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SECRETARY OF THE AIR FORCE**

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Health Services

**MANAGING CLINICAL ENGINEERING
PROGRAMS**

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This publication implements the Clinical Engineering support policy in Air Force Policy Directive (AFPD) 41-2, *Medical Support*. The Clinical Engineering program combines Medical Equipment Maintenance, Electrical Safety, and Facility Management to ensure efficient, effective, and coordinated technical services to support the United States Air Force Medical Service (AFMS). This instruction applies to all Air Force (AF), Air Force Reserve Command (AFRC) and Air National Guard (ANG) medical activities. It prescribes requirements for management of Clinical Engineering Programs in Air Force Military Treatment Facilities (MTFs). The Clinical Engineering Program includes Medical Equipment Maintenance, Electrical Safety, and Facility Management. Note: For Medical Wings, references to Medical Logistics Flight Commander (MLFC) and Medical Support Squadron Commander shall be interchanged with Medical Logistics Squadron Commander and Medical Support Group Commander when applicable. For ANG Chemical, Biological, Radiological, Nuclear and High-Yield Explosive

Enhanced Response Force Package (CERFP) units, references to Medical Logistics Flight Commander (MLFC) and Medical Support Squadron Commander shall be interchanged with Medical Administrator Officer and Medical Group Commander. This AFI may be supplemented at any level, but all supplements will be routed to the Air Force Medical Operations Agency, Medical Logistics Division (AFMOA/SGAL), 693 Neiman Street, 1st Floor, Fort Detrick, MD 21702 (email: usaf.detrick.afmoa.mbx.sgalo-mtf-ops-support@mail.mil) for coordination prior to certification and approval. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using AF Form 847, *Recommendation for Change of Publication*; route AF Form 847s from the field through Major Command (MAJCOM) Publications/Forms Managers. The authorities to waive wing/unit level

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SUMMARY OF CHANGES

This publication has been substantially revised and must be reviewed in its entirety. It has been revised to provide a clearer understanding of responsibilities. **Chapters 2** and **3** have been rewritten to clarify responsibilities of local Medical Maintenance activities and regional Medical Equipment Repair Centers (MERCs). **Chapter 5** has been revised to follow requirements of The Joint Commission (TJC) accreditation manuals and other regulatory guidance.

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Chapter 1

RESPONSIBILITIES

1.1. The Air Force Medical Operations Agency.

1.1.1. Medical Logistics Division, Clinical Engineering Branch (AFMOA/SGALE), in coordination with Air Force Medical Support Agency, Health Facilities Division (AFMSA/SG8F) will:

1.1.2. Develop policy and guidance for Air Force (AF) Clinical Engineering Programs.

1.1.3. Manage the Medical/Dental Investment and Capital Equipment Programs.

1.2. Military Treatment Facilities (MTFs).

1.2.1. MTF Commander will establish a Clinical Engineering Program to ensure a safe environment for patients, staff, and visitors in accordance with (IAW) AF directives and appropriate civilian accrediting and regulatory agencies. (T-0).

1.2.2. Medical Maintenance will document all work requests and new equipment request package evaluations, account for time, by opening work orders, travel, research, parts ordering, customer in/out brief, and training in Defense Medical Logistics Standard Support (DMLSS). (T-1).

Chapter 2

MEDICAL EQUIPMENT MAINTENANCE PROGRAM

2.1. Purpose.

2.1.1. The MTF Medical Maintenance program ensures medical equipment is serviceable, safe, and properly configured to meet peacetime and wartime missions of the medical service.

2.2. Responsibilities.

2.2.1. These responsibilities are furnished as minimum requirements and are not intended to limit management functions to the areas listed.

2.2.2. The Clinical Engineer or senior Biomedical Equipment Technician (BMET) will:

2.2.2.1. Develop an Equipment Management Plan IAW applicable standards of The Joint Commission (TJC). (T-0).

2.2.2.2. Ensure the Maintenance Management Report (MMR) is reviewed monthly and provided to the MLFC for signature. (T-3).

2.2.2.3. Conduct an annual self-inspection. (T-3).

2.2.2.4. Review maintenance contracts IAW contracting timelines prior to the expiration or renewal date. Review will validate the need to continue or modify level of service required to augment existing maintenance capabilities. (T-3).

2.2.3. Medical Maintenance will perform medical equipment maintenance and enter complete historical maintenance data into DMLSS including contract maintenance IAW AFMAN 41-216. (T-0).

2.2.4. Equipment operators will:

2.2.4.1. Use only authorized equipment inspected by the medical equipment maintenance activity. (T-0).

2.2.4.2. Perform operator maintenance specified in the operator's manual. (T-1).

2.2.4.3. Immediately report equipment malfunctions or damage to the medical equipment maintenance activity. (T-0).

2.2.4.4. Ensure medical maintenance inspection label affixed to equipment is up-to-date before use on a patient. (T-2).

2.2.4.5. Immediately impound equipment and consumables involved in an incident and notify the medical equipment maintenance activity. (T-0).

2.2.4.6. Clean equipment in compliance with infection control policies prior to delivery to medical equipment maintenance activity. (T-3).

2.3. Manual Work Order/Continuity of Operations Procedures.

2.3.1. Medical Maintenance without DMLSS will use AF Form 1763, *Medical Maintenance Manual Work Order*, to record the work request and document the action taken. Medical

Maintenance transcribes repair data and any changes in the condition code of the repaired item to the appropriate AF Form 509, *Medical Equipment Maintenance Record*. (T-2).

2.3.2. Medical Maintenance will use a work order register to assign work order numbers and manage unscheduled work orders. The work order register will include work order number, item description, using activity, equipment control number, status, and date completed. (T-2).

2.3.3. Medical Maintenance will assign a twelve-digit work order number composed of the current eight-position date (YYYYMMDD), followed by a four-position serial number assigned from 0001 to 9999. (T-2).

2.3.3.1. Transfer all maintenance information recorded on AF Form 1763 into DMLSS or onto AF Form 509. (T-3).

2.4. Supporting Air Force Reserve Command (AFRC) and Air National Guard (ANG).

2.4.1. AFRC and ANG Medical Maintenance activities and aeromedical evacuation squadrons that are authorized and assigned Air Force Specialty Code (AFSC) 4A2X1 or equivalent contract personnel, will perform organizational maintenance support for the CERFP units, ANG Consolidated Storage and Distribution Centers (CSDC), and Guard Medical Units (GMU's). All maintenance actions will be documented IAW paragraphs 2.2.3 and 2.3. (T-0).

2.4.2. Medical Maintenance support will be provided as follows to AFRC and non-mobilized, non-contracted ANG Medical Maintenance activities and aeromedical evacuation squadrons not authorized or assigned AFSC 4A2X1 personnel:

2.4.2.1. Activities should request organizational Medical Maintenance support for medical equipment from the closest active component AF MTF. This type of support requires a written support agreement IAW AFI 25-201, *Intra-Service, Intra-Agency, and Inter-Agency Support Agreements Procedures*.

2.4.2.2. Activities will inform the regional Medical Equipment Repair Center (MERC) of pending equipment purchases that will require MERC support. (T-3).

2.4.2.3. The regional MERC provides organizational maintenance support as defined in **Chapter 3** of this instruction for activities outside the immediate area of a local active component AF MTF, or if manpower or equipment limitations prevent the nearest active component facility from providing support. The MERC performs annual Preventive Maintenance (PM), calibration, repair, safety, and administrative support. (T-1).

2.4.2.4. MERC train AFRC and ANG 4A2X1 personnel as required on equipment maintenance so it can be safely operated during interim periods. In addition, the MERC provides technical assistance on new equipment systems. (T-1).

2.5. Supporting U.S. Army Veterinary Services.

2.5.1. Units located on AF installations are supported by the local medical equipment maintenance activity IAW the Memorandum of Understanding (MOU) established between the Army and AF. A copy of the MOU can be found on the Air Force Medical Logistics (AFML) website <https://medlog.us.af.mil/>. (T-1).

2.6. Supporting Aeromedical Evacuation and Patient Movement Items Units.

2.6.1. The host medical equipment maintenance activity performs organizational maintenance on equipment at active component Aeromedical Evacuation (AE) and Patient Movement Items (PMI) units on their base. (T-1).

2.6.2. The medical equipment maintenance activity will ensure AF Form 4033, *PMI/AE Certification Label*, is affixed to each AE or PMI medical equipment item certified for flight. A listing of model specific equipment items certified for flight can be found on the AFML website. (T-1).

2.6.3. Enroute Care Equipment Incidents. Users will tag equipment that malfunctions during a mission with an approved AE mishap tag prior to acceptance into the maintenance activity. Medical Maintenance will perform an incident investigation IAW AFI 10-2909, *Aeromedical Evacuation Equipment Standards*. (T-0).

2.6.4. During maintenance of PMI equipment, the servicing Medical Maintenance activity will coordinate with the closest PMI center to verify equipment owner, ensure the equipment location is current in the tracking system, and provide the most recent calibration date for update in the tracking system. (T-1).

2.6.5. The closest capable Medical Maintenance activity will perform corrective maintenance required for equipment being used on a patient mission. The Medical Maintenance activity will open a work order in DMLSS and forward a copy upon completion to the owning activity. (T-1).

2.7. Supporting Medical Equipment Not Owned by the MTF. Medical equipment not owned by the MTF includes equipment not on DMLSS accountable record such as staff-owned, patient-owned, and privately-owned items, and medical equipment on accountable record with a DoD or Federal agency other than the AF. Medical equipment not owned by the MTF will remain in the custody of the owner or the owner's legal representative while in the MTF. (T-0).

2.7.1. When a medical equipment item not owned by the MTF is in the MTF for 30 days or more, MEMO will gain the item in DMLSS with acquisition cost of one cent for maintenance tracking only, and Medical Maintenance follow acceptance procedures IAW paragraph 2.10. (T-1) When a medical equipment item not owned by the MTF is in the MTF less than 30 days, follow only paragraphs 2.10.1.1. and 2.10.1.2. (T-1).

2.7.2. MEMO will maintain a list of all medical equipment not owned by the MTF. (T-3).

2.7.3. Medical Maintenance will conduct initial operational/safety inspections and calibration verification of equipment to ensure compliance with appropriate safety, performance standards, and manufacturer's literature before using for patient care. The equipment owner is responsible for equipment maintenance and repair. (T-0).

2.8. Supporting War Reserve Materiel (WRM).

2.8.1. Medical Maintenance will:

2.8.1.1. Maintain WRM equipment in a peacetime environment. Contracted WRM maintenance does not relieve the local Medical Maintenance section of responsibility for assigned WRM equipment. Medical Maintenance will validate maintenance performed, monitor IAW contract terms, and report findings to the Expeditionary/Contingency

Medical Materiel (ECMM) support contract Contracting Officer's Representative (COR). (T-0).

2.8.1.2. Follow the guidance in AFI 10-403, *Deployment Planning and Execution*, and AFMAN 24-204, *Preparing Hazardous Materials for Military Air Shipments*, when mobilizing and transporting WRM. (T-1).

2.8.1.3. Report unserviceable WRM equipment, that may limit the operational capability of a project, to the WRM Non-Commissioned Officer In Charge (NCOIC), for notation on the monthly WRM materiel availability percentage report submitted to Medical Readiness. (T-1).

2.8.1.4. Perform acceptance inspection immediately upon equipment receipt and required maintenance thereafter at the frequency dictated by medical device code. (T-0).

2.8.1.5. Ensure ancillary support equipment such as power distribution systems, environmental control systems, and other applicable real property equipment is operational and in good condition, see AFI 32-1062, *Electrical Systems, Power Plants, and Generators*, and AFI 25-101, *Air Force War Reserve Materiel (WRM) Program Guidance and Procedures*. (T-1).

2.8.1.6. Create and maintain an individual Equipment Data File (EDF) for each medical WRM equipment item, hard copy or electronic files are acceptable. (T-0).

2.8.1.7. Maintain EDFs for mobility assemblages in a deployable mode. (T-2).

2.8.1.8. Store/pack technical literature for equipment in WRM assemblages in either electronic or hardcopy format in deployable mode. (T-2).

2.8.1.9. Charge repair parts and repairs to WRM equipment, not being used in exercises, to the WRM stock fund IAW AFI 41-209. (T-2).

2.9. Pre-Purchase Evaluation and Selection of Medical Equipment.

2.9.1. Medical Maintenance will evaluate and document equipment requirements IAW AFI 41-209 and the *Medical Logistics Guide (MLG)* which can be found on the AFML website.

2.9.2. MEMO will include a requirement for two copies of operators' manuals and one copy of the service manual for all medical equipment purchases, in either hardcopy or electronic format. (T-0).

2.9.3. Manufacturer training purchased in conjunction with the equipment procurement will be completed within 12 months of equipment acceptance. If training is not completed within the 12 month period, funds will be de-obligated. (T-0).

2.9.4. Maintenance Support. The local medical equipment maintenance activity determines if it can maintain the equipment in-house or if Precision Measurement Equipment Laboratory (PMEL), depot, MERC, or contract maintenance is required.

2.9.5. If the maintenance activity does not have the necessary skills or resources in-house, the activity determines what specialized training, space, and test equipment is required.

2.9.6. Tuition cost for maintenance training, required test equipment, and required calibration software should be included in the acquisition of the equipment when the equipment is being centrally procured by AFMOA.

2.9.7. Analyze all factors when determining whether or not contract maintenance is required. In some cases, contract maintenance services are more readily available, or more economical, than the maintenance activity can offer. Medical equipment requiring Readiness Skills Verification (RSV) should not be contracted. Every attempt will be made to train local MTF personnel to maintain RSV equipment.

2.9.8. All maintenance contracts will be reviewed by the NCOIC or equivalent of the Medical Maintenance activity as required by contracting office timelines prior to the expiration or renewal date of the contract. This review will validate the need to continue the existing service or modify the level of service needed to augment existing maintenance capabilities.

2.10. Acceptance Inspection. Medical Maintenance will:

2.10.1. Inspect all newly procured, leased, loaned, or consigned medical equipment before issuing the item to a using activity. (T-0) For medical equipment not owned by the MTF, see paragraph 2.7.1.

2.10.2. Use the acceptance checklist found in the Clinical Engineering Guide. (T-3).

2.10.3. Ensure item was delivered without damage, operates according to the manufacturer's specifications, and complies with applicable safety and performance standards. (T-0).

2.10.4. Document identification data, electrical safety inspection results, measurements of performance and calibration parameters or vendor calibration documentation on the work order or an appropriate calibration form. (T-0).

2.10.5. Ensure that an Authorization To Operate (ATO) and Authorization To Connect (ATC), if applicable, has been granted for the medical device/system before use on AF or Defense Health Agency (DHA) networks. (T-3).

2.10.6. Review the relevant contracts and literature for warranty provisions. (T-0).

2.10.7. Complete the warranty registration data, if applicable, and forward to the manufacturer. Device tracking requirements of the Food and Drug Administration Modernization Act (FDAMA) of 1997 may require devices to be registered as part of the warranty process. (T-0).

2.10.8. Affix an Equipment Control Number (ECN) tag to each item for identification and accountability. (T-0).

2.10.9. Verify accurate quality assurance data is loaded into DMLSS. (T-0).

2.10.10. Ensure DMLSS reflects the proper medical device code for the item. (T-0).

2.10.11. Establish an EDF in ECN sequence as prescribed in paragraph 2.27 of this instruction. (T-0).

2.10.12. Place a copy of the warranty registration, the acceptance inspection work order, and acceptance checklist in the EDF. (T-0).

