(September 2021)

PERFORMANCE CRITERIA

FOR

**SECTION 12 59 00**

**SYSTEMS FURNITURE**

09/21

**TABLE OF CONTENTS**

**GENERAL**

**1.1 REFERENCE**

**2.1 DESCRIPTION & MATERIALS**

**3.1 SUBMITTALS**

**3.2 PERFORMANCE VERIFICATION AND ACCEPTANCE TESTING**

**3.2.1 Qualifications of Installers and Inspectors**

**3.2.2 Inspections and Tests to be Performed**

**3.3 WARRANTY**

**3.4 OPERATIONS AND MAINTENANCE (O & M)**

**GENERAL**

This Performance Criteria (PC)specifies the requirements for systems furniture.

**1.1 REFERENCE**

**1.1.1 United 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

**D.** UFC 3-120-10 Interior Design

**E.** UFC 3-501-01 Electrical Engineering

**F.** UFC 3-580-01 Telecom Building Cabling Systems Planning and Design

**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 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 D4157 Standard Test Method for Abrasion Resistance of Textile Fabrics (Oscillatory Cylinder Method)]

**B.** ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials

**1.1.6 Underwriters Laboratories (UL)**

**A.** UL 962A Standard for Furniture Power Distribution Units

**B.** UL 1286 Standard for Office Furnishings

**C.** UL GREENGUARD Certification

**1.1.7 Business & Institutional Furniture Manufacturers Association (BIFMA)**

**A.** ANSI/BIFMA X5.3 - Vertical Files

**B.** ANSI/BIFMA X5.5 - Desk Products

**C.** ANSI/BIFMA X5.6 - Panel Systems

**D.** ANSI/BIFMA X5.9 – Storage

**E.** ANSI/BIFMA e3 Furniture Sustainability Standard

**1.1.8 State of California Department of Consumer Affairs**

**A.** California Technical Bulletin 117-2013

**1.1.9 Other Standards**

**A.** Reserved for future

**2.1 DESCRIPTION & MATERIALS**

**2.1.1 All JSNs**

**A.** Paints, fabrics, and finishes must be selected from the manufacturer’s standard options for the specified model unless noted otherwise.

**B.** All materials and fabrics must meet the appropriate fire test associated with each type of fabric as outlined by testing within the reference standards.

**C.** All product finishes and fabrics must meet industry standards for infection control and performance.

**D.** All product finishes must be capable of maintaining sheen and color through warranty period when using industry standard cleaning and disinfection solutions.

**E.** All display panel surfaces must maintain clarity through warranty period when using industry standard cleaning and disinfection solutions.

**F.** All equipment that have components that are meant for reuse must be autoclavable or able to withstand industry standard cleaning and disinfection processes.

**G.** Electrified equipment must be 115 Volt 15 amp maximum unless noted otherwise.

**H.** Casters provided must be designed for use on the installed floor finish.

**I.** 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.

**J.** 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.

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

The following Joint Schedule Numbers (JSN) are covered by this criteria:

