

## **NFPA 72 Fire Alarm Code 2013 Updates National Fire Alarm and Signaling Code: Overview of the major changes as the code goes from the 2007 edition to the 2013 edition.**

North Carolina Code Changes (Effective Jan. 1, 2016)  
NFPA Reference Standards are being updated

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### Presenter:

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- 20 years of experience designing fire alarm and clean agent suppression systems.
- BS Engineering from NC State Univ.
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This presentation was originally prepared  
in conjunction with the  
Triangle NC Chapter of SFPE.



## How we got here:

- ▶ The June 5, 2015 Engineering Newsletter from NCDol OSFM announced that in December of 2014, the NC Building Code Council passed Rule Changes, called D-Items, i.e. amendments.
- ▶ Item D-17 updates 75 of the commonly referenced NFPA standards including NFPA 72. (List of all the standards is provided)
- ▶ Effective date of the amendment is Jan. 1, 2016.

- ▶ The 2010 Edition of NFPA 72 reorganized the chapters to account for Emergency Control Signaling and Functions and to allow space for future expansion of the standard.

Chapter 1 - Administration

Chapter 3 - Definitions

Chapter 7 - Documentation

Chapter 10 - Fundamentals

Chapter 12 - Circuits and Pathways

Chapter 14 - Inspection, Testing, and Maintenance

Chapter 17 - Initiating Devices

Chapter 18 - Notification Devices

Chapter 21 - Emergency Control Function Interfaces

Chapter 23 - Protected Premises Fire Alarm Systems

Chapter 24 - Emergency Communications Systems

Chapter 26 - Supervising Station Alarm Systems

Chapter 27 - Public Reporting Alarm Reporting Systems

Chapter 29 - Single and Multiple Station Alarms and Household Fire Alarm Systems

## General Changes

- ▶ All parts of code now expanded or changed to move away from fire alarm only notations to include all signaling components so mass notification can be accepted.
  - Remove the word 'fire' wherever possible.
- ▶ Now we have:
  - National Fire Alarm and Signaling Code
- ▶ Even within a chapter where the meaning is the same, sentences and paragraphs have been reordered to be more explicit, to allow for all types of signaling.

## Chapter 7 – Documentation

- ▶ New in 2013
  - Previously listed as 4.5 in 2007 edition with requirements and forms spread throughout standard.
- ▶ Goal is to provide central location to find all documentation requirements.
  - Moved forms and requirements from other parts of code.
- ▶ Written narrative providing intent and system description was added to minimum required list.

BD5

## Chapter 7 – Documentation

- ▶ 7.3 Design (Layout) Documentation
  - 7.3.4.3 Design documents shall include ambient sound pressure levels and audible design sound pressure levels in accordance with 18.4.1.4.3.
  - 7.3.4.5 The documentation of *acoustically distinguishable spaces (ADS)* shall be in accordance with 18.4.10.
  - 7.3.4.6 Design documents shall specify the rooms and spaces that will have visible notification and those where visible notification will not be provided in accordance with 18.5.2.1.

BD26

## Chapter 7 – Documentation

- ▶ Key Definition
- ▶ 3.3.6\* **Acoustically Distinguishable Space (ADS).**
  - An emergency communications system notification zone, or subdivision thereof, that might be an enclosed or otherwise physically defined space, or that might be distinguished from other spaces because of different acoustical, environmental, or use characteristics, such as reverberation time and ambient sound pressure level.

## Slide 7

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**BD5** key for engineers  
Brian Donnelly, 7/21/2015

## Slide 8

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**BD26** key for engineers  
Brian Donnelly, 7/21/2015

BD9

## Chapter 7 – Documentation

- ▶ 7.8 Forms
- ▶ Record of Completion
- ▶ Broken into modular documents – 6 possible
  - System Record of Completion
  - Emergency Communications Systems Supplementary ROC
  - Power Supplies Supplementary
  - Notification Appliance Power Panel Supplementary ROC
  - Interconnected Systems Supplementary ROC
  - Deviation from Adopted Codes and Standards Supplementary ROC

## Chapter 10 – Fundamentals

- ▶ 10.4.4 Protection of Fire Alarm System
  - Exception 2 from the 2007 edition has been removed.
  - Allowed for an exemption from the requirement to protect head end equipment with a spot detector if the building was fully sprinklered.
  - Per Annex still not intended for annunciators.
  - All Control Panels, Subpanels, other Head-End Cabinets, and power supplies must be protected by a detectors; smoke unless prevented by environment.
    - Not Annunciators

Slide 9

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**BD9** for AHJ/contractors  
Brian Donnelly, 7/21/2015

## Chapter 10 – Fundamentals

### ▶ 10.7 Signal Priority

- Added to account for Mass Notification Systems
- Introduction of Risk Analysis per Chapter 24
- Fire Alarm signals shall take precedence over all other signals, except as permitted by Risk Analysis
  - Or Emergency mass notification signals shall be permitted to take priority over FA signals in accordance with Chapter 24.



