

(September 2021)

PERFORMANCE CRITERIA
FOR

SECTION 11 81 00

FACILITY MAINTENANCE EQUIPMENT
09/21

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GENERAL

This Performance Criteria specifies the requirements for facility maintenance equipment.

1.1 REFERENCE

1.1.1 Unified Facilities Criteria (UFC)

Contractor must comply with the following:

- A. UFC 1-200-01 General Building Requirements
- B. UFC 1-200-02 High Performance and Sustainable Building Requirements
- C. UFC 4-510-01 Military Medical Facilities

1.1.2 Military Standard

- A. MIL-STD 1691 Construction and Material Schedule for Medical, Dental, Veterinary and Medical Research Laboratories

1.1.3 National Fire Protection Association (NFPA)

- A. NFPA 99 Healthcare Facilities Code
- B. NFPA 101 Life Safety Code

1.1.4 Military Health System Standards

- A. Reserved for future

1.1.5 Underwriters Laboratories (UL)

- A. UL 60601-1 Medical and Electrical Equipment, Part 1: General Requirements for Safety

1.1.6 International Electrotechnical Commission (IEC)

- A. IEC 60601 Medical Electrical Equipment and Systems

1.1.7 Food and Drug Administration

- A. CFR Title 21, Chapter I

1.1.8 Occupational Safety & Health Administration

- A. OSHA 1910 Occupational Safety and Health Standards

1.1.9 National Association of Architectural Metal Manufacturers

- A. NAAM/AMP 500-06 Metal Finishes Manual

1.1.10 Other Standards

- A. Reserved for future

2.1 DESCRIPTION & MATERIALS

All requirements within the MIL-STD 1691 JSN descriptions must be met as well as the performance guidelines listed in the following descriptions.

2.1.1 All JSN'S

- A. Paints, fabrics, and finishes must be selected from the manufacturer's standard options for the specified model unless noted otherwise.
- B. All product finishes must be capable of maintaining sheen and color through warranty period when using industry standard cleaning and disinfection solutions.
- C. All display panel surfaces must maintain clarity through warranty period when using industry standard cleaning and disinfection solutions.
- D. All equipment that have components that are meant for reuse must be autoclavable or able to withstand industry standard cleaning and disinfection processes.
- E. Electrified equipment must be 115 Volt 15 amp maximum unless noted otherwise.
- F. Casters provided must be designed for use on the installed floor finish.
- G. All products that have interoperability capable hardware (i.e. internal storage, data transmission via wireless, Ethernet, LAN, or USB to PC or server connectivity) must meet Cybersecurity requirements in accordance with DoDI 8510.01 Risk Management Framework.
- H. DoDI 8510.01 applies to all DoD IT (medical devices included) that receive, process, store, display, or transmit DoD information. These technologies are broadly grouped as DoD IS, platform IT (PIT), IT services, and IT products. This includes IT supporting research, development, test and evaluation (T&E), and DoD-controlled IT operated by a contractor or other entity on behalf of the DoD.

2.1.2 Housekeeping Equipment

A. Cleaning Carts

F0500 – Cart, Janitor's

1. Provide carts that are made of injection molded polyethylene, ABS, polymer plastic fiberglass, stainless steel, enamel/powder coated steel, or chrome plated steel.
2. All material finishes must be water and chemical resistant for durability.
3. Provide carts with two rigid and two swivel casters. Casters must be non-marking.
4. Provide mop bucket platform.
5. Provide hooks and holders for janitor stick goods.

B. Mop Buckets

F0505 – Bucket, Mop, With Wringer, 26 Quart

1. Provide buckets that are made of injection molded polyethylene, ABS, polymer plastic fiberglass, stainless steel, enamel/powder coated steel, or chrome plated steel.
2. All material finishes must be water and chemical resistant for durability.
3. Provide four swivel casters. Casters must be non-marking.
4. Provide a built in pour spout to prevent water from spilling onto floors while emptying dirty water.

