PERFORMANCE CRITERIA FOR

SECTION 11 74 00

DENTAL EQUIPMENT

09/21

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GENERAL

This Performance Criteria specifies the requirements for dental 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
- C. NFPA 260 Standard Methods of Tests and Classification System for Cigarette Ignition Resistance of Components of Upholstered Furniture
- D. NFPA 701 Standard Methods of Fire Tests for Flame Propagation of Textiles and Films

1.1.4 Military Health System Standards

A. Reserved for future

1.1.5 American Society for Testing and Materials (ASTM)

- A. ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials
- B. ASTM D4157 Standard Test Method for Abrasion Resistance of Textile Fabrics (Oscillatory Cylinder Method)

1.1.6 Underwriters Laboratories (UL)

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

1.1.7 International Electrotechnical Commission (IEC)

A. IEC 60601 Medical Electrical Equipment and Systems]

1.1.8 Food and Drug Administration

A. CFR Title 21, Chapter I

1.1.9 Other Standards

- A. CAL-117 (California Technical Bulletin 117-2013)
- **B.** 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 will be selected from the manufacturer's standard options for the specified model unless noted otherwise.
- **B.** All fabrics (upholstery or drapery) must meet the appropriate fire test associated with each type of fabric as outlined by testing within the reference standards.
- **C.** All fabrics (upholstery) must meet the appropriate resistance to abrasion test associated with each type of fabric as outlined by testing within the reference standards.
- **D.** All product finishes and fabrics (upholstery or drapery) must meet industry standards for infection control and performance.
- E. All product finishes must be capable of maintaining sheen and color through warranty period when using industry standard cleaning and disinfection solutions.
- F. All display panel surfaces must maintain clarity through warranty period when using industry standard cleaning and disinfection solutions.
- **G.** All equipment that have components that are meant for reuse must be autoclavable or able to withstand industry standard cleaning and disinfection processes.
- H. Electrified equipment must be 115 Volt 15 amp maximum unless noted otherwise.
- I. Casters provided must be designed for use on the installed floor finish.
- **J.** 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.
- K. 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 Cabinets/Carts

D2520 - Cabinet, Mobile, Storage/Assistant, Dental

D2525 - Cart, Dental Assistant

- A. Work surface must be impermeable, materials may include stainless steel, powder coated, or solid surface.
- B. Work surface edge must be [integral on solid surface] [integrated rolled edge on stainless steel tops].
- **C.** Storage must be modular and support multiple drawer and storage configurations.
- **D.** Casters must be included on base with a minimum of two locking.
- **E.** Provide high quality hardware to allow smooth flowing movement of drawers, tops and shelves. All elements must be easily cleanable for infection control.
- F. [Provide locking option to secure drawers and tops.]

2.1.3 Staff Seating

D3295 - Chair, Rotary, Laboratory, Dental

D3380 – Stool, Operating, Dental, Doctor

D3390 - Stool, Operating, Dental Assistant

A. Upholstery must be selected from manufacturer's standard fabric or vinyl line, impervious to liquids, and readily

- cleanable with surface disinfectants.
- **B.** Provide pneumatic hand or foot operated lifts for height adjustability. Materials must be cast aluminum, powder coat/epoxy steel, or stainless steel.
- **C.** Seating surface must be high density foam or urethane with vinyl or other impervious sustainable fabric.
- **D.** Base must be 5-legged with locking casters or glides.
- **E.** Chairs must be ergonomic and adjustable to promote proper posture, support and mobility to reduce operator fatigue and discomfort.

2.1.4 Patient Seating

D3300 - Chair, Radiographic, Dental

- A. Upholstery must be selected from manufacturer's standard fabric or vinyl line, impervious to liquids, and readily cleanable with surface disinfectants.
- **B.** Provide a 60 degree powerlift swivel base, with tilting back, adjustable height, adjustable headrest and multiposition arm rests.
- C. A minimum of 2 inches [50 mm] of padding must be provided for patient's comfort.
- **D.** Base must be steel with baked enamel, powder coat, or epoxy paint finish.

