



Public Input No. 262-NFPA 72-2019 [Global Input]

Remove the terms “Standard for” or “Subject” from in front of all UL standards referenced in NFPA 72.

Statement of Problem and Substantiation for Public Input

The terms are redundant and unnecessary. All references to UL are standards.

Submitter Information Verification

Submitter Full Name: Kelly Nicoletto

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Submittal Date: Wed Jun 12 17:01:33 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: [FR-5134-NFPA 72-2019](#)

Statement: References are updated in accordance with the Manual of Style. "ANSI/" is removed from all UL standards to eliminate confusion regarding the publisher of UL standards.



Public Input No. 263-NFPA 72-2019 [Global Input]

Remove ANSI from in front of all UL standards referenced in NFPA 72.

Statement of Problem and Substantiation for Public Input

Many years ago, UL preferred the ANSI/UL reference because there was a transition of traditional UL standards towards an ANSI standards development process.

Now, years later, a large majority of UL Standards are ANSI approved and follow the ANSI development and maintenance process. However, sometimes readers are confused because they don't understand the standards are actually UL standards, not developed by ANSI. There are many other references to standards promulgated by other standards development organizations where they are considered ANSI approved but do not include ANSI in the reference.

Submitter Information Verification

Submitter Full Name: Kelly Nicoletto

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Submittal Date: Wed Jun 12 17:02:50 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: [FR-5134-NFPA 72-2019](#)

Statement: References are updated in accordance with the Manual of Style. "ANSI/" is removed from all UL standards to eliminate confusion regarding the publisher of UL standards.



Public Input No. 394-NFPA 72-2019 [Global Input]

Current document title: "NFPA 72 National Fire Alarm and Signaling Code"

Suggested revision: "NFPA 72 National Fire Alarm and Signaling Code, and Standard for the Installation of Carbon Monoxide (CO) Detection and Warning Equipment"

Statement of Problem and Substantiation for Public Input

The content of NFPA 720 was incorporated into the 2019 edition of NFPA 72, but the title of NFPA 72 was not revised to reflect this content change. Revising the title will more accurately reflect the content of NFPA 72, maintain the designation of the CO content as a Standard, and will aid users in finding the relocated CO detection/warning equipment requirements.

Submitter Information Verification

Submitter Full Name: Kris Hauschildt

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Submittal Date: Sun Jun 23 16:06:01 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: The title, 'National Fire Alarm and Signaling Code,' takes into account carbon monoxide detection and warning equipment. (SIG-FUN)The following committees also reviewed this Public Input:SIG-HOU: Recommends changing the title to 'National Alarm and Signaling Code.'SIG-IDS: Recommends no change to the title.SIG-TMS: Recommends no change to the title.



Public Input No. 578-NFPA 72-2019 [Global Input]

The term Energy Storage Systems is used in 53 places within NFPA 72. Add references to NFPA 855 Energy Storage System requirements by extract and include appropriate NFPA 855 Test Standards to meet the requirements to Chapter 2.

Statement of Problem and Substantiation for Public Input

NFPA 855 is a new standard that needs to be added into NFPA 72. I would suggest a Committee Input and a Task Group be formed to accomplish the integration of standards and requirement extracts into NFPA 72.

Submitter Information Verification

Submitter Full Name: Kelly Nicoello

Organization: UL LLC

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Submittal Date: Wed Jun 26 13:38:03 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: NFPA 855 is a proposed standard and is not yet published. The submitter should provide specific locations where NFPA 855 would be applicable in NFPA 72 once published.



Public Input No. 650-NFPA 72-2019 [Global Input]

(1) *Revise 2.3.2 to read as follows:*

2.3.2 ASME Publications. American Society of Mechanical Engineers, Two Park Avenue, New York, NY 10016-5990.

ASME A17.1/CSA B44-13, ASME A17.1-2016/CSA B44-16, Safety Code for Elevators and Escalators, 2016.

(1) *Revise I.1.2.2 to read as follows:*

I.1.2.2 ASME Publications. American Society of Mechanical Engineers, Two Park Avenue, New York, NY 10016-5990.

ANSI/ASME A17.1/CSA B44, ASME A17.1-2016/CSA B44-16, Safety Code for Elevators and Escalators, 2016.

