

CHANGES IN NFPA 72® NATIONAL FIRE ALARM CODE® 1999 – 2002

- ✓ Three new chapters were added. What *was* chapter 1 in 1999 was reorganized into chapters 1 (Fundamentals), 2 (Referenced Publications), and 3 (Definitions).

<u>NFPA 72-1999</u>	<u>Chapter Name</u>	<u>NFPA 72-2002</u>
N/A	Administration	Chapter 1
N/A	Referenced Publications	Chapter 2
N/A	Definitions	Chapter 3
Chapter 1	Fundamentals	Chapter 4
Chapter 2	Initiating Devices	Chapter 5
Chapter 3	Protected Premises Systems	Chapter 6
Chapter 4	Notification Appliances	Chapter 7
Chapter 5	Supervising Station Systems	Chapter 8
Chapter 6	Public Fire Reporting Systems	Chapter 9
Chapter 7	Testing, Inspection, and Maint.	Chapter 10
Chapter 8	One- and Two-Family Dwellings	Chapter 11

OTHER SIGNIFICANT CHANGES FOLLOW

4.4.1.5.3.1¹

...Secondary power supply sufficient for 24 hours in a nonalarm condition followed by 5 minutes of alarm notification ...

THE ENTIRE POWER SUPPLY SECTION HAS BEEN RE-WRITTEN. I ASSUME THAT THE 60-HOUR SECONDARY POWER REQUIREMENT FOR REMOTE STATION SYSTEMS WAS DRIVEN BY THE FACT THAT TROUBLE SIGNALS, INCLUDING LOSS OF PRIMARY POWER, WEREN'T NECESSARILY TRANSMITTED TO A CONSTANTLY ATTENDED LOCATION, HOWEVER, NFPA 72 REQUIRES THAT A TROUBLE SIGNAL BE TRANSMITTED TO A REMOTE STATION.

4.4.1.5.3.1 (A)

...EVAC secondary power supply sufficient for 24 hours in a nonalarm condition followed by 15 at maximum connected load ...

(A) The secondary power supply for emergency voice/alarm communications service shall be capable of operating the system under quiescent load for a minimum of 24 hours and then shall be capable of operating the system during a fire or other emergency condition for a period of 15 minutes at maximum connected load.

“TWO HOURS OF OPERATION DURING A FIRE OR OTHER EMERGENCY CONDITION”, WAS REMOVED LEAVING THE 15 MINUTE REQUIREMENT

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4.4.1.6.1 ...Secondary power to automatically provide power to protected premises system within 10 seconds, ...

10 SECONDS IN 2002 VERSUS 30 SECONDS IN 1999.

4.4.1.8.1* Marking. Batteries shall be permanently marked with the month and year of manufacture.

NEW. TO ENSURE THAT BATTERIES ARE REPLACED WITHIN 5 YEARS OF THE DATE OF MANUFACTURE (SEE NFPA 72-2002 TABLE 10.4.3 6(D)1.

4.4.1.9.3.1

(B) Where survivability of circuits is required by Chapter 6, equal protection shall be provided for power supply circuits.

SURVIVABILITY REQUIREMENTS ASSOCIATED WITH EVAC SERVICE.

4.4.7.3.3* Supervising station fire alarm systems shall be arranged to delay transmission of primary power failure signals for a period ranging from 60 to 180 minutes.

Exception: Where delay of the signal is prohibited by the authority having jurisdiction, delay of the transmission shall not be required.

25-50% IN 1999 REPLACED WITH 60 TO 180 MINUTES IN 2002

4.5.2 Completion Documents.

4.5.2.1* Preparation. The preparation of a record of completion, Figure 4.5.2.1, shall be the responsibility of the qualified and experienced person described in 4.3.3 and shall be in accordance with 4.5.2.1(A) and 4.5.2.1(B).

THIS REPLACES THE STATEMENT THAT A RECORD OF COMPLETION SHALL BE PREPARED FOR EACH FIRE ALARM SYSTEM.

