring technician call-out and ESR numbers for AFSCN site outages.

4.1.3.1.4. **(Added-50SW)** After duty hour calls to the MOC (DSN: 560-6979. Commercial: 719-567-6979) will be greeted by a representative from a SAFB 24-hour work center, not MOC personnel. The 24-hour work center personnel have been directed to perform all on-call duties for EDLM support, SAFB RED Outages, and Remote Site Technician Recall) or notify the MOC on-call representative if questions arise.

4.1.3.1.5. **(Added-50SW)** 24-hour work center personnel have been directed to ask callers to email the MOC, if there is a routine issue that can be addressed on the next duty day.

4.1.3.1.6. **(Added-50SW)** 24-hour work center personnel have been directed to issue Job Control Numbers (JCN) only if there is an imperative need.

4.1.3.1.7. **(Added-50SW)** Any urgent situations that fall outside of these procedures, please call the MOC 24x7 number and speak to the 24-hour work center. If the 24-hour work center is unable to answer your question, request to speak to the MOC on-call representative.

4.1.3.1.8. **(Added-50SW)** On the next duty day, MOC will process all received emails. Users that emailed the MOC will receive email notification of the assigned JCN. If maintenance work center requires dispatch, MOC will notify the respective agency.

4.1.3.1.9. **(Added-50SW)** Communication is the key to success! The MOC will “REPLY ALL” to emails received. If you are a crew worker/technician and will be off-shift when MOC responds, include a group email or alternate POC when you email the MOC. This method is used to ensure the assigned JCN can be received and responded to in a timely manner.

4.1.4. Maintain visibility of current weapon system status.

4.1.4.1. Enter and update ESR data as events occur.

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

4.1.4.2.1. **(Added-50SW)** Contact the MOC for tracking non-ESR system outages and maintenance actions.

4.1.4.3. 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)**.

4.1.4.4. Correct ESR errors.

4.1.4.5. 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).

4.1.4.6. Maintain a current inventory of all mission critical end items maintained by Wing organizations. **(T-2)**.

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

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

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

4.1.6.2. Present cannibalization action to CoM for approval.

4.1.6.2.1. **(Added-50SW)** The MOC will receive and coordinate all cannibalization requests with the CoM. The MOC will contact the CoM for approval via email and courtesy copy (cc) the 50 SCS/SCPM representative for tracking purposes. If the CoM cannot be reached by email, the MOC shall call the CoM. No work action will be started until approval is received.

4.1.7. 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)**.

4.1.7.1. 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.

4.1.8. Assist the work centers in developing requests for depot maintenance assistance according to T.O. 00-25-108.

4.1.9. 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.

4.1.9.1. **(Added-50SW)** Coordination of mission downtime with the appropriate operations organization and the affected maintenance work center is delegated to the maintenance work center.

4.1.10. 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)**.

4.1.10.1. 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.

4.1.11. Prepare and maintain a master PMI schedule. Send the applicable PMI schedule, annotated with JCNs, to the affected maintenance work centers, or use IMDS-CDB/LIONS auto scheduling.

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

4.1.12.1. When kits, parts, or tools are required, the MOC enters the TCTO into IMDS-CDB/LIONS and fills out Section I of AF 2001, *Notification of TCTO Kit Requirements*. The MOC retains one copy of the AF 2001 and sends three copies along with a copy of the TCTO to the Materiel Control function.

4.1.12.1.1. If a materiel control function and/or IMDS-CDB/LIONS/Standard Base Supply System (SBSS) interface is not available the CoM will establish local procedures for ordering and processing TCTOs.

4.1.12.1.2. Creates a work order in IMDS-CDB/LIONS for each item in stock or assigned to the Wing that requires TCTO accomplishment.

4.1.12.2. 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 Wing or kept in the base supply stock that requires TCTO accomplishment.

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

4.1.12.4. Ensure work center supervisors complete proper TCTO documentation in IMDS-CDB/LIONS.

4.2. IMDS-CDM/LIONS.

4.2.1. MOC personnel serve as the IMDS-CDB/LIONS focal point for all equipment maintenance status and inventory reporting. MOC personnel will: (T-2).

4.2.2. Comply with host database policies for background processing. **(T-2)**.

4.2.3. Perform equipment maintenance status and inventory reporting IAW AFI 21-103.

4.3. MOC Training.

4.3.1. Government civilian and military MOC personnel will accomplish AFJQS 3DXXX201F, Communications Focal Point and other applicable AFJQSs (e.g., IMDS-CDB/LIONS and Database Managers) training resources for task qualification and duty position training. **(T-2)**.

Chapter 5

QUALITY ASSURANCE (QA)

5.1. QUALITY ASSURANCE (QA)

5.1.1. The QA program 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 effective training programs, proven maintenance processes, safety procedures, supply discipline, security procedures, and good housekeeping standards for maintenance work centers.

5.2. Responsibilities. As a minimum, QA will:

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

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

5.2.2.1.1.1. Monitor the DR process to ensure items are properly loaded in the MIS database.

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

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

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

5.2.2.1.1.5. 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)**.

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

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

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

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

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

5.2.2.1.3. Source Maintainability and Recoverability (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 Equipment. The PIM will:

5.2.2.1.3.1. Track the status of SMR change requests.

5.2.2.1.3.1.1. **(Added-50SW)** 50 SCS/SCPM will submit Source Maintainability and Recoverability (SMR) code change request to the CoM. Once the SMR code request is approved the 50 SCS/SCPM will work with SMC to resolve.

5.2.2.1.3.2. Conduct/coordinate a technical review of disapproved SMR change requests to determine whether to resubmit with additional information.

5.2.2.1.4. 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 MAJCOMs/Lead Commands and ensuring proper implementation of approved modification instructions or TCTOs.

5.2.2.2. Establish a Technical Order Distribution Office (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)**.

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

5.2.2.3. 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.

5.2.2.4. Set up 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 CPINS/ACPINs in the routine and annual checks required by T.O. 00-5-1.

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

5.2.2.6. 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.

5.2.2.7. 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. 00-5-1, and MAJCOM supplements for formatting technical data.

5.2.2.7.1. The Wing PIM also serves as the focal point for gathering submitted PIWG agenda items in response to a PIWG/SWG data call for assigned systems/programs.

5.2.3. QA shall establish a deficiency analysis program for identifying patterns of errors and deficiencies found during all forms of evaluations. **(T-2)**.

5.2.3.1. 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.

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

5.2.3.2.1. Trends and deficiency patterns from evaluation results.

5.2.3.2.1.1. **(Added-50SW)** 50 SCS/SCPM is responsible for ensuring the data inputted into JDRS is accurate. The 50 SCS/SCPM section is also the Product Quality Deficiency Report (PQDR) validator for their specific mission system. 50 SCS/SCPM will provide the CoM a deficiency analysis summary quarterly.