## Chapter 10 – Fundamentals

### ▶ 10.7 Signal Priority – New Section

- Carbon monoxide notification signals are permitted to take precedence over supervisory and trouble signals.
  - 23.8.4.8: Signals from carbon monoxide detectors and CO detection systems shall be indicated as a carbon monoxide alarm signal (when connected to PPFA).
- Separate Systems are permitted to achieve the priority of signals.
- Determining priority of all signals should be done through a risk analysis, performed by the stakeholders including the AHJ.



## Chapter 10 – Fundamentals

- ▶ 10.17 Notification Appliance Circuits and Control Circuits
  - 10.17.2 – Notification Appliance Circuits (NACs) that do not have appliances directly connected to the circuit are considered control circuits.
    - These control circuit are exempted from the requirement of 10.17.1, which says that a fault on a NAC does not affect the operation of other NACs for more than 200 seconds.
      - Is regardless of whether the short-circuit fault is present during normal or activated circuit state.
    - 10.17.1 Applies the 200 second limitation to daisy chain actuations of remote power supplies.
    - These control circuits are required to comply with 12.6.1.

## Chapter 12 – Circuits and Pathways

- ▶ No more Style classifications
  - Pathways are designated by class – 12.3
    - A
    - B
    - C
    - D
    - E
    - X
  - And level of survivability – 12.4
    - 0
    - 1
    - 2
    - 3

## Chapter 12 – Circuits and Pathways

### ▶ 12.3 – Pathway Class Designations

Table A.12.3(b) Performance of Signaling Line Circuits (SLCs)

NFPA 72-2007 Class	B			A			A		
Style	4			6			7		
NFPA 72-2010 Class	B			A			X		
	Alarm	Trouble	ARC	Alarm	Trouble	ARC	Alarm	Trouble	ARC
Abnormal Condition	1	2	3	4	5	6	7	8	9
Single open	—	X	—	—	X	R	—	X	R
Single ground	—	X	R	—	X	R	—	X	R
Wire-to-wire short	—	X	—	—	X	—	—	X	R
Wire-to-wire short and open	—	X	—	—	X	—	—	X	—
Wire-to-wire short and ground	—	X	—	—	X	—	—	X	—
Open and ground	—	X	—	—	X	R	—	X	R
Loss of carrier (if used)/channel interface	—	X	—	—	X	—	—	X	—

ARC: Alarm receipt capability during abnormal condition. R: Required capability. X: Indication required at protected premises and as required by Chapter 26.

2013 Edition

## Chapter 12 – Circuits and Pathways

### ▶ 12.3 – Pathway Class Designations

#### ▶ What are Class C, D, and E?

#### ▶ Class C

- Pathway where operational capability is verified via end-to-end communication but the pathway integrity is not monitored.
- Loss of communication is annunciated (as trouble).
- Intended for FA connections via LAN, WAN, or internet where continuous communication through “handshaking” occurs.
  - Wired or wireless.
  - Network pathways

## Chapter 12 – Circuits and Pathways

- ▶ 12.3 – Pathway Class Designations
- ▶ Class D
  - Pathway which has a fail-safe operation but no fault is annunciated.
    - Examples are power to door holders which release doors on power failure and door locking hardware which “unlock” on failure.
- ▶ Class E
  - Pathway not monitored for integrity
    - So would not fall under Class C or D.
  - Do not require supervision under 12.6, Monitoring Integrity of Installation Conductors.
    - Previously 4.4.7.1 in 2007 edition

## Chapter 12 – Circuits and Pathways

### 12.4 – Pathway Survivability

- ▶ Level 0
  - Circuits not required to have any provisions.
  - But must still comply with NEC (NFPA 70) – Articles 760, 770, or 800.
- ▶ Level 1
  - Any Pathway installed in a building fully protected by NFPA 13 automatic sprinkler system (not rated as Level 2 or 3).
  - And Interconnecting wiring or cables are installed in metal raceways.