4.5.2.3 Documentation Required. Every system shall include the following documentation, which shall be delivered to the owner or the owner's representative upon final acceptance of the system:

- (1)* An owner's manual and installation instructions covering all system equipment
- (2) Record drawings
- (3) For software-based systems, a record copy of the site-specific software

THE COPY OF SITE-SPECIFIC SOFTWARE IS A NEW REQUIREMENT

4.5.2.4* Verification of Compliant Installation.

Where required, ...the installation shall be certified by a qualified and impartial third-party organization acceptable to the authority having jurisdiction.

NEW. PUTTING A FINER POINT ON 3RD PARTY VERIFICATION.

4.6 Impairments

NEW SECTION TO BETTER DESCRIBE HOW TO HANDLE SYSTEM IMPAIRMENTS.

CERTIFICATION AND PLACARDING REQUIREMENTS MOVED TO CHAPTER 8.

5.3* Performance-Based Design.

NEW ARTICLE

5.6.2.3 Marking. Heat-sensing fire detectors shall be marked ...

THE REQUIREMENT FOR RESPONSE TIME INDEX HAS BEEN REMOVED.

5.7.3.2.4(A) Solid joists shall be considered equivalent to beams for smoke detector spacing guidelines.

NEW. NFPA 72-1999 2-3.4.6.1 DID NOT ADDRESS HIGH JOISTED CEILINGS (MORE THAN 12 FT HIGH).

6.4.2.2.2* ...Class A circuits shall be installed such that the outgoing and return conductors are routed separately ...

REMOVED *Exception: 2-hour fire rated cable assembly ...*

6.4 System Performance and Integrity

6.4.2.2.2* All styles of Class A circuits using physical conductors (e.g., metallic, optical fiber) shall be installed such that the outgoing and return conductors, exiting from and returning to the control unit, respectively, are routed separately...

THE EXCEPTION ALLOWING 2-HOUR RATED CABLE ASSEMBLY HAS BEEN REMOVED. A 2-HOUR FIRE RESISTIVE RATING DOES NOT INCLUDE THE MECHANICAL PROTECTION REQUIRED OF CLASS A PHYSICAL CONDUCTORS.

6.8.2.3 The method of interconnection of control units shall meet the monitoring requirements of 4.4.7 and NFPA 70, National Electrical Code, Article 760, and shall be achieved by the following recognized means:

- (1) Electrical contacts listed for the connected load
- (2) Data communications over signaling line circuit(s) dedicated to the fire alarm or shared with other premises operating systems
- (3) Other listed methods

ITEM #2 PERMITS SIGNALING LINE CIRCUITS TO BE SHARED BY OTHER NON FIRE ALARM SYSTEMS.

6.8.3.2 The status of dwelling unit smoke alarms shall be permitted to be displayed at the protected premises control unit and annunciators.

LESS RIGID LANGUAGE CONCERNING MONITORING SMOKE ALARMS INTERCONNECTED WITH PROTECTED PREMISES SYSTEMS.

6.8.6.4.1* To meet the requirements of 4.4.3.6, the fire alarm signal used to notify building occupants of the need to evacuate (leave the building) shall be in accordance with ANSI S3.41, American National Standard Audible Evacuation Signal.

Exception: Where approved by the authority having jurisdiction, use of the existing consistent evacuation signaling scheme shall be permitted.

THE EXCEPTION ALLOWS AHJ'S TO APPROVE ALTERNATIVES TO ANSI S3.41.

6.9.4.3 ...All circuits necessary for the operation of the notification appliances shall be protected ...

(3)* ...Performance alternatives ...

**DELETED – THE USE OF STAIRWELLS.
ADDED – ALTERNATIVE METHODS**

6.9.4.3 All circuits necessary for the operation of the notification appliances shall be protected until they enter the evacuation signaling zone that they serve. Any of the following methods shall be considered acceptable as meeting the requirements of this subsection:

- (1) A 2-hour rated cable or cable system
- (2) A 2-hour rated enclosure
- (3)* Performance alternatives approved by authority having jurisdiction

ITEM #3, LANGUAGE ALLOWING THE USE OF CERTAIN STAIRWELLS HAS BEEN REPLACED.