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

5.2.3.2.3. The impact of any identified deficiencies or trends.

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

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

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

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

5.2.5. Serve as the Corrosion Control Lead for the Corrosion Prevention and Control Program according to AFI 20-114, Air and Space Equipment Structural Management, and T.O. 00-33A-100. **(T-2)**.

5.2.6. 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.

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

5.2.8. QA validates LWCs and assists in the development as needed.

5.2.8.1. T.O. 00-5-1 procedures for LWCs apply.

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

5.2.10. QA personnel can serve as Contracting Officer Representatives 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 AFJQS 3DXXX-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.

5.3.3. Training will cover these minimum areas:

5.3.3.1. Management procedures.

5.3.3.2. Objectivity.

5.3.3.3. Evaluation methods.

5.3.3.4. Root cause analysis techniques.

5.3.4. QA personnel will attend Contract Officer Representative (COR) training to ensure compliance with the AF equipment maintenance contract surveillance program.

5.3.5. 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 consequently the basic COR responsibilities have been included in the QA chapter.

5.3.5.1. Contracting Officer Representative (COR). The COR observes then 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:

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

5.3.5.1.2. Be knowledgeable of the specifications of the contract.

5.3.5.1.3. Maintain proficiency in contract assessment methods.

5.3.5.1.4. Be knowledgeable of the procedures for documenting surveillance.

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

Chapter 6

MAINTENANCE MANAGEMENT ANALYSIS RESPONSIBILITIES

6.1. Maintenance Management Analysis (MMA). Tracks, analyzes, and presents information to help senior leadership assess the health of the units' weapon systems and equipment. MMA acts as the group POC for MIS issues and performs analyses to assess and improve unit performance (e.g., 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.

6.1.1. MMA will:

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

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

6.1.1.2.1. Brief Chief of Maintenance monthly on the health of the weapon system(s). **(T-2).**

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

6.1.1.2.3. Provide signed copies of statistical studies performed at base level to AFSPC/A4U NLT 30 days after the final report is provided to Chief of Maintenance (CoM). **(T-2)**

6.1.1.3. Assist unit leaders with the application and interpretation of maintenance data. **(T-2).**

6.1.1.4. MMA will provide AFSPC/A4U or A4I required metrics by the 8th calendar day each month and the Maintenance Indicator Report (MIR) by the 10th calendar day unless otherwise specified in writing from AFSPC/A4U or A4I. Submit all metrics to the AFSPC/A4U Analysis SharePoint Site at: <https://eis2.afspc.af.mil/sites/hq/A4/A4U/analysis/Monthly%20Reporting/Forms/AllItems.aspx> or AFSPC/A4UX workflow if SharePoint is down. Send AFSPC/A4I metrics to AFSPC/A4IZ workflow at AFSPC/A4IZ.wf@us.af.mil. **(T-2).**

6.1.1.4.1. Maintenance data will be considered final out of IMDS (or AFSPC/A4U approved Maintenance Information System (MIS)) by the 5th calendar day of every month unless otherwise specified in writing by AFSPC/A4U.

6.1.1.4.2. MMA sections will inform AFSPC/A4U 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).**

- 6.1.1.4.3. After the monthly report and MIR have been submitted on the AFSPC/A4U Analysis SharePoint site, any corrections to reports must be submitted Via SharePoint with a “heads-up” by e-mail with reference to the original reported data as well as the corrected data.
- 6.1.1.4.4. If there are any reporting errors identified after the reports are submitted to HQ AFSPC/A4U, AFSPC/A4U will contact the unit OPR. The OPR, in turn, will notify the appropriate base agency to correct erroneous data.
- 6.1.1.4.5. MMA sections will ensure corrected reports are provided within two calendar days. **(T-2)**.
- 6.1.1.5. Analyze equipment performance trends to identify problems affecting the unit mission and, whenever possible, provide predictive analytical information with recommendations to unit’s Maintenance Supervision. **(T-2)**.
- 6.1.1.6. Verify accuracy of the Job Data Documentation (JDD) subsystem of MIS. **(T-2)**. MMA will:
 - 6.1.1.6.1. Validate data entered into MIS as part of daily analysis duties and informs affected agencies of discrepancies. **(T-2)**.
 - 6.1.1.6.2. Identify erroneous or missing data to the responsible agency for correction or completion. **(T-2)**.
- 6.1.1.7. 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)**.
- 6.1.1.8. Control the assignment of unit work center and mnemonic codes. **(T-2)**.
- 6.1.1.9. Be responsible for system database management. **(T-2)**. Work centers throughout the organization manage those applications and functions applicable to their environment.
- 6.1.1.10. Assists MIS users in developing procedures for collecting information when the MIS is not available. **(T-2)**.
- 6.1.1.11. Ensure a 2R (analyst) representative attends quarterly HQ AFSPC 2R meetings. **(T-2)**.
- 6.1.2. The MMA Section NCOIC/Supervisor will:
 - 6.1.2.1. Ensure each analyst assigned attends a local familiarization course for 2R0X1 personnel. **(T-2)**.
 - 6.1.2.1.1. As a minimum, the course will include weapon system/communications electronics familiarization, organizational structure, and roles of each squadron and work center. **(T-2)**.
 - 6.1.2.1.2. Analysts will attend the course within 3 months of assignment to the unit. **(T-2)**.
 - 6.1.2.1.3. For Air Reserve Component (ARC), Analysts will attend the course within 6 months of assignment to the unit. **(T-2)**.

6.1.3. Maintenance Information Systems (MIS). For management of IMDS-CDB/LIONS and REMIS, follow AFCSM 21-556, Vol 2, Introduction to IMDS CDB, MAJCOM/Lead Command guidance, unit procedures, and REMIS user manuals. Personal computers and software used as “stand-alone” systems are not considered MIS.

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

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

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

6.1.3.2.2. For problems outside of the capability of the Subsystem Manager, the Host IMDS Database Manager will provide assistance until the issue is resolved.

6.1.3.3. Wing MIS Management will consist of:

6.1.3.3.1. Ensure IMDS-CDB/LIONS security is maintained

6.1.3.3.1.1. **(Added-50SW)** 50 SCS/SCPA is responsible to ensure IMDS-CDB security is maintained. To obtain access to IMDS the required SYSTEM AUTHORIZATION ACCESS REQUEST (SAAR) DD FORM 2875 must be completed. The completed DD FORM 2875 will be returned to the 50 SCS/SCPA for account creation. The DD Form 2875 can be obtained by contacting the 50 SCS/SCPA.

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

6.1.3.3.3. Support is provided to tenant organizations and users.

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

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

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

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

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

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

6.1.3.3.9.1. 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.

