

PART 1 GENERAL

1.01 Scope of Standard

- A. This Standard is intended to assure that fire alarm signaling systems at Sam Houston State University provide the highest level of fire safety possible. This document is not intended to be a guide specification.

1.02 Scope of Work

- A. This standard is to be used in the development of all fire alarm and signaling system design for buildings and structures at SHSU
- B. This standard is to apply to all fire alarm and signaling system components and equipment installed at a SHSU campus during new construction or as part of a building rehabilitation project as defined by NFPA
- C. The work addressed in this section consists of a fire protection system, which may include, and at least will be coordinated with all of the following building systems or components:
 - 1 Fire Suppression Systems.
 - 2 HVAC, fire, smoke, and combination fire/smoke dampers.
 - 3 Emergency power systems.
 - 4 Elevator installation. See the Texas State Elevator Code ASME/ANSI A17.1 and ASME/ANSI A17.3.
 - 5 Central Control and Monitoring System.
 - 6

6. Elevator capture/recall.
7. Elevator power shunt trip.
8. Smoke control/fan shutdown.
9. Door release.
10. Release locks on normally locked egress doors.
11. Release and monitoring of clean agent and/or pre-action sprinkler systems.
12. Alarm Verification.
13. Monitor non-water based fire suppression systems.
14. Multiple channel digital voice. Intelligibility
15. Provisions for Mass Communication notification

B. Provide audible notification throughout the building in accordance with NFPA 72.

- 1 Acoustically Distinguishable Spaces (ADS) assignments shall be submitted for review and approval.
- 2 Each ADS shall be identified as requiring or not requiring voice intelligibility.

1.04 Description of Work

1.06 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 Licensed by the Texas State Fire Marshal's Office to sell, install, and service fire alarm systems.
- 3 Actively engaged in business of selling, installing, and servicing fire alarm systems for at least five years with minimum of ten such installations completed and operating properly.
- 4 Equipment furnished shall be of current manufacture.

B. Fire Alarm and Signaling System Shop Drawing Designer and System Programmer Qualifications

- 1 Personnel who are factory trained and certified for fire alarm system design and emergency communications system design and programming of the specific type and brand of system and who are acceptable to the SHSU

- notification devices, wiring connections, zoning, wire sizes and routing.
- a. Wattage setting for each speaker labeled adjacent to the speaker.
 - b. Candela rating for each strobe labeled adjacent to the strobe.
 - c. All new devices, existing devices and devices to be removed shall be shown.
7. Detailed input/output matrix.
- B. Product Data: Provide electrical characteristics, connection requirements and compatibility listing showing that components are compatible with each other including but not limited to:
1. Full equipment list including model numbers and quantities
 2. Complete system operation
 3. Highlighted Data Sheets on Devices and Products

3.01 Signaling Line Circuits (SLC)

A. NOT USED

B. All the following devices/appliances shall be individually addressed on the SLC:

1. Smoke detectors.
2. Heat detectors.
3. Manual stations.
4. Monitor devices.
5. Control devices.

3.02 Initiating Device Circuits (IDC)

A. Initiating Device Circuits (IDCs) shall be monitored at a level of Class B.

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 Auxiliary Functions

3.05 Positive Alarm Sequence

3.06 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 listed below in 3.07B.

B. Audible message required for voice evacuation shall be preprogrammed 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 minimum of two cycles of the three pulse temporal pattern emergency evacuation signal.

D. NOT USED

3.07 Fan Shutdown, Dampers, and Smoke Control

3.08 Automatic Door Control

3.09 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.

PART 4 SPECIAL CONDITIONS

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 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 completed and accepted by FSSS and SHSU 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

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shall program the new building alarm system into the University's central monitoring station.

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.

END OF STANDARD