C. Carts

F0510 – Cart, Linen, Soiled

F0515 – Cart, Supply, Linen

F0525 – Cart, Supply

F0530 – Cart, Trash

F0535 – Cart, Utility

1. Provide carts that are made of injection molded polyethylene, ABS, polymer plastic fiberglass, stainless steel, enamel/powder coated steel, or chrome plated steel.

2. All material finishes must be water and chemical resistant for durability.
3. Provide carts with rigid and swivel casters. Casters must be non-marking.

D. Vacuums

F2485 – Cleaner, Carpet, Vacuum, Industrial

F2490 – Cleaner, Carpet / Floor, Vacuum, Portable

M2600 – Vacuum, Wet/Dry, HEPA Filtration

1. Provide vacuum that can be used on all surfaces including carpet, wood, laminate, and tile.
2. Provide guards, bumpers and wheels that are non-marking.
3. [Provide on board wand and crevice tool for upholstery cleaning.]

E. Floor Burnishers

F2525 – Burnisher, Floor

1. Construction must be free of sharp edges, impervious to fluids, and corrosion resistant. Parts must allow for thorough cleaning and disinfection.
2. Provide 1.5 HP or higher drive motor.
3. Pad speed RPM must be 1500 RPM or higher.

F. Floor Scrubbers

M2650 – Scrubber, Floor, Automatic, Rechargeable

1. Provide at a minimum 22 gallon solution and recovery tanks.
2. Cleaning path must be at least 26 inches or wider. Squeegee must be at least 35 inches or wider.
3. Provide onboard charging system.
4. Provide handle and controls that are ergonomically accessible.

F. Floor Sweepers

T9430 – Sweeper, Street

1. Sweeping path must be at least 60 inches or wider.
2. Provide dust filtration system.
3. Provide variable speed forward and reverse.

2.1.3 Waste Handling

M3070 – Hamper, Linen, Mobile, w/Lid

M3072 – Frame, Infectious Waste Bag w/Lid

M3073 – Container, Biohazard Waste, Step-on, Fire Safe

- A. Equipment must be manufactured of puncture resistant plastic, stainless steel, or powder coated steel with seamless construction.
- B. All containers must include soft/quiet self-closing tight fitting lid [and step on foot pedal].

2.1.4 Air Sampling Equipment

M0550 – Sampler, Air Particulate (Pollen)

- A. Display must be LCD/LED high contrast with continuous display of measured parameters. Display text must be readable in any ambient light level.
- B. Provide an air sampling rate of 100 liters/minute.
- C. Provide a minimum of 6 hours of continuous run time on at a full charge.
- D. Construction must be free of sharp edges, impervious to fluids, and corrosion resistant. Parts must allow for thorough cleaning and disinfection.
- E. [Hardware to include wireless, Ethernet, or USB to PC connectivity for data transmission.]

2.1.5 Biomedical Test Equipment

A. Electrical Safety Analyzers

T0005 – Electrical Safety Analyzer

1. Display must be LCD/LED high contrast with continuous display of measured parameters. Display text must be readable in any ambient light level.
2. Provide ability to measure line voltage.
3. Provide earth / ground lead resistance and earth / ground leakage current measurements.
4. Provide enclosure / chassis leakage current measurement.
5. Provide AC only, DC only and true-RMS readings.
6. [Provide ability to test patient leads.]
7. [Provide built-in ECG simulator.]