6.1.3.3.10. Support of the C-E maintenance community referring to AFI 21-103 for maintenance analysis and host DBM responsibilities.

6.1.3.3.11. Control of 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.

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

6.1.4. 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 a description and formula. Metrics are subject to change as needed per AFSPC/A4U direction.

6.1.4.1. Mean Time Between Maintenance (MTBM). The mean time between maintenance 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 used as an input to any manpower analysis. 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:

6.1.4.1.1. $MTBM = \text{Operating Hours} / \text{Total Number of Maintenance Events}$.

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

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

6.1.4.2. Mean Time Between Failure. Mean time between failure (MTBF) is calculated to provide an average equipment operating time before a failure occurs. MTBF is expressed in hours. Two basic types of failure 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:

6.1.4.2.1. $MTBF = \text{Active Time} \times \text{Quantity per Application (QPA)} \times \text{Usage Factor (UF)} / \text{Total Maintenance Actions}$.

6.1.4.2.2. $MTBF \text{ Type 1} = \text{Active time} \times \text{QPA} \times \text{UF} / \text{Inherent Failures (T.O. 00-20-2, says possessed hrs. vs active time)}$.

6.1.4.2.3. $MTBF \text{ Type 2} = \text{Active time} \times \text{QPA} \times \text{UF} / \text{Induced Failures (T.O. 00-20-2, says possessed hrs. vs active time)}$.

6.1.4.3. Mean Repair Time. The mean repair time (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 (ATC) 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.

6.1.4.3.1. $MRT = \text{On-Equipment} + \text{Off-Equipment Repair Hours} / \text{On-Equipment} + \text{Off-Equipment Repair Actions}$.

6.1.4.3.2. $MRT \text{ On Equipment} = \text{On Equipment Repair Hours} / \text{On Equipment Repair Actions}$.

6.1.4.3.3. $MRT \text{ Off Equipment} = \text{Off Equipment Repair Hours} / \text{Off Equipment Repair Actions}$.

6.1.4.4. Operational Availability. The operational availability (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:

6.1.4.4.1. $Ao = \text{Active hours} - \text{Total downtime} / \text{Active Hours} \times 100$.

6.1.5. Monthly Report Templates. Each MMA section has a monthly metric template specifically designed for its wing/unit space systems and it is located on the AFSPC/A4U Analysis SharePoint site at: <https://eis2.afspc.af.mil/sites/hq/A4/A4U/analysis/Analysis%20Templates/Forms/AllItems.aspx>. Use of these templates are mandatory. (T-2).

6.1.5.1. MMA should check this site every month before reporting to ensure they have the most current template for their unit.

6.1.5.2. AFSPC/A4U maintains sole responsibility for template modifications. Do not modify your template. If changes are required, contact AFSPC/A4U Analysis section for assistance.

6.1.6. Monthly Reports:

6.1.6.1. The monthly metrics and MIR are the primary source documents used to populate the Space Logistics Review metrics slides briefed quarterly.

6.1.6.2. Rates are automatically calculated and are identified with red colored cells. The remaining cells require manual inputs.

6.1.6.3. Maintenance metric standards will be developed by AFSPC/A4U on a biannual basis.

6.1.6.4. MIR will contain detailed information on all AFSPC/A4U required metrics failing to stay within the MAJCOM provided control limits and/or equipment showing a previous 3 month negative trend. The MIR will provide the MAJCOM with an outline to the problem and what the unit/MAJCOM/Program Office is currently doing to correct the issue long term. Any anomalies will be identified with their specific cause/corrective action. This report will be endorsed/signed by the Chief of Maintenance.

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

6.1.7.1. The purposes of the DIT include: (1) ensuring the unit has complete and accurate data in the MIS, (2) identifying and quantifying problems within the unit preventing complete and accurate documentation, and (3) 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 that all assigned DIT members are trained in the use of MIS applicable programs for the data integrity review/correction process. **(T-2)**. Identify suspected errors on the report by circling or marking on the report and give report to appropriate work center for corrections. **(T-2)**.

6.1.7.1.1. **(Added-50SW)** 50 SCS/SCP is responsible for performing DIT functions on all 50 SW owned Mission Systems. IMDS is the Air Force System of Record for all 50 SW Mission Systems. It is 50 SCS/SCP's responsibility to ensure the most accurate data is entered into IMDS. DIT will be conducted during 50 SCS normal duty hours. All errors will be reported back to the maintenance work center, Site COS or Maintenance Lead daily for correction. A monthly rollup of errors will be reported to the CoM.

6.1.7.2. 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)**.

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

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

6.1.7.5. As a minimum, the following functions will be performed by the DIT:

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

6.1.7.5.1.1. **(Added-50SW)** 50 SCS/SCPM is responsible for developing a system to track the number of errors by work center and squadron on all 50 SW owned Mission Systems.

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

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

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

6.1.7.5.5. Maintain cumulative uncorrected and corrected error rate databases. Analyze the error rate data and prepare reports of rates and identify where errors are occurring. Error rates and causes will be briefed to the CoM monthly. **(T-2)**. Provide DIT error rate data to AFSPC/A4U upon request.

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

6.1.7.5.6.1. **(Added-50SW)** 50 SCS/SCPM is responsible for ensuring work centers comply with maintenance documentation and equipment status review and all issues that cannot be resolved brought to the CoM for resolution.

Chapter 7

MAINTENANCE WORK CENTER RESPONSIBILITIES

7.1. Maintenance work centers. The production elements responsible for accomplishing all assigned maintenance. Maintenance work centers are directly responsible to the maintenance superintendent; maintenance supervisors will ensure the following:

7.1.1. Work center Safety.

7.1.1.1. Work center supervisors will enforce safety practices according to Air Force directives, AFSPC instructions, AFI 48-137 standards. **(T-2).**

7.1.1.1.1. Implement and effectively manage the work center Hazardous Materiel (HAZMAT) and Hazard Communications (HAZCOM) programs IAW AFI 90-821, *Hazard Communication (HAZCOM) Program*. **(T-2).**

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

7.1.1.1.3. Implement and effectively manage climbing safety training IAW T.O. 31W3-10-19C1, Air Force Communications Service (E-I Standard) -- Standard Installation Practices, Telephone, Outside Plant Installation, Pole Line and T.O. 31-10-3, Air Force Communications Command (E-I Standard) -- Standard Installation Practices -- Outside Plant Installation as applicable.

7.1.1.1.4. Implement and effectively manage the work center corrosion prevention and control program IAW T.O. 1-1-689, Cleaning and Corrosion Control - Corrosion Program and Corrosion Theory (Vol 1). **(T-2).**

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

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

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

7.1.2. Work center Supply Management will:

7.1.2.1. Use IMDS-CDB/LIONS or government approved MIS to directly requisition parts whenever possible. **(T-2).**

7.1.2.1.1. Use the direct call-in method between the work center and LRS customer service/demand processing when IMDS-CDB/LIONS or government approved MIS is not available.

