

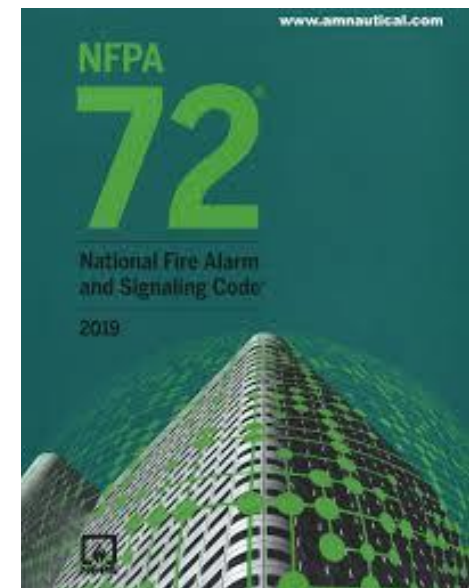
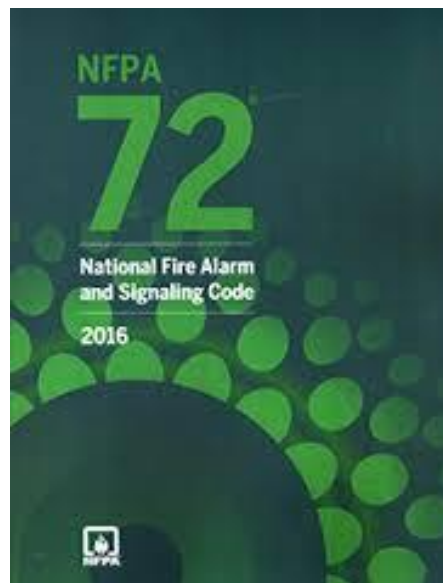
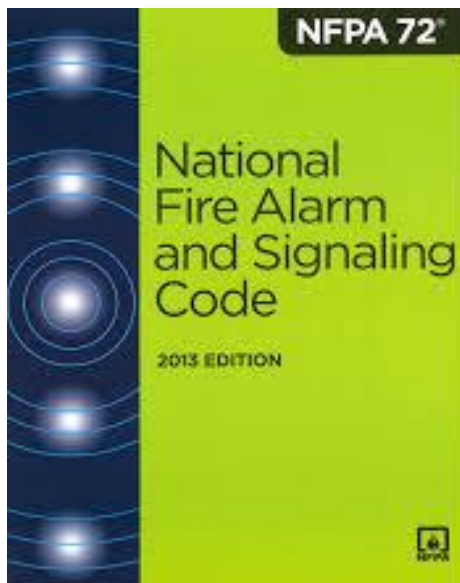
# 2019 Fire Prevention Institute



## Significant Changes to NFPA 72 – 2016 & 2019 Edition



# Significant Changes to NFPA 72



# Who am I?

- Inspector/Plans Examiner
- Deputy State Fire Marshal (MN)
- NFPA 72 Technical Committee
- Previous member – IBC Fire Safety Committee
- Instructor for International Code Council & National Fire Academy
- Appointed by MN Gov. Mark Dayton to Board of Architecture & Engineering (2013-2017)



# Fire & Life Safety Interests...



- Fire Alarm Systems



# Fire & Life Safety Interests...

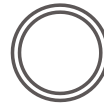


- Fire Alarm Systems



- School Fire Safety

# Fire & Life Safety Interests...



- Fire Alarm Systems



- School Fire Safety



- Autism/Fire & Life Safety

# Miscellaneous Information

- Restrooms
- Breaks
- Roster
- Informal
- Participate
- Please ask questions

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"You're not allowed to use the sprinkler system to keep your audience awake."