8. [Hardware to include wireless, Ethernet, or USB to PC connectivity for data transmission.]
- B. Defibrillator Analyzers**
- T0015 – Defibrillator Analyzer, Automatic, Portable**
1. Display must be LCD/LED high contrast with continuous display of measured parameters. Display text must be readable in any ambient light level.
 2. Analyzers must be AED compatible.
 3. Provide ability to measure monophasic, biphasic and pulse biphasic energy.
 4. Provide 5000-volt, 1000 Joule capacity.
 5. Provide 12-Lead ECG simulator and ability to test patient leads.
 6. [Hardware to include wireless, Ethernet, or USB to PC connectivity for data transmission.]
- C. Radiology QA Equipment**
- T0020 – Stand, Test, Radiological Compliance**
1. Refer to MIL STD 1691 JSN descriptions for specific performance requirements.
 2. Construction must be acrylic with a test pattern mounted on the top.
 3. Provide a heavy-duty rugged case for transportation.
- D. Audiometer Booth Testing Equipment**
- T8015 – Calibrator, Audiometer**
1. Refer to MIL STD 1691 JSN descriptions for specific performance requirements.
 2. Provide ability to calibrate manual or automatic microprocessors.
 3. [Hardware to include wireless, Ethernet, or USB to PC connectivity for data transmission.]
- E. Electrosurgical Unit Analyzer**
- T8030 – Electrosurgery Analyzer**
1. Refer to MIL STD 1691 JSN descriptions for specific performance requirements.
 2. Display must be LCD/LED high contrast with continuous display of measured parameters. Display text must be readable in any ambient light level.
 3. Provide ability to measure cut and coagulation waveforms, monopolar and bipolar outputs.
 4. Provide ability to measure RF leakage current.
 5. Provide memory to store test records.
 6. [Hardware to include wireless, Ethernet, or USB to PC connectivity for data transmission.]
- F. Ultrasound Test Equipment**
- T8055 – Wattmeter, Ultrasonic**
1. Refer to MIL STD 1691 JSN descriptions for specific performance requirements.
 2. Display must be LCD/LED high contrast with continuous display of measured parameters. Display text must be readable in any ambient light level.
 3. Provide ability to measure total pulsed or continuous power.
 4. Provide measurement range of 0 to 30 watts.
 5. Provide frequency range of 0.5 to 10 MHz.
 6. [Hardware to include wireless, Ethernet, or USB to PC connectivity for data transmission.]

2.1.6 Electronics Test and Measurement Equipment

- A. Spectrum Analyzers**
- T8005 – Signal – Differential Amp. Analyzer**
1. Refer to MIL STD 1691 JSN descriptions for specific performance requirements.
 2. Display must be LCD/LED high contrast with continuous display of measured parameters. Display text must be readable in any ambient light level.
 3. Provide frequency range from 2 Hz to 44 GHz.
 4. Provide maximum analysis bandwidth of up to 1 GHz.
 5. [Hardware to include wireless, Ethernet, or USB to PC connectivity for data transmission.]
- B. Generators**
- T8020 – Generator, Pulse**
- T8025 – Generator, Function**
1. Refer to MIL STD 1691 JSN descriptions for specific performance requirements.
 2. Display must be LCD/LED high contrast with continuous display of measured parameters. Display text must be readable in any ambient light level.
 3. Provide ability to adjust frequency range.
 4. [Hardware to include wireless, Ethernet, or USB to PC connectivity for data transmission.]

C. Oscilloscopes

T8045 – Oscilloscope, With Accessories

1. Refer to MIL STD 1691 JSN descriptions for specific performance requirements.
2. Display must be LCD/LED high contrast with continuous display of measured parameters. Display text must be readable in any ambient light level.
3. Provide [2] [4] input channels.
4. Provide [2 GHz] [1 GHz] [500 MHz] [350 MHz] [300 MHz] [250 MHz] [200 MHz] [150 MHz] bandwidth models.
4. [Hardware to include wireless, Ethernet, or USB to PC connectivity for data transmission.]

D. Solid State Component Analyzer

T8050 – Component Analyzer, Solid State

1. Refer to MIL STD 1691 JSN descriptions for specific performance requirements.
2. Display must be LCD/LED high contrast with continuous display of measured parameters. Display text must be readable in any ambient light level.
3. Provide [2] [4] [6] [8] input channels.
4. [Hardware to include wireless, Ethernet, or USB to PC connectivity for data transmission.]

2.1.7 Laser Measurement Equipment

T8035 – Radiometer, Laser

- A. Display must be LCD/LED high contrast with continuous display of measured parameters. Display text must be readable in any ambient light level.
- B. Meter must be compatible with Thermopile, BeamTrack, Pyroelectric and Photodiode sensors.
- C. Provide on board memory or ability to transfer direct to computer.
- D. [Hardware to include wireless, Ethernet, or USB to PC connectivity for data transmission.]