2.10.13. File all technical literature IAW 2.28. (T-0).

2.10.14. Determine and acquire repair parts as appropriate. (T-3).

2.10.15. Analyze maintenance requirements IAW paragraphs 2.9.7 and 2.9.8. (T-3).

2.11. Scheduled Maintenance.

2.11.1. AFMOA/SGAL establishes minimum scheduled maintenance requirements based on the manufacturer's recommended frequencies, area of use (MTF vs. WRM), and risk assessment.

2.11.1.1. Medical Maintenance perform scheduled maintenance at these minimum frequencies but are authorized to increase scheduled frequencies when local circumstances/environmental factors warrant. (T-1).

2.11.1.2. Medical Maintenance activities may not reduce intervals without the written approval of AFMOA/SGALE. Coordinate any approved reduction through your local committee responsible for environment of care. (T-0).

2.11.2. Equipment designated and permanently marked "for training use only" does not require scheduled maintenance.

2.11.3. Work order procedures. When malfunctions are detected during scheduled maintenance, corrective measures will be taken and parts replaced, if necessary. Corrective actions will be documented on the scheduled work order or an unscheduled work order can be opened to capture the corrective actions. (T-2).

2.11.4. Repair parts. Repair parts used will be documented on the scheduled or unscheduled work order. (T-3).

2.11.5. When an equipment item, such as fixed or hard wired devices that cannot physically be removed from the area of service, fails to meet the appropriate safety standards, affix an AF Form 979, *Danger Tag*, to the equipment until the problem is corrected IAW Title 29 Code of Federal Regulations (CFR), Section 1910.145. Adhere to local lockout/tag-out procedures as applicable. (T-0).

2.11.5.1. Medical Maintenance will notify the department chief and safety officer about the danger tag, see AFI 91-203, *Air Force Consolidated Occupational Safety Instruction*, for the proper use of mishap prevention tags. (T-1).

2.11.5.2. Medical Maintenance will remove the item from use and makes every effort to replace the defective equipment with a similar item that meets the safety standards. (T-0).

2.11.5.3. If no alternatives exist and the medical staff determines, the equipment will remain in service for the patient, the Medical Maintenance will document the decision and immediately remove the equipment from service when replaced or no longer needed. (T-0).

2.11.6. During scheduled maintenance, Medical Maintenance will verify the accuracy of all DMLSS data entries (model, manufacturer, serial number, etc.) and update the condition code as applicable. (T-2).

2.11.7. Medical Maintenance will document all calibration data on the appropriate form or worksheet and maintain in the hardcopy EDF, electronic EDF, or DMLSS as appropriate. (T-1).

2.11.8. Medical Maintenance personnel performing scheduled maintenance procedures will affix to the equipment item a DD Form 2163, *Medical Equipment Verification/Certification*, or locally developed form approved by AFMOA/SGALE. (T-1).

2.11.9. Equipment that has potential to be used in a Tri-Service environment including AE, PMI, and WRM will have DD Form 2163 affixed after completing scheduled maintenance. (T-1)

2.11.10. Medical Maintenance will ensure Test, Measurement, and Diagnostic Equipment (TMDE) used for calibration/certification of medical equipment is calibrated IAW manufacturers' specifications, and Technical Order (TO) 33K-1-100-1, *Technical Manual Calibration Procedure for Maintenance Data Collection Codes and Calibration Measurement Summaries*. TMDE that PMEL cannot calibrate or certify, will be certified by the manufacturer or other entity using standards traceable to the National Institute of Standards and Technology (NIST). Items returned by PMEL with limited calibration (indicated by a yellow TMDE Certification Label) require user acknowledgement by initialing the label in the appropriate block IAW TO 00-20-14, *Air Force Metrology and Calibration Program*. (T-0).

2.12. Unscheduled Maintenance and Repair.

2.12.1. If the repair involves ordering repair parts, Medical Maintenance will list all required parts on the work order and enter this information into DMLSS. (T-2).

2.12.2. If unscheduled maintenance affected any electrical components of the equipment item, complete an electrical safety check IAW [Chapter 4](#) of this AFI. (T-0).

2.12.3. BMETs who perform unscheduled maintenance on fixed/installed equipment follow local lockout/tag-out policies and procedures as applicable. (T-0).

2.12.4. Medical Maintenance activities with manual systems will document the part needed on the manual work order, order it through normal supply channels, and establish a method to monitor the status of work orders awaiting parts. (T-2).

2.13. Accounting for Repairable Property.

2.13.1. Each item will be tagged with one of the following: work order, AFTO Form 350, *Repairable Item Processing Tag*, or locally developed/procured form. (T-2).

2.13.2. Medical Maintenance will maintain a current log of items returned to contractor for repair. (T-2).

2.14. Reporting and Review of Equipment Maintenance.

2.14.1. Medical Maintenance will establish a list of critical medical equipment and have it approved by the MLFC. (T-0).

2.14.2. Medical Maintenance will immediately report failure of critical medical equipment to the MLFC. (T-3).

2.14.3. The Medical Maintenance supervisor will review equipment awaiting repair or repair parts for more than 30 days to determine the cause of the delay and ensure corrective action is taken. (T-3).

2.14.4. The Medical Maintenance supervisor will review MMR monthly and will provide the MMR to the MLFC for signature. (T-1).

2.14.5. Medical Maintenance will retain the annotated reports for two years IAW AFRDS Table 41-04, Rule 31.00. (T-1).

2.15. Equipment Turn-Ins.

2.15.1. Medical Maintenance will use the turn-in checklist found in the Clinical Engineering Guide. (T-3).

2.15.2. Medical Maintenance will determine serviceability of turned in equipment by inspection and review of maintenance history. (T-2).

2.15.3. Medical Maintenance will tag the item with DD Form 1574, *Serviceable Tag-Materiel* (Yellow), DD Form 1577, *Unserviceable (Condemned) Tag-Materiel* (Red), or DD Form 1577-2, *Unserviceable (Repairable) Tag-Materiel* (Green). Federal condition codes can be found at: <http://dispositionservices.dla.mil/sales/Documents/Sales/federalconditioncodes.pdf>. (T-2).

2.15.4. Medical Maintenance will include excess service literature, benchstock parts, test equipment, and the EDF when the equipment is advertised in TRIMEDS. Excess parts will be turned in IAW paragraph 2.30.7. (T-2).

2.15.5. Medical Maintenance activities may cannibalize or disassemble excess or unserviceable medical equipment for serviceable parts or components and gain into bench stock as required. (T-2).

2.15.6. Medical Maintenance will report unserviceable PMI equipment to AMC/Surgeon General, Readiness Logistics (SGXM). (T-2).

2.15.7. Prior to sending equipment to Defense Logistics Agency-Disposition Services (DLA-DS), Medical Maintenance will destroy the EDF and remove all Protected Health Information (PHI) IAW paragraph 2.22.5. (T-2).

2.16. Maintaining X-Ray Systems.

2.16.1. Medical Maintenance will:

2.16.1.1. Perform all required maintenance, system calibrations, and Post Calibration Radiation Inspections (PCRI) on x-ray systems according to OEM service manual. If local resources are insufficient or not available, contact regional MERC for necessary support as applicable. (T-0).

2.16.1.2. Maintain records and images supporting all system maintenance in the EDF. (T-0).

2.16.1.3. Report equipment malfunctions, which affect the ability to calibrate, to the regional MERC prior to any scheduled visit. (T-3).

2.16.1.4. Shadow MERC technician(s) during the performance of requested services to provide valuable training to local Medical Maintenance BMETs for future performance of maintenance actions. (T-0).

2.16.2. MERC will:

2.16.2.1. Oversee the calibration of diagnostic x-ray systems for bases within their region and performs PCRI on all x-ray systems not performed locally. (T-2).

2.16.2.2. Annually assess local Medical Maintenance compliance with current maintenance and calibration/certification standards. Level of assessment will be determined by the regional MERC based on prior site visits, documentation review, needs assessment, and local Medical Maintenance training levels, as required. (T-2).

2.16.3. ECN/Serial Number Control of X-Ray Systems. AF activities will establish serial number control of the following major components: tube housing assemblies, x-ray controls, x-ray high voltage generators, transformers, collimators, tables, cradles, film changers, chest stands, fluoroscopic imaging assemblies, spot film devices, image intensifiers, cephalometric devices, image receptor support devices for mammographic x-ray, and other components such as video monitors, video camera recorders, film cameras, cine cameras, and digital systems. Control will be established using procedures in AFMAN 41-216, *Defense Medical Logistics Standard Support (DMLSS) User's Manual*. (T-1).

2.17. Certification of X-Ray Systems.

2.17.1. Medical Maintenance will ensure all components of diagnostic medical x-ray systems (which includes dental x-ray systems) are certified by the Food and Drug Administration (FDA), Department of Health and Human Services, and Center for Devices and Radiological Health (CDRH), IAW 21 CFR, Parts 1000 and 1020. (T-0).

2.17.2. Medical Maintenance will install, certify, maintain, and repair medical x-ray systems IAW 21 CFR, Part 1020, *Radiological Health*, and the manufacturer's instructions. Personnel who install, adjust, and test diagnostic x-ray systems or their major components, are classified as assemblers under the provisions of 21 CFR, Part 1020. Within the AF, personnel holding AFSC 4A251/71/91, or civilian equivalents may act as assemblers. (T-0).

2.17.3. Individuals who install x-ray equipment under contract with the government or under control of a prime contractor are considered assemblers and are subject to the provisions of 21 CFR, Part 1020. (T-0).

2.17.4. AF assemblers installing equipment within the region of applicability (50 United States and its territories) will send the original (white copy) of FDA Form 2579, *Report of Assembly of a Diagnostic X-ray System*, within 15 days to Center for Devices and Radiological Health Document Mail Center–WO66-G609, 10903 New Hampshire Avenue, Silver Spring, MD 20993-0002. The state agency copy (yellow or electronic copy) will be forwarded to AFMOA/SGAL, within 30 days of the installation. Medical Maintenance will retain the pink copy in the EDF for the x-ray system. (T-0).

2.17.5. Contractor assemblers installing equipment will provide the original FDA Form 2579 directly to the CDRH within 15 days of installation, and give the purchaser copy (pink copy) to the MTF to file in the EDF in the medical equipment maintenance activity. (T-0).

2.17.5.1. The medical equipment maintenance activity forwards a duplicate copy (carbon or reproduction) of FDA Form 2579 to AFMOA/SGAL within 30 days of installation. (T-0).

2.17.5.2. MTFs located Outside Continental United States (OCONUS) not a US State or Territory will ensure Medical Maintenance or contractor prepares FDA Form 2579 to be forwarded to AFMOA/SGALE when they install a certified component. (T-0).

2.17.5.3. When a contractor does not complete the FDA Form 2579, the senior member of the military acceptance team completes and signs the form. Annotate on the form the name of the company responsible for the installation. (T-0).

2.17.5.4. The medical equipment maintenance activity retains a copy of FDA Form 2579 until all components listed on it have been relocated, transferred to another facility, or removed from service. (T-0).

2.17.5.5. Assemblers who reinstall certified component systems when the systems are relocated or transferred, or who replace or add certified components to an existing system, will provide AFMOA/SGALE with FDA Forms 2579 as prescribed previously in this paragraph. X-ray tube heads are an exception to this requirement. (T-0).

2.18. Radiation Surveys.

2.18.1. A properly qualified health physicist or Bioenvironmental Engineer (BEE), IAW AFI 48-148, *Ionizing Radiation Protection*, will conduct a complete radiation protection survey before new x-ray facilities are opened for use. (T-0).

2.18.2. When replacing x-ray equipment with similar capabilities and workloads, the health physicist or BEE evaluates shielding effectiveness, and can approve interim use of the facility until the survey is completed. (T-0).

2.18.3. Radiation protection surveys will be included as part of the facility construction/modification contract or requested through BEE. (T-0).

2.18.4. Post installation radiation survey will be completed within 90 days of the acceptance date. (T-0).

2.18.5. Any discrepancies in the radiation surveys, that may be attributable to the manufacturer, are referred immediately to the manufacturer through the contracting agency. (T-0).

2.18.6. For radiation surveys or acceptance inspection of devices that produce ionizing radiation, contact the appropriate regional medical physics support activity IAW AFI 48-148. (T-0).

2.18.7. Notify the base radiation safety officer when replacing any major component of an x-ray system IAW 21 CFR, Part 1020. The radiation safety officer will make the determination whether a radiation protection survey is needed. (T-0).

2.18.8. File copies of the radiation protection survey and/or post installation radiation survey in the EDF, the workplace case folder maintained by BEE, and the radiology department. The preparer furnishes additional copies of such reports to the regional MERC and AFMOA/SGALE. (T-0).

2.18.9. Medical Maintenance activities document in DMLSS all steps taken to resolve the discrepancies noted on radiation surveys. (T-0).

2.18.10. Medical Maintenance activities forward a letter to the regional MERC and AFMOA/SGALE, indicating they took corrective action within 45 days of receiving the report. The Medical Support Squadron commander signs the letter and includes information from Radiology, the BEE, and Medical Maintenance, as appropriate. Medical Maintenance will file a copy in the EDF. (T-0).

2.19. Modifying Medical Equipment.

2.19.1. A modification is a change in the design or assembly of an item to meet revised specifications, correct defects, or improve performance.

2.19.2. AF/SG may authorize modification of medical devices to correct design deficiencies, increase the equipment's effectiveness, increase the equipment's useful life, provide greater safety for patients and equipment operators, and reduce excessive maintenance. If the MTF commander determines a medical device modification is needed, an email requesting AF/SG approval of the modification, with photos or drawings if needed, may be sent to: AFMOA.SGAL.taskmanagement@us.af.mil. (T-0).

2.19.3. Medical Maintenance will not modify or alter medical devices in a way that changes the item's essential characteristics or compromises its compliance with manufacturer's specifications and Federal standards, unless authorized or directed by the HQ USAF/SG. (T-0).

2.19.4. AFMOA/SGALE issues hazard alert messages if equipment requires emergency modifications.

2.19.5. Medical Maintenance will accomplish all directed modifications within prescribed time limits and IAW the specific modification instructions. (T-0).

2.19.6. At the discretion of the MTF commander, Medical Maintenance may make minor equipment modifications to meet local operating needs, and when such modifications do not change the essential characteristics, manufacturers' specifications, or Federal standard compliance of the item. Medical Maintenance may not perform modifications that may introduce a potential electrical or other safety hazard, even if the modification is considered minor. (T-0).

2.20. Documenting Medical Equipment Modifications.

2.20.1. Medical Maintenance will document all modifications in DMLSS. Document modifications at non-automated accounts by annotating on AF Form 509. Medical Maintenance will keep all modification work orders in the EDF throughout the life of the item. (T-0).

2.20.2. Software updates. Manufacturer directed/provided updates not required as part of scheduled maintenance will be entered in DMLSS by creating an unscheduled modification work order. Equipment notes and work order notes will be updated with the current version and date of update. (T-0).

2.21. Food and Drug Administration Modernization Act (FDAMA) of 1997, 21 United States Code (USC) Sec. 201-217.

2.21.1. The FDAMA, formerly Safe Medical Device Act (SMDA), requires manufacturers to track some implantable devices and some equipment that can be used outside the MTF, see

<http://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/GuidanceDocuments/ucm071756.htm>

2.21.1.1. Medical Maintenance will provide data for equipment items (non-implantable) on the FDA traceable devices listed at the above website. Periodically review the above website for additions or deletions to the required traceable devices. Currently, these equipment items include breathing frequency monitors, continuous ventilators, ventricular bypass (assist) devices, and DC-defibrillators and paddles. (T-0) Specific actions required include:

2.21.1.2. Notify manufacturer when a traceable device is brought on record. Registering medical devices with the manufacturer during the acceptance inspection meets this requirement. (T-0, FDAMA)

2.21.1.3. Notify the manufacturer when a traceable device is transferred to another facility or removed from service (e.g., salvage or traded-in). The losing facility will document the manufacturer was notified on the turn-in work order, and the gaining facility will document the manufacturer was notified on the acceptance work order. (T-0).