# Terminology




- The term “alarm” refers to a single station device:
  - Not part of a system,
  - Intended to alert the occupant,
  - Examples: smoke alarms, CO alarms,
- The term “detector” refers to a device connected to a fire alarm system.
  - A detector does not alert the occupant (horn/strobes do that)





# Changes




**18.4.5.3\*** Effective January 1, 2014, where audible appliances are provided to produce signals for sleeping areas, they shall produce a low frequency alarm signal that complies with the following:

- (1) The alarm signal shall be a square wave or provide equivalent awakening ability.
- (2) The wave shall have a fundamental frequency of 520 Hz  $\pm$  10 percent.

2013

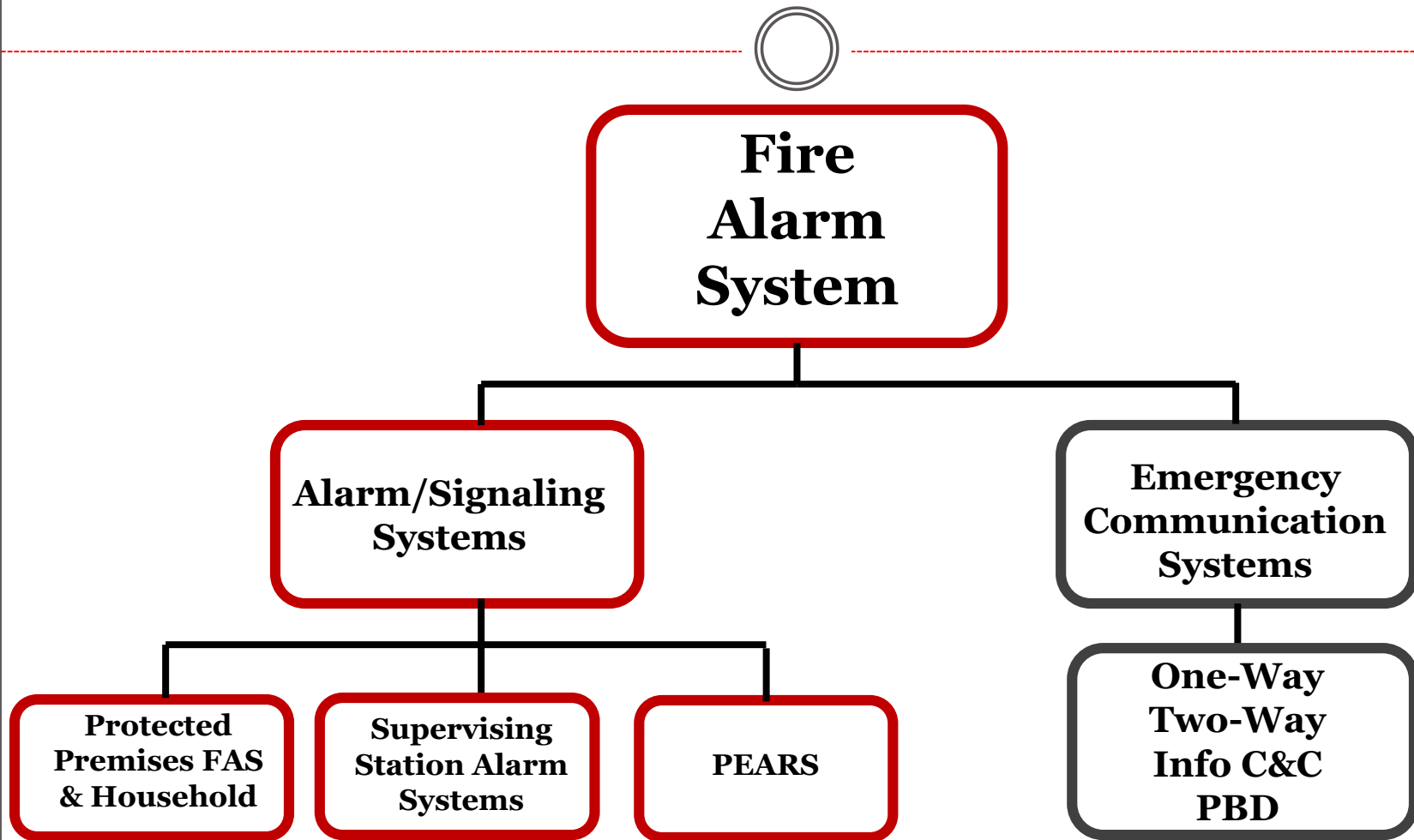
## **17.14 Manually Actuated Alarm-Initiating Devices.**