2.1.8 Sound Measurement Equipment

T8040 – Meter, Sound Level

- A. Display must be LCD/LED high contrast with continuous display of measured parameters. Display text must be readable in any ambient light level.
- B. Provide a meter that measures in the range of 30 – 130 decibels (dB).
- C. Frequency range measured must be between 31.5 Hz to 8 kHz.
- D. Provide data hold feature to freeze reading on display.
- E. [Provide sound calibrator to verify accuracy of sound meter.]

2.1.9 Kilns

T0460 – Kiln, Ceramic, Front Loading

T0465 – Kiln, Ceramic, Top Loading

- A. Refer to MIL STD 1691 JSN descriptions for specific performance requirements.
- B. Kilns must be rated to 2300° Fahrenheit.
- C. Kilns must have a steel chassis with insulating firebrick.
- D. Provide spring loaded hinge on doors for easy opening and closing.
- E. Provide computer controls with preset firing modes or the ability to program custom firings.

2.1.10 Tools

A. Drill Presses

T0280 – Drill Press, Bnch/Mntd

T0285 – Drill Press, Floor Mounted, Tilt Table

1. Motor must be totally enclosed.
2. Provide 1/3 HP or higher drive motor.
3. Provide adjustable height table [with tilt capability].
4. Provide integrated depth stop for repetitive drilling.
5. Provide 3 spoke handle [with spring return].
6. [Provide adjustable goose neck work light.]

B. Wheel Grinders

T0400 – Grinder, Floor Mounted, Pedestal

T0405 – Grinder, Bench Mounted

1. Provide 1 HP or higher drive motor.
2. Provide two 10 inch grinding wheels.
3. Provide tool rests for precision grinding.
4. Provide single or double ports in shroud for dust collection system.
5. [Provide adjustable goose neck work light.]

C. Sanders

T0740 – Sander, Disk, 12” Wheel

T3640 – Grinder, Pedestal/Mounted, Combination Belt/Disc

1. Provide 1 HP or higher drive motor.
2. Disc speed must be rated 1,700 RPM or higher.
3. Provide 0° – 45° tilting sanding tables.
4. Provide port for dust collection system.

D. Saws

T0760 – Saw, Band, Woodworking

T0780 – Saw, Circular, Woodworking

T0802 – Jigsaw, Electric

T7550 – Saw, Radial Arm

T7560 – Saw, 10 Inch, Tilting Arbor

T7580 – Saw, Hack, Endless Blade

T7620 – Saw, Scroll, With Stand

1. Refer to MIL STD 1691 JSN descriptions for specific performance requirements.
2. Provide [1/3] [1/2] [3/4] [1] HP or higher drive motor.
3. [Provide port for dust collection system.]

E. Lathes

T6000 – Lathe, Metal, Bench/Mounted, Multi-Speed, 4 Feed

1. Refer to MIL STD 1691 JSN descriptions for specific performance requirements.
2. Provide enclosed gearbox for quiet operation.
3. Provide quick change gear knobs and feed rods.

F. Welding and Cutting

T9100 – Torch, Welding/Cutting, W/Ac

T9300 – Welder, Arc

1. Refer to MIL STD 1691 JSN descriptions for specific performance requirements.
2. Provide a hose/cable length of 12 feet or longer.
3. Electric welders must be UL listed.

G. Vises

T9400 – Vise, Machinists’, Swivel Base

T9420 – Vise, Bench/Pipe, Swivel Base, 5 Inch Jaw

1. Refer to MIL STD 1691 JSN descriptions for specific performance requirements.
2. Provide four mounting points to secure vise to bench.
3. Provide two lock down bolts to lock vise into position.

2.1.11 Key Duplicating

T0410 – Grinder, Keymaking, Automatic

- A. Refer to MIL STD 1691 JSN descriptions for specific performance requirements.
- B. Provide a minimum of 3-1/4 inches between clamps to accommodate large bow head and long blade keys.
- C. Provide two fixed and two swivel casters for mobile cabinets.
- D. Provide soft-touch deburring brush for finishing keys.

2.1.12 Woodshop Tools

T0440 – Jointer, Woodworking, 6”

T2050 – Collector, Dust, Freestanding

T9200 – Tools, Woodworking, With Cabinet

- A. Refer to MIL STD 1691 JSN descriptions for specific performance requirements.