7.1.2.1.1.1. **(Added-50SW)** All maintenance work centers will manage assigned supply point and bench stock accounts IAW AFI 23-101, AFMAN 23-122 and AFH 23-123.

7.1.2.1.1.2. **(Added-50SW)** 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 23-123.

7.1.2.1.1.3. **(Added-50SW)** Order/requisition parts IAW procedures in AFMCMAN 20-106, AFMAN 23-122 and AFH 23-123.

7.1.2.1.1.4. **(Added-50SW)** All maintenance work centers will submit a parts request to the MOC using Attachment 3, Maintenance Part Request Template. The MOC will send the part request to the assigned mission system 50 SCS/SCPM Mission Systems Maintenance work center for validation. 50 SCS/SCPM Mission Systems Maintenance work center will review and approve or disapprove in writing back to the requestor. The respective 50 SCS/SCPM section will review the request and verify that sufficient funding is available to process the request.

7.1.2.2. Use AF Form 2005, *Issue/Turn-In Request*, or any other control register to document requests for direct demands on supply. Automated supply log from IMDS-CDB/LIONS is authorized. Verify Urgency of Need (UND) "A" and "B" requests prior to call-in IAW AFMAN 23-122 and AFH 23-123. **(T-2)**.

7.1.2.3. Ensure repair cycle assets are properly managed IAW T.O. 00-20-3.

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

7.1.2.5. Submit Turn-In (TRN) IAW T.O. 00-20-3, AFMAN 23-122 and AFH 23-123. **(T-2)**.

7.1.2.6. Coordinate with LRS to ensure Readiness Spares Package (RSP) assets requiring functional checks are identified. Notify LRS when functional checks are completed. **(T-2)**.

7.1.2.7. 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 23-123. **(T-2)**.

7.1.2.7.1. The organization can refuse the asset if the asset is physically damaged. See AFMCMAN 20-106, AFMAN 23-122 and AFH 23-123 for guidance.

7.1.2.8. Monitor and control bench stock according to AFMCMAN 20-106, AFMAN 23-122 and AFH 23-123. **(T-2)**.

7.1.2.8.1. **(Added-50SW)** All maintenance work centers shall request all bench stock replenishment orders through the MOC using Attachment 3, Maintenance Part Request Template. The MOC will send the part request to the assigned mission system 50 SCS/SCPM for validation. 50 SCS/SCPM will review and approve or disapprove in writing back to the requestor. The respective 50 SCS/SCPM section representative will review the request and verify that sufficient funding is available to process the request.

7.1.2.9. 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 23-123.

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

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

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

7.1.2.12. When authorized by the CoM, 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.

7.1.2.13. Develop written guidance to monitor and control shop/operating stocks IAW AFI 23-111, *Management of Government Property in Possession of the Air Force*. **(T-2)**.

7.1.2.13.1. Shop/operating stocks are defined as those items (i.e., Government Services Administration (GSA) purchased cable stocks, connectors, hardware, etc.) purchased with AF funds to fulfill mission requirements (i.e., Preventive Maintenance Inspections (PMIs), equipment maintenance, jobs, etc.) that cannot be loaded on bench stock or other accounts.

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

7.1.2.13.3. Ensure forward supply point assets are managed according to IAW AFMAN 23-122 and AFH 23-123.

7.1.2.13.4. 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 23-123.

7.1.2.13.4.1. Identify all deploying assets to the applicable base-level EAE upon receipt of mission tasking order during the 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 23-123.

7.1.2.13.4.2. 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.

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

7.1.3. Production Work center Management.

7.1.3.1. A production work center will:

7.1.3.1.1. 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.

7.1.3.1.1.1. **(Added-50SW)** All maintenance work centers shall ensure status changes to equipment are called in to or emailed to the MOC as soon as possible. Once the MOC is contacted with the change in equipment status the MOC will issue a JCN for documenting the discrepancy in IMDS.

7.1.3.1.1.2. **(Added-50SW)** If a 50 SW antenna goes into single motor drive, the antenna will immediately be placed in stow condition and the affected antenna's operational capability (OPSCAP) will be changed to "RED" (if the antenna is in/on an active support when it goes into single motor drive, the antenna will complete the support before being stowed and changed to OPSCAP RED). The antenna will not be moved while in single-motor drive condition intentionally except to stow the antenna or to execute troubleshooting operations. The 50 NOG/CC is the final determining authority to allow any 50 SW antenna to operate in a degraded mode. Examples of using an antenna in single motor drive are vehicle emergencies, mandatory launch support and war contingencies.

7.1.3.1.1.3. **(Added-50SW)** 50 SCS/SCPA is responsible to ensure IMDS-CDB security is maintained. To obtain access to IMDS the required SYSTEM AUTHORIZATION ACCESS REQUEST (SAAR) DD FORM 2875 must be completed. The completed DD FORM 2875 will be returned to the 50 SCS/SCPA for account creation. 50 SCS/SCPA will contact the requestor to set up the account and password once the DD FORM 2875 is approved. The DD Form 2875 can be obtained by contacting the 50 SCS/SCPA section.

7.1.3.1.2. Review/comply with time change management orders/items IAW T.O. 00-5-15.

7.1.3.1.3. Review Situation Report (SITREP)/Operations Report (OPREP) as required and ensure updates are forwarded to the appropriate personnel.

7.1.3.1.4. Advise the MOC and CoM of jobs that cannot be completed within established capabilities, due to timeliness, manpower or capacity, etc.

7.1.3.1.5. Perform review of data documentation in the approved MIS to identify and resolve documentation errors on a daily basis. **(T-2)**.

7.1.3.1.5.1. **(Added-50SW)** Contact 50 SCS/SCP for all IMDS documentation errors that cannot be resolved.

7.1.3.1.6. Provide work center personnel availability and on-call schedules to the MOC for the next month by the 25th of every month. For example, the May 2019 schedule is due to MOC by 25 April 2019. If changes are made to the schedule, provide an updated schedule as soon as possible.

7.1.3.1.7. Ensure all antenna systems and all equipment assigned an SRD are listed on the Equipment Inventory List (EIL) and master PMI schedule in the approved MIS.

7.1.3.1.8. Assist MOC in coordinating with the system manager for assistance from a depot support function IAW T.O. 00-25-108.

7.1.3.1.9. Document completion of jobs and update statuses (e.g., deferred/delayed) in the approved MIS as outages occur and no later than end of shift. **(T-2)**.