**17.14.1** Manually actuated alarm-initiating devices for initiating signals other than for fire alarm shall be permitted if the devices are differentiated from manual fire alarm boxes by a color other than red and labeling.

2016/  
2019

# NFPA 72 Organization



# Correlating Committee Changes – 2016 & 2019 Editions

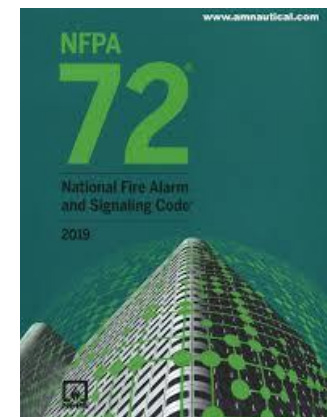


- Changed “fire alarm systems” to “fire alarm and signaling systems”
- Changed “speaker” to “loudspeaker”
- Changed “hearing impaired” to “deaf or hard of hearing”
- Changed “visible” to “visual”
- Changed “enforcing authority” to “authority having jurisdiction”
- Eliminated exceptions whenever possible

# NFPA 72 & NFPA 720



- 2019 edition added all criteria for carbon monoxide detection systems (chapter 17) and alarms (chapter 29).
- NFPA 720 has been discontinued.



# Chapter 1 – Section 1.5

- Equivalency Section 1.5
  - Nothing in the standard shall prevent the use of systems, methods, devices, or appliances of equivalent or superior quality, strength, fire resistance, effectiveness, durability and safety over those prescribed in the standard
  - Fire alarm technology changes rapidly!



# Fire Alarm Documentation



- Section 7.7.2.3 (19) – All record documentation shall be stored in the documentation cabinet. No record documentation shall be stored in the control unit.

