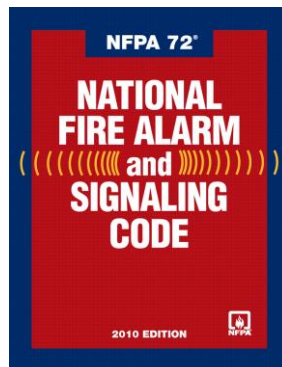
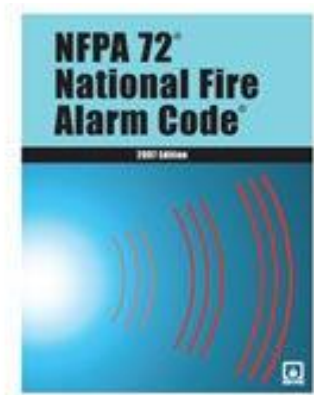


WHAT'S YOU NEED TO KNOW



**Rodger Reiswig, SET
Fellow and VP, Industry Relations
Johnson Controls**

Take Fire out of NFPA 72? Why the change?

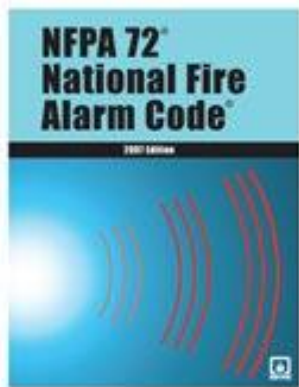


NFPA 72 covers many issues in addition to Fire Alarm Systems.

- Combination Systems
- Video Imaging Detection
- Carbon Monoxide Detection
- Supervisory Service of Sprinkler Control Valves
- Water Level Supervisory – 5.15.3
- Water Temperature Supervisory – 5.15.4
- Room Temperature Supervisory – 5.15.5
- Fire Extinguisher Monitoring – 6.8.4.11

NFPA 72 Name Change?

- Old Name – National Fire Alarm Code
- New Name
 - National Fire Alarm and Signaling Code



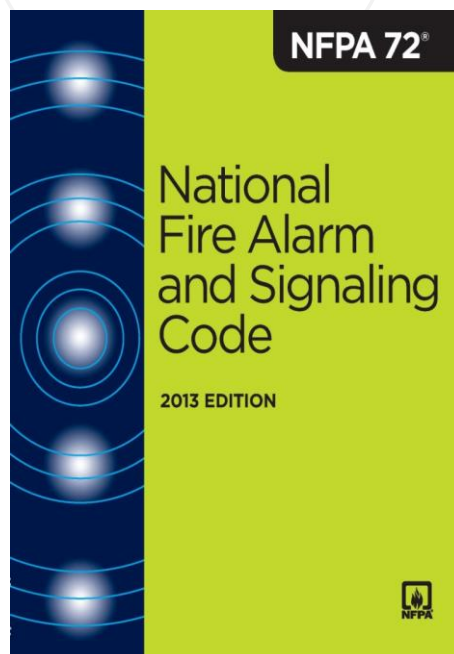
NFPA 72, 2010 Chapter Re-Organization

2007 edition had 11 Chapters

2010 and 2013 editions have 29 Chapters

- Administrative Chapters
- Support Chapters
- System Chapters
- Usability Chapters

NFPA 72



Organization of NFPA 72, 2010 & 2013

- Better organization
- Easier to locate key requirements
- Future growth

**Administrative
Chapters**
1 - 9

**Support
Chapters**
10 - 19

**System
Chapters**
20 - 29

**Usability
Annexes**
A - I

Administrative Chapters

- 1. Administration**
- 2. Referenced Publications**
- 3. Definitions**
4. Reserved
5. Reserved
6. Reserved
7. Reserved
8. Reserved
9. Reserved



