

## **PART 1 GENERAL**

### 1.01 Quality Assurance

#### A. Fire Alarm Contractor Qualifications:

- 1 The Fire Alarm contractor shall be an Edwards Systems Technology (EST) designated representative and authorized to sell, install, and service EST Equipment. The contractor shall have a minimum of 2 factory trained and certified technicians for the system proposed.
- 2 Equipment furnished shall be of current manufacture.

#### B. System Installer

1. SHSU requires the installers be direct employees of the fire alarm company awarded the fire alarm contract. No third party sub-contractors shall be allowed.

#### C. The fire alarm contractor shall provide the Texas Insurance Code Fire Alarm System Installation Inspection Form to the SHSU Fire System Safety Specialist (FSSS) & AHJ at the following intervals:

- 1 At the completion of the device back-box installation but prior to the start of cable installation;
- 2 At the completion of cable installation but prior to the start of device installation; and
- 3 At the completion of device installation but prior to activating the fire alarm system.
- 4 Final acceptance

#### D. Software and Database Information:

- 1 Proposed point numbers.
- 2 Labels of all addressable devices.
- 3 English action messages.
- 4 Add Programming rules, Equations, with comments listed.
- 5 Send a copy to FSS & PMCS Project Support Fire Protection Engineer.

#### E. The submittal package shall be signed by the State of Texas Fire Alarm Planning Superintendent (NICET III) or signed and sealed by a Professional Engineer (F.P.E.) registered in Fire Protection in the State of Texas.

1. All Code deficiencies and/or variances shall be noted on the fire alarm submittals and/or drawings.

## **PART 2 PRODUCTS**

### 2.01 Fire Alarm Control Units (FACU)

- A. Acceptable Manufacturers models **Edwards EST3**. Small buildings may be permitted to install other Edwards or Universal Technology Corp. models, subject to approval by Facilities Services.
  - 1. All Fire Alarm System components shall be keyed alike.
  - 2. All initiating devices shall be Edwards System Technology (EST).
- B. TERMINAL BOX are NOT allowed, system should be designed and installed panel to device and device to device.
- C. Legibly mark each cable or wire at each FACP and BPS with labeling tool. All Labels must include both source and destination at each end of the cable or wire.
- D. Zone labeling shall be textual by alpha-numeric display at the FACU and remote annunciator to allow "first response" by persons not trained in fire alarm technology.
- E. Textual (alpha-numeric) language shall be conventional, concise, clear and accurate to facilitate rapid response. The label shall contain the device type, floor location, equipment or area served, and an exact device location,

### 2.02 Remote Monitor

- A. All systems shall be capable of interconnection to the Campus-Wide Proprietary Supervisory Signaling System (UTC Fireworks System).
- B. The programming of the campus wide supervisory signaling system shall be done by a fireworks factory certified technician approved by SHSU FSSS and AHJ.
- C. Communication shall be via internet protocol (IP) "Edwards" Ethernet network.

### 2.03 Manual Pull Stations

- A. All manual pull stations shall be of the "double-action" type to reduce unintentional or vandal alarms. Pull stations required to break glass to activate are not acceptable. Provide pull stations that utilize the same key as FACU for resetting.
- B. Each manual pull station shall have a unique digital address on the SLC.
- C. Where separate addressable monitor modules are used for monitoring conventional type manual pull stations, the modules are required to be installed within the manual pull station back box.

### 3.01 Signaling Line Circuits (SLC)

- A. All the following devices/appliances shall be individually addressed on the SLC:
- B. SLC shall be monitored at a level of Class B.

3.02 Initiating Device Circuits (IDC) are not acceptable in occupied buildings.

### 3.03 Notification Appliance Circuits (NAC)

- A. All Notification Appliance Circuits (NACs) shall be monitored at a level of Class B.
- B. Direct current notification appliance power provided from a distributed power supply shall be controlled by a digital addressable control device on the SLC.

### 3.04 Voice Alarm Notification

- A. Provide speakers for annunciation of voice messages. Signals generated shall be the Distinctive Evacuation Signal (three-pulse temporal pattern) alternated with the custom message.
- B. Audible message required for voice evacuation shall be pre-programmed or upon approval of the SHSU FSSS & AHJ recorded as specified by SHSU.
- C. Digitized audible evacuation messages shall sound once and shall be preceded by a minimum of two cycles of the three pulse temporal pattern emergency evacuation signal.
- D. All field speakers shall be compatible with 70 volt existing system

E. No Banked Audio

### 3.05 Wiring

- A. All wiring shall be run square and plum to building structure. All plenum rated wiring not run in conduit shall utilize a manufactured wiring management system.
- B. All system wiring shall be color coded in accordance with the following:
  - 1. Exposed Fire Alarm System wiring shall not be painted over
  - 2. All wiring shall be RED.
- C. All SLC, NAC and IDC circuits shall be monitored at a level Class B.
- D. All wire shall be solid conductor cable.