2.21.2. Provide the following data when notifying the manufacturer:

2.21.2.1. MTF name and address. (T-0).

2.21.2.2. Lot, batch, model, serial number or other device identifier. (T-0).

2.21.2.3. Date the device was received. (T-0).

2.21.2.4. Person from whom the device was received. (T-0).

2.21.2.5. The date the device was either explanted, taken out of use due to patient death (date of death), returned to the distributor, disposed of permanently, or permanently retired from use. (T-0).

2.22. Public Law 104-191, Health Insurance Portability and Accountability Act (HIPAA) of 1996. (T-0, 45 CFR Parts 160 and 164; DoD 60 25.18-R)

2.22.1. As part of the HIPAA covered entity umbrella, the Clinical Engineering Program personnel and facilities are subject to the HIPAA privacy rules and national standards, including compliance with Department of Defense DoD 6025.18- R, *DoD Health Information Privacy Regulation*, DoDI 8580.02, *Security of Individually Identifiable Health Information in DoD Health Care Programs*, and AFI 41- 210, **Chapter 6**, *TRICARE Operations and Patient Administration Functions*, or as superseded by new or revised HIPAA privacy or security regulations or instructions, for the use and disclosure of protected health information. Medical Maintenance will review all new equipment requests to ensure HIPAA compliance. Procedures will be put into the acceptance inspection process to verify that all newly purchased equipment meets the MTF HIPAA Compliance Plan. (T-0).

2.22.2. Contracts and leases will be amended to include specific business associate provisions, as required by the HIPAA privacy and security rules, to ensure that contractors and subcontractors, who come in contact with PHI as part of the products or services they provide, are fully aware of the MTF HIPAA Compliance Plan and the ramifications associated with failure to comply. (T-0).

2.22.3. Medical Maintenance will maintain a list of all equipment that stores PHI. For equipment that stores PHI, Medical Maintenance will select “Contains Patient Data” in the equipment detail for the ECN. A list of all equipment that stores PHI can be provided by running the “Equipment Containing Patient Data Report” in the DMLSS Equipment Maintenance module. (T-0).

2.22.4. Prior to sending medical equipment to service providers outside of the MTF (repair and return), Medical Maintenance will make every attempt to remove all PHI, without permanently damaging the device. If all PHI cannot be removed without causing permanent damage to the device, ensure that a signed business associate agreement is in place with the service provider IAW local MTF HIPAA policy, prior to the removal of equipment from the MTF or facility. (T-0).

2.22.5. Prior to sending equipment to DLA-DS or reporting as excess, all PHI will be removed. If PHI cannot be removed, storage media will be cleared and sanitized IAW AFMAN 33-282, *Computer Security (COMPUSEC)*. If unit was fully functional prior to cleansing, attach DD Form 1577-2 annotating application software will be reinstalled and unit fully tested before further operation. (T-0).

2.23. Medical Device Recalls and Hazard Alerts.

2.23.1. Medical device hazard and alert management is a critical component of maintaining a safe healthcare environment for patients, staff, and visitors to AF MTFs. To facilitate the management of alerts and recalls, Medical Maintenance Activities will use the following sources: Alerts Tracker® from ECRI Institute, Medical Materiel Quality Control (MMQC), AFMOA/SGAL generated Quality Assurance (QA) messages for AF-unique materiel, and direct sources such as the FDA, Prime Vendors/manufacturers, etc. (T-0).

2.23.2. Upon initial assignment to a unit, BMETs will update their ECRI Institute website profile. If an assigned BMET does not have a profile, the BMET will create a profile and register for the Alerts Tracker® program. The Point Of Contact (POC) for account issues is AFMOA/SGALE, bmet@us.af.mil. (T-0).

2.23.3. The following are the classes of medical device recalls.

2.23.3.1. Class I: A situation in which there is a reasonable probability that the use of, or exposure to, a violative product will cause serious adverse health consequences or death. Suspend these items from use until the item has been repaired or modified to correct the described problem.

2.23.3.2. Class II: A situation in which use of, or exposure to, a violative product may cause temporary or medically reversible adverse health consequences or where the probability of serious adverse health consequences is remote. Class II recalls are not generally serious enough to warrant suspension of the item until corrected.

2.23.3.3. Class III: A situation in which use of, or exposure to, a violative product is not likely to cause adverse health consequences. Class III recalls are not generally considered serious enough to warrant suspension of the item until corrected.

2.23.4. Medical Maintenance will treat and document recalls that affect an item within the inventory as a quality assurance or modification work order within DMLSS. After

completing the recall procedures, Medical Maintenance will document the equipment notes with the Alerts Tracker® accession number, and any other relevant information. (T-0).

2.23.5. When a manufacturer directly notifies an activity of any recall, the activity will take immediate action to implement the corrective procedures. Medical Maintenance will submit online to ECRI and provide a copy to AFMOA/SGALE within two (2) duty days by e-mail bmet@us.af.mil any manufacturer's recall or material defect that has not been previously published through ECRI Institute Alerts Tracker®. (T-0).

2.23.6. Medical Maintenance will inform the Environment of Care (EOC) Committee of affected equipment and actions taken IAW AFI 41-209. Medical Maintenance will inform the Medical Logistics QA log monitor monthly of completed actions/work orders (including DMLSS work order number) for existing recalls/alerts. DMLSS is the system of record for all QA actions. (T-0).

2.24. Medical Equipment Defect Reporting.

2.24.1. Medical Maintenance will report equipment defects as a Category I or II complaint, using both SF 368, *Product Quality Deficiency Report*, and FDA Form 3500A See AFI 41-209 and AFI 44-119, *Medical Quality Operations*. Medical staff, patient safety, risk management, and Medical Logistics personnel will evaluate the credibility, validity, and potential harm of an item before submitting a materiel complaint. The MTF Healthcare Risk Manager will make the final determination if a materiel-related incident warrants processing a complaint. (T-0).

2.24.1.1. Download SF 368 from the DLA Troop Support Medical website, <https://www.medical.dla.mil/Portal/Custom/Products/QualityDeficiency.aspx>, and ensure that individually identifiable health information is not included IAW the HIPAA privacy rules.

2.24.1.2. Download the FDA Form 3500A, *Voluntary MedWatch Report* from the FDA website <http://www.fda.gov/downloads/aboutfda/reportsmanualsforms/forms/ucm048334.pdf>. This form requires individually identifiable health information and will be safeguarded IAW HIPAA privacy and security rules.

2.24.1.3. Category I complaints are reserved for materiel/equipment that has been determined by use or testing, to be harmful or defective to the extent that its use may cause death, injury, or serious illness, and will be reported within 48 hours of discovery.

2.24.1.4. Category II complaints are reserved for materiel/equipment that is suspected of being harmful, defective, deteriorated, or unsatisfactory because of malfunction or design, which are attributable to faulty materiel, workmanship and/or quality inspection, or performance, or are otherwise unsuitable for use.

2.24.1.5. Follow submission instructions for the SF 368 and FDA 3500A. In addition, send completed copies to AFMOA/SGALE. (T-0).

2.24.2. Incident investigations will be initiated IAW AFI 44-119, *Medical Quality Operations*.

2.24.2.1. An incident is an event in which equipment or a procedure has caused, or may have caused, injury to a patient, staff member, or visitor.

2.24.2.2. Medical Maintenance will properly preserve medical equipment items that may have been involved in a device-related incident. The equipment operator will ensure that no device settings are changed, and all accessories and consumables are attached or intact. The item will not be cleaned until after the investigation unless infection control procedures require the item to be cleaned. The contaminated equipment should be labeled with an AF Form 980, *Caution Tag*.

2.24.2.3. The Clinical Engineering officer or senior BMET will conduct a formal investigation in conjunction with the medical facility Patient Safety Officer, risk manager, or others as appropriate. (T-0).

2.24.2.4. Medical Maintenance will use AF Form 765, *Medical Treatment Facility Incident Statement*, or other reporting tool as required locally, to document the incident to the MTF Healthcare Risk Manager IAW AFI 44-119. (T-0).

2.24.2.5. The investigation will be conducted by no less than two BMETs and include: impounding the equipment, noting the position of all knobs and dials on the equipment (and photographing if possible), noting missing components or parts, noting the overall condition of the equipment, interviewing involved personnel, identifying exact items of consumable supplies by lot number, date of manufacture, or other means, perhaps by getting the original packaging out of the trash, and reviewing maintenance history and test procedures. Exception: for small facilities in which two BMETs are not available to conduct the investigation, one BMET assisted by another disinterested MTF staff member is acceptable. (T-0).

2.24.2.6. The investigating team will examine the three basic interfaces (operator-device, patient-device, and consumable-supply-device) to determine the cause of an incident, see checklist on AFML website. (T-0).

2.24.2.7. Medical Maintenance will work with the MTF Patient Safety Officer to develop local procedures that clearly delineate the responsibilities for conducting an incident investigation involving medical equipment. Outline the responsibilities for these investigations in the MTF Quality Assurance/Risk Management (QA/RM) plan IAW AFI 44-119. (T-0).

2.24.2.8. Medical Maintenance will assist the Patient Safety Officer to educate equipment custodians and operators of their responsibilities in equipment-related incident investigations. (T-0).

2.24.2.9. The regional MERC and AFMOA/SGALE can provide assistance for actual incident investigations.

2.25. Training Equipment Operators.

2.25.1. Operator error and improper use of equipment can lead to the injury or death of a patient or staff member.

2.25.2. Medical Maintenance will offer or coordinate training when a new equipment system is first issued and as requested. (T-1).

2.25.2.1. Medical Maintenance will maintain documentation of this training within the EDF and the Equipment Custodian receiving the in-service training will maintain documentation within the section. (T-1).

2.25.2.2. Operator training will include: proper operation, to include features unique to the particular manufacturer or model of equipment, safety precautions for operators and patients, user PM, cleanliness, and operational verification procedures, recognition and correction of common operational problems, recognition of defective equipment and potential hazards, and proper reporting procedures for maintenance requests. (T-1).

2.25.3. Frequent requests for repair service due to operator error or inadequate user maintenance may indicate the operator needs further training. Medical Maintenance who become aware of such problems will document the discrepancies, notify their supervisors, and offer or coordinate operator training to the section supervisor and equipment operators. Document training provided on a work order. (T-1).

2.26. Equipment Data File (EDF).

2.26.1. Medical Maintenance will establish and maintain a separate EDF on each maintenance significant equipment item or system including equipment rentals and equipment provided as part of a reagent or supply contract. (T-0).

2.26.1.1. System components do not require a separate EDF, but the system EDF will contain all component related information. (T-0).

2.26.1.2. The EDF is maintained in two parts:

2.26.1.2.1. DMLSS will maintain all work orders (scheduled and unscheduled). (T-0).

2.26.1.2.2. All other documentation will be kept in a separate physical folder or on a network drive with limited access. (T-0).

2.26.1.2.3. Medical Maintenance will maintain these files in ECN sequence and retain them for the life of the equipment. (T-0).

2.26.2. Each EDF will contain applicable historical information which will include:

2.26.2.1. Pre-procurement surveys, room drawings, and power supply evaluations. (T-0).

2.26.2.2. Procurement documentation. See AFI 41-209, [Chapter 6](#), for documentation and requirements for changing Accounting Status in DMLSS EM from “Awaiting Acceptance” to “In Service”. (T-0).

2.26.2.3. Warranty registration. (T-0).

2.26.2.4. All maintenance worksheets/checklists not in DMLSS, including acceptance, calibration, inspection, electrical safety, and those accomplished by the MERC during annual visits. (T-0).

2.26.2.5. All work orders not captured in DMLSS (manual, depot, or contract). (T-0).

2.26.2.6. Recalls and hazard alerts (a copy of the work order will be maintained with results of applicable recalls and modifications). (T-0).

2.26.2.7. Modifications. (T-0).

2.26.2.8. Radiation Survey Letter (letter from qualified Regional Medical Physicist that either evaluates the acceptability of existing shielding or calculates the required shielding for the proposed installation). (T-0).

2.26.2.9. Copy of FDA Form 2579. (T-0).

2.26.2.10. Copies or location of purchase, lease or rental agreement, one-time repair(s), and annual maintenance contract(s). (T-0).

2.26.2.11. Entrance skin exposure calculations provided by the Regional Medical Physicist IAW AFI 48-148.

2.27. Technical Reference File.

2.27.1. Each maintenance activity will maintain a technical reference file on each item of medical equipment including operating and service literature. (T-0).

2.27.2. Items will be filed so that they are traceable to the common model in DMLSS. If using web-based manuals, include the web address in the Literature Location field. (T-0).

2.27.3. The department that uses the equipment will maintain a copy of equipment operator's instructions and procedures. (T-0).

2.28. Managing the Repair Parts Inventory.

2.28.1. Medical Maintenance will manage repair parts IAW AFMAN 41-216. (T-1).

2.28.2. Parts maintained in the Medical Maintenance will be classified as repair parts inventory with appropriate commodity class Repair Part Medical/Nonmedical, except for parts ordered for immediate use and common bulk hardware items such as nuts, bolts, washers, pipe fittings, cotter pins, and wire. (T-1).

2.28.3. Medical Logistics will not carry repair parts in medical stock record account inventories. Parts will be issued to the Medical Maintenance upon receipt.

2.28.4. Medical Maintenance will store repair parts in a secure area. (T-1).

2.28.5. AE Certification. OEM parts will be used for AE certified equipment because of the testing criteria and limitations imposed by AE certification. (T-1).

2.28.6. Medical Maintenance will conduct annual inventory of repair parts by comparing actual inventory to Physical Inventory list IAW AFI 41-209. Medical Maintenance will submit a letter listing the results of the inventory along with the Physical Inventory printout to the MLFC for signature within 30 days of closure. (T-1).

2.28.7. Medical Maintenance will report excess, serviceable repair parts by preparing a turn-in document DD Form 1348-1A, *Issue Release/Receipt Document*, and transferring the parts for disposition IAW AFI 41-209, **Chapter 3**. (T-1).

2.29. Contracted Maintenance.

2.29.1. Commercial contracted maintenance is authorized to supplement organizational maintenance when adequate resources or skills are not available or are not cost effective see paragraph 2.9.7. AFI 41-209 provides guidance on service contract management.

2.29.2. All Service Maintenance Agreements (SMA) utilized will be loaded into the DMLSS Service Contract Module, see Clinical Engineering Guide. (T-2).

- 2.29.3. All hardware items itemized on the SMA will be gained and entered into DMLSS. (T-2).
- 2.29.4. Verify the Contractor field is populated with the correct contract data on the Maintenance Data tab in the Equipment Detail screen of all SMA applicable items. (T-2).
- 2.29.5. Before contract award, Medical Maintenance will ensure contract verbiage requires contractors to sign in and out of the medical equipment maintenance activity before and after any onsite services are performed. (T-2).
- 2.29.6. Medical Maintenance will ensure annual contracts for scheduled, unscheduled, and one-time repair actions specify the equipment involved, whether parts are included, hours of service, response time, performance standards, frequency of servicing, documentation of work performed, reporting instructions, and distribution of service reports. (T-2).
- 2.29.7. Medical Maintenance will ensure maintenance contractors sign in and out of the medical equipment maintenance activity IAW contract. (T-2).
- 2.29.8. Medical Maintenance, in conjunction with Facility Management, will establish local procedures to control contractor access. (T-2).
- 2.29.9. Medical Maintenance will keep a copy of the contract or annotate contract file location in DMLSS and/or the EDF. (T-2).
- 2.29.10. All contractor service reports will be filed in the EDF.