**A5181 - Screen, Privacy, Freestanding**

**E0042 - Workcenter, Computer, Free Standing, 48" W**

**E0045 - Workcenter, Computer, Free Standing, 60" W**

**E0048 - Workcenter, Computer, Free Standing, 72" W**

**E0051 - Workstation, Corner Work Surface, Wall Mtd, 72x48**

**E0054 - Workstation, L-Shaped, Wall Mounted, 72x60**

**E0057 - Workstation, L-Shaped w/Table, Wall Mounted, 72x60**

**E0060 - Workstation, L-Shaped, Wall Mounted, 72x72**

**E0063 - Workstation, L-Shaped w/Peninsula, Wall Mtd, 72x72**

**E0066 - Workstation, Corner Work Surface, Wall Mtd, 72x72**

**E0069 - Workstation, L-Shaped, Wall & Panel Mounted, 72x90**

**E0072 - Workstation, Corner Work Surface, Wall Mtd, 72x96**

**E0075 - Workstation, L-Shaped, Freestanding, 72x48**

**E0078 - Workstation, L-Shaped w/Peninsula, Free Std, 78x72**

**E0081 - Workstation, L-Transaction 72, Free Std, 72x72**

**E0084 - Workstation, Corner Work Surf, Free Stand, 72x72**

**E0087 - Workstation, Corner w/Peds, Free Standing, 72x72**

**E0090 - Workstation, L-Shaped, Free Standing, 72x72**

**E0093 - Workstation, L-Transaction 48, Free Stand, 96x72**

**E0096 - Workstation, L-Transaction 72, Free Stand, 72x96**

**E0099 - Workstation, Corner Work Surf, Free Stand, 72x96**

**E0102 - Workstation, L-Shaped w/Files, Free Stand, 72x120**

**E0105 - Workstation, U-Transaction 72, Free Stand, 96x72**

**E0108 - Workstation, U-Shaped, Free Standing, 96x72**

**E0111 - Workstation, U-Transact 72 w/Cab, Free Std, 72x84**

**E0114 - Workstation, U-Shaped Peninsula, Free Stand, 72x96**

**E0117 - Workstation, Straight, Free Standing, 48" W**

**E0120 - Workstation, Straight, Free Standing, 60" W**

**E0123 - Workstation, Straight, Free Standing, 72" W**

**E0126 - Workstation, Straight, Dbl Sided, Free Std, 75" W**

**E0130 - Workstation, Documentation, OR, L-Shaped**

**E0131 - Workstation, Documentation, OR, Linear**

**E0135 - Workstation, Productivity, Central Sterile**

**E0202 - Worksurface, w/Overhead Cab, Wall Mtd, 24" W**

**E0204 - Worksurface, w/Overhd Cab & Drwrs, Wall Mtd, 24" W**

**E0206 - Worksurface, w/Overhead Cab, Wall Mtd, 30" W**

**E0208 - Worksurface, w/Overhd Cab & Drwrs, Wall Mtd, 30" W**

**E0210 - Worksurface, w/Overhead Cab, Wall Mtd, 48" W**

**E0212 - Worksurface, w/Overhd Cab & Drwrs, Wall Mtd, 48" W**

**E0214 - Worksurface, w/Overhead Cab, Wall Mtd, 60" W**

**E0216 - Worksurface, w/Overhd Cab & Drwrs, Wall Mtd, 60" W**

**E0218 - Worksurface, w/Overhead Cab, Wall Mtd, 72" W**

**E0220 - Worksurface, w/Overhd Cab & Drwrs, Wall Mtd, 72" W**

**E0222 - Worksurface, Computer, O/H Cab, Wall Mtd, 48" W**

**E0224 - Worksurface, Computer, O/H Cab, Wall Mtd, 60" W**

**E0226 - Worksurface, Computer, O/H Cab, Wall Mtd, 72" W**

**E0233 - Office, Provider, L-Shaped, Wall Mtd, 102"W x 96"D**

**E0236 - Office, Provider, L-Shaped, Wall Mtd, 110"W x 72"D**

**E0239 - Office, Provider, L-Shaped, Wall Mtd, 120"W x 48"D**

**E0251 - Exam, Workstation & Storage, Wall Mtd, 3 Walls**

**E0254 - Exam, Workstation & Markerboard, Wall Mtd, 48" W**

**E0260 - Exam, Workstation & Cart, Free Standing, 84" W**

**F0690 - Workstation, Computer, Enclosed, With Lock**

**F0695 - Workstation, Computer, Open**

**2.1.2 Frame & Panels**

**A.** System panels must be modular and reconfigurable without causing permanent damage and allow for the connection of two, three, or four panels from a single point. Allow for the removal of a single panel without disassembly of adjacent panels. [If providing multiple product lines, the parts and accessories provided must be interchangeable without modifying system components.]

**B.** Panels must allow for adjustment in level glides to adjust for uneven floors. Maximum 1 inch [25 mm] floor gap allowed when guides at the minimum setting. [Include bolt down options for seismic installation.]

**C.** Panel structure must be stackable with the ability to raise overall assembly height of system by modules without causing permanent damage. Lowest stacking panel must be designed to support fully loaded shelving.

**D.** Panels must allow for varying sitting and standing mounting heights of work surface and storage components on both sides.