#### 4.01 General

- A. It is the responsibility of the Contractor to assure that there is no disruption of the University's normal functions during construction such as studying, testing, class, research or administration.

#### 4.02 Connecting to or Modifying Existing Systems

- A. Operating, modifying, and connecting to existing fire alarm systems shall be supervised and/or coordinated by the SHSU Fire Safety Systems Shop (FSSS) staff. Documentation indicating all changes shall be provided at the FACU before the changes are made.
- B. Existing systems shall remain operational during modifications or additions to the existing system throughout the duration of the project.
- C. Where part or all of the existing fire alarm system is required to be demolished, remove the existing fire alarm components only after the new system installation is complete and accepted by FSSS and SHSU AHJ where feasible.
- D. Existing equipment that is required to be salvaged by the University shall be stored in a secure area designated by the University.

### **PART 5 TESTING**

#### 5.01 General

- A SHSU will use SHSU personnel and/or an independent third party inspection as required by State Fire Marshal. Contactor shall fix any deficiencies to the satisfaction of the third party at no cost to SHSU. Testing shall be performed at the conclusion of final cleaning. If testing performed before final clean, contractor shall be responsible for replacement of devices until end of warranty period.

#### 5.02 Specific Tests

- A. This test shall be under direct supervision of SHSU FSSS. This test shall be 100% test of all devices.
- B. In addition to the provisions of NFPA 72 and/or the above paragraph, it is the responsibility of the Fire Alarm Contractor to provide all of the following:
  - 1 Smoke detector sensitivity report.
  - 2 Creation of an account on Building Reports.com

### 6.01 Warranty and Maintenance

- A. The contractor shall warranty all materials, installation and workmanship for two (2) years from date of acceptance by the SHSU, unless otherwise specified. A copy of the manufacturer's warranty shall be provided with closeout documentation and included with the operation and installation manuals.
- B. Materials, installation or workmanship found to be defective during that period shall be replaced without cost to the SHSU. This Contractor shall initiate repair of any warranty defects within 8 hours of notification of such defects and shall be repaired within 24 hours.
- C. The warranty or any part of the warranty shall not be made void by any required operation or inspection of the system after acceptance during the warranty period.
- D. If the Owner experiences more than two Nuisance alarms or unexplained false alarms or troubles in any 24-hour period while the system is under warranty, the Contractor shall provide the necessary labor, materials, and technical expertise to promptly correct the problem(s) at no cost to the SHSU.
- E. The fire alarm contractor shall maintain a service organization with adequate spare parts stock within 75 miles of the installation.
- F. Spare Parts - The Contractor shall supply the following spare parts:
  - 1 Automatic detection devices - Two (2) percent of the installed quantity of each type AND/OR NO LESS THAN 2 DEVICES
  - 2 Manual fire alarm stations - Two (2) percent of the installed quantity of each type. AND/OR NO LESS THAN 2 DEVICES
  - 3 Modules - Two (2) percent of the installed quantity of each type AND/OR NO LESS THAN 2 DEVICES.
  - 4 Audible and visible devices - One (1) percent of the installed quantity of each type and color, but no less than two (2) devices. AND/OR NO LESS THAN 2 DEVICES
  - 5 Keys - A minimum of three (3) sets of keys shall be provided and appropriately identified.
  - 6 FACP parts to include FACP modules required to get a failed system back up and operating 100%. No more than 2 panel device modules and no less than 1 panel device modules.

### 6.02 Training

- A. Provide services of manufacturer's representative to instruct SHSU FSSS in operation and maintenance of system for a minimum of two 4-hour sessions.

- B. Factory training if necessary at the expense of the Fire alarm contractor for two SHSU FSSS Personnel is required for the installed system. Expenses shall include all travel, hotel, meals, training and training materials.

#### 6.03 Supervising Station Programming

- A. Upon completion of the fire alarm system and the final acceptance test, the contractor shall program the new building alarm system into the University's central monitoring station (UTC Fireworks).
- B. The programming shall be coordinated with and supervised by SHSU FSSS.
- C. A signal verification test shall be conducted to verify communication between the FACU and the central monitoring station (UTC Fireworks).

END OF STANDARD