7.1.3.1.9.1. **(Added-50SW)** Maintain the status of all active and deferred discrepancies. Reconcile all IMDS 380 screen deferred discrepancies for each assigned equipment ID every 30 days. Ensure accuracy of all deferred JCN, including those Awaiting Parts (AWP) and software updates. Ensure each deferred discrepancy deferred code is accurate. Reconcile AWP discrepancies with the respective depot support activity for status of part procurement, repair and delivery. Enter a DDR for each deferred job every 30 days to show the discrepancy was reviewed and updated.

7.1.3.1.10. Dispatch personnel with the technical data and support items needed to troubleshoot, repair, and restore systems based on local developed outage reporting criteria.

7.1.3.1.11. Ensure work center personnel comply with standards and schedules and promptly respond to scheduled and unscheduled support requirements.

7.1.3.1.12. Expeditiously provide the MOC with an initial status report and preliminary Estimated Time for Return to Operation (ETRO) when the nature of the malfunction/failure is verified on all critical jobs. **(T-2)**.

7.1.3.1.12.1. **(Added-50SW)** All cannibalization requests must be sent to the MOC via e-mail for CoM approval and coordination. If the CoM cannot be reached by email, the MOC shall call the COM. No work action will be started until approval from the CoM is received.

7.1.3.1.12.2. **(Added-50SW)** All parts requests require approval with the exception if a site becomes OPSCAP "RED" the site has 50 SW CoM permission to use any Forward Supply Point (FSP) or bench stock part available to get the system back to an "AMBER or GREEN" status. A request must be sent and approved from the 50 SW CoM to use a part out of a MRSP. A part request will be sent to the MOC as soon as possible after the fix action for approval and tracking from the 50 SCS/SCPM section.

7.1.3.1.12.2.1. **(Added-50SW)** Coordinate all parts requests through the MOC organizational mailbox NIPR, MOCMPR@us.af.mil, and provide courtesy copy to 50 SW CoM using the Sample Part Request (Attachment 3, Maintenance Part Request Template). Ensure replacement parts are requisitioned and Mission Information System (MIS) documentation is accurately completed.

7.1.3.1.12.2.2. **(Added-50SW)** If a Mission Capability (MICAP) part is needed, request the part using Attachment 3 (Maintenance Part Request Template). The request will be emailed to the MOC and will include a completed AF Form 2005, Issue/Turn-In Request and a snapshot of the Tech Order Illustrated Parts Breakdown specific to the part. The priority and Unit Justification Code (UJC) is critical and is required, and accuracy is essential, when filling out the AF Form 2005. The CoM, or designee, are the only approval authorities for a MICAP request. Once the MICAP is validated and approved, the request will be sent by the CoM to 21 LRF for processing.

7.1.3.1.12.3. **(Added-50SW)** When a 50 SW mission system changes OPSCAP, the user, maintainer, and/or technician of the mission system will call or email MOC to change Equipment Status Reporting (ESR). Ensure mission system specific operations and databases are kept up to date on status of equipment. Report any equipment or system outages to the MOC via telephone (DSN: 560-6979, Commercial: 719-567-6979) or email (NIPR, MOCMPR@us.af.mil), within 15 minutes of the outage. If the outage is on a classified mission system send the MOC a detailed message of the outage via email on SIPR. Then call the MOC and request they check SIPR for the outage. Systems on which real-time IMDS reporting would divulge classified vulnerabilities will be reported in IMDS only after the system has been restored to operation and the JCN has been closed. Update the MOC every two (2) hours during extended unscheduled outages, and notify the MOC via telephone or email (NIPR or SIPR) once the corrective action is complete.

7.1.3.1.12.3.1. **(Added-50SW)** Delayed reporting: In cases where current outages are classified but become unclassified, the MOC shall ensure ESR is reported in the IMDS, once equipment status data is in unclassified condition. Refer to security classification guide for Mission System specifics regarding delayed reporting requirements.

7.1.3.1.12.4. **(Added-50SW)** Site technicians will troubleshoot all OPSCAP “RED” outages and will submit a M/A request using the 50 SW Form 3 to the MOC if additional DEPOT/ Level 2 help is needed. The MOC will forward the M/A to the respective SMC organization for coordination with DEPOT/ Level 2. Once Level 2 is in contact with the affected site the work center will ensure the MOC and the CoM is updated via telephone or email (NIPR or SIPR) every two (2) hours during extended unscheduled outages, and notify the MOC once the corrective action is complete.

7.1.3.1.12.5. **(Added-50SW)** All E/UDLM requests will start out as a M/A request using 50 SW Form 3. Users and sites requiring an M/A will submit the request via email to the MOC email address MOCMPR@us.af.mil. The MOC will send the request via email to the SMC sustainment organization for approval. Once approved by SMC, the request will be forwarded to the Level 2 DLM team. The Level 2 DLM team will contact the user or the site having

the outage directly. If Level 2 cannot resolve the outage over the phone, based on the recommendation of Level 2, the user or the site will contact the MOC to upgrade the M/A to a EDLM or a UDLM depending on each Mission System specific OPSCAP matrix.

7.1.3.1.12.5.1. **(Added-50SW)** During the entire M/A and/or E/UDLM process, keep the MOC and the CoM informed of all status's of the affected mission system.

7.1.3.1.12.5.1.1. **(Added-50SW)** Once the E/UDLM is completed and the outage is resolved an AFTO Form 217 must be coordinated and signed by the Depot team lead and the site commander or site lead. The completed AFTO Form 217 will be sent via email to the 50 SW CoM and the respective SMC Depot Level Maintenance Manager.

7.1.3.1.13. Complete, at a minimum annually, EIL and master PMI review. **(T-2).**

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

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

7.1.3.1.16. Manage system depot support program IAW T.O. 00-25-108. **(T-2).**

7.1.3.1.16.1. **(Added-50SW)** All Depot Level Maintenance is coordinated through the 50 SCS/SCPM work center, Geographically Separated Units (GSUs) and the SMC sustainment organization. The SMC sustainment organization will coordinate with 50 SCS/SCPM for all Programmed Depot Maintenance (PDM) execution plans. PDM execution plans and site specific requests are approved by the CoM. Down time scheduling for PDMs will be a site responsibility through their responsible scheduling organization.

