

SECTION 25 11 09 – BAS OPERATOR INTERFACES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and Division 01 Specification Sections, apply to this Section.
- B. Although Specifications throughout the Mechanical, Electrical, Communications, Electronic Safety and Security divisions of the Project Manual are directly applicable to this Section, and this Section is directly applicable to them; additional Divisions also may be reciprocally applicable to this Section.
- C. Refer to Section 25 00 00 - Building Automation System (BAS) General for general requirements.

1.02 SUMMARY

- A. Includes:
 - 1. Operator Workstations.
 - 2. Control System Servers.
 - 3. Portable Operator Terminal / Remote Workstation.
 - 4. Printers.
- B. Furnish and install all Operator Interfaces and Control System Servers as required for the BAS functions specified. All computers shall be warranted by the manufacturer for a period of one year after final acceptance.

1.03 REFERENCE STANDARDS

- A. The latest published edition of a reference shall be applicable to this Project unless identified by a specific edition date.
- B. All reference amendments adopted prior to the effective date of this Contract shall be applicable to this Project.
- C. All materials, installation and workmanship shall comply with the applicable requirements and standards addressed within the following references:

PART 2 - PRODUCTS

2.01 GENERAL

- A. All materials shall meet or exceed all applicable referenced standards, federal, state and local requirements, and conform to codes and ordinances of authorities having jurisdiction.

- B. The make and model of control system server computers, personal computers (PC), notebook PC's, monitors, and printers shall comply with Owner's current standards for desktop personal computers as of the date of Substantial Completion. Contact Owner for the current computer hardware standards.
- C. Operating system for operator workstation shall comply with Owner's current standards for desktop personal computers as of the date of Substantial Completion. Contact Owner for the current computer hardware standards.

2.02 OPERATOR WORKSTATION (OWS)

- A. Equipment listed below is representative of recent hardware requirements. Consult with BMS Project Manager regarding current computer equipment model specifications. Consult with BMS Project Manager regarding current computer equipment model specifications.**
- B. Workstation PC shall have the capability of changing serial port interrupt vectors and IOBASE addresses through software.
- C. Operating system for operator workstation shall meet or exceed the minimum requirements of the BAS software and shall meet or exceed the minimum requirements of UNIVERSITY OF HOUSTON. All software shall be at least the latest version available as of the date of Contract completion.
- D. Provide software, graphics and programming as specified in Section 25 15 00.
- E. Provide network card approved by BAS manufacturer to support Supervisory LAN communications (10/100/1000 Mbps Ethernet TCP/IP) for OWSs connected to the Local Supervisory LAN and network card or LANID where connected to the Primary Controller LAN.
- F. Provide additional hardware, video drivers, serial port, etc., to facilitate all control functions and software requirements specified for the BAS.

IT IS IMPORTANT THAT THE CONTROL SYSTEM SERVER AND OWS'S BE INDICATED ON THE DRAWINGS AND/OR THEIR LOCATION CLEARLY DEFINED. EDIT THE FOLLOWING AS APPLICABLE.

- G. Operator Workstations shall be placed as indicated on the Drawings or as directed by Owner.

2.03 CONTROL SYSTEM SERVER (CSS)

VERIFY WITH OWNER IF A CSS EXISTS FOR USE ON THIS PROJECT.

- A. Owner will provide a virtual server for use by controls vendor.-

2.04 PORTABLE OPERATOR TERMINAL (POT) / REMOTE WORKSTATION

- A. Equipment listed below is representative of recent hardware requirements. Consult with BMS Project Manager regarding current portable terminal specifications**
- B. Portable Operator Terminal shall support system management by connection to the controllers, by connection via the Internet, and by dial-up communications while serving as the remote workstation.

- C. Provide one notebook personal computer (PC) that meets or exceeds the minimum requirements of the BAS software and meets or exceeds the minimum requirements of UNIVERSITY OF HOUSTON. Notebook PC shall contain a 24X/24X/24X/8X CD-RW/DVD ROM Combo Drive.
- D. Provide a 10/100 LAN+56K CardBus Type III PC Card if internal adapter is not present.
- E. Provide minimum 14.1 inch XGA active matrix display.
- F. Provide carrying case and extra battery.
- G. Operating system for operator workstation shall meet or exceed the minimum requirements of the BAS software and shall meet or exceed the minimum requirements of UNIVERSITY OF HOUSTON.. Provide software, graphics and programming as specified in Section 25 15 00.
- H. Provide additional hardware, video drivers, serial ports, etc., to facilitate all control functions and software requirements specified for the building automation system.
- I. Provide all controller configuration and interface software and/or plug ins for all devices applicable. All shall be loaded and functional. Provide all required interface cables required to connect to all networks, routers, controllers, SDs etc.
- J. Wherever a POT connection point is not accessible in the same room as the device controlled, Contractor shall provide a wireless system, to permit configuration, testing and operation.
- K. Include licensing for all software packages.
 - 1. BAS licensing for this POT shall allow unlimited access to all aspects of the any manufacturer's system including system access, workstations, points, programming, database management, graphics etc.
 - 2. No restrictions shall be placed on the license.
 - 3. All operator interface, programming environment, networking, database management and any other software used by the Contractor to install the system or needed to operate the system to its full capabilities shall be licensed to and provided to the Owner. Warranties for upgrades to software for five years shall be included.

2.05 PRINTER (NOT REQUIRED)

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Installation shall meet or exceed all applicable federal, state and local requirements, referenced standards and conform to codes and ordinances of authorities having jurisdiction.
- B. All installation shall be in accordance with manufacturer's published recommendations.
- C. Set up workstations and printers as indicated on the Drawings. Install all software and verify that the systems are fully operational. Ensure licensing is provided for all software.

- D. No license, software component, key, etc or any piece of information required for installing, configuring, operating, diagnosing and maintaining the system shall be withheld from the Owner.
- E. Install electronic control system Operation and Maintenance Manuals, programming guides, network configuration tools, and control Shop Drawings etc. on each OWS and CSS. Provide interface or shortcuts to guide user to the appropriate information.
- F. Set up portable operator terminal and configure it as the remote workstation. Install all software and verify that the system is fully operational.

END OF SECTION 25 11 09