2.30. PMEL.

- 2.30.1. TO 33K-1-100-1 outlines equipment user-owner responsibilities under the AF PMEL. Medical Maintenance will use PMEL services where available for applicable services. (T-1).
- 2.30.1.1. Medical Equipment/Unique Medical TMDE is equipment unique to the medical industry for patient care, first aid response, or test equipment designed exclusively to simulate human physiology used for testing and calibration of patient care equipment. Some examples (not all inclusive): patient simulators, defibrillator analyzers, vital signs simulators, electrosurgical analyzers.
- 2.30.1.2. Medical Equipment/Unique Medical TMDE is managed by the AF Biomedical Engineering Maintenance IAW paragraph 2.11.10 and AFI 41-209. Do not submit requests for calibration determination (AFTO Form 45) to Air Force Metrology and Calibration (AFMETCAL) for this equipment. For further information contact AFMOA/SGALE. (T-1).
- 2.30.1.3. General purpose test equipment (oscilloscopes, digital multi-meters, frequency counters, etc.) will be calibrated IAW AFI 21-113, Air Force Metrology and Calibration (AFMETCAL) Management, TO 00-20-14, and TO 33K-1-100-2, *Equipment Calibration Requirements List*. Calibration determinations are published in TO 33K-1-100-2 for general purpose test equipment. Calibration determination requests (AFTO Form 45) will be submitted through AFMOA/SGAL to AFMETCAL, for general purpose test equipment not listed in TO 33K-1-100-2. (T-1).
- 2.30.2. The medical equipment maintenance activity will designate a PMEL Monitor. The PMEL Monitor is responsible for ensuring all test equipment that can be calibrated by PMEL

is included in the PMEL services. Equipment included in PMEL services will be delivered to PMEL in a timely manner. The monitor will verify PMEL equipment has a current Air Force Technical Order (AFTO) Form 99, 108, 394, or 398, TMDE Certification. (T-1).

2.30.3. The PMEL monitor will annually review and update the PMEL list of equipment to ensure all items that need calibration are included. For new test equipment items not listed in TO 33K 1-100-1, contact AFMOA/SGALE. (T-1).

2.30.4. Scales used in the AF Fitness Program will be calibrated by PMEL. Medical Maintenance may calibrate/certify all scales used for patient diagnostic purposes within the MTF. Scales not used for patient diagnostic purposes do not require certification. (T-1).

2.30.5. Weights owned by local medical equipment maintenance activities will be calibrated by PMEL. (T-1).

2.30.6. If PMEL support is not available, or is unable to perform the specified calibration/certification, local Medical Maintenance will ensure the TMDE is calibrated/certified IAW paragraph 2.11.10 of this instruction. (T-1).

2.30.7. Medical Maintenance will complete a priority cover letter IAW TO 00-20-14 and coordinate with PMEL scheduler for critical TMDE items required for daily operations (time sensitive calibration/repair). (T-1).

Chapter 3

MEDICAL EQUIPMENT REPAIR CENTERS (MERC)

3.1. Purpose.

3.1.1. A Medical Equipment Repair Center (MERC) is a consolidated maintenance activity that, in addition to providing organizational maintenance support for the MTF to which it is assigned, provides regional maintenance, engineering support, training, and consulting services to active component AF, AFRC, and non-contracted ANG medical activities located in its geographical region, if MERC resources are available. (T-0).

3.1.2. Medical equipment maintenance activities designated as MERCs are determined by AFMOA/SGALE and the 4A2X0 Career Field Manager (CFM). MERC supported units are listed by designated region on the AFML website.

3.2. Responsibilities.

3.2.1. MERC Officer in Charge (OIC), Chief, or Superintendent will:

3.2.1.1. Budget and plan for all resources required for regional MERC support, including funding, staffing, facilities, vehicles, training, and test equipment. (T-2)

3.2.1.2. Provide maintenance support to all medical activities in the MERC's designated geographic region of responsibility. (T-2).

3.2.1.3. Inform the MAJCOM Functional Manager (MFM), AFMOA/SGALE, and the CFM of problems that may preclude the MERC from accomplishing its mission. (T-2).

3.2.2. MERC will:

3.2.2.1. Provide organizational maintenance when practical to MTFs, including AFRC, non-contracted ANG, and AF Theater Lead Agent Medical Materiel (TLAMM) within the designated region, that do not have a BMET assigned, and when the nearest DoD Medical Maintenance activity is not capable. (T-0).

3.2.2.2. Provide scheduled maintenance support and emergency repair service (if determined most cost effective) upon request. (T-2).

3.2.2.3. Guide supported bases on obtaining non-emergency minor services upon request. (T-3)

3.2.2.4. Conduct an annual site visit to all MTFs within their region. (T-1).

3.2.2.4.1. The objectives of the annual MERC site visit will be determined by a pre-visit needs assessment conducted at least 30 days in advance. At a minimum, the assessment will survey personnel skill levels, training gaps, local test equipment capabilities, and equipment maintained by service contracts. It will ensure only devices requiring direct MERC support are projected for, and receive maintenance, during the visit. (T-1).

3.2.2.4.2. MERCs will use the supported MTF's TMDE when possible. The calibration expiration dates, functionality status, and serial numbers of all TMDE will be gathered during the pre-visit needs assessment. (T-3).

3.2.2.5. Provide intermediate maintenance and/or requested training to all MTFs in their designated area that have BMETs authorized and assigned. At minimum, the MERC will:

3.2.2.5.1. Provide calibration service for audiometers, on site or via ship and return, annually IAW 29 CFR, OSHA. If the MERC is unable to meet this timeline, the MERC will contact the MTF for alternative arrangements. (T-1).

3.2.2.5.2. Provide oversight of all x-ray systems and performs PCRI on all x-ray systems not performed locally. (T-1).

3.2.2.5.3. Provide calibration service for any equipment at supported units that the local maintenance activity lacks training, skill set, or authorization to perform. (T-1).

3.2.2.6. QA Testing. The MERC will perform QA testing on anesthesia equipment, picture archiving and communication systems (i.e. monitors and computed radiography devices), and ventilators to include WRM, Medical Counter Chemical, Biological, Radiological and Nuclear (MC-CBRN), AE, and PMI assets. Additional QA testing may be performed based on experience and skill level at the MTF. The MERC will test 10 percent, but not less than two devices from each equipment category except as specified below. All results from QA testing will be included in MERC trip report.

3.2.2.7. PMI Centers. The MERC will test at least four devices from each equipment category; these items are not to be included in the 10 percent calculation for the organization. If the MERC notes a deficiency in a selected sample, the MERC will provide training and contact Air Mobility Command (AMC)/Surgeon General, Readiness (SGX) and AFMOA/SGALE for further instruction. If BMET services are on full or partial contract, the MERC notifies the Contracting Officer's Representative (COR).

3.2.2.8. Document work accomplished and repair parts issued IAW this AFI and AFMAN 41-216. (T-2).

3.2.2.9. Provide technical assistance to resolve maintenance problems beyond the capability of the local Medical Maintenance. (T-2).

3.2.2.10. Assist local Medical Maintenance with pre-procurement evaluations for planned complex equipment procurement such as x-ray units, sterilizers, and central patient monitoring systems as required. (T-2).

3.2.2.11. Validate capabilities and assist local Medical Maintenance with equipment acceptance inspections for contractor-installed equipment items, if requested. (T-2).

3.2.2.12. Assist regional Health Facility Office in selecting equipment for the Military Construction Program as required. (T-2).

3.2.2.13. Host regional training workshops and seminars as required. (T-2).

3.2.2.14. Assist AFMOA/SGALE with evaluation of centralized maintenance contracts as required. (T-2).

3.3. MERC Trip Reports.

3.3.1. The MERC will prepare a trip report documenting services performed at the local MTF/supported activity including annual, training, manning assistance, acceptance testing, or

any other out of cycle visits. Trip reports will be numbered consecutively beginning with the start of each fiscal year. For example, 13001 would be the first report prepared in FY 13. At a minimum, the MERC Trip Report will include: (T-3).

3.3.1.1. Purpose of the visit, key personnel contacted, and an executive summary with all items of interest to the MTF commander (major safety violations, equipment problems, and other matters). (T-3).

3.3.1.2. Work-hour and dollar value summary of services performed. Note: When the MERC visits more than one facility in a single trip, base the distribution of per diem and travel expenses on the relative percentage of total work-hours expended at each facility. (T-3).

3.3.1.3. Complete description of MERC services provided, equipment discrepancies, calibration and test equipment used, copies of all calibration documentation, and a summary of training provided. (T-3).

3.3.2. Provide electronic report to the MLFC, senior BMET, MAJCOM functional manager, and AFMOA/SGALE within 45 days of completing the maintenance visit. Send copies of any PCRIs conducted to the appropriate regional medical physicist IAW AFI 48-148. Send copy of trip report to visited Air Reserve Component (ARC) unit and appropriate headquarters. (T-3).

3.3.3. MERCs will maintain copies of completed trip reports and responses for two years IAW AFRDS Table 41-04, Rule 31.00. (T-1).

3.4. Reducing or Terminating MERC Support.

3.4.1. When a MERC anticipates an unavoidable reduction in support, the MERC will coordinate with the supported activity, the MFM, 4A2 CFM, and AFMOA/SGALE at least 60 days before a scheduled visit. (T-2).

3.4.2. When there is a reduction in support, the supported activity will arrange for equipment calibration, as required, by transporting the equipment to the MERC or by using contract support. (T-2)

3.5. Responsibilities of the MERC-Supported Base.

3.5.1. Units supported by MERCs will:

3.5.1.1. Notify the MERC and regional Medical Physicist at least 90 days prior to receipt of new equipment requiring support. (T-2).

3.5.1.2. Inform the MTF commander, administrator, and MLFC of a scheduled MERC visit. (T-2)

3.5.1.3. Inform departments that have equipment requiring MERC calibration at least 30 days prior to a scheduled MERC visit in order to minimize disruption to patient care. (T-2).

3.5.1.4. Document all the work performed by the MERC in DMLSS or on AF Form 509. (T-2).

3.5.1.5. Locate and complete PMs on equipment to be calibrated by the MERC. (T-2).

3.5.1.6. Set up and ensure operational status of WRM equipment (x-ray units, International Standards Organization (ISO) shelter, power generator, anesthesia, etc.) scheduled for calibration by the MERC or ECMM contract support personnel. (T-2).

3.5.1.7. Ensure battery operated equipment is fully charged. (T-2).

3.5.2. Supported bases respond in writing, within 45 days of receiving report, to the MERC, MAJCOM functional manager, and AFMOA/SGALE for all items that require local action. (T-2).

Chapter 4

ELECTRICAL SAFETY PROGRAM

4.1. Purpose. The MTF is a unique environment and requires special procedures to ensure the electrical safety of patients and staff. MTFs will establish a proactive Electrical Safety Program to identify potential hazards, correct hazards, and train personnel. Unless otherwise directed in this instruction, the MTF electrical safety will adhere to the standards established by National Fire Protection Association (NFPA) 99, *Health Care Facilities Code*, NFPA 101, *Life Safety Code*, NFPA 70, *National Electrical Code*, Unified Facilities Criteria (UFC) 3-560-01, *Electrical Safety, O&M*, UFC 3-501-01, *Electrical Engineering*, and AFI 91-203. (T-0).

4.2. Responsibilities.

4.2.1. MTF Commander will:

4.2.1.1. Approve the Electrical Safety Program and ensure inclusion in local training programs. (T-0).

4.2.1.2. Approve local electrical safety procedures established to satisfy special or unique safety requirements. (T-0).

4.2.1.3. Approve in writing the designation of patient care spaces as Category 1, Category 2, Category 3, or Category 4 IAW NFPA 99, paragraphs 3.3.127. (T-0).

4.2.1.4. Approve in writing the designation of Anesthetizing Locations. An anesthetic as used in NFPA 99, applies to any inhalational agent used to produce sedation, analgesia, or general anesthesia IAW NFPA 99, paragraphs 1.3.4.2. and 3.3.7. (T-0).

4.2.1.5. Approve in writing the designation of Wet Procedure Locations, IAW NFPA 99, paragraphs 1.3.4.3. and 3.3.184. Operating Rooms are considered a Wet Procedure Location unless a risk assessment determines otherwise, IAW NFPA 99, paragraph 6.3.2.2.8.4., 3.3.171., and Annex A.6.3.2.2.8.4. (T-0).

4.2.1.6. Approve policy and procedures for the use of privately owned, line-powered electrical devices. (T-0).

4.2.2. Facility Management will:

4.2.2.1. Maintain overall electrical safety for MTF. (T-0).

4.2.2.2. Ensure the identification and correction of electrical safety hazards. (T-0).

4.2.2.3. Coordinate with Real Property maintainers (Base Civil Engineering (BCE) or preventative maintenance (PM) contractor) to ensure inspections of the power distribution and emergency power systems are performed and documented IAW applicable accreditation standards. (T-0).

4.2.3. Medical Maintenance will:

4.2.3.1. Assist MTF staff by providing user education on electrical safety, as required. (T-0).

4.2.3.2. Ensure equipment proposed for purchase is compatible with existing utility systems. (T-0).

4.2.3.3. Maintain documentation of medical equipment safety testing. (T-0, NFPA 99 and TJC)

4.2.3.4. Report defects in electrical power systems through Facility Management to the Real Property maintainer who is responsible for the repair of ground fault detection systems and line isolation monitors. (T-0).

4.2.4. Medical Materiel and MEMO will coordinate with Medical Maintenance and Facilities Management to ensure the acquisition of equipment and supplies comply with electrical safety standards IAW this AFI. (T-1).

4.2.5. MTF Environment of Care (EOC) Committee will:

4.2.5.1. Review and oversee MTF electrical safety. (T-0).

4.2.5.2. Review and recommend local electrical safety actions and procedures to the MTF Commander, Medical Support Squadron Commander, or Administrator. (T-0).

4.2.6. Chief of the Medical Staff, In-Service Education Coordinators, Squadron Commanders, and Department Chiefs will:

4.2.6.1. Ensure staff is trained on electrical safety awareness and proper operation of medical equipment. (T-0).

4.2.6.2. Ensure electrical safety training is documented. (T-0).

4.2.7. Real Property Maintainers (BCE or PM Contractor) will:

4.2.7.1. Provide engineering support for required installation, maintenance, and testing of MTF power distribution systems. (T-0).

4.2.7.2. Test grounding systems in Patient Care Rooms IAW NFPA 99, **Chapter 6** and AFI 32-1065, *Grounding Systems*. (T-0).

4.2.7.3. Test receptacles, isolated power systems, Line Isolation Monitors (LIMs), and Ground Fault Circuit Interrupters (GFCIs) in Patient Care Rooms IAW NFPA 99, **Chapter 6**. (T-0)

4.2.7.4. Test Alternate Power Systems and Transfer Switches IAW NFPA 99, **Chapter 6**, and NFPA 110, *Standard for Emergency and Standby Power Systems*, **Chapter 8**. (T-0).

4.2.8. Equipment users and staff will:

4.2.8.1. Operate equipment in accordance with manufacturer recommendations. (T-0).

4.2.8.2. Ensure equipment is visually inspected for electrical hazards and known problems are corrected before equipment is used. (T-0).