## Chapter 12 – Circuits and Pathways

### 12.4 – Pathway Survivability

#### ▶ Level 2

- Pathway shall consist of one or more of following.
  - 2-hour fire-rated circuit integrity (CI) cable
  - 2-hour fire-rated cable system [electrical circuit protective system(s)]
  - 2-hour fire-rated enclosure or protected area
  - 2-hour performance alternatives approved by the authority having jurisdiction

#### ▶ Level 3

- Pathway consisting of one of the Level 2 types,
- And installed in buildings fully protected by NFPA 13 automatic sprinkler system.

## Chapter 17 – Initiating Devices

### ▶ 17.6 Heat –Sensing Fire Detectors

- 17.6.3.3 Beam Construction
  - 17.6.3.3.2 – Where beams are less than 12 inches in depth and the detectors are spaced less the 8 feet on center, the detectors can be installed on the bottom of the beams.
- 17.6.3.4 – Sloping Ceilings (Peaked and Sloped)
  - Peaked and sloped are now one subsection with identical requirements.
  - But specific requirements are broken up into smaller subsections within 17.6.3.4.

## Chapter 17 – Initiating Devices

### ▶ 17.7 Spot-type Smoke Detectors

#### ◦ 17.7.3.2.1

- Smoke Detectors can now be mounted on ceiling in the corner.
- Wall mounted must still be mounted a maximum of 12 inches down from ceiling.
- Exclusion remains for heats 4 to 12 inches from corner.

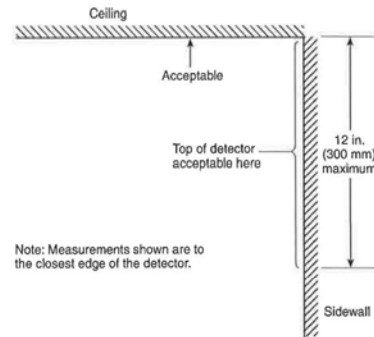


FIGURE A.17.7.3.2.1 Example of Proper Mounting of Smoke Detectors.

2013 Edition

## Chapter 17 – Initiating Devices

### ▶ 17.7 Spot-type Smoke Detectors

#### ◦ 17.7.3.2.4.2

- Solid and Beam Construction
- Changed terms to **intersecting beams** from waffle and pan-type ceilings
- Added some requirements for ceilings with beam depth less than 10% of room height.
- 17.7.3.2.4.3 – Sloped ceilings with beams running parallel up slope:
- 17.7.3.2.4.4 – Sloped ceilings with beams running perpendicular across the slope:
- 17.7.3.2.4.5 – Sloped ceilings with beam pockets formed by intersecting beams:
- Are permitted to mount detectors on ceilings *or* on bottom of beams.

## Chapter 17 – Initiating Devices

- ▶ 17.10 Gas Detectors
  - New section
  - Shall be listed for specific gas or vapor intended to detect.
  - Installation must comply with applicable sections of this code
  - Selection and placement shall be based on an engineering evaluation.

## Chapter 17 – Initiating Devices

- ▶ 17.14 Manually Actuated Alarm-Initiating Devices
  - Manual Fire Alarm boxes shall *only be used for fire alarm initiating purposes.*
  - Manual Fire Alarm boxes shall be red in color.
  - Manual actuating devices *used for no-fire* initiating purposes *shall be a color other than red and differentiated by labeling.*
  - Mount height of operable portion is 42 to 48 inches.
    - In-line with ADA and building codes.

## Chapter 18 – Notification Appliances

- ▶ 18.4 Audible Characteristics
  - 18.4.1.4.1 The designer of the audible notification system shall identify the rooms and spaces that will have audible notification and those where devices will not be provided.
  - 18.4.1.4.3 The sound pressure levels that must be produced by the audible appliances in the coverage areas to meet the requirements of this Code shall be documented by the system designer during the planning and design of the notification system.

## Chapter 18 – Notification Appliances

- ▶ 18.4.5 Sleeping Area Requirements
  - 18.4.5.3
  - Added in 2010 and effective Jan. 1, 2014.
  - Annex says intent is require use of LF in areas intended for sleeping and other areas that might reasonably be used for sleeping.
    - Example: living room in an apartment.