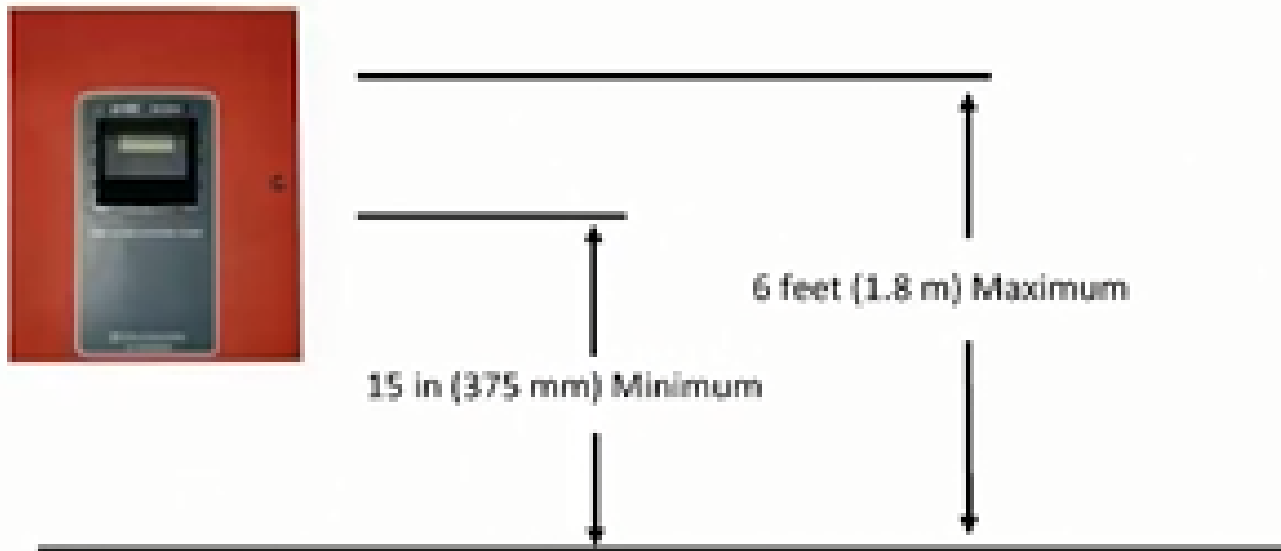


# FA Panel Mounting Height



- Section 10.4.4 (19) – Unless otherwise permitted by the AHJ, control units, visible indicators, or controls shall be mounted such that the distance to the highest switch, lamp, or textual display does not exceed 6 ft. above the finished floor and the lowest switch, lamp or display shall not be less than 15 in. above the finished floor

# FA Panel Mounting Height





# FA Panel Mounting Height



# Chapter 10 - Qualifications



- 10.5 Personnel Qualifications
  - Revised and added requirements for personnel qualifications for:
    - System designers
    - System installers
    - Inspection/Testing/Maintenance Personnel