2.1.5 Dental Treatment Equipment

A. Patient Chairs

D3250 - Chair, Operating, Dental, Without Unit Mount

D3320 - Chair, Operating, Dental

D8255 - Chair, Operating, Dental, With Unit Mount, Light

- 1. Upholstery must be selected from manufacturer's standard fabric or vinyl line, impervious to liquids, and readily cleanable with surface disinfectants.
- 2. Provide a 60 degree powerlift swivel base with tilting back and adjustable height.
- 3. Provide an adjustable headrest.
- 4. Provide multi-position arm rests that can be flipped out of the way.
- 5. Provide an ergonomic design and a minimum of 2 inches [50 mm] of padding must be provided for patient's comfort
- 6. Base must be steel with baked enamel, powder coat, or epoxy paint finish. Base plate design must allow dentist/technician to roll in closer to patient.
- 7. Provide a design that enables ergonomic access to patient's oral cavity.
- 8. Provide controls through touch pad or foot switch.
- 9. Provide a dental assistant arm for access to vacuum instruments and accessories.

B. Delivery Equipment

D8250 - Delivery System, Dental Operating

D9060 - Prophylaxis Unit, Ultrasonic

- Provide construction that is non-porous, impervious to fluids, non-ferrous, and corrosion resistant. External
 parts must allow for thorough cleaning and disinfection. All components that come into contact with fluids or
 gases will be disposable or easily disinfected if being reused.
- 2. Variable control of power or speed must be included using foot pedal or hand switch.
- Provide room to house integrated accessories such as ultrasonic scalers, curing lights, and intraoral cameras.
- 4. System must have self-contained water system with refillable threaded water bottle.
- 5. Delivery System must have adjustable positioning system with arms and joints to optimize use for multiple provider positions.
- 6. [Provide [qty] air/water syringe, [qty & types] of hand-piece/hoses, air pressure gauges/adjustments requirements.]

C. Lights and Monitor Mounts

D3325 - Mount, Monitor, Dental Chair

D6000 - Light, Dental Operating, Chair Mounted

- 1. Materials and design must allow for easy cleaning and disinfection. Arms and mount must be steel or aluminum with powder coat/epoxy finish.
- 2. LED lights at not less than 5000K color temperature with a minimum CRI of 90. Maximum intensity must equal or exceed 15,000 lux at 1 meter.
- 3. Controls must allow for minimum two levels of illumination and controls must be available on the light as well

- as via remote touchpad.
- 4. Light must allow for adjustability in the vertical, horizontal, and diagonal axes as well as tilt of the beam direction
- 5. Lights must have mounting options for chair, ceiling, track, wall, and cabinets.
- 6. Monitor & Light mounts must coordinate with selected dental chair. Mount for monitor must hold a 15", 17" or 19" flat-screen monitor up to 20lbs. Mounts must allow for tilting and rotation to allow provider use from multiple positions from seated to standing.
- D. Procedure Equipment (Sealing/Filling)

D8850 - Amalgamator, Dental

D3565 - Resin Curing Unit, Visible Light

- 1. Provide construction that is non-porous, impervious to fluids, non-ferrous, and corrosion resistant. External parts must allow for thorough cleaning and disinfection. All components that come into contact with fluids or gases will be disposable or easily disinfected if being reused.
- 2. If the equipment is rechargeable, a charging station must be supplied with the unit.

E. Support Equipment

D2526 - Cart, Case Pan

- 1. Provide construction that is non-porous, impervious to fluids, non-ferrous, and corrosion resistant. External parts must allow for thorough cleaning and disinfection. All components that come into contact with fluids or gases will be disposable or easily disinfected if being reused.
- 2. Casters must be included on base with a minimum of two locking wheels.

2.1.6 Oral Surgery Equipment

A. Anesthesia

D0100 - Analgesia Unit, Inhalation, Central Gases/Vacuum

D0101 - Analgesia Unit, Inhalation, Central Vacuum Only

- [Display for digital models must be LCD/LED high contrast with continuous display of measured parameters.]
 [Manual units must have glass indicator tubes to show continuous display of measured parameters.]
 Display text will be readable in any ambient light level.
- 2. Provide construction that is non-porous, impervious to fluids, non-ferrous, and corrosion resistant. External parts must allow for thorough cleaning and disinfection. All components that come into contact with fluids or gases will be disposable or easily disinfected if being reused.
- 3. Unit and accessories must be suitable to accommodate patients of all ages and body weights
- 4. Provide accessories to connect to wall outlets or portable tanks per option selected.
- 5. Mobile Stand must have braking swivel casters and be height adjustable to allow use from a seated or standing position.