## Chapter 18 – Notification Appliances

- ▶ 18.4.5 **Sleeping Area Requirements**
  - 18.4.5.3
  - Appliances provided for sleeping areas *to awaken occupants* shall produce a **low frequency (LF) alarm signal**.
  - The signal shall be a square wave having a fundamental frequency of 520 Hz (+/- 10 %).



## Chapter 18 – Notification Appliances

- ▶ 18.4.5 Sleeping Area Requirements
  - 18.4.5.3
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    - Example: living room in an apartment.



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## Chapter 18 – Notification Appliances

### ► Impact of Low Frequency Sounders

- Limited range of candelas currently available for low frequency (LF) sounder/strobes
- No more mini-horns in residential. LF Sounders only.
- Higher Current Draw per Sounder
  - Sounders draw around 80% more than horns, but 300% to 700% more than mini-horns
  - Sounder/Strobes draw 30% to 75% more than regular H/S.
  - Sounder/Audible Bases have more than 150% increase over standard sounder bases.
- Higher draws = more power supplies  
= more circuits to be run

## Chapter 18 – Notification Appliances

### ► Impact of Low Frequency Sounders

- Higher Cost per Device
  - Sounders are 130% to 150% cost increase over regular horns and more than 300% over mini-horns.
  - Sounder/Strobes are 80% to 100% cost increase over regular H/S.
  - Sounder/Audible Bases are 10% to 70% more than standard sounder bases.
- Higher Cost per device + more power supplies + more circuits to run  
= Higher Project Costs



## Chapter 18 – Notification Appliances

### ▶ 18.4.10 Voice Intelligibility

- Within the ADS where intelligibility is required, voice communication systems shall reproduce messages with intelligibility.
- ADS's shall be determined by the system designer during planning and design of all emergency communication systems.
- Each ADS shall be identified as requiring or not requiring intelligibility.
- Intelligibility shall not be required to be determined through quantitative measurements.



## Chapter 18 – Notification Appliances

### ▶ 18.5 Visible Characteristics– Public Mode

- 18.5.5 Appliance Location
  - 18.5.5.2
    - Where low ceiling heights do not permitted a minimum of 80 inch mount height:
      - Still mount within 6 inches of ceiling
      - Area covered by strobe of a given candela value is to be reduced
      - By twice the difference between 80 inches and the actual (lower) mounting height.
      - Examples are provided in Annex.

## Chapter 18 – Notification Appliances

### ▶ 18.9 Textual and Graphical Visible Appliances

- Textual and Graphical visible appliances shall be permitted to be used to signal information about fire or other emergency conditions.
- *Does not apply to means of egress signs or room identification signs.*



## Chapter 18 – Notification Appliances

### ▶ 18.9 Textual and Graphical Visible Appliances

- Shall be permitted to be static, flashing, or scrolling.
- In public mode, shall be located to ensure visibility to occupants of protected area or intended recipients.
- In private mode, can be located in rooms only accessible to those directly concerned *with the implementation of emergency response plan.*
- Desktop and surface-mounted textual and graphical appliances shall be permitted.

## Chapter 21 – Emergency Control Function Interfaces

- ▶ Created in 2010, moving from old chapter 6.
  - Previously listed as 6.16 in 2007 edition.
  - A lot of terminology changed from fire alarm control function to emergency control function.
- ▶ 21.5 Fire Service Access Elevator
  - Where elevators are designated and marked as fire service access elevators, section provides minimum conditions that shall be monitored and displayed.:
- ▶ 21.6 Occupation Evacuation Elevators
  - Provides requirements for use of elevators by building occupants to evacuate:
    - **Occupant Controlled**

## Chapter 21 – Emergency Control Function Interfaces

- ▶ 21.3 Elevator Recall for Fire Fighters' Service
  - New Exception:
  - Waterflow switch is permitted to initiate elevator recall upon activation of sprinkler in pit.
  - Waterflow and sprinkler must be installed on a **separately valved line** dedicated solely for pit.
  - Switch **cannot** have a *time-delay capability*.



