DEDICATED FUNCTION FIRE ALARM – WOOD-FRAME CONSTRUCTION

When Required:

This guideline can be utilized when planning on building a wood frame construction project. Construction site fires are a growing threat to the construction industry and communities nationwide. Many of these fires occur outside working hours when no people are on-site. This means a more significant potential for a fire to go undetected, leading to a more substantial fire, potential personal injury, and loss beyond the structure of origin. The system's sole purpose is to provide early warning of a fire within a wood-frame construction project to initiate an emergency response faster to protect firefighters and the community better.

Code Sections:

1. All wood frame construction projects exceeding three stories in height, except R-3 occupancies, must have a listed fire alarm system installed during construction. A listed monitoring company must monitor the fire alarm system (CFC §3308.11).
2. A fire permit is required for the installation.

Timing:

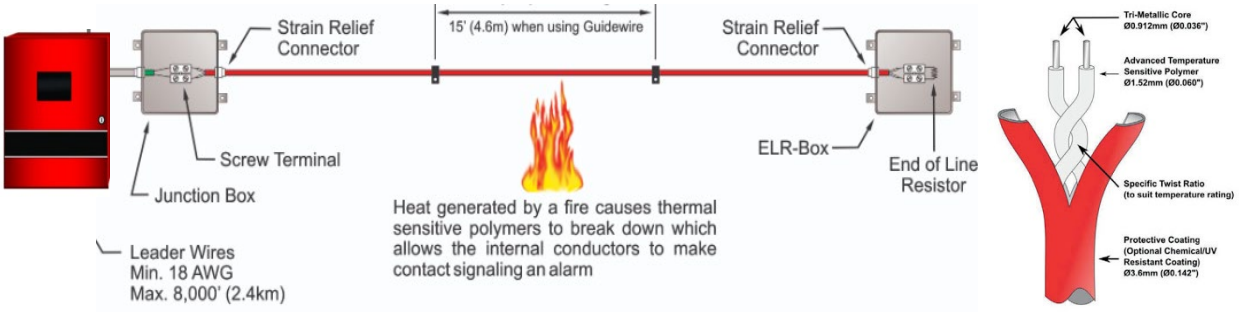
1. The fire alarm system must be approved before the start of combustible framing.
2. Failure could result in a stop-work order being issued and double fines applied.

Plans:

1. Plans shall include a title sheet, equipment list, written operation or functional matrix sequence, floor plans, and a system riser diagram.
2. Attachments shall include the manufacturer's specification sheets and California State Fire Marshal (CSFM) listing sheets for all equipment and devices.
3. All plans shall be scaled and use the symbols identified in NFPA 170, Standard for Fire Safety and Emergency Symbols. The symbols used in the drawings shall match the legend.
4. Plans will be dynamic documents that will continually require updates as each floor or floor is completed. Updates must be electronically submitted to the fire department whenever significant system modification is made.

Systems:

While any "listed" fire alarm system may be utilized, the most often submittal incorporates a linear heat detection system, given the robust nature of the equipment in an open environment.



General Requirements:

1. The fire alarm designer of record must work with the owner and general contractor on the overall design and phasing of the system.
2. Protection is only required for the unprotected wood-frame portion of the structure during construction.
3. A reliable power source for the fire alarm control panel (FACP) is required (i.e. Silicon Valley Power).
4. The secondary power supply for the FACP shall have sufficient capacity to operate the fire alarm system for a minimum of 24 hours and, at the end of that period, shall be capable of running the audio/visual device(s) for 15 minutes.
5. A listed cellular dialer must transmit a signal to an approved monitoring company. A single transmission method is acceptable. The dialer shall also have a battery backup for at least 24 hours.
6. The FACP and the cellular dialer shall be installed within a NEMA4 enclosure on the exterior of the building.
7. At least one exterior weatherproof notification appliance (e.g. horn/strobe or speaker/strobe) with a minimum 110-cd strobe. The A/V device shall be installed at a height to be visible from the street above the fence line directly above the FACP.
8. A listed linear heat detection cable shall be used. The spacing and routing of the linear heat detection cable shall be designed and installed to ensure prompt activation during the incipient stages of fire. It is not intended to require complete protection following NFPA 72 or the manufacturer's installation spacing instructions.

   Example: A four-story 200,000 square foot wood-framed building with a typical floor plate of 50,000 square feet with a looped corridor system on each floor. Routing heat detection cable in a loop throughout the corridor would be an acceptable level of protection.
9. At a minimum, each floor or level shall be a separate detection zone. Depending on the size of a building and fire department access, additional zones may be required.
10. The FACP NEMA4 enclosure shall be installed on the street side of the building in an approved location easily accessible by fire department personnel.
11. A sign (minimum 4’ x 4’) stating “CONSTRUCTION FACP," legible from the street, shall be installed above the FACP. Construction FACP shall be in “red” on a white background, as shown below. The sign shall be provided with illumination at night.

12. A moveable barrier to access the FACP shall be provided in the direct vicinity of the FACP, and that gate shall be equipped with a Knox padlock.

Decommissioning:

Once the building has been fully enclosed and all sheetrock is installed, the system can be decommissioned and removed with the Fire Department's approval.