3. *In paragraphs 21.3.6, 21.3.8, 21.3.14, 21.4.1, 21.6.2, A.17.5.3.1, A.21.3, A.21.3.7, A.21.3.10, A.21.3.14.1, A.21.3.14.2,*

A.21.3.14.2(3), A.21.6.2.1.1, A.23.3.3.1, and A.24.10, revise the following reference to read as follows:

ANSI/ASME A17.1/CSA B44, Safety Code for Elevators and Escalators

Additional Proposed Changes

File Name	Description	Approved
72_TIA_19-2_Log1410.pdf	NFPA 72 TIA 19-2 Log No. 1410	

Statement of Problem and Substantiation for Public Input

NOTE: This public input originates from Tentative Interim Amendment No. 19-2 (Log 1410) issued by the Standards Council on February 28, 2019 and per the NFPA Regs., needs to be reconsidered by the Technical Committee for the next edition of the Document.

Substantiation:

1. There are significant code changes between the 2013 and 2016 Editions of the ASME A17.1/ CSA B44 (A17.1 Code). When all NFPA 72 Technical Committees having associated references to the A17.1 Code decided to reference the 2016 edition of the A17.1 Code as the applicable reference standard this required complete compliance with ALL the requirements in the 2016 edition of the A17.1 Code which supersede the requirements in the 2013 Code.
2. Since NFPA 72-2019 includes many requirements for Fire Alarm systems (Building FA systems and Dedicated Function FA systems) interface with Elevator systems it is imperative that the Designers, Installers, Enforcers and any other NFPA 72-2019 users use the accurate and specific A17.1-2016 requirements as the basis for their design, installation, maintenance and enforcement work. If the wrong reference of the A17.1 Code is used, this may cause many issues with the design, installation, maintenance and enforcement of Fire Alarm systems.
3. NFPA 72-2019 includes many significant changes in sections 21.3, 21.5 and 21.6 regarding the interface of Fire Alarm systems with Elevator systems, Fire Service Access Elevators and Occupant Evacuation Operation – If the wrong edition of the A17.1 Code is used (2013 Edition instead of the 2016 Edition) – this will cause significant problems with all aspects of the FA-Elevator interface issue.
4. The SIG-PRO TC based all their work in the NFPA 72-2019 edition on the 2016 Edition of the A17.1 Code. Therefore, it is extremely important for NFPA 72-2019 users to not use any other reference A17.1 Edition other than the 2016 Edition. This will conflict with all the work done by the SIG-PRO TC.

Mr. David McColl – Chair of the A17.1 Emergency Operation Committee states that the Correct Reference in NFPA 72-2019 Sections 2.3.2 and I.1.2.2 should be: ASME A17.1-2016/CSA B44- 16, Safety Code for Elevators and Escalators; and references a screenshot of the current 2016 cover page below.

The rationale for deleting the ANSI reference in ALL the following sections: 21.3.6 , 21.3.8 , 21.3.14, 21.4.1, 21.6.2, A.17.5.3.1, A.21.3, A.21.3.7, A.21.3.10, A.21.3.14.1, A.21.3.14.2, A.21.3.14.2(3), A.21.6.2.1.1, A.23.3.3.1, A.24.10, is to comply with NFPA Manual of Style and to be consistent with the proposed revisions for sections 2.3.2 and I.1.2.2.

Emergency Nature: The standard contains an error or an omission that was overlooked during the regular revision process. The NFPA Standard contains a conflict within the NFPA Standards or within another NFPA Standard. The proposed TIA intends to correct a circumstance in which the revised NFPA Standard has resulted in an adverse impact on a product or method that was inadvertently overlooked in the total revision process or was without adequate technical (safety) justification of the action.

The Emergency Nature of this TIA is based on the current Sections in NFPA 72-1019: 2.3.2 and I.1.2.2 which are inconsistent between themselves and create immediate confusion for designers, installers, enforcers and other NFPA 72 users who are designing, installing and inspecting Elevators provided with Firefighters Emergency Operation (FEO) and with Occupant Evacuation Operation (OEO). Since NFPA 72-2019 includes specific NEW code Language in Sections 21.3 and 21.6 which is specifically based on the 2016 Edition of ASME A17.1-2016, this inconsistency and confusion must be revised immediately to prevent immediate problems with the design, installation and enforcement of Fire Alarm Systems having interface with Elevator Systems.