2.1.13 Sign Making

T0875 – Machine, Sign Making

- A. Refer to MIL STD 1691 JSN descriptions for specific performance requirements.
- B. Provide a minimum work area of 12 x 8 inches.
- C. Provide ability to utilize industry standard TrueType fonts.
- D. [Hardware to include wireless, Ethernet, or USB to PC connectivity for data transmission.]

2.1.14 Shoe/Linen Modification and Repair

A. Bench Equipment

T0810 – Stand, Jack, Shoe Repair

- 1. Refer to MIL STD 1691 JSN descriptions for specific performance requirements.
- 2. Provide six lasts to accommodate men's, women's, and children's different shoe types.
- 3. Provide built in last holder.
- 4. Provide built in nail tray holder.

B. Cutters

T0850 – Cutter, Sole, Bench Mounted

- 1. Refer to MIL STD 1691 JSN descriptions for specific performance requirements.

C. Stitchers & McKays

T0860 – Machine, Sewing, Industrial, Heavy Duty

- 1. Refer to MIL STD 1691 JSN descriptions for specific performance requirements.
- 2. Provide 1/3 HP or higher drive motor.
- 3. Provide a hand and foot mechanism to raise/lower presser foot.
- 4. Provide tension adjustment knob.

D. Shoe Finishing

T1500 – Machine, Finishing, Shoe

- 1. Refer to MIL STD 1691 JSN descriptions for specific performance requirements.

E. Vacuum Units

T1510 – System, Vacuum Forming

- 1. Refer to MIL STD 1691 JSN descriptions for specific performance requirements.
- 2. Provide a timer function to allow workpiece to be held under vacuum for a pre-set period of time.
- 3. Provide suction power of 0.9 cfm.

F. Sewing Machines

T0870 – Machine, Sewing, Industrial, Medium Duty

T8000 – Machine, Sewing/Stitching

- 1. Refer to MIL STD 1691 JSN descriptions for specific performance requirements.
- 2. Provide synchronized upper and lower feeding mechanisms for uniform stitching.
- 3. Provide hand or foot operated control of reverse stitching, stitch regulator and presser foot lifting.

2.1.15 Tool Storage

T0175 – Cabinet, Storage, Tool

T0180 – Cabinet, Storage, Tool, F/Mounted

T0700 – Rack, Bar, Wood, Pipe

T1000 – Cabinet, Tool, Mobile, With Mechanics Tool Chest

T1020 – Cabinet, Tool, Floor Standing, 84x60x22

T1150 – Cabinet, Storage, Electric Parts

- A. Finishes on metal cabinets must be powder coated.
- B. Provide ability for lock cabinets with a keyed mechanism.
- C. Provide two fixed and two swivel casters for mobile cabinets.
- D. [Provide drawers with ball bearing slides and full extension.]

2.1.16 Workbenches

T0090 – Bench, Loom

T0105 – Bench, Woodwork, 4 Vises

T0106 – Bench, Work, With 4 Drawers, 1 Cabinet, 2 Shelves

T0120 – Bench, Work, Wood Top, 1 Drawer, 1 Shelf, 34x72x30

T0125 – Bench, Work, Wood Top, Drawer, 21x96x36

T0135 – Bench, Work, Metal Top
T0600 – Workbench, 2 Drawer
T0741 – Bench, Woodworking, 2 Cabinets, 36x64x54
T0761 – Bench, Woodworking, Locker Base, 22x120x24
T0801 – Workbench, Electric, Pedestal Base
T0965 – Workbench, Adjustable Height, Hydraulic

- A. Refer to MIL STD 1691 JSN descriptions for specific performance requirements.
- B. Finishes on metal workbenches must be powder coated.
- C. Provide ability for lock cabinets with a keyed mechanism.
- D. Provide two fixed and two swivel casters for mobile workbenches.
- E. [Provide drawers with ball bearing slides and full extension.]