7.1.3.1.17. 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 an Air Force-approved MIS unless a waiver is approved. **(T-2).**

7.1.3.1.18. Submit deviations/waiver requests with proper justification to the HQ AFSPC A4U/A4I. **(T-2).**

7.1.3.1.19. Space systems modification proposals will be managed and processed IAW AFI 63-101/20-101.

7.1.3.2. Implement and manage equipment inspection program.

7.1.3.2.1. Scheduled maintenance inspections for space weapon systems and equipment; include periodic, Programmed Depot Maintenance (PDM) IAW T.O. 00-25-108, and transfer inspections. They are accomplished IAW applicable inspection manuals, inspection work cards, repair manuals or commercial manuals. **(T-2).**

- 7.1.3.2.2. The CoM establishes the necessary controls to ensure that 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).**
- 7.1.3.2.3. Modified inspection work cards will be designed for use during a limited period of time as authorized by the MAJCOM. Submit request via e-mail through HQ AFSPC/A4U/A4I for approval. **(T-2).**
- 7.1.3.2.4. The CoM will determine if local checklists and/or work cards are required for this equipment, if so, ensure they are developed IAW instructions contained in this manual, T.O. 00-5-1, and the 00-20- series manuals. **(T-3).**
- 7.1.3.2.5. Additional Guidance for AF-Procured Equipment Items. AF-procured equipment that does not have an AF-dictated PMI schedule must still be inspected on a recurring basis. These items should also be inspected to ensure they are serviceable before they are initially placed in storage.
- 7.1.3.2.6. Re-inspect these items at 12-month intervals if the items are stored in environmentally controlled conditions. If the equipment is stored in uncontrolled conditions, such as outside storage, then re-inspect at a minimum of six-month intervals. **(T-3).**
- 7.1.3.2.7. Some systems, especially electronic components, are bought COTS and do not have PMIs published in the T.O. System. In this event, follow manufacturer recommended maintenance schedules provided in the technical guidance or complete PMIs per the CoM or designee direction. Local work cards may be developed.
- 7.1.3.2.7.1. Work centers must ensure Local Work Cards (LWC), Local Job Guides (LJG), 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 AFI 33-360. **(T-3).**
- 7.1.3.2.8. 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 approved MIS.
- 7.1.3.2.9. Items/assets not in use where the inspection requirements are not governed by AF guidance must be maintained in serviceable condition and available when needed to meet your mission requirements.
- 7.1.3.2.10. Submit waivers to inspection requirements to the HQ AFSPC A4U/A4I for approval.
- 7.1.4. Work center TMDE Management will:
- 7.1.4.1. Implement an effective TMDE program IAW T.O. 00-20-1, 33-K-1-100-1 and 33K-1-100-2.
- 7.1.5. Work center Tools Management will:

7.1.5.1. Implement and effectively manage work center tools for accountability, serviceability and proper usage IAW T.O. 00-25-234. General Shop Practice Requirements for the Repair, Maintenance and Test of Electrical Equipment, T.O. 32-1- 101, Use and Care of Hand Tools and Measuring Tools.

7.1.5.2. For maintenance purposes, tool kits are defined as all government-purchased tools, to include tools provided by government-paid contractor, 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 (i.e., Xcelite kits, drill, sockets kits, eTools, etc.). Use of personally procured tools is NOT authorized.

7.1.5.3. Maintenance Cyber Security Assurance

7.1.5.3.1. Introduction. Maintaining positive cyber hygiene practices of maintenance controlled Platform Information Technology (PIT) is critical to sustaining the maintenance mission. DoDI 8500.01 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 systems.” PIT is the most common IT encountered by maintainers and includes (but is not limited to) eTools, support equipment, and weapon system. The culture of positive cyber security must be fostered by every maintainer, regardless of AFSC or weapon system to ensure mission success.

7.1.5.3.2. 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 maintenance airman, this translates to only using the system as defined by the T.O. (or T.O. equivalent) that governs it.

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

7.1.5.3.2.2. Unauthorized uses for PIT includes 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.

7.1.5.3.3. Malicious Code. Maintenance airman 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 organizations cyber hygiene training and compliance. Remediation is initiated by the discovering airman and involves immediate action by key players in the maintenance and communications organizations as defined in T.O. 33-1-38, *Cyber Security Incident Reporting*.

7.1.5.3.4. 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 Air Force (AF) 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 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).

7.1.5.3.4.1. Organizational CoM will develop guidance on proper cyber hygiene for all personnel utilizing eTools or other PIT. CoM will request base Communication Squadron perform annual assessments of all eTools and PIT to mitigate vulnerabilities and ensure compliance.

7.1.6. Work center Publications Management will:

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

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

7.1.6.1.2. Manage U.S. Air Force Instructions and MAJCOM Instructions IAW AFI 33-360.

7.1.6.1.2.1. Wing-level instructions or policies that impact missions outside the wing's control will be coordinated to HQ AFSPC A4U/A4I for review.

7.1.6.1.3. Manage system technical orders IAW T.O. 00-5-1 and 00-5-1, AFSPC Supplement 1. **(T-2)**.

7.1.6.2. Submit technical order waiver requests with proper justification to HQ AFSPC A4U/A4I. **(T-2)**.

7.1.6.3. Submit requests for permanent changes to prescribed inspection requirements, as well as changes to inspection intervals or concepts, through HQ AFSPC A4U/A4I to the System Sustainment Manager for review and approval.

7.1.7. Work center Software Management will:

7.1.7.1. Implement and effectively manage software accountability for in-garrison and deployed systems.

JOHN H. BONAPART JR., SES, DAF
Director of Logistics, Engineering
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(50SW)

JAMES E. SMITH, Colonel, USAF
Commander

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFCSM 22-556, Vol 2, *Intro to IMDS CDB*, 01 March 2005

AFH 23-123, *Materiel Management Reference Information*, 08 August 2013

AFI 10-201, *Force Readiness Reporting*, 03 March 2016

AFI 10-206, *Operational Reporting*, 11 June 2014

AFI 10-206_AFSPCSUP, *Operational Reporting*, 19 November 2014

AFI 10-60, AFSPCSUP, *Operational Capabilities Requirements Development*, 10 June 2014

AFI 20-114, *Air and Space Equipment Structural Maintenance*, 07 June 2011

AFI 21-101, *Aircraft and Equipment Maintenance Management*, 21 May 2015

AFI 21-103, AFSPCSUP, *Equipment Inventory, Status, and Utilization Reporting*, 26 July 2017

AFI 21-113, *Air Force Metrology and Calibration (AFMETCAL) Management*, 03 June 2016

AFI 32-1065, *Grounding Systems*, 14 June 2017

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AFI 48-137, *Respiratory protection Program*, 12 September 2018

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AFI 63-138, *Acquisition of Services*, 11 May 2017

AFI 90-821, *Hazard Communication (HAZCOM) Program*, 27 January 2014

AFI 91-202_AFSPCSUP, *The USAF Mishap Prevention Program*, 18 November 2016

AFI 91-204, AFSPCSUP, *Safety Investigations and Reports*, 17 December 2018

AFMAN 10-206, *Operational Capabilities Requirements Development*, 18 June 2018

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

AFMAN 33-200, *Cybersecurity Program Management*, 31 August 2015

AFMAN 33-363, *Management of Records*, 01 March 2008

AFMAN 91-203, *AF Occupational Safety, Fire, and Health Standards*, 11 December 2018