Submitter Information Verification

Submitter Full Name: TC on SIG-PRO

Organization: NFPA

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City:

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Submittal Date: Thu Jun 27 09:26:38 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: FR-5134-NFPA 72-2019

Statement: References are updated in accordance with the Manual of Style. "ANSI/" is removed from all UL standards to eliminate confusion regarding the publisher of UL standards.



Public Input No. 18-NFPA 72-2018 [Section No. 2.3]

2.3 Other Publications.

2.3.1 ANSI Publications.

American National Standards Institute, Inc., 25 West 43rd Street, 4th Floor, New York, NY 10036.

ANSI A-58.1, *Building Code Requirements for Minimum Design Loads in Buildings and Other Structures*.

ANSI/ASA S1.4a, Specifications for 4 **Part 3**, **Electroacoustics - Sound Level Meters - Part 3: Periodic Tests**, 2014. **(Supersedes ANSI S1.4a)**

ANSI/ASA S3.41, *American National Standard Audible Emergency Evacuation* - (E2) and Evacuation Signals with Relocation Instructions (ESRI), 1990, reaffirmed **Signal, 2015**.

2.3.2 – ASCE Publications.

American Society of Civil Engineers, 1801 Alexander Bell Drive, Reston, VA 20191.

ASCE/SEI 7, Minimum Design Loads and Associated Criteria for Buildings and Other Structures, 2016. (Supersedes ANSI A58.1)

2.3.3 ASME Publications.

American Society of Mechanical Engineers, Two Park Avenue, New York, NY 10016-5990.

ASME A17.1/CSA B44–13 **B44–1 6**, *Safety Code for Elevators and Escalators*, 2016.

2.3.3 4 IEEE Publications.

Institute of Electrical and Electronics Engineers, 3 Park Avenue, 17th Floor, New York, NY 10016-5997.

IEEE 450, *Recommended Practice for Maintenance, Testing, and Replacement of Vented Lead-Acid Batteries for Stationary Applications*, 2010.

IEEE 1106, *Recommended Practice for Installation, Maintenance, Testing, and Replacement of Vented Nickel-Cadmium Batteries for Stationary Applications*, 2005 **20 1 5**.

ANSI/IEEE C2, *National Electrical Safety Code*, 2017.

2.3.4 5 IMSA Publications.

International Municipal Signal Association, 165 East Union Street, Newark, NY 14513-0539.

“IMSA Official Wire and Cable Specifications,” 2012.

2.3.5 6 ISO Publications.

International Organization for Standardization, ISO Central Secretariat, BIBC II, Chemin de Blandonnet 8, CP 401, 1214 Vernier, Geneva, Switzerland.

ISO 7731, *Danger signals for public and work places — Auditory danger signals*, 2003- ~~(reconfirmed 2015)~~.

2.3.6 7 Telcordia Publications.

Telcordia Technologies, One Telcordia Drive, Piscataway, NJ 08854.

GR-506-CORE, *LATA Switching Systems Generic Requirements: Signaling for Analog Interface*, 2011.

GR-909-CORE, *Fiber in the Loop Systems Generic Requirements*, 2004.

2.3.7 8 TIA Publications.

Telecommunications Industry Association, 1320 North Courthouse Road, Suite 200, Arlington, VA 22201.

TIA-526, *Standard Test Procedures for Fiber Optic Systems*, **1993**.

ANSI/TIA-568.3-C-3 **D**, *Optical Fiber Cabling Components Standard*, 2015 **201 6, addendum 1, 2017**.

ANSI/TIA-569-D, *Telecommunications Pathways and Spaces*, **2015, addendum 1, 2016, addendum 2, 2018**.

2.3.8 9 UL Publications.

Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096.

ANSI/UL 38, *Standard for Manual Signaling Boxes for Fire Alarm Systems*, 2008, **revised 2018**.

ANSI/UL 217, *Standard for Single and Multiple Station Smoke Alarms*, 8th edition, revised 2016.

ANSI/UL 268, *Standard for Smoke Detectors for Fire Alarm Systems*, 7th edition, 2016, **revised 2016**.

ANSI/UL 521, *Standard for Heat Detectors for Fire Protective Signaling Systems*, 7th edition, 1999, revised 2016 **2017**.

ANSI/UL 827, *Standard for Central-Station Alarm Services*, 8th edition, 2014, revised 2016 **2018**.