6.9.7 Speakers.

THE REQUIREMENT TO INSTALL A SPEAKER IN THE ELEVATOR CAR HAS BEEN DELETED.

6.9.7.3 Where required, each enclosed stairway shall be equipped with speakers connected to a separate notification zone for manual selective paging only.

SPEAKERS TO BE INSTALLED IN STAIRWAYS ONLY WHERE REQUIRED.

6.15.4.5 Initiating devices described in 6.15.4.2 and 6.15.4.3 shall be monitored for integrity ...

HEAT DETECTORS, SMOKE DETECTORS, AND WATERFLOW SWITCHES USED TO MEET ANSI A17.1.

6.15.5.5 Where interconnected as a combination system, a Firefighter's Smoke Control Station (FSCS) shall be provided to perform manual control over the automatic operation of the system's smoke control strategy.

A NEW ARTICLE REQUIRING A FSCS TO OVERRIDE AUTOMATIC FUNCTIONS.

7.4 Audible Characteristics

DELETED REQUIREMENT FOR VISIBLE APPLIANCE IN MECHANICAL EQUIPMENT ROOMS.

DELETED 75dBA MINIMUM 120dBA MAXIMUM EQUIPMENT REQUIREMENT.

7.4.2.2 Where approved by the AHJ, the requirements for audible signaling permitted to be reduced or eliminated when visible signaling is provided ...

7.4.2.2 Where approved by the authority having jurisdiction or other governing codes or standards, the requirements for audible signaling shall be permitted to be reduced or eliminated when visible signaling is provided in accordance with Section 7.5.

NEW ARTICLE ALLOWING THE AHJ TO PERMIT THE REDUCTION OR ELIMINATION OF AUDIBLE DEVICES IN THE PUBLIC MODE.

7.4.5* Narrow Band Tone Signaling for Exceeding Masked Thresholds.

NEW ARTICLE ALLOWING AN ALTERNATIVE TO PRESCRIPTIVE REQUIREMENTS.

7.4.6.4 Appliances that are an integral part of a smoke detector, smoke alarm, or other initiating device shall be located in accordance with the requirements for that device.

"THAT DEVICE" BEING THE INITIATING DEVICE.

7.5 Visible Characteristics – Public Mode

DELETED THE REQUIREMENT TO LOCATE SUFFICIENT VISIBLE APPLIANCES TO THAT THE OPERATING EFFECT IS SEEN BY THE INTENDED VIEWER, WHICH CONFLICTED WITH THE ALLOWANCE FOR DIRECT AND INDIRECT METHODS OF VISIBLE NOTIFICATION.

Table 7.5.4.1.1(a) Room Spacing for Wall-Mounted Visible Appliances

ADDED MORE ROOM SIZES.

7.5.4.1.2 Visible notification appliances shall be installed in accordance with Table 7.5.4.1.1(a), using one of the following:

- (1) A single visible notification appliance
- (2) Two visible notification appliances located on opposite walls
- (3)* More than two visible notification appliances in the same room or adjacent space within the field of view that flash in synchronization

REMOVED THE OPTION OF HAVING MORE THAN TWO APPLIANCES IN ROOMS 80' X 80' OR LARGER ...

7.5.4.2* Spacing in Corridors.

REMOVED THE TABLE FOR CORRIDOR SPACING.

7.5.4.2.4 The installation of visible notification appliances in corridors 6.1 m (20 ft) or less in width shall be in accordance with the requirements of either 7.5.4.1 or 7.5.4.2.

ALLOWANCE IS MADE FOR VISIBLE APPLIANCES REQUIRED IN CORRIDORS TO COMPLY WITH CORRIDOR SPACING REQUIREMENTS OR ROOM SPACING REQUIREMENTS.