AFMAN 91-222_AFSPCSUP, *Space Safety Investigations and Reports*, 18 July 2018

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AFPAM 63-128, *Integrated Life Cycle Management*, 10 July 2014

AFPD 10-9, *Lead Command Designation and Responsibilities for Weapon Systems*, 08 March 2007

AFPD 21-1, *Maintenance of Military Materiel*, 1 August 2018

AFPD 90-8, *Environmental, Safety & Occupational Health Management and Risk Management*, 14 March 2017

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(Added-50SW) AFSPCI 21-108, *Space Systems Maintenance Management*, 18 April 19

AFSPCI 63-138, *Contract Support Services Requirements Approval Process*, 28 December 2017

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DoDD 3230.3, *DOD Support for Commercial Space Launch Activities*, Change 1, 07 March 1988

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T.O. 00-5-1, *AF Technical Order System*, 14 June 2016

T.O. 00-5-3, *AF Tech Order Life Cycle Management*, 01 April 2016

T.O. 00-5-15, *Air Force Time Compliance Technical Order Process*, 22 September 2014

T.O. 00-5-18, *AF Technical Order Numbering System*, 01 October 2015

T.O. 00-20-1, *Aerospace Equipment Maintenance Inspection, Documentation, Policies, and Procedures*, 11 July 2016

T.O. 00-20-2, *Maintenance Data Documentation*, 15 March 2016

T.O. 00-20-14, *Air Force Metrology and Calibration Program*, 30 June 2016

T.O. 00-25-108, *Communications-Electronics Depot Support*, 07 August 2012

T.O. 00-25-234, *General Shop Practice Requirements for the Repair, Maintenance, and Test of Electrical Equipment*, 22 September 2013

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T.O. 00-35D-54, *USAF Deficiency Reporting, Investigating and Resolution*, 01 September 2015

T.O. 1-1-689, *Cleaning and Corrosion Control - Corrosion Program and Corrosion Theory (Vol 1)*, 01 March 2005

T.O. 32-1-101, *Use and Care of Hand Tools and Measuring Tools*, 12 November 2016

T.O. 33-1-27, *Logistic Support of Precision Measurement Equipment*, 17 August 2013

T.O. 33K-1-100-1, *Calibration Procedure for Maintenance Data Collection Codes and Calibration Measurement Summaries*, 30 November 2015

T.O. 33K-1-100-2, *TMDE Calibration Interval, Technical Order and Work Unit Code Reference Guide*, 01 November 2016

Prescribed Forms

(Added-50SW) 50 SW Form 3, *Maintenance Assistance Request Form*

Adopted Forms

AF 847, *Recommendation for Change of Publication*

AF 2001, *Notification of TCTO Kit Requirements*

AF 2005, *Issue/Turn-In Request*

AF Form 2413, *Supply Control Log*

AF Form 3215, *Information Technology/National Security Systems Requirements Document*

AFTO Form 22, *Technical Manual (TM) Change Recommendation and Reply*

Abbreviations and Acronyms

(Added-50SW) 50SCS/SCPA—Maintenance Analysis

(Added-50SW) 50SCS/SCPM—Mission Systems Maintenance

AO—Operational Availability

AoA—Analysis of Alternatives

ACO—Administrative Contracting Office

ACOMS—Air Communications Squadron

ACPINS—Automated Computer Program Identification Number System

AF—Air Force

AFCSM—Air Force Computer Systems Manual

AFI—Air Force Instruction

AFJQS—Air Force Job Qualification Standard

AFLCMC—Air Force Life Cycle Management Center

AFMAN—Air Force Manual

AFMC—Air Force Materiel Command

AFMETCAL—AF Metrology and Calibration

AFNC—AF Network Control Center

AOC—Air Operations Center

AFPAM—Air Force Pamphlet

AFPD—Air Force Policy Directive

AFQTP—Air Force Qualification Training Plan

AFSPC—Air Force Space Command
AFSPCI—Air Force Space Command Instruction
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
CAN—Capabilities Needs Analysis
CC—Commander
CCP—Command Control Point
CDB—Central Database
CDD—Capability Development Document
CFETP—Career Field Education and Training Plan
CFP—Communication Focal Point
CFSCC—Combined Functional Space Component Command
CLM—Command Logistics Manager
CLS—Contractor Logistics Support
CAN—Capabilities Needs Analysis
COCOM—Combatant Command
CoM—Chief of Maintenance
COR—Contracting Officer Representative
CORE—Contract Officer Responsible Evaluator
COTS—Commercial Off The Shelf
CPD—Capability Production Document
CPINS—Computer Program Identification Number System
CSEP—Communications Standardization and Evaluation Program
CSpOC—Combined Space Operations Center
DBM—Database Manager
DECC—Defense Enterprise Computing Center

DIREP—Difficulty Report

DIT—Data Integrity Team

(Added-50SW) DLM—Depot Level Maintenance

DMSMS—Diminishing Manufacturing Sources and Materiel Shortages

DoD—Department of Defense

DPEM—Depot Purchased Equipment Maintenance

DR—Deficiency Report

DRI&R—Deficiency Reporting, Investigation and Resolution

EAE—Equipment Accountability Element

EDD—Estimated Delivery Date

EDLM—Emergency Depot Level Maintenance

EIL—Equipment Inventory List

ESD—Electrostatic Discharge

ESOHMS—Environment Safety and Occupational Health Management System

ESR—Equipment Status Report

(Added-50SW) ESR—Equipment Status Reporting

ETIMS—Enhanced Technical Management System

ETRO—Estimated Time for Return to Operation

(Added-50SW) E-UDLM—Emergency or Urgent Depot Level Maintenance

FOUO—For Official Use Only

FUD—File Update Mode

GIDEP—Government Industry Data Exchange Program

GOTS—Government-Off-The-Shelf

(Added-50SW) GSU—Geographically Separated Units

HAZCOM—Hazardous Communications

HAZMAT—Hazardous Materiel

HPT—High Performance Team

HQ—Headquarters

HQ AFSPC—Headquarters Air Force Space Command

IAW—In Accordance With

ICS—Interim Contractor Support

IG—Inspector General

IMDS—Integrated Maintenance Data System
IPP—Integrated Program Planning
IV&V—Independent Validation and Verification
JCALs—Joint Computer-Aided Acquisition & Logistics Support
JCN—Job Control Number
JDD—Job Data Documentation
JDRS—Joint Deficiency Reporting System
JQS—Job Qualification Standard
LCL—Local Checklist
LCSE—Life Cycle Systems Engineering
LJG—Local Job Guide
LCSP—Life Cycle Sustainment Plan
LIONS—Logistics Information and Operations Network System
LWC—Local Work Card
LRDP—Logistics Requirements Determination Process
LRS—Logistics Readiness Officer
LRU—Line Replaceable Units
LWC—Local Work Cards
(Added-50SW) M/A—Maintenance Assistance
MAJCOM—Major Command
MDC—Maintenance Data Collection
MDD—Maintenance Data Documentation
MDS—Mission Design Series
MICAP—Mission Capability
MIPRB—Materiel Improvement Program Review Board
MIR—Maintenance Indicator Report
MIS—Maintenance Information System
(Added-50SW) MIS—Mission Information System
MMA—Maintenance Management Analysis
MOA—Memorandum of Agreement
MOC—Maintenance Operations Center
(Added-50SW) MOC—Mission Operations Center