ANSI/UL 864, *Standard for Control Units and Accessories for Fire Alarm Systems*, 10th edition, 2014, **revised 2018**.

ANSI/UL 985, *Standard for Household Fire Warning System Units*, 6th edition, 2015, **revised 2018**.

ANSI/UL 1484, *Standard for Residential Gas Detectors*, 5th edition, 2016, **revised 2017**.

ANSI/UL 1638, *Visible Signaling Devices for Fire Alarm and Signaling Systems, Including Accessories*, 5th edition, 2016, **revised 2017**.

ANSI/UL 1730, *Standard for Smoke Detector Monitors and Accessories for Individual Living Units of Multifamily Residences and Hotel/Motel Rooms*, 4th edition, 2006, revised 2012 **2017**.

ANSI/UL 1971, *Standard for Signaling Devices for the Hearing Impaired*, 3rd edition, 2002, revised 2013 **2018**.

ANSI/UL 1981, *Central Station Automation Systems*, 3rd edition, 2014, revised 2015.

ANSI/UL 2017, *Standard for General-Purpose Signaling Devices and Systems*, 2nd edition, 2008, revised 2016.

ANSI/UL 2034, *Standard for Single and Multiple Station Carbon Monoxide Alarms*, - February 2008 - **2017**, revised February 2009 - **2018**.

ANSI/UL 2075, *Standard for Gas and Vapor Detectors and Sensors*, 2nd edition, March 2013, **revised 2017**.

ANSI/UL 2572, *Mass Notification Systems*, 2nd edition, 2016.

ANSI/UL 60950-1, *Information Technology Equipment — Safety — Part 1: General Requirements*, 3rd edition, issued December 2005, including Amendment 1 issued December 2009 and Amendment 2 issued May 2013 - **2007, revised 2014**.

2.3.9 10 Other Publications.

Merriam-Webster's Collegiate Dictionary, 11th edition, Merriam-Webster, Inc., Springfield, MA, 2003.

Statement of Problem and Substantiation for Public Input

Referenced current national consensus standard editions.

Referenced ASCE/SEI 7 which supersedes ANSI A58.1.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 19-NFPA 72-2018 [Chapter I]	

Submitter Information Verification

Submitter Full Name: Aaron Adamczyk

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Submission Date: Tue Oct 30 00:56:43 EDT 2018

Committee: SIG-FUN

Committee Statement

Resolution: [FR-5134-NFPA 72-2019](#)

Statement: References are updated in accordance with the Manual of Style. "ANSI/" is removed from all UL standards to eliminate confusion regarding the publisher of UL standards.



Public Input No. 604-NFPA 72-2019 [Section No. 2.3.1]

Add standard for Cyber Security.

2.3.1 ANSI Publications.

American National Standards Institute, Inc., 25 West 43rd Street, 4th Floor, New York, NY 10036.

ANSI A-58.1, *Building Code Requirements for Minimum Design Loads in Buildings and Other Structures*.

ANSI S1.4a, *Specifications for Sound Level Meters*, 2014.

ANSI/ASA S3.41, *American National Standard Audible Emergency Evacuation (E2) and Evacuation Signals with Relocation Instructions (ESRI)*, 1990, reaffirmed 2015.

ANSI/ISA-62443 Series, 2007

Statement of Problem and Substantiation for Public Input

This standard is being referenced in the new Cyber Security Section 24.3.12.11.

Related Public Inputs for This Document

Related Input	Relationship
<u>Public Input No. 600-NFPA 72-2019 [New Section after 24.3.12.10]</u>	

Submitter Information Verification

Submitter Full Name: Denise Pappas
Organization: Valcom, Inc.
Affiliation: ECS Cyber Security Task Group
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Submittal Date: Wed Jun 26 15:22:32 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: FR-5136-NFPA 72-2019

Statement: References are updated in accordance with the Manual of Style.



Public Input No. 187-NFPA 72-2019 [Section No. 2.3.2]

2.3.2 ASME Publications.

American Society of Mechanical Engineers, Two Park Avenue, New York, NY 10016-5990.

ASME A17.1-2016 2019 /CSA B44-16 19 , *Safety Code for Elevators and Escalators*, 2016 2019 .

Statement of Problem and Substantiation for Public Input

The next 2019 Edition of ASME A17.1 will be published in September 2019. This NEW edition has significant changes in Section 2.27 regarding Phase I Emergency Recall Operation and Occupant Evacuation Operation (OEO). It should be the referenced standard in the next 2022 edition of NFPA 72.