B. Drills

D4262 - Drill System, Surgical, Oral, Electric Drive

D4263 - Drill System, Surgical, Oral, Nitrogen Drive

- Provide construction that is non-porous, impervious to fluids, non-ferrous, and corrosion resistant. External
 parts must allow for thorough cleaning and disinfection. All components that come into contact with fluids or
 gases will be disposable or easily disinfected if being reused.
- 2. Variable control of power or speed must be included using foot pedal or hand switch.
- 3. If system is rechargeable, a charging station with batteries must be provided from the same manufacturer.

C. Microscope

M8541 - Microscope, Operating Endodontic

- 1. Provide variable magnification lens selection and fine focus adjustments on eyepiece.
- 2. LED light sources must be provided with variable light intensity controller.
- Provide construction that is non-porous, impervious to fluids, non-ferrous, and corrosion resistant. External parts must allow for thorough cleaning and disinfection. All components that come into contact with fluids or gases will be disposable or easily disinfected if being reused.
- 4. Unit must be capable of various mounting options including mobile, wall, table and ceiling mounts.
- 5. [Hardware must include port for input and output data transmission using the manufacturer's standard software interface.]
- 6. [Provide output connections to display and record images/video to an external monitor.]

D. Patient Oral Surgical Chairs

D3310 - Chair, Procedural, Dental

D3315 - Chair, Operating, Dental, Bariatric

- 1. Upholstery must be selected from manufacturer's standard fabric or vinyl line, impervious to liquids, and readily cleanable with surface disinfectants.
- 2. Include 60 degree powerlift swivel base, with tilting back, adjustable height, adjustable headrest and multiposition arm rests.
- 3. A minimum of 2 inches [50 mm] of padding must be provided for patient's comfort.
- 4. Base must be steel with baked enamel, powder coat, or epoxy paint finish.

E. Delivery Equipment

D8560 - Oral Surgery System, Mobile

- 1. Provide construction that is non-porous, impervious to fluids, non-ferrous, and corrosion resistant. External parts must allow for thorough cleaning and disinfection. All components that come into contact with fluids or gases will be disposable or easily disinfected if being reused.
- 2. System must have self-contained water system with refillable threaded water bottle.
- 3. Variable control of power or speed must be included using foot pedal or hand switch.

F. Arthroscopy Equipment

D6610 - Arthroscope, Dental TMJ

- Provide construction that is non-porous, impervious to fluids, non-ferrous, and corrosion resistant. External
 parts must allow for thorough cleaning and disinfection. All components that come into contact with fluids or
 gases will be disposable or easily disinfected if being reused.
- 2. Provide [1.9mm or 2.4mm] diameter scope.
- 3. Provide [0 degree or 30 degree] directions of view.
- 4. All components must be autoclavable.

G. Support Equipment

D4220 - Suction Apparatus, Dental

- 1. Provide construction that is non-porous, impervious to fluids, non-ferrous, and corrosion resistant. External parts must allow for thorough cleaning and disinfection. All components that come into contact with fluids or gases will be disposable or easily disinfected if being reused.
- 2. Provide variable control of power or speed.
- Canisters must be easy to remove, empty, sterilize, and reconnect. All components must be disposable or autoclavable if meant for reuse. Automatic overflow cutoff valve and filters must be included to prevent cross contamination.

2.1.7 Prosthodontic Lab Equipment

A. Casting Equipment

- D2540 Casting Machine, Manual, Broken Arm
- D2550 Casting Machine, Electric, Chrome/Cobalt
- D2560 Casting Machine, Induction, Free Standing
- D2580 Casting Machine, Induction, Bench Mounted
 - 1. Display must be LCD/LED high contrast with continuous display of parameters. Display text must be readable in any ambient light level.
 - 2. Provide construction that is non-porous, impervious to fluids, non-ferrous, and corrosion resistant. External parts must allow for thorough cleaning and disinfection.

