1. GENERAL

1.01 SECTION INCLUDES

.1 [Single stage] addressable fire alarm system Sequence of Operation.

1.02 RELATED REQUIREMENTS

.1 Section 28 46 13 – Fire-Alarm Systems.

1.03 CLOSEOUT SUBMITTALS

.1 Manuals

.1 Provide a clear and concise description of operation which gives, in detail, the information required to properly operate the equipment.

2. PRODUCTS

2.01 GENERAL

.1 The sequence listed below is representative sequence of operation, based on typical buildings.

.2 The Contractor shall submit a project specific sequence of operation, as part of the submittal process.

2.02 OPERATION SEQUENCES

.1 An alarm is caused by actuation of any one of the following devices:

.1 Pulling a manual station.

.2 Operation of an automatic fire alarm detector.

.3 Operation of a sprinkler flow switch.

.4 Operation of a smoke detector.

.2 If, in any area of the building, an alarm is caused by actuation of the aforementioned devices, the following shall occur:

.1 Signals in the building shall sound.

.2 Annunciators shall indicate exact zone where alarm originated.

.3 The activation of a manual pull station, automatic fire detector, automatic smoke detector, or sprinkler flow switch shall initiate the following sequence of operation:

.1 Sound an alarm signal throughout building.

.2 Control panel and remote annunciators shall indicate exact location of alarm via a zoned RED LED.

.3 Fans shall be automatically turned off.

.4 Initiate alarm origin on CPU and at graphic annunciator.

.5 Display the alarm event on all annunciator panels.

.6 Actuate CPU causes evacuation signal to sound and strobes to operate.

.7 The internal audible device shall sound at the control panel.

.8 Signal transmission to external systems:

.1 Transmit signal to monitoring station.

.2 Central station shall be automatically alerted via telephone lines connected for fire alarm system.

.3 Transmit signal to Building Automation System.

.4 Transmit signal to Access Control System.

.9 Door Releases:

.1 All stairwell/exit doors shall unlock throughout the building.

.2 All self-closing fire/smoke doors held open shall be released.

.10 Elevator:

.1 Provide elevator recall functions for primary and alternate floors and elevator power shunt trip activation for each elevator.

.2 Each elevator lobby smoke detector shall be complete with relay base. Provide five relays and interconnecting wiring to elevator controller for elevator recall. Coordinate requirements with elevator supplier.

.11 HVAC Shutdowns:

.1 [Shut down air supply and return air fans.]

.2 Activate smoke dampers.

.12 CPU indicates trouble when any fault occurs within the system.

.4 Alarm:

.1 Actuate CPU causes evacuation signal to sound and strobes to operate.

.2 The internal audible device shall sound at the control panel.

.3 Signal transmission to external systems:

.1 Transmit signal to monitoring station.

.2 Transmit signal to Building Automation System.

.3 Transmit signal to Access Control System.

.4 Door Releases:

.1 All stairwell/exit doors shall unlock throughout the building.

.2 All self-closing fire/smoke doors held open shall be released.

.3 Site entrance and exit gates open.

.5 Elevator:

.1 Provide elevator recall functions for primary and alternate floors and elevator power shunt trip activation for each elevator.

.2 Each elevator lobby smoke detector shall be complete with relay base. Provide five relays and interconnecting wiring to elevator controller for elevator recall. Coordinate requirements with elevator supplier.

.6 HVAC Shutdowns:

.1 Shut down air supply and return air fans.

.2 Activate smoke dampers.

.5 Supervisory

.1 If, in any area of the building, supervised valves of the sprinkler, systems are operated or exhibit short or open circuits, the following shall occur:

.1 The annunciator shall identify, as a separate zone, the item causing the trouble signal.

.2 The trouble buzzer on the annunciator(s) shall sound.

.3 The signals in the building shall not be sounded.

.2 The activation of a sprinkler supervised valve or pressure switch shall initiate the following sequence of operation:

.1 The control panel and remote annunciator shall indicate exact location of activity via a zoned AMBER LED

.2 Activate an audible tone on the control panel and remote annunciator.

.3 The signals in the building shall not be sounded.

.6 Trouble

.1 A short, ground fault or open circuit to any fire alarm conductor, the tamper or removal of any field device or the loss of primary or standby power to any control equipment will result in the following trouble sequence of operation:

.1 The control panel and remote annunciator shall indicate exact location of activity via a zoned YELLOW LED.

.2 Activate an audible tone on the control panel and remote annunciator.

.3 The signals in the building shall not be sounded.

3. EXECUTION – NOT USED

End of Section