    - Supervising Station operators (added in 2010)
    - Inspectors/Plans Examiners – **2016 Edition**

# Chapter 10 -Fundamentals



- Language added in 2016 Edition of NFPA 72
- Establish a minimum standard for inspectors and plans examiners that inspect and review fire alarm/ECS systems



Illustration by Chris Gash



# Carbon Monoxide Detectors



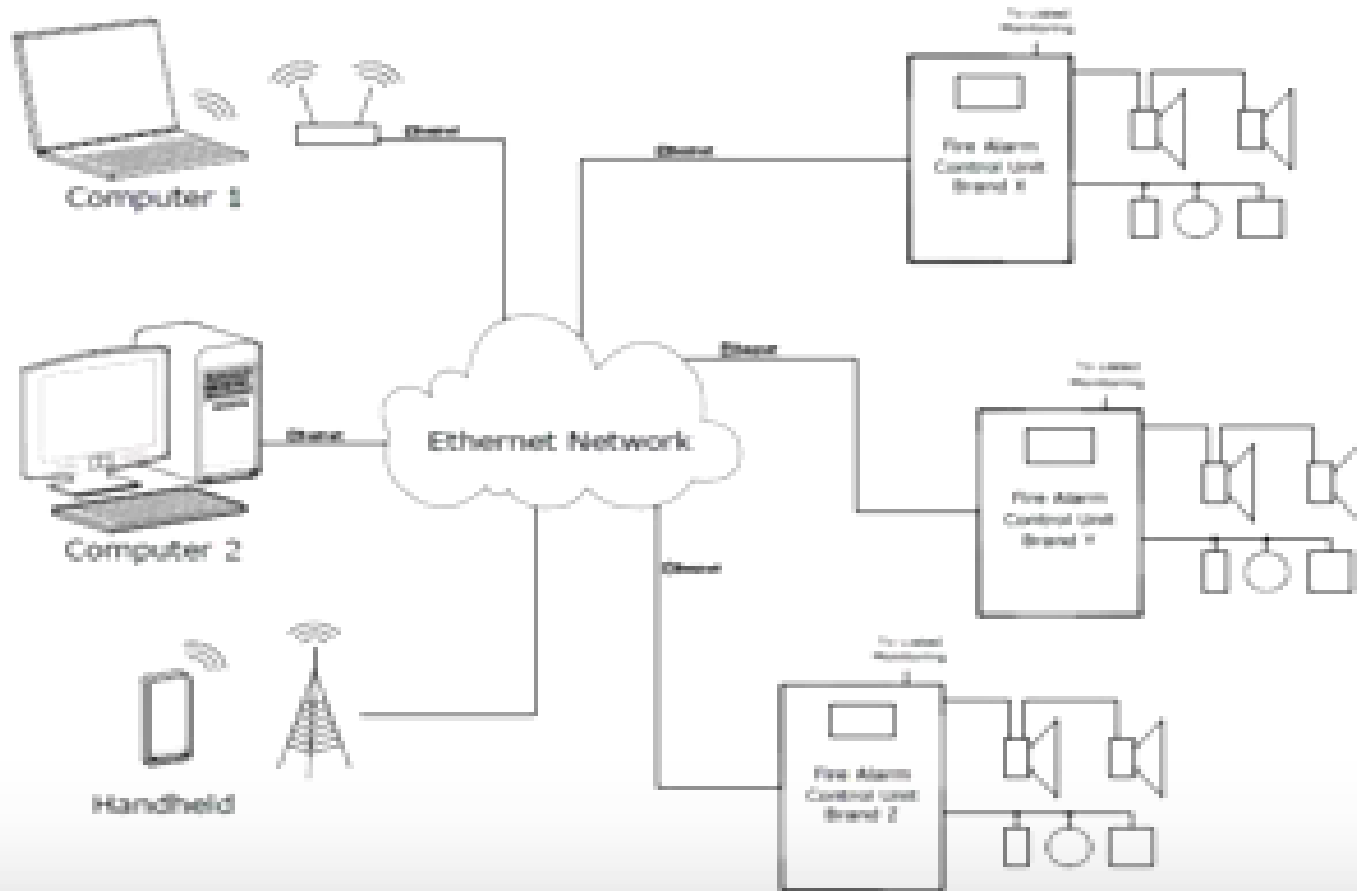
- Placement criteria added to cover where CO devices should be placed in hotels, apartments and assisted livings.
  - Section 17.12.1
  - On the ceiling in the same room as the fuel-burning appliance
  - Centrally located on every habitable level
  - REMEMBER-IFC & IBC will supersede NFPA 72
    - See section 102.7.1 in IFC (18)