7.5.4.3* Performance-Based Alternative.

7.5.4.3.1 Any design that provides a minimum of 0.4036 lumens/m² (0.0375 lumens/ft²) of illumination at any point within the covered area as calculated for the maximum distance from the nearest visual notification appliance to any point within the covered area shall be permitted in lieu of the requirements of 7.5.4 excluding 7.5.4.4.

NEW ARTICLE.

8.2 Fire Alarm Systems for Central Station Service

8.2.7.1.2 ...Central station shall ...

(2) ...Dispatch a runner or technician to arrive within 2 hours after receipt of a signal ...

8.2 Fire Alarm Systems for Central Station Service

8.2.7.1.2 The central station shall perform the following actions:

(2) Dispatch a runner or technician to the protected premises to arrive within 2 hours after receipt of a signal if equipment needs to be manually reset by the prime contractor

RUNNER DISPATCH TIME INCREASED FROM 1 HOUR TO 2 HOURS.

8.2.7.3* Supervisory Signals. Upon receipt of a supervisory signal from a sprinkler system, other fire suppression system(s), or other equipment, the central station shall perform the following actions:

(2) Dispatch a runner or maintenance person to arrive within 2 hours to investigate

RUNNER DISPATCH TIME INCREASED FROM 1 HOUR TO 2 HOURS.

8.5 Communications Methods for Supervising Station Fire Alarm Systems

8.5.3.3.4* ...Unless accepted by the AHJ, McCulloh systems shall not be installed after June 30, 2003

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8.5.3.3.4* Unless accepted by the authority having jurisdiction, McCulloh systems shall not be permitted to be installed after June 30, 2003.

PROHIBITS THE INSTALLATION OF MCCULLOH SYSTEMS.

10.1.2 The inspection, testing, and maintenance of single- and multiple-station smoke and heat alarms and household fire alarm systems shall comply with the requirements of this chapter.

INSPECTION, TESTING, AND MAINTENANCE REQUIREMENTS OF ONE- AND TWO-FAMILY DWELLING SYSTEMS & EQUIPMENT MOVES INTO THIS CHAPTER.

10.4 Testing

Table 10.4.2.2 Test Methods

11. Conductors — Metallic

(e) Supervision

Introduction of a fault in any circuit monitored for integrity shall result in a trouble indication at the control unit. One connection shall be opened at not less than 10 percent of the initiating devices, notification appliances and controlled devices on every initiating device circuit, notification appliance circuit, and signaling line circuit.

NEW REQUIREMENT.

Table 10.4.3 Testing Frequencies

5. Batteries — Central Station Facilities and Fire Alarm Systems

(c) Sealed lead-acid type

1. Charger test (replace battery within 5 years after manufacture or more frequently as needed.)

CHANGES SLA BATTERY REPLACEMENT FROM 4 YEARS TO 5 YEARS AFTER THE DATE OF MANUFACTURE

10.4.4 Single- and Multiple-Station Smoke Alarms. Homeowners shall inspect and test smoke alarms and all connected appliances in accordance with the manufacturer's instructions at least monthly.

10.4.5 Household Fire Alarm Systems.

10.4.5.1 Testing. Household fire alarm systems shall be tested by a qualified service technician at least every 3 years according to the methods of Table 10.4.2.2.

10.4.6 Replacement of Smoke Alarms in One- and Two-Family

Dwellings. Unless otherwise recommended by the manufacturer, single- and multiple-station smoke alarms installed in one- and two-family dwellings shall be replaced when they fail to respond to operability tests, but shall not remain in service longer than 10 years from the date of manufacture.

10.4.7 Battery Replacement. Where batteries are used as a source of energy, they shall be replaced in accordance with the recommendations of the alarm equipment manufacturer.

CLARIFICATION OF REQUIREMENTS FOR ONE- AND TWO-FAMILY DWELLINGS.