MOI—Maintenance Operating Instruction

MPTO—Methods and Procedures Technical Order

(Added-50SW) MRSP—Mobil Readiness Spares Package

MRT—Mean Repair Time

MS—Mission Support

MTBF—Mean Time Between Failure

MTBSM—Mean Time Between Scheduled Maintenance

MTBUM—Mean Time Between Unscheduled Maintenance

MTTR—Mean Time To Repair

NAF—Numbered Air Force

(Added-50SW) NIPR—Non-Classified Internet Protocol Router Network

NMC—Non-Mission Capable

NOG/CC—Network Operations Group Commander

OG/CC—Operations Group Commander

OI—Organizational Instruction

OJT—On the Job Training

OL—Operating Location

O&M—Operations and Maintenance

OPR—Office of Primary Responsibility

OPREP—Operations Report

(Added-50SW) OPSCAP—Operational Capability

OSHA—Occupational Safety and Health Act

OSSE—Operational Safety, Suitability, and Effectiveness

PAT—Process Action Team

PCO—Procurement Contracting Officer

PDM—Programmed Depot Maintenance

PEM—Program Element Monitor

PEO—Program Executive Officer

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
PP—Performance Plan
PQDR—Product Quality Deficiency Report
PSM—Program Support Manager
PWS—Performance Work Statement
QA—Quality Assurance
QAR—Quality Assurance Representatives
QASP—Quality Assurance Surveillance Plan
QPA—Quantity Per Application
R&M—Reliability & Maintainability
RAM—Reliability, Availability, and Maintainability
RDS—Records Disposition Schedule
REMIS—Reliability and Maintainability Information System
RFA—Request For Assistance
RP—Real Property
RPIE—Real Property Installed Equipment
RSP—Readiness Spares Package
(Added-50SW) SAFB—Schriever Air Force Base
SBSS—Standard Base Supply System
SE—Sustaining Engineering
(Added-50SW) SIPR—Secret Internet Protocol Router Network
SITREP—Situation Report
SLR—Space Logistics Review
SMC—Space and Missile Systems Center
SMR—Source Maintainability and Recoverability
SO—Support Officer
SOW—Statement of Work

SPM—System Program Manager
SPO—System Program Office
SPOCO—Single Point of Contact Office
SSM—System Sustainment Manager
STP—System Training Plan
SW—Space Wing
SWG—Space 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—Turn-In
UCI—Unit Compliance Inspection
UDLM—Urgent Depot Level Maintenance
UF—Usage Factor
UJC—Urgency Justification Code
(Added-50SW) UJC—Unit Justification Code
UMD—Unit Manning Document
UND—Urgency of Need
UTC—Unit Type Code
US—United States
USAF—United States Air Force
U&TW—Utilization and Training Workshop
WSS—Weapon System Sustainment

Terms

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

Approval—Approval signifies AFSPC approval/acceptance/coordination IAW AFSPC instructions and Memorandum of Agreements.

Combatant Command (COCOM)—Nontransferable authority established by Title 10, United States Code, Section 164, exercised only by commanders of unified or specified combatant commands. COCOM (command authority) is the authority of a Combatant Commander to perform those functions of command over assigned forces involving organizing and employing commands and forces, assigning tasks, designating objectives, and giving authoritative direction over all aspects of military operations, joint training, and logistics necessary to accomplish the missions assigned to the command.

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 USAF requirements. This includes such activities as contract negotiation and business clearance, as delegated by SMC 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.

Independent Validation and Verification (IV&V)—An independent technical review performed by an organization that is technically, managerially, and financially independent of the development organization.

Insight—The Government gaining an understanding of the contractor's progress to meet their contract's requirements through watchful observation.

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.

Mission Support (MS)—MS personnel (e.g., communications, intelligence, safety personnel) who provide critical mission support, designated by the organization commander, will be certified in their unique duty requirements. In these cases, the organization commander will determine certification requirements. At a minimum, the certification requirements must include: an annual training plan identifying applicable job requirements, recurring training requirements, procedures for placement on/removal from restricted status, and procedures for decertification/recertification. The organization commander or next senior commander or deputy in the operational chain of command certifies the individual.

Observation—Direct Government observation of the execution and recording (if applicable) 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.

Operational Safety, Suitability, and Effectiveness (OSS&E)/Mission Assurance—Process for establishing and preserving the safety, suitability, and effectiveness of Air Force systems and end-items over the entire operational life by preserving technical integrity via prudent use of disciplined engineering practices, assurance of proper operations and maintenance, effective supply systems, and field utilization and maintenance trends feedback to systems program offices.

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

Performance Plan (PP)—Wing service contracts subject to delegations/support requests operate under PPs. This plan describes how contractor performance will be measured and assessed against performance standards. The PP should also outline the acceptance process and state how acceptance of services will occur and describe how performance results will be captured and documented so that the data gathered can later serve as past performance information.

Public Safety—Safety involving risks to the general public of the United States or foreign countries and/ or their property.

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.

Real Property Installed Equipment (RPIE)—Government-owned or leased support equipment, apparatus and fixtures that are essential to the function of the real property and permanently attached to, integrated into or on Government-owned or leased property.

Resource Safety/Protection—The protection of Air 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 Air Force 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 SPM.

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, e.g., 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/Words of Wisdom
 - 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

Attachment 3 (Added-50SW)**MAINTENANCE PART REQUEST TEMPLATE****Table A3.1. (Added-50SW) Maintenance Part Request Template.**

MAINTENANCE PART REQUEST TEMPLATE 1. Site: 2. Side: 3. Current OPSCAP: 4. Equipment Outage JCN/OCN: 5. Discrepancy: 6. Nomenclature of part: 7. NSN: 8. Part No: 9. Unit Cost: 10. Exchange Cost: 11. Work Unit Code (WUC): 12. Technical Order: Figure: Index: 13. Source Maintenance and Recoverability (SMR) Code: 14. Additional Information if required:
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