B. Processing Equipment

- D2535 Welder, Tack, Orthodontic
- D3290 Soldering Unit, Precision
- D4180 Pot, Pneumatic Pressure
- D4310 Press, Flask, Pneumatic
- D4320 Press, Flask, Hydraulic, Single Flask
- D6560 Digital Wax Pot
- D8950 Vibrator, Dental, Heavy Duty
- D8960 Vibrator, Dental, Standard Duty
- D4361 Heater, Duplicating Colloid
- D4370 Heater, Duplicating Colloid, Automatic
- D6570 Bath, Water, Impression
- D6600 Mixer / Investor, With Vacuum
- D6650 Former, Vacuum, With Motor, Vacuum Pump, Heater

- If equipment is digital, display must be LCD/LED high contrast with continuous display of parameters. Display text must be readable in any ambient light level.
- 2. If equipment is non-digital, gauges must allow for accurate reading and continuous display of parameters.
- 3. Provide construction that is non-porous, impervious to fluids, non-ferrous, and corrosion resistant. External parts must allow for thorough cleaning and disinfection.

C. Curing Equipment

D3560 – Curing Unit, Denture, 2 Stage D4080 – Curing Unit, Denture, 3 Stage

- 1. If equipment is digital, display must be LCD/LED high contrast with continuous display of parameters. Display text must be readable in any ambient light level.
- 2. If equipment is non-digital, gauges must allow for accurate reading and continuous display of parameters.
- 3. Provide construction that is non-porous, impervious to fluids, non-ferrous, and corrosion resistant. External parts must allow for thorough cleaning and disinfection.
- 4. Unit must have a timer that automatically shuts the unit off at completion of its cycle. Unit must have a safety thermostat to preclude hazardous temperature levels.
- D. Furnace and Oven Equipment

D4350 - Oven, Curing Dental

D4351 - Sintering Oven

D4360 - Pump, Vacuum, Dental Oven

D4500 - Furnace, Laboratory, Dental, Burnout

D4510 - Furnace, Laboratory, Porcelain Glazing

D8060 - Furnace, Porcelain, Vacuum

D8510 - Oven, Drying, Dental

- 1. If equipment is digital, display must be LCD/LED high contrast with continuous display of parameters. Display text must be readable in any ambient light level.
- 2. If equipment is non-digital, gauges must allow for accurate reading and continuous display of parameters.
- 3. Provide construction that is non-porous, impervious to fluids, non-ferrous, and corrosion resistant. External parts must allow for thorough cleaning and disinfection.
- 4. Equipment must be insulated to provide low surface temperature.

E. Polishing, Grinding and Finishing Equipment

D0860 - Light, Bench, Dental

D0881 - Hood, Fishmouth

D0980 - Workstation, Dental Lab, Polishing, Single

D4100 - Cleaner, Steam, Dental

D4260 - Handpiece, Laboratory, Dental, Electric

D4261 - Handpiece, Laboratory, Dental

D4560 - Engine, Dental, Bench, Electric

D4590 - Chisel, Dental, Pneumatic

D6250 - Lathe, Dental, Bench Mounted

D6251 - Milling Unit, Dental 3D Printer

D6550 - Grinder/Polisher, Bench Mounted, High Speed

D8530 – Polisher, Electrochemical

D8540 - Sandblaster, Complete

D8555 - Torch, Casting/Soldering, Dental

D8620 - Bin, Plaster, 3 Compartment

D9010 - Cabinet, Blast, Cleaning, F/S

D9015 - Microfinisher, Dental, Counter Mounted

D9035 – Driver, Model Indexing Pins

D9050 - Trimmer, Model, Dental, 1/4 HP

D9051 - Trimmer, Model, Dental, Dual Wheel

D9058 – Blowgun, Air, Lever Type, With 10 Foot Hose

- 1. If equipment is digital, display must be LCD/LED high contrast with continuous display of parameters. Display text must be readable in any ambient light level.
- 2. If equipment is non-digital, gauges must allow for accurate reading and continuous display of parameters.
- 3. Provide construction that is non-porous, impervious to fluids, non-ferrous, and corrosion resistant. External parts must allow for thorough cleaning and disinfection.

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 Conformitè Europëenne (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 --