## Chapter 21 – Emergency Control Function Interfaces

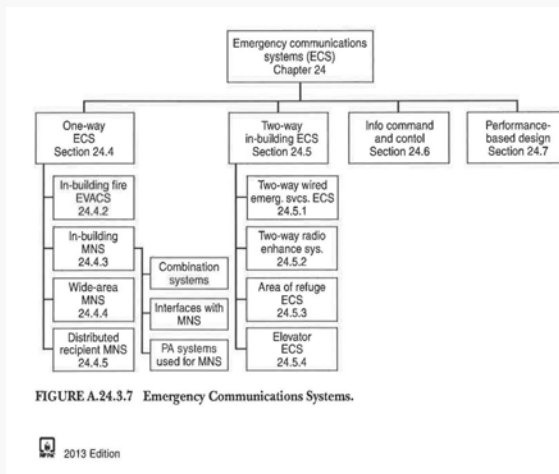
- ▶ 21.7 (HVAC) Systems
  - If CO detection initiates a ventilation response, a fire alarm system smoke control response shall take precedence over CO response.
- ▶ 21.8 Door and Shutter Release
- ▶ 21.9 Electrically Locked Doors
- ▶ 21.10 Exit Marking Audible Notification Systems

## Chapter 23 – Protected Premise Fire Alarm Systems

- ▶ 23.6. Performance of SLCs
  - 23.6.1 “A single fault on a pathway connected to the addressable devices shall ***not cause the loss of more than 50 addressable devices.***”
  - From commentary in the Handbook:
    - Intent is to not permit a single fault on pathway of addressable devices to cause the loss of more than 50 addressable devices.
    - Not the intent for all systems to have Class A loops of 50 or fewer devices.
    - Not intended for “SLCs” that interconnect control units, transponders, distributed amplifiers, etc.

## Chapter 24 – Emergency Communications Systems (ECS)

- ▶ ECS includes:
- ▶ One-way communication:
  - In-building MNS
  - Wide-area MNS
  - Distributed MNS
- ▶ Two-way communication:
  - Area of Rescue
  - Emerg. Services



## Chapter 24 – Emergency Communications Systems (ECS)

- ▶ 24.3.6 Pathway Survivability
  - Systems employing partial evacuation or relocation shall require a Level 2 or 3 pathway.
  - Two-way wired emergency communication systems shall require a Level 2 or 3 pathway.
  - Area of refuge communication systems shall require a Level 2 or 3 pathway.
  - Pathway survivability for mass notification systems (MNS) shall be determined by the risk analysis.



## **Chapter 24 – Emergency Communications Systems (ECS)**

- ▶ **24.3.8 Mass Notification Layers**
  - New concept
  - ECS used for MN shall be categorized in layers.
  - Layers shall take into consideration the audience.
  - Layers can be used in combination.
- ▶ **Layers:**
  - 1 – In-building ECS for occupant notification
  - 2 – Wide-area MNS
  - 3 – Distributed recipient MNS
  - 4 – by Public Measures

## **Chapter 24 – Emergency Communications Systems (ECS)**

- ▶ **24.4.2 In-building Fire Emergency Voice/Alarm Communications Systems (EVACS)**
  - ADS designations for occupiable spaces shall be incorporated into design.
  - In sleeping accommodations, low-frequency tone is required when trying to communicate to those who could be asleep but not when trying to communicate to those who are awake.

## **Chapter 24 – Emergency Communications Systems (ECS)**

### **▸ 24.4.2 In-building Fire Emergency Voice/Alarm Communications Systems (EVACS)**

- Notification required for special suppression system pre-discharge shall not be overridden.
- Priority of MNS over FA evacuation shall be permitted when evaluated by stakeholders through a risk analysis in accordance with 24.3.11.
- MNS override of FA shall cause audible and distinctive visible indication at each control unit.
- MNS override of FA does not required transmission of supervisory signal.

## **Chapter 24 – Emergency Communications Systems (ECS)**

### **▸ 24.4.3 In-building MNS**

- Shall be permitted to be initiated by automatic or manual means.
- Shall initiate recorded messages or live voice notification.
- Only recorded messages (as determined by Emergency Response Plan to be higher priority) shall be permitted to override fire alarm notification.
  - Other recorded messages shall not interfere with FA.
- MNS override of FA shall cause audible and distinctive visible indication at each control unit.
- With an active FA signal, FA shall operate after MNS relinquishes control.