This proposal was discussed with the ASME A17.1 Emergency Operation Committee during their June 2019 meeting in Denver, CO and it was agreed that it is a good proposal.

Submitter Information Verification

Submitter Full Name: Sagiv Weiss-Ishai

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Submittal Date: Mon May 20 10:19:43 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: FR-5134-NFPA 72-2019

Statement: References are updated in accordance with the Manual of Style. "ANSI/" is removed from all UL standards to eliminate confusion regarding the publisher of UL standards.

**Public Input No. 228-NFPA 72-2019 [Section No. 2.3.8]****2.3.8 UL Publications.**

Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096.

ANSI/UL 38, *Standard for Manual Signaling Boxes for Fire Alarm Systems*, 2008.

ANSI/UL 217, *Standard for Single and Multiple Station Smoke Alarms*, 8th edition, revised 2016.

ANSI/UL 268, *Standard for Smoke Detectors for Fire Alarm Systems*, 7th edition, 2016.

ANSI/UL 521, *Standard for Heat Detectors for Fire Protective Signaling Systems*, 7th edition, 1999, revised 2016.

ANSI/UL 827, *Standard for Central-Station Alarm Services*, 8th edition, 2014, revised 2016.

ANSI/UL 864, *Standard for Control Units and Accessories for Fire Alarm Systems*, 10th edition, 2014.

ANSI/UL 985, *Standard for Household Fire Warning System Units*, 6th edition, 2015.

ANSI/UL 1484, *Standard for Residential Gas Detectors*, 5th edition, 2016.

ANSI/UL 1638, *Visible Signaling Devices for Fire Alarm and Signaling Systems, Including Accessories*, 5th edition, 2016.

ANSI/UL 1730, *Standard for Smoke Detector Monitors and Accessories for Individual Living Units of Multifamily Residences and Hotel/Motel Rooms*, 4th edition, 2006, revised 2012.

ANSI/UL 1971, *Standard for Signaling Devices for the Hearing Impaired*, 3rd edition, 2002, revised 2013.

ANSI/UL 1981, *Central Station Automation Systems*, 3rd edition, 2014, revised 2015.

ANSI/UL 2017, *Standard for General-Purpose Signaling Devices and Systems*, 2nd edition, 2008, revised 2016.

ANSI/UL 2034, *Standard for Single and Multiple Station Carbon Monoxide Alarms*, February 2008, revised February 2009.

ANSI/UL 2075, *Standard for Gas and Vapor Detectors and Sensors*, 2nd edition, March 2013.

[UL 2525, Rescue Assistance Two-Way Emergency Communication Systems for Stairwell and Elevator Landing/Lobby Areas of Refuge. 2018](#)

ANSI/UL 2572, *Mass Notification Systems*, 2nd edition, 2016.

ANSI/UL 60950, *Information Technology Equipment — Safety — Part 1: General Requirements*, 3rd edition, issued December 2005, including Amendment 1 issued December 2009 and Amendment 2 issued May 2013.

Statement of Problem and Substantiation for Public Input

UL has created a new Standard for the listing of these systems and needs to be included in chapter 2 and used in chapter 24.

Submitter Information Verification

Submitter Full Name: Rodger Reiswig

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Submission Date: Tue Jun 04 15:47:18 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: [FR-5134-NFPA 72-2019](#)

Statement: References are updated in accordance with the Manual of Style. "ANSI/" is removed from all UL standards to eliminate confusion regarding the publisher of UL standards.

**Public Input No. 264-NFPA 72-2019 [Section No. 2.3.8]****2.3.8** UL Publications.

Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096.

ANSI/UL 38, *Standard for Manual Signaling Boxes for Fire Alarm Systems*, 2008, ~~revised 2018~~ .

ANSI/UL 217, *Standard for Single and Multiple Station Smoke Alarms*, ~~8th edition, 2015~~ revised 2016.

ANSI/UL 268, *Standard for Smoke Detectors for Fire Alarm Systems*, ~~7th edition, 2016~~ 2016 .

ANSI/UL 521, *Standard for Heat Detectors for Fire Protective Signaling Systems*, ~~7th edition, 1999,~~
revised ~~2016~~ 2017 .