3.1 SUBMITTALS

3.1.1 Submittals required for government review

- A. Submittal requirements are outlined in [Division 01] [PWS SOW] [___]
- B. [Product Information must include manufacturer's installation instructions, sizing (including required clearance for access and maintenance), utility requirements, isometric drawings, tagged floorplans showing placement for count accountability and accessories/options/consumables lists.]
- C. All submittals require Government approval prior to procurement. Submit all listed items herein, with information sufficient to show full compliance with the criteria. Submit all product selections for review and approval, including but not limited to: materials, finishes, colors, options, accessories, and complimentary products. Provide for review all warranties and service contracts and any available extended warranty or service options.
- D. Samples: Furnish material samples and full range of color selection options for all items that offer material and color selections.
- E. Submit and highlight all applicable options for Government review for all items which optional accessories are provided.
- F. [Joint Interoperability Test Command (JTIC) Approval Documentation.]

3.2 QUALITY ASSURANCE

3.2.1 Materials and Equipment

- A. Materials and equipment must be standard products of a manufacturer regularly engaged in the manufacture of products which are of a similar material, design, and workmanship and are offered for sale on the commercial market through advertisements, manufacturer's catalogs, or sales brochures. The products must have been in commercial or industrial use under similar circumstances and of similar size for 2 years prior to selection for approval/procurement. Products must be supportable for at least three years after government acceptance.

3.2.2 Alternative Service Record

- A. Products having less than a 2-year field service record will be acceptable if a certified record of the manufacturer's factory or laboratory tests demonstrating performance compliance is provided to the Contracting Officer.

3.2.3 Service Support

- A. Equipment items must be supported by service organizations located near the equipment installation, able to service the equipment on a regular basis and respond to emergency calls throughout the warranty period.

3.2.4 Manufacturer's Nameplate

- A. Each item of equipment must have an attached nameplate that is securely affixed in a conspicuous space. A nameplate listing only the name of the distributing agent is not acceptable. The nameplate must contain the following fields in English:

1. Manufacturer's name and address
2. Model and Serial Number
3. Item's utility ranges and/or capacities
4. Voltage, amperage, and applicable Underwriters Laboratory (UL) or Conformité Européenne (CE) rating if

- electrically powered
- 5. Date of manufacture

3.2.5 Factory Inspection

A. Arrange and perform all quality control and quality assurance inspections required by the technical sections of the criteria, unless otherwise specified. Report these inspections in the daily report to the Government inspector.

3.2.6 Product Qualifications

A. The products specified in the technical sections of this criteria establish standards for each item.

3.2.7 Design Parameters

A. It is not the intention of this Criteria to limit consideration to products of specific manufacturers. The product standards establish the characteristics for which submitted items of equipment will be reviewed and approved by the Government. Equipment furnished must meet each of the following parameters specified in the technical sections:

1. Size of equipment
2. Function of equipment
3. Standard and listed accessories and options
4. Equipment controls and performance of equipment
5. Construction of equipment
6. Finish

3.3 STANDARDS DEVIATIONS

3.3.1 Reporting and Submission for Approval

A. Submit for approval a record of deviations from the standards listed in section (3.2.7.A.) established for each specified product, before ordering equipment.

3.4 DELIVERY, STORAGE AND PROTECTION

3.4.1 Packaging and Transporting

A. Each unit of equipment must be placed in a substantial shipping container or crate for safe transportation to final destination. The shipping container or crate for heavy equipment must be on skid construction to facilitate handling by lift equipment.

3.4.2 Packing List

A. Clearly and legibly indicate on exterior of each container or crate the shipping address and a brief description of contents. Fasten to outside of container a packing list and complete instructions for uncrating equipment and setting it in place. Protect such information in a weatherproof envelope.

3.4.3 Protection

A. Properly protect all materials and equipment from injury and damage during storage, installation, and acceptance.

3.5 INSTALLATION, VERIFICATION AND ACCEPTANCE TESTING

3.5.1 Qualifications of Installers and Inspectors

- A. If required by product warranty, use installers that are approved and licensed by the manufacturer. When required to complete installation, all electricians and plumbers used must be bonded and licensed in the project's jurisdiction.
- B. [Company specializing in installing the products specified in this section must have a minimum 5 years of documented experience.]
- C. [Company specializing in installing the products specified in this section must be within 200 miles or 4 hours travel time.]