4.2.8.3. Ensure identified hazards are reported IAW MTF procedures. (T-0).

4.3. Staff Training.

4.3.1. Department supervisors will train staff and incorporate the following:

4.3.1.1. Orientations including procedures for reporting safety hazards, points of contact for corrections, accident reporting and investigation procedures, and hazards unique to the work area. (T-0).

4.3.1.2. Electrical Safety Briefings, the results of EOC's findings from the MTF's Safety Officer, and periodic training in fire reporting and suppression. (T-0).

4.3.1.3. Documentation. All training (user/operator, safety, etc.) will be appropriately documented. (T-0).

4.4. Extension Cords and Adapters.

4.4.1. The MTF Safety Officer will approve or disapprove, in writing, any use of extension cords in patient care areas. (T-0).

4.4.2. If extension cords are used, the cords will be appropriately rated and sized to support expected loads (but not smaller than #16 American Wire Gauge (AWG)) with hospital grade connectors IAW NFPA 99. (T-0).

4.4.3. When an extension cord is used in patient care area to support medical equipment operation, an electrical safety inspection will be performed with the extension cord in the circuit. (T-0).

4.4.4. When an extension cord is used to support medical equipment for an extended period, Medical Maintenance will coordinate with the Safety Officer and Facility Management to initiate a work order to install appropriately placed permanent power receptacle(s) in order to minimize or eliminate the need for the extension cord. (T-0).

4.4.5. Extension cords of any type are prohibited in areas where flammables are used or stored. (T-0).

4.5. Power Strips/Surge Protectors:

4.5.1. The MTF Safety Officer will approve use of power strips/surge protectors with non-medical equipment. Medical Maintenance will evaluate and approve power strips/surge protectors used with medical equipment IAW NFPA 99, paragraph 10.2.3.6. (T-0).

4.5.2. The maximum amperage rating of the power strip/surge protector will never be less than the appliance cord rating nor greater than the electrical rating of the power receptacle. (T-0).

4.5.3. Power strips/surge protectors can be used to extend power from the wall receptacle to support low amperage computers and office equipment. (T-0).

4.5.4. Power strips/surge protectors will not be connected to another power strip/surge protector or extension cord (no daisy-chaining). (T-0).

4.5.5. Extension cords and power strips/surge protectors will be visually inspected annually by the Department or Section Safety Monitor. (T-0).

4.5.6. For rack, table, pedestal, or cart mounted equipment, power strips/surge protectors will comply with requirements of NFPA 99, paragraph 10.2.3.6. (T-0).

4.6. Use of Medical Equipment Not Owned by the AF MTF. See paragraph 2.7 for definition of medical equipment not owned by the MTF.

4.6.1. For patient-owned medical equipment, the Safety Officer will develop local written procedures to control the use of patient-owned electrical devices in patient care environments. These procedures will ensure:

4.6.1.1. Visual safety inspection of the device by personnel trained by Medical Maintenance. (T-0).

4.6.1.2. Approval by a medical provider who has determined that the patient is mentally and physically capable to use the device in a safe manner. (T-0).

4.6.2. Medical electrical devices not owned by the MTF will conform to the same requirements as MTF medical equipment. (T-0).

4.6.3. Staff-owned nonmedical electrical devices used in patient care space are subject to the same safety requirements as MTF nonmedical equipment. (T-0).

4.6.4. Patients are notified that the patient or the patient's legally authorized representative is responsible for the equipment and the required equipment maintenance and repair by the IAW paragraph 2.7.4. (T-0). For patient property and personal effects inventory procedures, see AFI 41-210, *TRICARE Operations and Patient Administration Functions*.

4.7. Equipment Electrical Safety Testing.

4.7.1. Medical Maintenance is responsible for electrical safety inspections of medical equipment used in patient care areas IAW NFPA 99, **Chapter 6** and **Chapter 10**. (T-0).

4.7.1.1. Electrical safety inspections will include visual inspection of the unit, physical integrity of power cords and strain reliefs, resistance test, leakage current, and other appropriate tests defined in NFPA 99. (T-0)

4.7.1.2. Electrical safety inspection results will be documented on work orders. (T-0).

4.7.2. Electrical Safety Testing Intervals.

4.7.2.1. All patient care related electrical equipment used in patient care rooms will be tested before being put into service for the first time, where there is evidence of damage, and after any repair or modification that may have compromised electrical safety. (T-0).

4.7.2.2. Wet procedure locations will be provided with special protection against electrical shock (See NFPA 99, 6.3.2.2.8.2). In existing construction, special protection against electrical shock is not required if: (T-0).

4.7.2.2.1. The MTF develops and maintains written procedures for electrical safety testing that includes continuity testing of all equipment, grounding conductors, and their connections. (T-0).

4.7.2.2.2. The written procedures include requirements for testing fixed receptacles, equipment connected by cord and plug, fixed electrical equipment when first installed, where there is evidence of damage, after any repairs, and routinely at intervals not exceeding 6 months. (T-0)

Chapter 5

FACILITY MANAGEMENT

5.1. Responsibilities.

5.1.1. MTF Commander will:

5.1.1.1. Appoint a Safety Officer and Risk Manager in writing IAW TJC Standards. (T-0) Form and chair the Medical Readiness Committee (MRC) IAW AFI 41-106, **Chapter 2**, to manage MTF emergency management plans and processes. MTFs use the Medical Contingency Response Plan (MCRP) to meet TJC Emergency Management standards. (T-1).

5.1.1.2. Appoint Facility Manager, (or designee), in writing, as Security/Resource Protection Program Manager and Controlled Area Monitors. (T-0).

5.1.1.3. Appoint, in writing, a primary and alternate real property custodian for each department/service to support facility management operations in the sustainment and repair of the medical infrastructure for the using activities. (T-3).

5.1.1.3.1. This responsibility may be delegated to the medical squadron commanders. If delegated, squadron commanders will appoint all custodians assigned to their respective squadrons. (T-3).

5.1.1.3.2. A real property custodian may be appointed for more than one using activity, depending on the organization's size and scope.

5.1.1.3.3. If the primary and alternate real property custodians are absent from the MTF for more than 45 days, replacement primary and alternate custodians will be appointed. (T-3).

5.1.1.4. Appoint the MLFC as Functional Commander (FC) for all medical contracts providing facility operations and maintenance, and housekeeping services. (T-3).

5.1.2. The MTF Administrator will:

5.1.2.1. Chair the EOC Committee. (T-1).

5.1.2.2. Conduct an annual review of the electronic Statement of Conditions (SOC), Basic Building Information (BBI), TJC Survey-related Plans for Improvement (PFIs) NFPA 101, and Life Safety Code (LSC) deficiencies. Provide continuous oversight through the EOC Committee to ensure timely building assessments and resolution of deficiencies. The purpose of this review is to ensure the MTF is managing the deficiency(s) within the 60-day TJC Evidence of Standard Compliance (ESC) timeline. (T-0).

5.1.2.3. Act as or designate an individual to act as the MTF POC during fire alarm activations and utility outages affecting the delivery of health care services, peacetime and contingency exercises, and incidents. (T-3).

5.1.2.4. Approve on-the-job task listing and qualifications for the Facility Manager, to ensure member is qualified to assess building compliance with NFPA 101, complete the SOC, and manage the resolution of NFPA 101 and other building deficiencies. (T-3)

5.1.2.5. Appoint, in writing, or delegate MLFC to appoint the Facility Manager or designee as primary POC for medical waste. (T-3).

5.1.3. Facility Manager will:

5.1.3.1. Ensure compliance with TJC, NFPA, Occupational Safety & Health Administration (OSHA), Environmental Protection Agency (EPA) and other applicable codes and standards. (T-0).

5.1.3.2. Attend the basic Medical Facilities Management Course once appointed (preferably within 12 months) and should attend the recurring Facilities Management core conference/symposium. Coordinate attendance with the respective Sustainment, Restoration, and Modernization (SRM) Portfolio Manager (PM). (T-3).

5.1.3.3. Maintain accurate real property inventory records.

5.1.3.4. Annually reconcile real property records in DMLSS with BCE Accountable Property System of Record (APSR), Automated Civil Engineer System (ACES) or TRIRIGA. (T-1).

5.1.3.5. Plan, program, budget, and monitor Facility Management expenses IAW paragraph 5.3. (T-1).

5.1.3.6. Prepare, and monitor work requests to real property maintainers. Develop MTF guidance and procedures for contacting Base Civil Engineering (BCE) or other support engineering services after normal duty hours. Coordinate with SRM PM to develop Performance Work Statement (PWS) for MTF requirements. (T-3).

5.1.3.7. Develop and maintain a long-range Medical Facility Improvement Plan (MFIP) in DMLSS.

5.1.3.8. The MFIP documents ongoing preventive and corrective maintenance activities and condition assessment of existing infrastructure. The MFIP will be briefed to leadership at least annually. (T-1).

5.1.3.9. MFIP includes: Future Year Defense Plan (FYDP) + 2 years unfunded requirements for military construction (MILCON) or operations and maintenance (O&M). (T-1).

5.1.3.10. Ensure projects are entered in the AF-mandated Information Technology (IT) system (ACES-PM or TRIRIGA) and that a project number is established. (T-1).

5.1.3.11. Ensure each medical building has an appropriate Facility Condition Index (FCI) assigned in APSR. Unfunded sustainment, restoration, and modernization projects will impact the building FCI. (T-1).

5.1.3.12. Maintain hardcopy and electronic version of as-built and current architectural drawings, plans, diagrams, and other records for each facility designated with a medical real property category code (5XX-XXX). Drawings will include all fire and smoke barriers (walls/doors/floors), single line utility drawings, and utility shut-off valves and controls. (T-0).

- 5.1.3.13. Ensure as-built drawings provided to the MTF at the completion of each project are delivered in electronic format compatible with DMLSS-FM using the preferred standard. (T-0).
- 5.1.3.14. Serve as the Real Property Building Manager and member of the Medical Facility Utilization Board. Coordinate on all moves/relocations that will involve a change in use/function or occupancy IAW NFPA 101, **Chapter 6**, *Classification of Occupancy and Hazard of Contents*. (T-3).
- 5.1.3.15. Determine and coordinate required facility and utility modifications for proposed equipment and IT. (T-3).
- 5.1.3.16. Direct the input of all facility work order and project requirements into DMLSS-FM. (T-0)
- 5.1.3.17. Maintain a written Interim Life Safety Measures (ILSMs) policy detailing how the facility will protect patients, staff, and visitors during temporary periods when LSC deficiencies are identified IAW NFPA 101. (T-0).
- 5.1.3.17.1. All work orders open for LSC deficiencies affecting compliance with NFPA 101 will be listed on the SOC as an open PFI (does not apply to Business Occupancies). PFIs will be coordinated with Base Fire Chief as the local Authority Having Jurisdiction (AHJ). See paragraph 5.1.2.3. (T-0).
- 5.1.3.17.2. Each identified LSC deficiency will be formally assessed to determine the implementation of applicable ILSMs. This documentation needs to be maintained and coordinated with the Base Fire Chief/AHJ, and reported at the EOC Committee. (T-0).
- 5.1.3.18. Implement and routinely assess compliance with the MTF smoking policy IAW AFI 40-102, *Tobacco Free Living*, and AFI 91-203. (T-1).
- 5.1.3.19. Assess interior furnishings and wall/floor coverings for NFPA code compliance for flame spread, combustibility, etc. prior to procurement and as required.
- 5.1.3.20. Conduct annual review of AF Form 1487, *Fire Prevention Visit Report*, and summarize corrective actions for the EOC Committee.
- 5.1.3.21. Conduct a Pre-Construction Risk Assessment (PCRA) which includes an Infection Control Risk Assessment (ICRA) and determine suitability of ILSMs, when projects interfere with fire protection.
- 5.1.3.22. Notify the Administrator, Chief of the Medical Staff, and Chief Nurse when projects or work orders affect delivery of health care services.
- 5.1.3.23. Oversee fire prevention/protection and coordinate fire drill requirements, with BCE and Base Fire Chief/AHJ IAW NFPA 101.
- 5.1.3.24. Conduct, no less than annually, a review to specifically identify NFPA 101 LSC deficiencies such as adequacy of egress, exits, and fire protection features. (T-0).
- 5.1.3.25. Coordinate with the BCE Real Property to ensure MTF buildings are assigned proper category code (5XX-XXX).

- 5.1.3.26. Collaborate with the MTF Resource Management Office (RMO) to review funding and validate reimbursements.
- 5.1.3.27. Serve as or supervise the Safety Officer. Accompany Safety Officer on semi-annual inspection of patient care areas and annual inspection of non-patient care rooms. Ensure tours and deficiencies are documented and addressed. Report results/trends to EOC Committee. (T-0).
- 5.1.3.28. Operate and maintain the MTF IAW Engineering Technical Letters (ETLs), UFCs, AFMS (Health Facility Division) HFD Quality Engineering Design Guide, AFMS Health Facilities Energy Guide, and federal, state, and local regulations.
- 5.1.3.29. Assign or serve as the Contract Officer Representative (COR) to oversee contracted Housekeeping/Hospital Aseptic Management Services (HAMS). (T-1).
- 5.1.3.30. Coordinate protection of equipment, staff, and the physical plant IAW AFI 31-101, *Integrated Defense (FOUO)*. (T-0).
- 5.1.3.31. Review BCE and/or Air Force Medical Support Agency (AFMSA) centralized contracts to validate MTF requirements for refuse collection, elevator maintenance, hood and return/outside air duct cleaning, and other contractual services. Ensure the frequency of these services meet code and TJC requirements.
- 5.1.3.32. Manage MTF grounds maintenance. Ensure snow and ice removal is conducted prior to the start of hours of operation. Develop a written snow removal plan if the MTF is in a location with snow/ice accumulation expected.
- 5.1.3.33. Ensure emergency power system is adequate and reliable IAW TJC, UFC 4-510-01, *Design: Military Medical Facilities with Change 1*, NFPA 99, NFPA 101, and NFPA 110. (T-0).
- 5.1.3.34. Develop and manage the Energy Conservation Program. (T-3).
- 5.1.3.35. Oversee contract for removal, treatment, storage, and disposal of Regulated Medical Waste (RMW) and Department of Transportation (DoT) Category A infectious waste. Facility Management will track RMW and DoT Category A infectious waste cradle to grave. Carrier manifests will be filed with destruction certificates. (T-0).
- 5.1.3.36. Verify and ensure waste handlers training is documented IAW federal, state, and local regulations. The MTF staff who sign manifests must have completed DoT-approved training for RMW transport. Check with the Base CE Environmental to get proper training for your state and local rules/regulations. (T-0).
- 5.1.3.37. Serve as member of the Infection Control Committee or delegate to Safety Officer or Housekeeping Quality Assurance Evaluator (QAE).
- 5.1.3.38. Serve as a member or advisor of the Equipment Review and Authorization Activity (ERAA).
- 5.1.3.39. Coordinate with BCE to ensure MTF requirements are included in the base refuse contract.

5.1.3.40. Establish and monitor training for real property custodians. Facility Management will conduct initial and quarterly training that covers responsibilities, Facility Management operations, and the DMLSS-FM Customer Service module. (T-3).

5.1.3.41. Maintain a copy of real property custodian appointment letters. (T-3).

5.1.3.42. Implement the DMLSS-FM Customer Service Module for all departments/services with an assigned real property custodian.

5.1.3.43. Resolve findings identified during Management Assistance Visits (MAVs) and maintain copies of MAV reports for three years IAW AFRDS Table 41-04, Rule 31.00. (T-1).