Support Chapters

10. Fundamentals

11. Reserved

12. Circuits and Pathways

13. Reserved

14. Inspection, Testing, and Maintenance

15. Reserved

16. Reserved

17. Initiating Devices

18. Notification Appliances

19. Reserved



System Chapters

20. Reserved

21. Emergency Control Functions and Interfaces

22. Reserved

23. Protected Premises Fire Alarm Systems

24. Emergency Communications Systems

25. Reserved

26. Supervising Station Alarm Systems

27. Public Emergency Alarm Reporting

28. Reserved

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

Usability Annexes

- A. Explanatory Material**
- B. Engineering Guide for Automatic Fire Detector Spacing**
- C. System Performance and Design Guide**
- D. Speech Intelligibility**
- E. NEMA SB 30, Fire Service Annunciator and Interface**
- F. Sample Ordinance Adopting NFPA 72**
- G. Informational References**
- H. Cross-Reference Table**
- I. Index**

Functional Layout

Administrative Chapters 1 - 9

1. Administration
2. Referenced Publications
3. Definitions
4. Reserved
5. Reserved
6. Reserved
7. **Documentation (2013)**
8. Reserved
9. Reserved

Support Chapters 10 - 19

10. Fundamentals
11. Reserved
12. Circuits and Pathways
13. Reserved
14. Inspection, Testing, and Maintenance
15. Reserved
16. Reserved
17. Initiating Devices
18. Notification Appliances
19. Reserved

System Chapters 20 - 29

20. Reserved
21. Emergency Control Functions and Interfaces
22. Reserved
23. Protected Premises Fire Alarm Systems
24. Emergency Communications Systems
25. Reserved
26. Supervising Station Alarm Systems
27. Public Emergency Alarm Reporting
28. Reserved
29. Single- and Multiple-Station Alarms and Household Fire Alarm Systems

Usability Annexes A - I

- A. Explanatory Material
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- I. Index

Chapter 3 - Definitions

- 3.3.1 Accessible
- 3.3.4 Accessible Spaces
- There are several new definitions relating to accessibility including
 - Accessible as applied to equipment
 - Accessible as applied to wiring methods
 - Readily accessible as applied to installation
 - Accessible spaces as applied to detection coverage



Chapter 3 - Definitions

- 3.3.257 Signal



- This definition was expanded to include a number of different kinds of signals:

- Alarm
- Carbon Monoxide Alarm
- Delinquency
- Evacuation
- Fire Alarm
- Guard's Tour Supervisory
- Pre-Alarm
- Restoration
- Supervisory
- Trouble

Fundamentals Chapter 10

2010 Edition

- The Chapter has been renamed “Fundamentals.” “Fire Alarm” deleted.
- The Chapter includes requirements for Emergency Communications Systems.
- The word “fire” has been removed throughout in relation to fire alarm systems, as the Code also covers Emergency Communications Systems.

Fundamentals Chapter 10

2010 Edition

10.4 Personnel Qualifications.

10.4.1 System Designer.

10.4.2 System Installer.

10.4.3 Inspection, Testing, and Maintenance
Personnel. (SIG-TMS)

10.4.4 Supervising Station Operators. (SIG-SSS)

Fundamentals Chapter 10

2010 Edition

10.6 Signal Priority. The priority of signals shall be in accordance with 10.6

10.6.1 ECS priority signals when evaluated by stakeholders through a risk analysis in accordance with 24.2.2.12 shall be permitted to take precedence over all other signals.

- *This includes fire alarm signals.*

Fundamentals Chapter 10

2010 Edition

10.18.2.1.2.7 Where not stored at the main fire alarm control unit, the location of these documents shall be identified at the main fire alarm control unit.

- *Requires the location of the Record of Completion to be identified at the FACU.*

Fundamentals Chapter 10

2010 Edition

10.18.2.1.2.8 If the documents are located in a separate enclosure or cabinet, the separate enclosure or cabinet shall be prominently labeled FIRE ALARM DOCUMENTS.

- *Documents related to the fire alarm system can no longer be hidden*



Fundamentals Chapter 10

2010 Edition

Record of Completion.