3.5.2 Installation, Operation, Testing and Certification

A. Products must be delivered in manufacturer's original packaging with manufacturer's installation instructions. Include clearly marked project reference.

- B. Prior to installation, thoroughly examine the equipment, materials, and components for both visual defects and conformance with criteria.
- C. Install all equipment in compliance with manufacturer's written instructions and installation procedures.
- D. After installation, the equipment must be inspected and tested under operating conditions. If the equipment fails an inspection or test, such defects/failures must be corrected. Upon correction of defects/failures, inspect and retest all affected functions related directly and indirectly to the defect or failure. Corrections, replacement, and retesting must be made at no additional expense to the Government.
- E. Provide all items necessary to make equipment fully functional.
- F. Provide appropriately trained personnel to energize, commission, inspect, electrical safety check, calibrate, certify, and provide all required technical testing for equipment and systems. Contractor must provide documentation, test reports and certification documentation attesting that the equipment is properly installed, functional, safe, calibrated, and ready for its intended use.
- G. An equipment item will be considered defective if it cannot be made to meet all established criteria consistent with the activities listed in section (F).
- H. Provide two sets of special tools, software, and any other item/s for each equipment [item] [item type] if required for maintenance and/or future reconfiguration of the item.
- I. Contractor to supply all start-up supplies for medical equipment for a fully operational installation. Contractor must supply to the Government a listing of all needed supplies for ongoing equipment operation for each item of equipment requiring additional supplies for operation.
- J. Engage a factory-authorized service representative to train Government's staff and maintenance personnel to adjust, operate, and maintain medical equipment.
- K. [Confirm functionality of required interfaces to other systems and networks.]

3.6 WARRANTY

3.6.1 Minimum Requirements

- A. Warranty requirements are outlined in [Division 01] [PWS SOW] [___].
- B. [Provide manufacturer's written warranty for all items listed. Provide warranty for a minimum of (1) year against defects in materials and workmanship. Warranty must provide for material, labor and all associated replacement and/or repair costs required to provide for a fully operational equipment replacement or repair. Submit manufacturers and installers standard service contract beyond the warranty period for Government review. Warranty must be transferrable to the final owner without risk of being voided. All warranty certification and documentation must be provided to the final owner after date of acceptance.]
- C. Provide routine warranty service in accordance with manufacturer's warranty requirements, for a period of [12 months (minimum)] [___] after the open for business date. Perform work during regular working hours. Perform service only by factory trained personnel. Maintain a maintenance log of all service orders performed during the warranty period.

3.7 OPERATIONS AND MAINTENANCE (O & M)

3.7.1 Provide the following to the final owner

- A. Provide O & M data for all FFE-LVS as outlined in [Division 01] [PWS SOW] [___].
- B. Upon completion of equipment installation, furnish [two (2)] copies of operators/service/maintenance manuals for each type of equipment which will require service or maintenance
- C. Each manual must contain operating instructions and information required for performing periodic maintenance on the equipment. Each service manual must include an illustrated parts breakdown which identifies each part of the unit with manufacturer's part number, wiring diagrams, and a list of necessary service parts, tools, and equipment needed to support maintenance requirements.
- D. Accessory Catalogs: Upon completion of the Project, furnish two copies of the manufacturer's catalogs containing optional accessory items available for all equipment relative to the procured equipment/system delivered herein.
- E. Provide instruction video for cleaning and maintenance, when available.
- F. Provide cleaning requirements for all items to prevent void of warranty.
- G. [Provide contact information for Repair Technician or Emergency Repair Company]
- H. Provide contact information to [Logistics, Pharmacy, Laboratory, and Biomedical Equipment Services.]
- I. Train designated staff in the operation and maintenance of the provided equipment/system. Provide two training sessions for equipment/system users and two training sessions for maintenance personnel scheduled to

accommodate shift work. [Provide training certificates that can be executed up to eleven months after the system is installed, in order to provide a refresher course for each group of trainees.] Provide DVD copy of the training with the O & M data.

--End of Section--