5.1.4. Safety Officer will:

5.1.4.1. Manage risk, coordinate risk reduction activities in the physical environment, collect deficiency information, disseminate summaries of actions and results, and intervene whenever environmental conditions immediately threaten life or health or threaten to damage equipment or buildings. The Safety Officer, along with the EOC Committee will continually monitor, investigate, and report the following: Injuries to patients or others within the MTF; occupational illnesses or injuries to staff; incidents of damage to MTF property or the property of others; security incidents involving patients, staff, or others within the MTF; hazardous materials spills/incidents; fire safety management deficiencies; utility systems management problems; conservation of energy and resources to attain, DoD, AF, and AFMS mandated targets and program initiatives.

5.1.4.2. Serve as the Facility Management POC for all safety-related matters.

5.1.4.3. Coordinate with Wing Safety Office, BEE, BCE, Public Health, Medical Maintenance, Patient Safety Office, and Infection Control on MTF safety issues. IAW AFI 91-202, *The US Air Force Mishap Prevention Program*, and AFI 91-204, *Safety Investigations and Reports*.

5.1.4.4. Submit mishap reports IAW AFI 91-204 to the Wing Safety Office. (T-3).

5.1.4.5. Ensure all assigned MTF personnel receive initial and annual refresher safety training and ensure supervisors document all safety training on AF Form 55, *Employee Safety and Health Record*, IAW AFI 91-203. Assist with development and annual review of departmental safety briefings and newcomer orientation briefings. (T-3).

5.1.4.6. Identify and correct environmental hazards and unsafe practices IAW AFI 91-203.

5.1.4.7. Ensure staff members submit AF Form 765, to the Patient Safety Office/Risk Manager for reportable incidents involving patients, visitors, or staff. (T-0).

5.1.4.8. Present safety evaluations and findings to EOC Committee at least annually including results of inspections by outside agencies.

5.1.4.9. Serve as area fire marshal IAW AFI 32-2001, *Fire Emergency Services (FES) Program*, and local procedures. (T-3).

5.1.4.10. Report the results of fire exit/response drills to the EOC Committee.

5.1.4.11. Review waste handling procedures to ensure compliance with federal, state, and local hazardous materials and regulated medical waste management. Ensure supervisors document hazardous materials and regulated medical waste training on AF Form 55 IAW AFI 91-203.

5.1.5. Real Property Custodian will:

5.1.5.1. Use DMLSS-FM Customer Service module to request and monitor all sustainment and repair activities for the department/service.

5.2. Inspection Program. Upon request of the Wing Commander or equivalent IAW AFI 90-201, *The Air Force Inspection System*, the AF Health Facilities Division, AFMSA/SG8F, may perform a Staff Assistance Visit (SAV) to prepare the MTF for TJC accreditation surveys including self-assessment, risk assessment, and management of EOC and LSC compliance.

5.3. Financial Management.

5.3.1. Facility Management will conduct an annual real property inventory and will ensure DMLSS-FM real property physical description are updated for all AFMS buildings to include Veterinary Clinics, WRM warehouses, and plant/energy buildings. ANG and AFRC, Drug Demand Reduction, Gymnasiums (space occupied by Health and Wellness Center), Fisher Houses, or Physiological Training Unit buildings will not be included in the inventory. Buildings or spaces within buildings that are MTF funded are coded in APSR by the BCE Resources Flight as Fund Code 2H for Defense Health Agency (DHA), Fund Code 0130 for Defense Health Program (DHP)/SRM, and Fund Code 0500 for Military Construction (MILCON)/ replacement. Each real property record will be individually changed in the APSR if organization code or fund code are incorrect.

5.3.2. Annual budget submissions will comply with financial management suspense dates generated by AFMSA/SG8F and AFMOA. Submission will be broken down by Element of Expense/Investment Code (EEIC) for installations using the legacy financial system or by Project, Task, Expenditure Type, and Organization (PTEO) for installations using Defense Enterprise Accounting and Management System (DEAMS). Budget submission will include materials, labor, supplies, utilities, BCE and/or other engineering support reimbursements, construction, and all contract service costs. (T-1).

5.3.3. Facility Management will monitor reimbursable expenses and contract costs. (T-3).

5.3.3.1. Work order logs and reports provided by BCE from the Interim Work Information Management System (IWIMS), the IWIMS replacement, ACES-Operations Module (ACES-Ops), or TRIRIGA will be used, to evaluate expenses. The work order logs will be automated within the DMLSS-FM Work Request module and work orders logs between BCE and MTF will be reconciled at least monthly. (T-1).

5.3.3.2. Facility Management located OCONUS will request statements of charges for work performed by host nation engineering support.

5.3.3.3. Facility Management will validate facility reimbursable costs from BCE with RMO.

5.3.3.4. Facility Management will review and validate utility bills prior to payment. The Facility Manager will confirm utility charge calculation methods, by square feet, actual

metered usage, or personnel loads, and track the costs to monitor trends or spikes in costs. (T-3).

5.3.3.5. Facility Management will provide AFMSA/SG8F, the funded amounts for SRM, Initial Outfitting (IO), and Other Procurement (OP) contracted services, repairs, construction and purchases upon award of contract. For facility operations and other engineering services contracts, Facility Management will provide Resource Management upon award of contract. (T-3).

5.4. EOC Committee:

5.4.1. The EOC Committee will meet not less than quarterly. Membership will be IAW TJC standards, MTF policy, and will include at minimum, Squadron Commanders, three-letter offices, and representatives from clinical, administrative, and support services. (T-1).

5.4.2. The EOC Committee will:

5.4.2.1. Set policies and procedures for all TJC EOC management programs/plans and evaluates each program/plan effectiveness at least annually and submits reviews to Executive Committee for approval.

5.4.2.2. Develop MTF safety policies and standards to be implemented when approved by the MTF Executive Committee. (T-3).

5.4.2.3. Evaluate EOC discrepancies, develop recommendations for corrective action, and ensure corrective measures are implemented. (T-0).

5.4.2.4. Oversee accident and injury investigations, ensuring the MTF reports and resolves all hazards related to occupational illnesses, injuries to patients/visitors, staff injuries, and other situations that pose a threat to life, health, and property. (T-0).

5.4.2.5. Monitor, report, and investigate security incidents within its facilities. (T-0).

5.4.2.6. Develop, review, and evaluate safety education, fire prevention, and applicable fire drills. (T-0).

5.4.2.7. Assess equipment failures or user errors that result in an incident report and review relevant equipment hazard reports. (T-0).

5.4.2.8. Review hazardous material and waste spills and exposure. (T-0).

5.4.2.9. Review utility systems management problems, failures, or use errors. (T-0).

5.4.2.10. Ensure implementation of a risk assessment program which evaluates: the risk to patient care, staff and visitor, and safety of the equipment, buildings, grounds, and internal building systems. This risk assessment will incorporate any remodeling or construction projects. (T-0).

5.4.2.11. Direct an annual written review of the data and trends collected in paragraph 5.4.2.1 through paragraph 5.4.2.9 IAW TJC EC.04.01.01. (T-0).

5.5. Fire Protection and Prevention Program.

5.5.1. The MTF requires additional protection beyond that provided in the base program defined in AFI 32-2001, due to the limited mobility of ill and bedridden patients. MTFs classified as a healthcare occupancy, ambulatory healthcare occupancy, or business

occupancy will comply with applicable fire protection/prevention standards from NFPA 101 and TJC standards. (T-0).

5.5.2. The fire prevention and protection program will include: documentation of code compliance, review of design and construction, documentation of inspection/testing of fire warning/suppression systems, documentation of testing and maintenance of individual devices IAW TJC accreditation standards, UFC 3-601-02, *Operations and Maintenance: Inspection, Testing, and Maintenance of Fire Protection Systems*, and the MTF fire protection and evacuation plans.

5.5.3. A qualified fire inspector will inspect the MTF annually for compliance IAW NFPA standards. (T-0).

5.5.4. Facility Management will maintain life safety drawings or documents showing the locations of fire protection features, including fire/smoke barriers, within the MTF buildings. (T-0).

5.5.5. Fire Detection and Alarm System. Facility Management will ensure the installation, testing, and maintenance of the fire detection and alarm systems IAW NFPA 101, NFPA 72, *National Fire Alarm and Signaling Code*, and UFC 3-601-02, and will maintain required documentation IAW TJC standards.

5.5.5.1. Facility Management will coordinate with the MTF maintenance contractor and/or BCE to establish schedules for testing, inspecting, and maintaining fire alarm and fire detection systems and ensure compliance with NFPA standards. (T-0).

5.5.5.2. Testing and maintenance will be conducted using a Real Property Installed Equipment (RPIE) inventory listing with pass/fail columns indicating results. Documentation will be available showing the "Fail, Repair/Replace, Retest and Pass" process. Results will be entered in the DMLSS-FM Module. (T-0).

5.5.5.3. Facility Management will compare testing results to previous years to identify any adverse trends or discrepancies in the inventory.

5.5.6. Fire Extinguishing Systems. Facility Management will ensure all automatic fire-extinguishing systems are inspected, tested, and maintained IAW NFPA 13, *Standard for the Installation of Sprinkler Systems*, and NFPA 25, *Standard for Inspection, Testing, and Maintenance of Water Based Fire Protection Systems*. (T-1).

5.5.6.1. Facility Management will develop a program to manage portable fire extinguishers IAW NFPA 10, *Standard for Portable Fire Extinguishers*, AFI 91-203, paragraph 6.2.4.10. The BCE Fire Protection Flight trains personnel on use of portable extinguishers when not accomplished by supervisors or maintenance contractor. (T-1).

5.5.6.2. Facility Management will coordinate with section supervisors, or as dictated by local policy, to inspect portable fire extinguishers monthly. These inspections will be documented with the day/month/year along with the inspector's initials IAW AFI 91-203. (T-1).

5.5.7. Fire Response Plan. Facility Management will develop a written fire response plan IAW AFI 91-203, TJC Accreditation Manual and approved by the installation fire protection services. (T-0).

5.5.8. Fire Exit/Response Drills. Facility Management will conduct and document fire exit/response drills IAW NFPA 101 and TJC standards. Drills should be conducted at randomly scheduled times at least 1 hour apart under varying conditions, different days of the week. (T-3).

5.5.8.1. Facility Management will design fire exit drills to test MTF staff knowledge. Facility Management will ensure fire drill documentation is completed and reviewed to identify areas for improvement. MTF areas which fail will have more frequent drills until sufficient compliance is achieved. (T-0).

5.5.8.2. During fire exit drills, the Safety Officer and/or Fire Department evaluator will check proper alarm transmission, smoke and fire containment procedures, evacuation to areas of refuge, fire extinguisher use, and evacuation preparation. (T-0)

5.5.8.3. Facility Management will have written documentation of fire drills by using a critique to evaluate fire safety equipment, fire safety building features, and staff response to fire. The critique will include date and time of the drill, location, personnel participating (number and sections), staff actions during drill, problems identified, corrective actions taken, and an overall assessment of drill procedures, making note to include applicable information for inpatient facilities (e.g., did staff use the “defend in place” concept). (T-0)

5.6. Security and Resource Protection.

5.6.1. The Resource Protection Program Manager (RPPM) will develop the MTF security/resource protection program IAW AFI 31-101, DoD 6025.18- R, DoD 8580.02- R, and AFI 41- 210, **Chapter 6**. (T-0).

5.6.2. The RPPM will maintain a central file with all resource protection surveys conducted by Security Forces (SF). Controlled Area Monitors will maintain original survey documentation and forward copies to Facility Management. (T-2).

5.6.3. In coordination with SF, Facility Management will plan, implement, and monitor the MTF security program. Facility Management will:

5.6.3.1. Maintain proper lighting for entrances, parking lots, and sidewalks.

5.6.3.2. Ensure MTF is secured after normal duty hours.

5.6.3.3. Implement appropriate annexes in the MCRP for use during emergencies and exercises.

5.6.3.4. Ensure resource protection plan or Security Management Plan addresses controlled areas requiring security alarm systems, vaults and safes, Pharmacy, Medical Logistics, Veterinary clinics, IAW AFI 31-101.

5.6.3.5. Ensure adequate physical security to protect critical utility systems, such as emergency generators, medical gas supplies, fuel supplies, overhead paging systems, and primary electrical distribution systems.

5.6.3.6. Report thefts and security protection problems.

5.6.3.7. Perform and document security exercises IAW MTF specific Policies and Procedures.

5.6.3.8. Coordinate with Medical Readiness to incorporate, define, and train MTF staff on standardized and plain language response codes for use within the MTF. Plain language shall meet the following two criteria: easy to understand and staff members are trained on required actions for each response code. At a minimum, the following list of response codes will be used throughout the MTF: (T-0).

5.6.3.8.1. Code Black for bomb threat.

5.6.3.8.2. Code Red for fire protection.

5.6.3.8.3. Code Blue for medical emergency.

5.6.3.8.4. Code Pink for infant/child Abduction.

5.6.3.8.5. Code Orange for hazmat spill/release.

5.6.3.8.6. Code Gray for an armed or dangerous person in the area.

5.6.3.8.7. Other command specific codes for other emergency responses.

5.6.4. Accredited MTFs will conduct quarterly scheduled drills to test staff knowledge of the response codes. Document the exercise, report results at EOC Committee and use the results to identify opportunities to resolve environmental safety issues and/or develop a performance improvement initiative based upon the analysis of the post incident reports. (T-0).

5.6.5. Ensure intrusion detection equipment is located, installed, and tested IAW AFI 31-101. (T-0).

5.6.6. Establish and maintain a key control program including key cards, codes, and combinations IAW AFI 31-101. (T-3).

5.7. Emergency Management.

5.7.1. The emergency management plan for AF MTFs is known as the MCRP and is maintained by the Medical Readiness IAW AFI 41-106, *Medical Readiness Program Management*. The MCRP addresses all internal and external emergency incident planning and response. (T-1).

5.7.1.1. Facility Management will coordinate with Medical Readiness on the MCRP affecting the physical plant and utility systems, and ensure the MCRP is synchronized, informed, and referenced with the Installation Emergency Management Plan (IEMP) 10-2 and corresponds to the BCE Contingency Response Plan. Facility Management will maintain the Facility Management annex (and other applicable annexes, e.g. safety, security, etc.) and will review other MCRP annexes, as required and to ensure coordination with the BCE Contingency Response Plan outlined in AFI 10-211. (T-1).

5.7.1.2. Under the MCRP, Facility Management may be tasked to support:

5.7.1.2.1. Security and facility access by Security Forces or designated manpower team. (T-3).

5.7.1.2.2. Vehicular traffic control by Security Forces or designated team. (T-3).

5.7.1.2.3. Loss of utilities/systems such as electrical distribution, water, medical gases, Heating, Ventilation, and Air Conditioning (HVAC), and escalators/elevators. (T-2).

5.7.1.2.4. Emergency utility shut-off procedures. (T-2).

5.7.1.2.5. Preparation, inspection, and use of the designated alternate location IAW AFI 41-206. (T-2).

5.8. Service Contracts and Surveillance.

5.8.1. Facility Management will contract for maintenance and other services IAW AFI 41-209.

5.8.2. Facility Management will coordinate applicable service contracts with BCE to avoid duplication. (T-2).

5.8.2.1. Facility Management will annually review contracts for necessary terms and conditions. (T-2).

5.8.2.2. The requiring activity Squadron Commander nominates surveillance personnel. Surveillance personnel responsibilities will be performed IAW contract terms and AFI 41-209. If surveillance personnel are assigned from BCE or other non MTF agency, BCE or other agency will coordinate surveillance reports with Facility Management. (T-3).