# Chapter 12 – Circuits & Pathways



- 2016 Edition created a new circuit (Class N) allowing Ethernet (wired or wireless) and other computer based networks to be used for fire alarm wiring
- Must have a redundant path (similar to Class A circuits).
- Lots of conditions

# Class N Circuit



# Chapter 14 - ITM



- Radio enhancement systems
  - Also referred to as: “Emergency Responder Radio Coverage”



# Chapter 18 – Notification Appliances

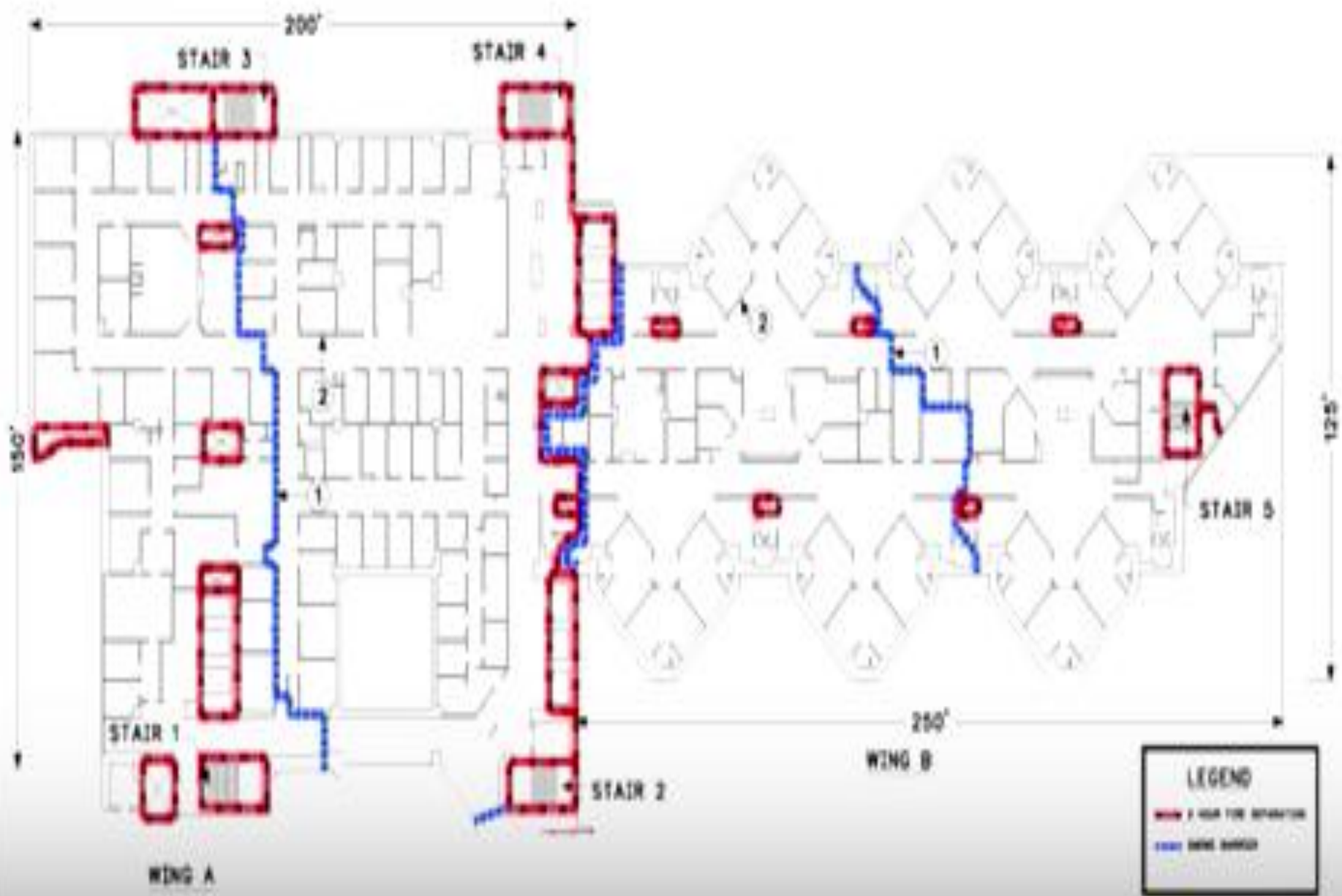




# Notification Signal



- The type of notification signal must match the evacuation scheme for the facility:
  - Total evacuation,
  - Zoned evacuation,
  - Occupant relocation,
  - Defend in place strategies.
- Notification zones shall be consistent with the emergency response or evacuation plan for the protected premises.