## Chapter 24 – Emergency Communications Systems (ECS)

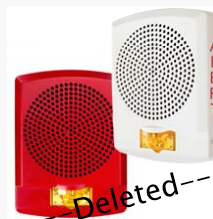
### ▶ 24.4.3 In-building MNS

- New terms ACU and LOC defined and requirements provided.
- Visible notification shall be provided for hearing impaired where audible notification is provided.
- Where strobes are used:
  - Located with sufficient quantity and intensity to comply with section 18.5.
  - Be synchronized per section 18.5
  - In combination systems, shall be clear or nominal white, listed per UL 1971.
  - Have no marking or be marked with 'ALERT'.

## Chapter 24 – Emergency Communications Systems (ECS)

### ▶ 24.4.3 In-building MNS

- \* Amber strobes are not required, (except per DoD).
- Where existing FA notification appliances are used for MNS, may be field modified per noted methods.
- Colored lens strobes shall be marked and spaced per listed effective intensity as colored lens.
- Colored lens strobes shall be listed to applicable standard such as UL 1638.



Strobes used solely for MNS shall be amber in color.

## **Chapter 24 – Emergency Communications Systems (ECS)**

- ▶ 24.4.3 In-building MNS
  - 24.4.3.18 Textual and Graphical Visible Appliances
  - Shall be permitted for primary or supplemental notification.

## **Chapter 24 – Emergency Communications Systems (ECS)**

- ▶ 24.4.4 Wide-Area MNS
  - Includes:
    - Voice Messages
    - High Power Speaker Arrays (HPSA)
- ▶ 24.4.5 Distributed Recipient MNS
- ▶ 24.5 Two-Way, In-Building ECS
  - Includes:
    - Wired ECS
    - Two-Way Radio Communication
    - Area of Refuge ECS
    - Elevator ECS

## Chapter 26.6 – Communication Methods for Supervising Station Alarm Systems.

- ▶ Section 26.6 has very different requirements from the traditional DACT monitoring everyone is used to.
- ▶ 26.6.3 – Communications Methods
  - Methods used to transmit signals must comply with either:
    - 6.2.3.1, Performance-Based Technologies
    - or 6.2.3.2 or 6.2.3.3, Prescriptive-Based Technologies.

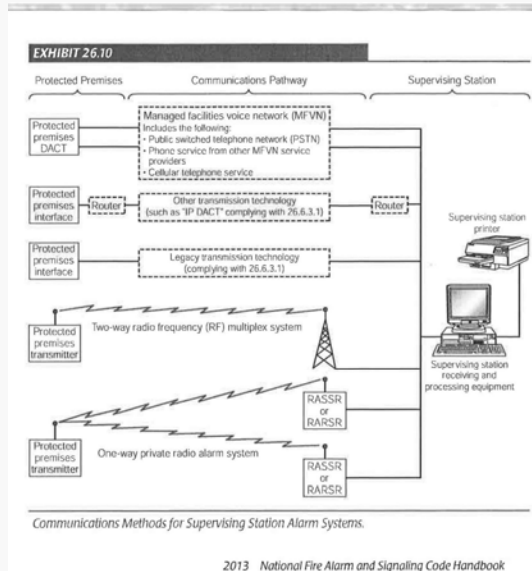
## Chapter 26.6 – Communication Methods for Supervising Station Alarm Systems.

- ▶ What are Performance-based and Prescriptive-based?
- ▶ Prescriptive-based 6.2.3.2
  - DACS using DACT
- ▶ Performance-based 6.2.3.1
  - Generalized category which use what was formerly called 'Other Technology'
  - Example: IP DACT
- ▶ Performance-based 6.2.3.1
  - Legacy technologies such as McCulloh Circuits that are no longer being installed.

## Chapter 26.6 – Communication Methods for Supervising Station Alarm Systems.

### ► Methods

- 26.6.3.2 ->
- 26.6.3.1 ->
- 26.6.3.1 ->  
Legacy
- 26.6.3.3 ->
- 26.6.3.3 ->



## Chapter 26.6 – Communication Methods for Supervising Station Alarm Systems.

- 26.6.3.1 – Performance-Based Technologies
  - 26.6.3.1.5 – **Single Communications Path**
    - Shall be permitted
    - **Shall be supervised at an interval not to exceed 60 minutes.**
    - Failure to complete a signal transmission shall be annunciated at the protected premise

## Chapter 26.6 – Communication Methods for Supervising Station Alarm Systems.

- ▶ 26.6.3.1 – Performance-Based Technologies
  - 26.6.3.1.6 – **Multiple Communications Path**
    - **Each path shall be supervised at an interval not to exceed 6 hours.**
    - Failure of a path (in multipath system) shall annunciate at supervising station within 6 hours.
    - Failure to complete a signal transmission shall be annunciated at the protected premise.
  - 26.6.3.1.7 – **Single Technology**
    - A single technology may be used to create the multiple paths.
    - \* Above requirements of 26.6.3.1 still apply.