5.8.3. Surveillance personnel will use the DMLSS-FM QA module to validate the preventive and corrective maintenance. (T-3).

5.9. Facilities Operation, Maintenance, and Repair.

5.9.1. Facility Management will:

5.9.1.1. Coordinate with BCE and other support engineering staff IAW AFI 32-1001, *Operations Management*, and local BCE policies on real property operation, maintenance, repair, and projects. (T-1).

5.9.1.2. Annually review operations and maintenance management/PM Plan with BCE and/or other support engineering staff IAW AFI 32-1001. Document review and provide written report to the MTF EOC Committee with copy provided to BCE. This report will be an overview of open and completed work orders used to identify trends and opportunities for improvement or planned modernization projects. (T- 2).

5.9.1.3. Ensure BCE and/or other support engineering staff, properly document MTF real property operation, maintenance, repair, and projects. Documentation will be maintained IAW TJC EOC standards that require documents for compliance. TJC EC standards will be marked with a D in the Comprehensive Accreditation Manual for Hospitals (CAMH) and Comprehensive Accreditation Manual Ambulatory Care (CAMAC) (T-3).

5.9.1.4. Provide technical input to BCE and/or other support engineering staff on real property operation, maintenance, repair, and project requirements and priorities. (T-3).

5.9.1.5. Coordinate grounds maintenance and pest control programs IAW AFI 32-1001, and AFI 32-1053, *Integrated Pest Management Program*, with BCE. (T-3).

5.9.1.6. Develop a written Utility Contingency Plan that includes procedures for extended outages, for responding to system disruptions, for shutting off malfunctioning systems, and for notifying staff in affected areas. The plan should also include performing emergency clinical interventions during utility system disruptions and

instructions for obtaining emergency repair services. Utility system controls will be labeled to facilitate partial or complete emergency shutdowns. (T-2).

5.9.1.7. Review base support agreement to ensure BCE planned response to contingency adequately supports MTF requirements. (T-2).

5.9.1.8. Brief MTF EOC Committee on building systems failures, and resolution. (T-2).

5.9.1.9. Verify installed building system blueprints and diagrams are readily available and accurately indicate emergency shutdown controls for all utility systems. (T-2).

5.9.2. Preventative Maintenance (PM) Plan.

5.9.2.1. Identifies PM on all RPIE. IAW AFI 32-9005, *Real Property Accountability and Reporting*.

5.9.2.2. Includes all MTF RPIE and utility systems IAW AFI 32-1001 and the Utility Management Plan, DMLSS. (T-3).

5.9.2.3. Facility Management will work with BCE to ensure RPIE PM is established at appropriate frequencies IAW manufacturer requirements, NFPA, and TJC standards. (T-0).

5.9.2.4. Facility Management will ensure completion of all electrical safety requirements IAW [Chapter 4.2](#). (T-3).

5.9.2.5. Documentation of work performed within the PM Plan will include a combination of DMLSS-FM and hardcopy records. Hardcopy records will be maintained IAW TJC standards. (T-3).

5.9.3. Managing Requests for Work.

5.9.3.1. Prepare Service Request in TRIRIGA or, if TRIRIGA is not deployed at the base, prepare AF Form 332, *Base Civil Engineer Work Request*, for BCE or other support engineers for work requirements. (T-3).

5.9.3.2. Maintain either electronic or manual logs and records of all work requests submitted to BCE and/or other support engineers. MTFs will maintain all work requests in DMLSS-FM if available. (T-3).

5.9.3.3. Coordinate work schedules with the MTF staff as needed to minimize disruption to patient care. (T-3).

5.9.3.4. For all contractors or maintenance personnel working in the MTF on a temporary basis, maintain a log that includes arrival and departure times, organization or company, work order or purchase order number, names, and destinations within the MTF. (T-3)

5.9.3.5. Self-help projects will be reviewed by and coordinated with BCE and/or other support engineers. (T-3).

5.10. DMLSS-FM.

5.10.1. Facility Management will use DMLSS-FM including applicable modules. Facility Management will ensure DMLSS accurately reflects the Plant Replacement Value (PRV) for

all assigned buildings found on the World Class Toolkit at <https://home.facilities.health.mil/>. (T-2).

5.10.2. The Facility Manager ensures maintenance contractor uses DMLSS-FM and maintains all applicable data IAW AFMAN 41-216. (T-3).

5.11. Facility Sustainment, Restoration, and Modernization (SRM).

5.11.1. Facility Management will coordinate with Health Facilities Division, MAJCOM, BCE and/or other support engineers to develop plans for addition, alteration, and replacement MILCON and SRM projects. Assist BCE and/or other support engineers with the completion of DD Form 1391, *Military Construction Project Data*, for all MILCON projects and Minor Construction (MC) projects IAW AFI 32-1021, *Planning and Programming Military Construction (MILCON) Projects*. (T-3).

5.11.2. Facility Management coordinates with the MLFC, MEMO, Medical Maintenance, and Medical Information Systems Flight for equipment installation on MILCON initial outfitting requirements and SRM. (T-3).

5.12. Medical Facility Improvement Plan (MFIP).

5.12.1. The MFIP will identify current and future SRM requirements to support the MTF mission IAW AFI 32-1021. The Facility Manager will brief the MFIP annually to the MTF executive staff and will document the brief in the meeting minutes. (T-3).

5.12.2. MFIP Content and Organization. The following reports will be included in the development of the MFIP (see AFMAN 41-216, DMLSS-FM Module):

5.12.2.1. Facility inventory. (T-3).

5.12.2.2. Facility Assessment Study (FAS). (T-3).

5.12.2.3. Contracts supporting facility operations. (T-3).

5.12.2.4. Energy Star rating. (T-3).

5.12.2.5. Monthly PM and Contract Maintenance (CM) completion rates. (T-3).

5.12.2.6. Five-year review of projects for each facility. (T-3).

5.12.2.7. Three-year requirements for each facility. (T-3).

5.13. Facility Utilization.

5.13.1. An MTF representative (Facility Manager or Administrator designee) will attend the Base Facility Utilization Board and the Facility Utilization Working Group. (T-3).

5.13.2. Facility Management will provide an annual report of square feet utilized by section to the MTF Resource Manager for use in the Medical Expense and Reporting System (MEPRS). Facility Management will update the MTF BBI within the SOC to reflect any changes in square footage and building occupancy types. (T-3).

5.13.3. The MTF Commander or Administrator will request a FAS at least every five years. A FAS can be requested more often as required. AFMSA/SG8F provides space planning criteria and conducts facility utilization surveys. (T-3).

5.13.4. The Medical Space Utilization Function (SUF), chaired by the MTF Administrator or representative, will evaluate space requirements and provide recommendations to the MTF executive committee, as required. (T-3).

5.14. Facility Signage.

5.14.1. Facility Management will coordinate with the administrator and executive staff to standardize signage IAW the AFMSA/SG8F Interior Design Guide. Facility Management ensures all signs inside and outside the MTF are in compliance with all applicable codes and standards. (T-3).

5.15. Housekeeping/ Hospital Aseptic Management Services (HAMS).

5.15.1. Facility Management will manage housekeeping functions. (T-3).

5.15.2. AFMSA/SG8F will establish policies and develop the master PWS for the housekeeping/HAMS contracting program. (T-3).

5.15.3. The Individual Medical Facility Exhibit (IMFE) tailors the general housekeeping PWS to the local MTF. The Facility Manager develops and coordinates the IMFE with key MTF staff (infection control, nursing services, and hospital/clinical services) prior to contract solicitation. (T-3).

5.15.4. Facility Management will request contract changes/modifications through AFMSA/SG8F. (T-3).

5.15.5. Facility Management will monitor compliance IAW the terms of the contract (HAMS, base custodial, local services, etc.). (T-3).

5.15.6. Facility Management will develop a contingency plan to provide service if contract services are suspended or terminated because of a labor strike or contractor default. (T-3).

5.15.7. MTFs not using the HAMS central contract can obtain a housekeeping PWS from AFMSA/SG8F and implement a base-level service contract IAW AFI 41-209, [Chapter 4](#). (T- 3).

5.15.8. Use DMLSS-FM as source data and documentation for HAMS/Housekeeping Contracts. The cleaning requirement of each room will be captured in the Room Inventory module of the DMLSS-FM system. (T-3).

5.16. Waste Management.

5.16.1. Segregation, Handling, and Storage.

5.16.1.1. For RMW, MTF staff will use bags of appropriate size, weight, type, and color or mark bags with the universal biohazard symbol IAW federal, state, local, and host nation regulations. The MTF will use appropriate bags when waste requires sterilization. (T-0).

5.16.1.1.1. Fluids. MTF staff will utilize packaging appropriately marked with the biohazard symbol for quantities greater than 20cc IAW state and local MTF Infection Control procedures. (T-3).

- 5.16.1.1.2. Sharps. MTF staff will utilize serviceable sharps container appropriately marked with the biohazard symbol IAW local MTF Infection Control procedures. (T-3).
- 5.16.1.2. General Waste. MTF staff will segregate general waste from RMW IAW state, local, and BCE, procedures IAW AFI 32-7042. Housekeeping will collect RMW using covered transport carts separate from general waste. (T-3).
- 5.16.1.3. Carts are stored in an access controlled and locked area prior to treatment and/or disposal IAW local procedures. Storage areas will be environmentally controlled with ventilation to maintain the integrity of packaging. (T-3).
- 5.16.1.4. Housekeeping staff will immediately report inappropriate segregation of trash to the Facility Manager for corrective action. Housekeeping staff will not handle inappropriately disposed RMW items. (T-3).
- 5.16.1.5. MTF staff will follow local MTF procedures for RMW spills. (T-3).
- 5.16.2. DoT Category A infectious substances and waste, as defined in 49 CFR Section 173.134., *Class 6, Division 6.2—Definitions and exceptions*, are infectious substances in a form capable of causing permanent disability or fatal disease when exposure occurs. DoT Category A infectious wastes include liquids and used materials that have been contaminated with the infectious diseases such as but not limited to: the Ebola and Marburg viruses and other highly contagious, disabling, and fatal viruses and bacteria.
- 5.16.2.1. DoT Category A infectious waste will be segregated from all other general waste and RMW. (T-0).
- 5.16.2.2. DoT Category A infectious waste will be handled, packaged, and transported IAW procedures in 49 CFR, Section 173.196, *Category A Infections Substances*. (T-0).
- 5.16.3. General Waste Collection, Disposal, and Recycling.
- 5.16.3.1. BCE is overall responsible for solid waste collection and disposal service, not including RMW or DoT Category A infectious waste, IAW AFI 32-7042 and AFI 32-1061, *Providing Utilities to U.S. Air Force Installations*, and AFI 91-203. MTF staff will also follow AFI 32-7042 for handling and disposal of universal waste IAW 40 CFR, Part 273, *Standards for Universal Waste Management*. (T-0).
- 5.16.3.2. Facility Management will ensure waste collection frequency minimizes storage of waste near or within the MTF. (T-3).
- 5.16.3.3. Facility Management will ensure waste and recycling contracts meet MTF requirements for holidays and non-duty hours. Contracts may need to include provisions for continuous operation. (T-3).
- 5.16.3.4. Facility Management will monitor and ensure compliance with local landfill regulations and requirements. (T-3).
- 5.16.4. RMW.
- 5.16.4.1. Facility Management will develop and implement plan for RMW IAW AFI 44-108, *Infection Prevention and Control Program*. (T-3).

5.16.4.2. Facility Management will develop and submit the RMW plan to the Infection Control Committee (ICC) for review and approval. The FM provides the approved RMW plan to the MLFC for incorporation into the MTF hazardous materials or hazardous waste management plan IAW TJC, DoT (RMW waste is defined by the DoT as a hazardous material), and OSHA regulations and standards. (T-1).

5.16.4.3. RMW is defined by OSHA and DoT as “liquid or semi-liquid blood or other potentially infectious materials; contaminated items that would release blood or other potentially infectious materials in a liquid or semi-liquid state if compressed; items that are caked with dried blood or other potentially infectious materials and are capable of releasing these materials during handling; contaminated sharps; and pathological and microbiological wastes containing blood or other potentially infectious materials.” RMW is managed IAW applicable federal, state, and local regulations including applicable host nation regulations for MTFs located outside the 50 United States. Facility Management will consult with the appropriate state, local, and host nation agencies to research the applicable regulations regarding RMW management. (T-0).

5.16.4.4. Facility Management will:

5.16.4.4.1. Maintain copies of applicable federal, state, and local regulations (including Status of Forces Agreements (SOFA) and Final Governing Standards for OCONUS locations). (T-2).

5.16.4.4.2. Budget, oversee, and provide surveillance services for contracts necessary to dispose of RMW off-site. (T-3).

5.16.4.4.3. Obtain waste generator permit, as required, through BCE (Base Environmental Services and Base Environmental Coordinator). (T-2).

5.16.4.4.4. Maintain copies of manifests that track disposal of RMW for the time specified IAW state and local regulations. (T-0).

5.16.4.4.5. Meet regularly with housekeeping to ensure they understand the requirements of the waste management plan. (T-3).

5.16.4.4.6. Develop and coordinate contingency plans with the BCE concerning disposal of RMW during emergencies. The plans will include alternative arrangements for the disposal of RMW in case of equipment (incinerator, autoclave, shredder, grinder, etc.) or contract failure. (T-1).

5.16.5. On-Site Disposal of RMW.

5.16.5.1. If disposal of waste is handled on-site, the Facility Manager will oversee the operation of the disposal device. The facility treats or disposes of RMW IAW state and local laws and regulations. The MTF may treat medical waste on-site using sterilization, grinding, shredding, or other approved methods. (T-3).

5.16.5.2. Sterilization. RMW may be sterilized and transported to a landfill IAW local regulations. OCONUS locations will operate IAW applicable Final Governing Standards for permissible direct disposal methods. (T-0).

5.16.5.3. Grinding or Shredding. Facility Management will grind or shred waste rendering solid RMW into unrecognizable pulp. Facility Management will obtain

approval through BCE for local environmental regulation compliance before operating the grinder or shredder. (T-3).

5.16.5.4. Regulated Medical Waste treated on-site prior to transport off-site for disposal will be prepared and handled IAW all pre-transport requirements and local regulations regarding segregation, packaging, and labeling of treated RMW. (T-3).

5.16.5.5. Facility Management will keep a destruction or treatment operating log for each destruction or treatment device. The logs will include: the date of each treatment or destruction cycle, the length of the treatment or destruction cycle, the total weight of waste destroyed per destruction cycle, and an estimate of the weight of RMW destroyed per destruction cycle. (T-1).

5.16.5.6. Facility Management will submit copies of destruction/treatment logs to the state or federal agencies requiring such documentation. Maintain copies of the destruction/treatment logs IAW AFRDS Table 41-04, Rule 33.00. (T-0).

5.16.6. Off-Site Disposal of Regulated Medical Waste.

5.16.6.1. RMW not treated and disposed of on-site will be packaged for transportation to an off-site disposal facility IAW all state and local laws and regulations. (T-2).

5.16.6.2. Mark each individual container of untreated RMW, including sharps and fluid containers, being transported off-site with MTF or generator's name, generator's state permit number or address, transporter's name, and transporter's state permit or address. (T-3).

5.17. Energy Conservation Planning

5.17.1. The AFMSA/SG8F Facilities Operations and Engineering Branch Chief will serve as the AFMS Energy Manager and will manage energy issues for the AFMS. The BCE Base Energy Manager will manage energy issues at base level. Matters concerning energy consumption, reduction, projected or actual energy audits at the MTF will be coordinated with the Base Energy Manager and the AFMS Energy Manager. (T-3).