- *Has been expanded to 12 pages to enhance its usability.*
- *Note – All record of completion and testing documents are available from NFPA for **free** at www.NFPA.org*

Chapter 14 – Inspection, Testing, and Maintenance, 2010 Edition

- Includes Emergency Communications Systems.
- Revised requirements for the testing of intelligible voice communications.
- New allowance for automated testing.
- New requirements for the testing of gas detectors.



Chapter 14 – Inspection, Testing, and Maintenance, 2010 Edition

14.2.4 System Documentation.

14.2.4.1 The provided documentation shall include the current revisions of all fire alarm software and the revisions of software of any systems with which the fire alarm software interfaces.

Chapter 14 – Inspection, Testing, and Maintenance, 2010 Edition

14.2.4.2 The revisions of the fire alarm software, and the revisions of the software in the systems with which the fire alarm software interfaces, shall be verified for compatibility in accordance with the requirements of 23.2.2.1.1.

23.2.2.1.1* Software and firmware within the fire alarm control system that interfaces to other required software or firmware shall be functionally compatible.

Chapter 14 – Inspection, Testing, and Maintenance, 2010 Edition

14.2.7 Automated Testing.

14.2.7.1 Automated testing arrangements that provide equivalent means of testing devices to those specified in Table 14.4.2.2 at a frequency at least equivalent to those specified in Table 14.4.5 shall be permitted to be used to comply with the requirements of this chapter.

14.2.7.2 Failure of a device on an automated test shall result in an audible and visual trouble signal.

Chapter 14 – Inspection, Testing, and Maintenance, 2010 Edition

14.4.4 Gas detectors shall be inspected, tested, and maintained in accordance with the manufacturers' published instructions.

- *Correlates with the addition of gas detection in Chapter 17.*

Chapter 14 – Inspection, Testing, and Maintenance, 2010 Edition

14.4.12 In-Building Emergency Radio Communication Systems.

This section was expanded from 2007 to cover:

- *Signal level testing.*
- *System commissioning testing.*
- *Test procedures*
- *Measurement parameters*
- *Acceptance Test*
- *Annual Tests*

Chapter 14 – Inspection, Testing, and Maintenance, 2010 Edition

Record of Inspection and Testing

- *Has been expended to 12 pages*
- *Includes mass notification system interface*

Chapter 17 – Initiating Devices 2010 Edition

17.7.1.11 Protection During Construction.

17.7.1.11.1 Where detectors are installed for signal initiation during construction, they shall be cleaned and verified to be operating in accordance with the listed sensitivity, or they shall be replaced prior to the final commissioning of the system.

Chapter 17 – Initiating Devices 2010 Edition

17.7.1.11.2 Where detectors are installed but not operational during construction, they shall be protected from construction debris, dust, dirt and damage in accordance with the manufacturer's recommendations and verified to be operating in accordance with the listed sensitivity, or they shall be replaced prior to the final commissioning of the system.

Chapter 17 – Initiating Devices 2010 Edition

17.7.1.11.3 Where detection is not required during construction they shall not be installed until after all other construction trades have completed cleanup.

- *This is an expansion over previous text.*

Chapter 17 – Initiating Devices 2010 Edition

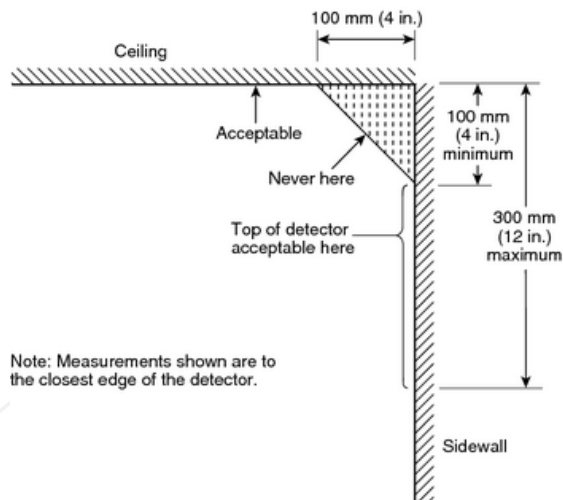
17.7.3.2 Spot-Type Smoke Detectors

17.7.3.2.1 Spot-type smoke detectors shall be located on the ceiling or, if on a sidewall, between the ceiling and 12 in. (300 mm) down from the ceiling to the top of the detector.