# Chapter 18 – Notification Appliances

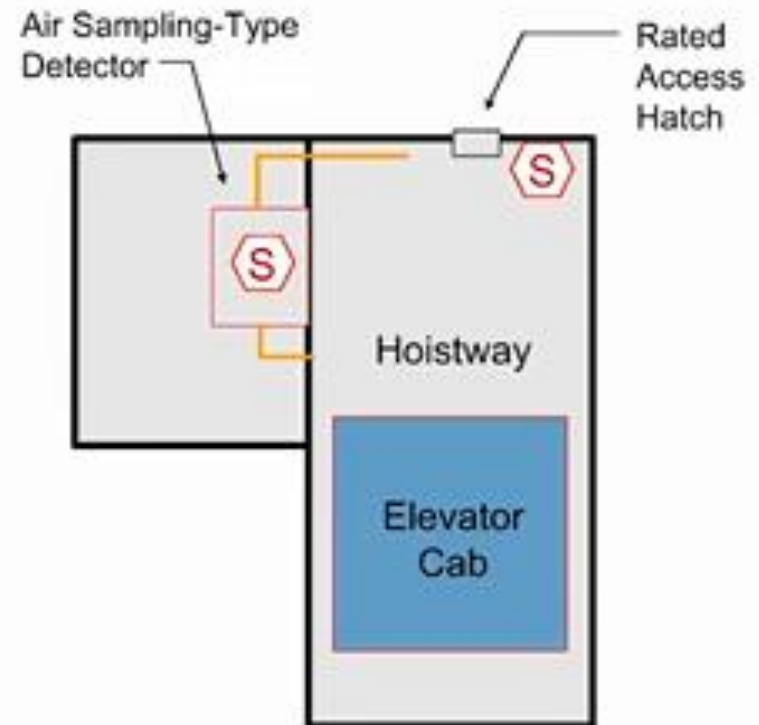


- The use of the T3 pattern shall only be used where evacuation of the building or relocation inside the building is desired.
- The T3 signal shall not be used where occupants are practicing defend-in-place.



# Chapter 21 – Changes

- Section 21.3.7 (19) – Fire alarm initiating devices required to be installed in elevator hoistways shall be accessible for service, testing and maintenance from outside the elevator



# Chapter 21 – Changes



- Section 21.8 – Where required by NFPA 13, all high volume low speed (HVLS) fans shall be interlocked to shut down upon actuation of sprinkler water-flow that indicates water-flow in the area served by the fans.



# Chapter 21 – Changes



- NFPA 13 Section 11.1.7 – HVLS fans shall comply with the following:
  - Maximum diameter of the fan shall be 24 ft.
  - HVLS shall be centered approximately between 4 adjacent sprinklers.
  - The vertical clearance from the HVLS to sprinkler deflector shall be a minimum of 3 ft.
  - Interlocked to shut down with waterflow in accordance with NFPA 72.

# Chapter 23 – Separate Systems



- Section 23.2.3 (19) – The requirements of this chapter shall not prohibit the use of separate fire, CO, or other life safety systems.
- Provided that the different systems do not generate simultaneous conflicting notification to the building occupants.

# Chapter 24 – ECS



- Section 24.3.1.2 – New section allowing non-listed speakers to meet the performance requirements of intelligibility
- Where no listed speakers exist to achieve the intelligibility requirements of NFPA 72
- Still requires AHJ approval to use non-listed equipment



# Chapter 29 – Smoke Alarms



- 2019 edition
- Effective Jan. 1, 2022, smoke alarms and smoke detectors installed between 6 ft. and 20 ft. from fixed cooking appliances shall be listed for resistance to common nuisance alarm sources

○ Section 29.11.3.4 (6)



# Resistance to Nuisance Alarms



# New Smoke Alarms

**Kidde**  
United Technologies

## HARDWIRE SMOKE ALARM

120V Alarm Detects Smoke and Fire

Advanced sensor detects more types of fires and reduces cooking nuisance alarm.  
Meets new industry standards for advanced smoke alarm protection.

**TRISENSE**  
Advanced Smoke Detection Technology

**Easy Access Front Load Battery Door!**

**Talking Alarm**  
Voice alerts you to the presence of smoke or low battery.

**Hardwire**

**UL CERTIFIED SAFETY SCHEMATIC**

Helps Reduce Cooking Nuisance Alarms  
UL 217 8<sup>th</sup> Ed.

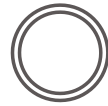
Model# 2070-VASR  
(N: 21028502)

Battery Backup (battery included)

**10 YEAR WARRANTY**

**120V SMOKE ALARM**

# Household Fire Warning Equipment



- Section 14.4.5 (2016 edition)
  - New language requiring smoke alarms ~~in one & two family dwellings~~ to be replaced after 10 years or when they fail to operability test.



# Contact Information



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952-261-5854



**THANK  
YOU!**

# 2019 Fire Prevention Institute



**Thank you!**