5.17.2. Facility Management is responsible for development and maintenance of the energy conservation plan in coordination with MTF Executive Committee IAW the Tricare Management Activity Energy and Water Efficient Operations and Maintenance Guidelines: Military Health System and AFRD 90-17, *Energy Management*. Facility Management will annually update and coordinate MTF energy conservation plan with the base energy manager. (T-0).

5.17.3. Conservation measures can be classified into six basic categories: awareness, maintenance, retrofit, replacement, new construction, and load shifting.

5.17.3.1. Awareness measures are low-cost or no-cost measures that result from user education.

5.17.3.2. Maintenance measures are low-cost ways to ensure peak performance from existing systems and continued high performance from new systems.

5.17.3.3. Retrofit provides technological improvements to existing buildings and equipment.

5.17.3.4. Replacement is the installation of high-efficiency equipment when existing equipment wears out. In addition, inefficient equipment should be replaced before its scheduled replacement time if economical.

5.17.3.5. New construction offers an unparalleled opportunity to install the most cost-effective HVAC system, lighting, and energy control equipment along with appropriate insulation, high-efficiency windows, and energy-saving design considerations.

5.17.3.6. Load shifting of electrical loads away from peak demand periods saves money when the local utility imposes “demand charges” based not just on kilowatt-hours (kWh) of energy used, but also on the highest kilowatt (kW) demand, or rate of use, over a certain period.

5.17.4. Energy conservation project funding sources may include government, public utilities, or private sector through Energy Savings Performance Contracts (ESPC). The AFMS Energy Manager and Base Energy Manager may offer potential funding sources.

5.17.4.1. Government. Funding through Operations and Maintenance (O&M) and MILCON from the Energy Conservation Investment Program (ECIP).

5.17.4.2. Public Utilities. Funding provided through demand side management programs.

5.17.4.3. ESPC. Private contractor evaluates, designs, finances, acquires, installs, and maintains energy saving equipment and/or systems for a client and receives compensation based on the energy consumption/cost savings performance of those equipment items/systems. Facility Managers will consult AFMSA/SG8F Facilities Operations and Engineering Branch for approval to enter into ESPC contracts. (T-3).

5.18. Linen Supply

5.18.1. Medical linen supply may be supported by laundry service provided by contract, Inter Service Support Agreement (ISSA), Memorandum of Agreement (MOA), or combination. Procedures for control and exchange of linen and the use of contract services are in AFI 34-135, **Chapter 6**, *AF Lodging Program*.

5.18.2. Linen storage and distribution services should be included in contracts or local Base Contracting managed housekeeping contracts IAW AFI 44-108. For MTFs using HAMS, the PWS for HAMS services, Section 5, provides guidance to include the hospital linen supply function as a part of the housekeeping activity. The HAMS PWS and execution assistance can be obtained from AFMSA/SG8F. (T-3).

5.18.3. The MLFC will appoint a Non Commissioned Officer (NCO) or a GS-04/WG-04 or above civilian as the Linen Supply Officer (LSO). (T-3).

5.18.4. The LSO will:

5.18.4.1. Oversee MTF laundry and/or linen services, serve as the contract Functional Requirements Evaluator Designee (FRED), and ensure all PWSs, ISSAs, and MOAs clearly state the evaluation criteria (cleanliness, shrinkage, turnaround time, etc.) on which contractor performance will be based. (T-3).

5.18.4.2. Maintain linen records. (T-2).

5.18.4.3. Advise the MTF Infection Control Committee on issues relating to linen management. (T-3).

5.18.4.4. Ensure linens are handled and transported IAW AFI 44-108, paragraph 3.11.3.

5.18.5. Linen Supply Records. Use AF Form 581, *Medical Linen Supply Record* (or a similar computerized linen record keeping system developed at the MTF level), to record all items under the control of linen supply. (T-3).

5.18.6. Laundering Organizational Clothing. Organizational clothing may be laundered under the MTF contract/ISSA/MOA.

MARK A. EDIGER, Lieutenant General, USAF,
MC, CFS
Surgeon General

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

21 CFR, *Food and Drugs*

40 CFR, Part 273, *Standards for Universal Waste Management*

NFPA 10, *Standard for Portable Fire Extinguishers*, 2013

NFPA 13, *Standard for the Installation of Sprinkler Systems*, 2013

NFPA 25, *Standard for Inspection, Testing, and Maintenance of Water Based Fire Protection Systems*

NFPA 70, *National Electrical Code*, 2014

NFPA 99, *Health Care Facilities Code*, 2015

NFPA 101, *Life Safety Code*, 2012

NFPA 110, *Standard for Emergency and Standby Power Systems*, 2013

DoD 6025.18- R, *DoD Health Information Privacy Regulation*, 24 January 2003

DoDI 8580.02, *Security of Individually Identifiable Health Information in DoD Health Care Programs*, 12 August 2015

UFC 3-501-01, *Electrical Engineering*, 06 October 2015

UFC 3-560-01, *Electrical Safety, O&M*, 06 December 2006

UFC 3-601-02, *Operations and Maintenance: Inspection, Testing and Maintenance of Fire Protection Systems*, 8 September 2010

UFC 4-510-01, *Design: Military Medical Facilities with Change 1*, 01 May 2010

AFPD 41-2, *Medical Support*, 28 June 2013

AFPD 90-17, *Energy Management*, 29 November 2011

AFI 10-2501, *Air Force Emergency Management Program*, 19 April 2016

AFI 10-403, *Deployment Planning and Execution*, 20 September 2012

AFI 25-101, *Air Force War Reserve Materiel (WRM) Guidance and Procedures*, 14 January 2015

AFI 25-201, *Intra-Service, Intra-Agency, and Inter-Agency Support Agreements Procedures*, 18 October 2013

AFI 31-101, *Integrated Defense (FOUO)*, 08 October 2009

AFI 32-1001, *Operations Management*, 16 October 2014

AFI 32-1021, *Planning and Programming Military Construction (MILCON) Projects*, 31 October 2014, 25 February 2016

AFI 32-1053, *Integrated Pest Management Program*, 20 November 2014

AFI 32-1061, *Providing Utilities to U.S. Air Force Installations*, 27 January 2016

AFI 32-1062, *Electrical Systems, Power Plants and Generators*, 15 January 2015

AFI 32-1065, *Grounding Systems*, 12 January 2015

AFI 32-2001, *Fire Emergency Services (FES) Program*, 27 February 2014

AFI 32-9005, *Real Property Accountability and Reporting*, 04 March 2015

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AFI 34-135, *Air Force Lodging Program*, 24 September 2016

AFI 40-102, *Tobacco Free Living*, 04 March 2015

AFI 41-106, *Medical Readiness Program Management*, 22 April 2014

AFI 41-209, *Medical Logistics Support*, 06 October 2014

AFI 41- 210, *TRICARE Operations and Patient Administration Functions*, 06 June 2012

AFI 44-108, *Infection Prevention and Control Program*, 11 December 2014

AFI 44-119, *Medical Quality Operations*, 16 August 2011

AFI 48-148, *Ionizing Radiation Protection*, 20 November 2014

AFI 90-201, *The Air Force Inspection System*, 21 April 2016

AFI 91-202, *The US Air Force Mishap Prevention Program*, 24 June 2012

AFI 91-203, *Air Force Consolidated Occupational Safety Instruction*, 15 June 2012

AFI 91-204, *Safety Investigations and Reports*, 12 February 2014

AFMAN 24-204 (IP), *Preparing Hazardous Materials for Military Air Shipments*, 03 December 2012

AFMAN 33-282, *Computer Security (COMPUSEC)*, 27 March 2012

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

AFMAN 41-216, *Defense Medical Logistics Standard Support (DMLSS) User's Manual*, 13 February 2013

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

T.O. 33K-1-100-1, *Technical Manual Calibration Procedure for Maintenance Data Collection Codes and Calibration Measurement Summaries*, current edition

T.O. 33K-1-100-2, *Equipment Calibration Requirements List*

ANSI S3.6-1996, *Specification for Audiometers*

Prescribed Forms

AF Form 509, *Medical Equipment Maintenance Record*
AF Form 1763, *Medical Maintenance Manual Work Order*
AF Form 4033, *PMI/AE Certification Label*
AF Form 581, *Medical Linen Supply Record*

Adopted Forms

DD Form 1348-1A, *Issue Release/Receipt Document*
DD Form 1391, *Military Construction Project Data*
DD Form 1574, *Serviceable Tag-Materiel*
DD Form 1577, *Unserviceable (Condemned) Tag-Materiel*
DD Form 1577-2, *Unserviceable (Reparable) Tag-Materiel*
DD Form 2163, *Medical Equipment Verification/Certification*
AF Form 55, *Employee Safety and Health Record*
AF Form 332, *Base Civil Engineer Work Request*
AF Form 765, *Medical Treatment Facility Incident Statement*
AF Form 847, *Recommendation for Change of Publication*
AF Form 979, *Danger Tag*
AF Form 980, *Caution Tag*
AF Form 1487, *Fire Prevention Visit Report*
FDA Form 3500A, *Voluntary MedWatch Report*
SF Form 368, *Product Quality Deficiency Report*
AF Form 980, *Caution Tag*
AF Form 979, *Danger Tag*
AFTO Form 350, *Repairable Item Processing Tag*

Abbreviations and Acronyms

ACES—Automated Civil Engineer System
AE—Aeromedical Evacuation
AF—Air Force
AFI—Air Force Instruction
AFMAN—Air Force Manual
AFMETCAL—Air Force Metrology and Calibration
AFML—Air Force Medical Logistics

AFMOA—Air Force Medical Operations Agency
AFMOA/SGALE—AFMOA, Medical Logistics Division, Clinical Engineering Branch
AFMS—Air Force Medical Service
AFMSA—Air Force Medical Support Agency
AFMSA/SG8F—AFMSA, Health Facilities Division
AFPD—Air Force Policy Directive
AFRC—Air Force Reserve Command
AFSC—Air Force Specialty Code
AFTO—Air Force Technical Order
AHJ—Authority Having Jurisdiction
AMC—Air Mobility Command
ANG—Air National Guard
ANSI—American National Standards Institute
APSR—Accountable Property System of Record
ARC—Air Reserve Component
AWG—American Wire Gauge
BBI—Basic Building Information
BCE—Base Civil Engineer or Engineering
BEE—Bioenvironmental Engineer
BMET—Biomedical Equipment Technician
CAMAC—Comprehensive Accreditation Manual Ambulatory Care
CAMH—Comprehensive Accreditation Manual for Hospitals
CDRH—Center for Devices and Radiological Health
CERFP—Chemical, Biological, Radiological, Nuclear and High-Yield Explosive Enhanced Response Force Package
CFM—Career Field Manager
CFR—Code of Federal Regulations
CM—Contract Maintenance
COR—Contracting Officer’s Representative
CSDC—Consolidated Storage and Deployment Centers
DEAMS—Defense Enterprise Accounting and Management System
DHA—Defense Health Agency
DHP—Defense Health Program

DIACAP—DoD Information Assurance Certification and Accreditation Process

DLA—Defense Logistics Agency

DLA-DS—Defense Logistics Agency-Disposition Services

DLA-TS—Defense Logistics Agency-Troop Support

DMLSS—Defense Medical Logistics Standard Support

DoD—Department of Defense

DoT—Department of Transportation

ECIP—Energy Conservation Investment Program

ECMM—Expeditionary/Contingency Medical Materiel

ECN—Equipment Control Number

EDF—Equipment Data File

EEIC—Element of Expense/Investment Code

EOC—Environment of Care®

EPA—Environmental Protection Agency

ERAA—Equipment Review and Authorization Activity

ESC—Evidence of Standard Compliance

ESPC—Energy Savings Performance Contract

ETL—Engineering Technical Letter

FAS—Facility Assessment Study

FC—Functional Commander

FCI—Facility Condition Index

FDA—Food and Drug Administration

FDAMA—Food and Drug Administration Modernization Act

FM—Facility Management or Manager

FRED—Functional Requirements Evaluator Designee

FYDP—Future Year Defense Plan

GFCIs—Ground Fault Circuit Interrupters

HAMS—Hospital Aseptic Management System

HFD—Health Facility Division

HIPAA—Health Insurance Portability and Accountability Act

HVAC—Heating, Ventilation, and Air Conditioning

IAW—In Accordance With

ICC—Infection Control Committee
ICRA—Infection Control Risk Assessment
IEMP—Installation Emergency Management Plan
ILSM—Interim Life Safety Measures
IMFE—Individual Medical Facility Exhibit
ISO—International Standards Organization
ISSA—Inter Service Support Agreement
IT—Information Technology
IWIMS—Interim Work Information Management System
LIM—Line Isolation Monitor
LSC—Life Safety Code
LSO—Linen Supply Officer
MAJCOM—Major Command
MAV—Management Assist Visit
MC—Minor Construction
MC-CBRN—Medical Counter Chemical, Biological, Radiological, and Nuclear
MCRP—Medical Contingency Response Plan
MDS2—Manufacturer Disclosure Statement for Medical Device Security
MEMO—Medical Equipment Management Office
MEPRS—Medical Expense and Performance Reporting System
MERC—Medical Equipment Repair Center
MFIP—Medical Facility Improvement Plan
MFM—MAJCOM Functional Manager
MILCON—Military Construction
MLFC—Medical Logistics Flight Commander
MLG—Medical Logistics Guide
MMQC—Medical Materiel Quality Control
MMR—Maintenance Management Report
MOA—Memorandum of Agreement
MOU—Memorandum of Understanding
MRA—Maximum Repair Allowance
MTF—Military Treatment Facility

NCO—Non Commissioned Officer
NCOIC—Non Commissioned Officer In Charge
NIST—National Institute of Standards and Technology
NFPA—National Fire Protection Association
O&M—Operations and Maintenance
OCONUS—Outside Continental United States
OCR—Office of Coordinating Responsibility
OEM—Original Equipment Manufacturer
OIC—Officer In Charge
OPR—Office of Primary Responsibility
OSHA—Occupational Safety and Health Administration
PCRA—Pre-Construction Risk Assessment
PCRI—Post Calibration Radiation Inspection
PFI—Plans for Improvement
PHI—Protected Health Information
PIT—Platform Information Technology
PM—Preventive Maintenance
PM—Portfolio Manager, Program Manager
PMEL—Precision Measurement Equipment Laboratory
PMI—Patient Movement Items
POC—Point of Contact
PRV—Plant Replacement Value
PTEO—Project, Task, Expenditure Type, and Organization
PWS—Performance Work Statement
QA—Quality Assurance
QAE—Quality Assurance Evaluator
QA/RM—Quality Assurance/Risk Management
RMO—Resource Management Officer
RMW—Regulated Medical Waste
RPIE—Real Property Installed Equipment
RSV—Readiness Skills Verification
SAV—Staff Assistance Visit

SF—Security Forces

SG—Surgeon General

SGX—Surgeon General, Readiness

SGXM—Surgeon General, Readiness Logistics

SMA—Service Maintenance Agreement

SMDA—Safe Medical Device Act

SOC—Statement of Conditions

SOFA—Status of Forces Agreements

SRM—Sustainment, Restoration, and Modernization

SUF—Space Utilization Function

TJC—The Joint Commission

TLAMM— Theater Lead Agent Medical Materiel

TMDE—Test, Measurement and Diagnostic Equipment

TO—Technical Order

TRIMEDS—Tri Service Medical Excess Distribution System

UFC—Unified Facilities Criteria

USC—United States Code

WRM—War Reserve Materiel