## Chapter 26.6 – Communication Methods for Supervising Station Alarm Systems.

- ▶ 26.6.3.1.14 – Shared Communications Equipment on-Premises
  - If F/A transmitter is sharing on-premises communication equipment:
    - Equipment shall be listed as communications or information technology equipment.
    - Does not have to be specifically listed for alarm service.
- ▶ 26.6.3.1.15 – Secondary Power
  - If F/A transmitter is sharing on-premises communication equipment:
    - Shared equipment shall have 24 hour secondary capacity.
    - Otherwise comply with 10.6.7

## Chapter 26.6 – Communication Methods for Supervising Station Alarm Systems.

- ▶ 26.6.3.2 – **Digital Alarm Communicator Systems**
  - 26.6.3.2.1.4 – Transmission Channels
    - System employing a DACT shall employ **one** telephone line (number).
    - *In addition, one of the following transmission means shall be employed.*
      - One-way private radio alarm system
      - Two-way RF multiplex system
      - Transmission means complying with 26.6.3.1
        - *26.6.3.1 Performance-Based Technologies*
        - *Exception where other technologies not available, AHJ can allow second phone line.*
    - *Interval for testing each channel shall not exceed 6 hours.*

## Chapter 29 – Single and Multiple Station Alarms and Household Fire Alarm Systems

- ▶ Low Frequency (520 Hz) Alarm required in sleeping and guest rooms for those with hearing loss.
- ▶ More detailed requirements for smoke alarm placements.
  - Figures provided to illustrate

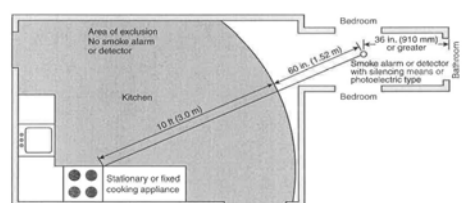


FIGURE A.29.8.3.4(4)(b) Example of Smoke Alarm or Smoke Detector Placement Between 10 ft (3.0 m) and 20 ft (6.1 m) Away in Hallway from Center of Stationary or Fixed Cooking Appliance.

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## Chapter 29 – Single and Multiple Station Alarms and Household Fire Alarm Systems

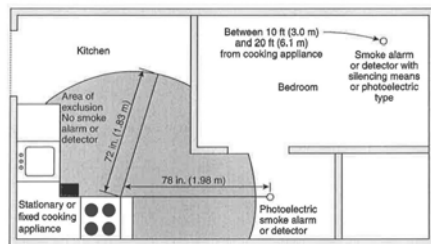


FIGURE A.29.8.3.4(4)(d) Example of Exception Placement of Photoelectric Smoke Alarm or Smoke Detector at 72 in. (1.83 m) from Stationary or Fixed Cooking Appliance.

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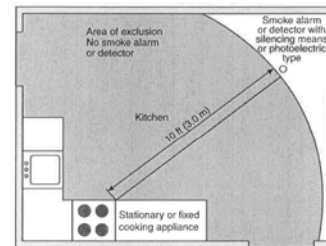


FIGURE A.29.8.3.4(4)(a) Example of Zone of Exclusion (gray area) Within Typical Residential Kitchen.

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### Highlights to remember about NFPA 72–2013

1. New Documents Chapter
2. Modified wiring requirements and classifications under Pathways and Circuits.
3. More specific requirements for smoke detection on ceilings with beams.
4. Acoustically Defined Spaces, Intelligibility, and documenting where audibility is required.
5. Low Frequency Sounders required in Sleeping Areas.
6. Carbon Monoxide Signaling Requirements added.
7. New technology and requirements for monitoring a Protected Premise from a Supervisory Station.
8. New requirements when using a DACT.
9. Separate chapter providing Voice Evacuation and MNS requirements.

## THANK YOU



Triangle - NC Chapter

**REMINDER to AHJ's:  
SIGN-IN SHEETS  
EVALUATION FORMS**

**[bdonnelly@bfpe.com](mailto:bdonnelly@bfpe.com)**