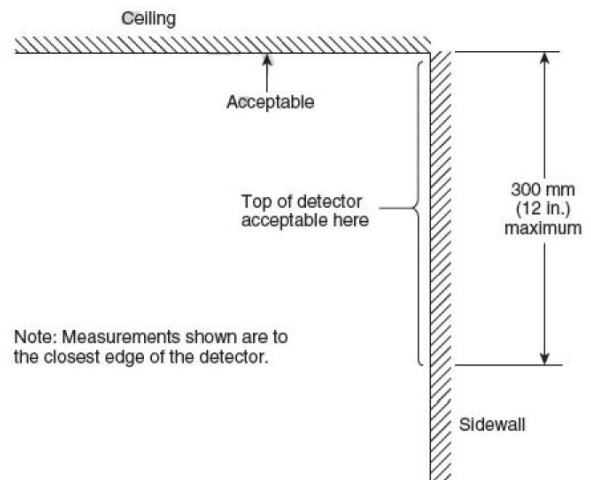
- *The 4 inch restriction has been removed.*

Spacing of Smoke Sensors

72, 2007



72, 2010 & 2013



Chapter 17 – Initiating Devices 2010 Edition

17.7.3.2.4.2 For level ceilings with beam depths of less than 10 percent of the ceiling height ($0.1 H$), smooth ceiling spacing shall be permitted. Spot-type smoke detectors shall be permitted to be located on ceilings or on the bottom of the beams.

Chapter 18 – Notification Appliances 2010 Edition

18.4.5 Sleeping Area Requirements.

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.

NFPA and Mass Notification

Current NFPA 72 Annex E, Mass Notification Systems replaced by Chapter 24 **Emergency**

Communications Systems

- Content from Chapter 6, Protected Premises Fire Alarm Systems
 - Emergency Voice Alarm Communications
 - Two-Way Communication Service

NFPA and Mass Notification

Chapter 24 Emergency Communications Systems

24.1 Introduction

Emergency Communications Systems (ECS) shall consist of two classifications of systems, one-way and two-way.

NFPA and Mass Notification

Chapter 24 Emergency Communications Systems

24.2 One-Way Emergency Communications Systems

24.2.1 In-Building Emergency Voice/Alarm Communications Systems

24.2.1.1* Section 24.2.1 shall be used in the design and application of emergency voice/alarm communications for fire alarm systems.

NFPA and Mass Notification

Chapter 24 Emergency Communications Systems

24.2.1.8 Priority.

24.2.1.8.1 When the fire alarm system has been activated, and mass notification has been given priority, an audible and visible indication shall be provided at the building fire alarm control unit.

24.2.1.8.2 The fire alarm system shall not automatically override emergency mass notification messages.

NFPA and Mass Notification

- Chapter 24 is a complete set of requirements for emergency communications systems – including requirements from other chapters by reference.
- Includes EVAC and Two-way communications relocated from Chapter 6.
 - Fire Fighter phones
 - Fire Alarm Voice Evacuation

Strobes, NFPA and UL

- UL Standards for Strobes
- UL 1971 – Signaling Devices for the Hearing Impaired
- UL 1638 – Visual Signaling Appliances – Private Mode Emergency and General Utility Signaling



Strobes and NFPA



Chapter 26 – Supervising Station Fire Alarm Systems, 2010 Edition

- **26.6.3.1.4.1 Single Communications Technology.**
- Where only one communications technology is used, any failure of the communications path shall be annunciated at the supervising station within 5 minutes of the failure.
- **26.6.3.1.4.2 Multiple Communications Technologies.**
- Where two or more different technologies are used, the following requirements shall be met:
 - (1) Provision shall be made to monitor the integrity of each communications path.
 - (2) Failure of any communications path shall be annunciated at the supervising station and at the protected premises within not more than 24 hours of the failure.

Questions?

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