**E.** Acoustic panels must have a minimum noise reduction coefficient (NRC) of .65.

**F.** Where applicable, raceways for electrical and communication cables must have covers at panel base or work surface height. Covers must be readily removable after full system assembly, but secure enough to prevent accidental dislodging.

**G.** The use of wall mount hanging channel is discouraged and should only be used where indicated by PWS SOW; provide accessories as required to gain proper structural support of the system.

**H.** System must comply with minimum BIFMA Level 2 certification.

**I.** Panels must be readily cleanable and maintain sheen and color through warranty period when using industry standard cleaning and disinfection solutions.

**J.** Steel panels, frame, trim, shelving, storage, raceways, accessories, and supports must be factory baked enamel or powder coated to match system colors unless noted otherwise.

**K.** Panel materials may include [tackable fabric] [acoustic fabric] [painted solid or perforated metal] [marker surface] [tempered glass] [rail] [open-panel] [plastic laminate] [wood veneer] [\_\_\_].

**L.** System must allow for varying sitting and standing mounting heights of work surface and storage components on both sides.

**M.** Raceway and panel design must allow for hospital grade receptacles and emergency power receptacles when required.

**N.** Exposed panel trim must have factory baked enamel or powder coat finish [or wood veneer] unless noted otherwise.

**O.** Fire and flame spread must meet class A flame spread with maximum smoke developed of 450 as outlined by testing within the reference standards.

**P.** Panels heights must provide minimum 18 inch [46 cm] clearance to ceiling.

**Q. [**Fabrics must meet or exceed 75,000 double rubs measured through the Wyzenbeek method, as outlined by testing within the reference standards.]

R. Frames shall be able to structurally support componentry (such as work surfaces, tool rails, storage units, shelving and accessories).

S. Frames are to have preassembled steel hangers with slots at 1”-1.25” increments for the suspension of work surfaces and shelf storage.

**2.1.3 Work Surface**

**A.** Cantilevered work surface must be balanced to reduce warping and constructed to accommodate manufacturers’ options for keyboard trays, pencil drawers, suspended pedestals, or injection molded plastic frames to hold plastic drawers. Underside of surface must be smoothly finished.

**B.** Work surfaces must be fully panel support. Floor support of work surface only allowed at locations that no panel is available for support.

**C.** Work surfaces must include a workstation cable management system attached to underside to accommodate power and data cabling and include suitable finish trim at work surface penetrations.

D.Finish must be plastic laminate [wood veneer] [\_\_\_] [phenolic resin] [chemical-resistant material] [stainless steel] [solid surface] [\_\_\_\_\_].

**E.** Work surface edges shall be totally finished and sealed against moisture with a flat impact resistant edge.

**F.** Work surface shapes shall include a variety of shapes, such as square, rectangular, bowtie, curvilinear, peninsula, 90-degree corner work surfaces.

**G.** Top loading capacity of standard cantilevered worksurfaces shall be up to 200 pounds. Top loading capacity of heavy-duty cantilevered worksurfaces shall be up to 400 pounds.

**J.** Transaction surfaces shall be available for use on top of panels to create “across the counter” work/display areas.

**K.** Worksurface shall have clearance at the rear of the surface or grommets for electrical cables and cords.

**L.** Work surfaces shall be capable of being easily relocated and installed with simple tools and at various heights.

**2.1.4 Storage**

**A. Overhead storage:**

**1.** Enclosed overhead storage cabinets must be modular & lockable. Shelves within the overhead cabinet must be [metal with factory baked enamel] [stainless steel] [powder coated] [composition core plywood with laminate surface] [\_\_\_\_\_]. Shelves may include a relocatable divider system.

**2.** Key each workstation individually and provide two keys per workstation.

**3.** Provide [sliding] [flipper] [hinged] overhead storage cabinet doors in [metal with factory baked enamel] [perforated metal] [stainless steel] [powder coated] [composition core plywood with laminate surface] [fabric] [plastic laminate] [wood veneer] [tempered glass] [\_\_\_].

**4.** [Provide the following overhead storage system components as indicated.]

**a.** [Gravity-feed shelves]

**b.** [Open shelves]

**c**. [Pass-thru window]

**d.** [Organizer bins]

**5.** Fully finished backs shall be available for enclosed overhead storage cabinets installed on an open frame panel or on wall strips.

**6.** The underside of the shelf and overhead storage cabinet should accept task light.

**7.** Mechanical safety catches shall be standard on all overhead storage.

**8.** Sloping tops for overhead storage cabinets shall be available.

**B. Undercounter storage units:**

**1.** Undercounter storage units are modular and hang from work surfaces. Storage units accept pull-out shelves, drawers and doors which can be locked. Undercounter storage units and components must be [composition core plywood with laminate surface] [injection molded plastic] [metal with factory baked enamel].

**2.** Doors feature a variety of pull hardware finishes.

3**.** [Provide the following lower storage system components as indicated.]

**a.** [Adjustable drawer dividers]

**b.** [Storage case legs, where needed]

**C. Pedestals**

1**.** Pedestals must be lockable and equipped with counterbalance and available in a variety of box and drawer configurations. Pedestals must be fully metal with factory baked enamel or powder coat finish [with cushion top].

2. Mobile pedestals must be equipped with casters and counterbalance. Size mobile pedestals to stow under standard system work surface height.

3. Drawer pedestals shall be available as freestanding or mobile and should also be available as work surface mounted units.

4. File drawer suspensions shall have full suspension, full extension and ball bearing glides.

5**.** Pedestals shall be available in a variety of depths, heights and widths.

6**.** All drawers within the pedestal shall be lockable with one lock and shall be capable of being keyed alike within the same work station.

7**.** Pedestals shall have a finished back and full dustpan.

8**.** Drawer pulls shall be available in more than one style.

9**.** Drawer fronts should be available in a variety of finishes [painted metal] [wood veneer].

**2.1.5 Task Light**

**A.** [Under shelf] [Adjustable arm] task lights must be non-glare and provide uniform foot candles on work surface.

**B.** Lights must be cord and plug with [on/off] [motion sensor] control on the task light itself.

**C.** Fixtures must be UL Listed/CSA certified. Light must be minimum [25] [50] delivered lumens per watt.

**D.** Task lights shall be approximately the full width of the overhead storage bin.

**E.** Task lights shall be a standard component of the manufacturer's furniture products.

**2.1.6 Electrical and Communication**

**A.** Provide electrical and communications raceway in base of workstations away from walls.

**B.** Provided outlets must be NEMA 5-20R [\_\_] type and colored to match system trim unless noted otherwise.

**C.** Provide 2 [\_\_] duplex receptacles per seated workstation location.

**D.** No more than 6 [\_\_] receptacles per circuit with maximum 3 circuits within systems raceway.

**E.** Communications raceway must provide space for 6 [\_\_] category 6 cables and allow for separation from the power distribution cables.

**[2.1.7 Accessories]**

**A.** [Provide keyboard tray.]

**B.** [Provide pencil drawer.]

**C.** [Provide suspended storage.]

**D.** [Provide monitor arms.]

**E.** [Paper management tools.]

**F. [**Organizer bins.]

G. [Equipment rails with rail-mounted accessories.]

**H.** [\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.]

**[2.1.8 Tables]**

**A.** Tables shall be available in a variety of sizes.

**B.** Table top edges shall be totally finished and sealed against moisture with a flat impact resistant edge.

**C.** Tables shall be available in fixed height and adjustable height models. Adjustable height tables should be available as pin adjustment, manual crank, pneumatic and electronic adjustment.

**D.** Tables shall be available with glides and locking casters.

**E.** Tables shall have optional modesty panels and surface mounted paper management tool rails.

**F.** Power/data and wire management accessories for tables shall be available.

**G.** Ganging mechanisms shall be available.

**H.** All structural components shall be steel and powder coat finish.

**I.** Table tops should have the ability to have grommets factory or field installed.

**J.** Table tops shall be capable of accepting adjustable keyboard trays, pencil drawers, suspended pedestals and/or frames to hold plastic drawers.

**K.** Table top finishes shall include, but are not limited to, the following options: high pressure laminate, solid surface material, and wood veneer.

**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--**