ANSI/UL 827, *Standard for Central-Station Alarm Services*, ~~8th edition, 2014,~~ revised ~~2016~~ 2019 .

ANSI/UL 864, *Standard for Control Units and Accessories for Fire Alarm Systems*, ~~10th edition 2014 ,~~
~~2014~~ revised 2018 .

ANSI/UL 985, *Standard for Household Fire Warning System Units*, ~~6th edition 2015 ,~~ ~~2015~~ revised 2018 .

ANSI/UL 1484, *Standard for Residential Gas Detectors*, ~~5th edition 2016 ,~~ ~~2016~~ revised 2017 .

ANSI/UL 1638, *Visible Signaling Devices for Fire Alarm and Signaling Systems, Including Accessories*, 5th
edition, 2016.

ANSI/UL 1730, *Standard for Smoke Detector Monitors and Accessories for Individual Living Units of
Multifamily Residences and Hotel/Motel Rooms*, ~~4th edition 2006 ,~~ ~~2006,~~ revised ~~2012~~ 2017 .

ANSI/UL 1971, *Standard for Signaling Devices for the Hearing Impaired*, ~~3rd edition, 2002,~~ revised
~~2013~~ 2018 .

ANSI/UL 1981, *Central Station Automation Systems*, ~~3rd edition 2014 ,~~ ~~2014,~~ revised 2015.

ANSI/UL 2017, *Standard for General-Purpose Signaling Devices and Systems*, ~~2nd edition 2008 ,~~ ~~2008,~~
revised ~~2016~~ 2018 .

ANSI/UL 2034, *Standard for Single and Multiple Station Carbon Monoxide Alarms*, ~~February 2008,~~ revised
~~February 2009~~ 2017, revised 2018 .

ANSI/UL 2075, *Standard for Gas and Vapor Detectors and Sensors*, ~~2nd edition, March 2013~~ 2013,
revised 2017 .

ANSI/UL 2572, *Mass Notification Systems*, ~~2nd edition 2016 ,~~ ~~2016~~ revised 2018 .

ANSI/UL 60950-1, *Information Technology Equipment — Safety — Part 1: General Requirements*, ~~3rd~~
edition, issued December 2005, including Amendment 1 issued December 2009 and Amendment 2 issued
May 2013 2019 .

Statement of Problem and Substantiation for Public Input

Update the publishing dates for each of the UL standards listed to reflect the most up to date edition.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 267-NFPA 72-2019 [Section No. I.1.2.14]	
Public Input No. 268-NFPA 72-2019 [Section No. I.2.4]	

Submitter Information Verification

Submitter Full Name: Kelly Nicoletto

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Submittal Date: Wed Jun 12 17:05:02 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: [FR-5134-NFPA 72-2019](#)

Statement: References are updated in accordance with the Manual of Style. "ANSI/" is removed from all UL standards to eliminate confusion regarding the publisher of UL standards.

**Public Input No. 605-NFPA 72-2019 [Section No. 2.3.8]**Add Cyber Security Standard**2.3.8** UL Publications.

Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096.

ANSI/UL 38, *Standard for Manual Signaling Boxes for Fire Alarm Systems*, 2008.

ANSI/UL 217, *Standard for Single and Multiple Station Smoke Alarms*, 8th edition, revised 2016.

ANSI/UL 268, *Standard for Smoke Detectors for Fire Alarm Systems*, 7th edition, 2016.

ANSI/UL 521, *Standard for Heat Detectors for Fire Protective Signaling Systems*, 7th edition, 1999, revised 2016.

ANSI/UL 827, *Standard for Central-Station Alarm Services*, 8th edition, 2014, revised 2016.

ANSI/UL 864, *Standard for Control Units and Accessories for Fire Alarm Systems*, 10th edition, 2014.

ANSI/UL 985, *Standard for Household Fire Warning System Units*, 6th edition, 2015.

ANSI/UL 1484, *Standard for Residential Gas Detectors*, 5th edition, 2016.

ANSI/UL 1638, *Visible Signaling Devices for Fire Alarm and Signaling Systems, Including Accessories*, 5th edition, 2016.

ANSI/UL 1730, *Standard for Smoke Detector Monitors and Accessories for Individual Living Units of Multifamily Residences and Hotel/Motel Rooms*, 4th edition, 2006, revised 2012.

ANSI/UL 1971, *Standard for Signaling Devices for the Hearing Impaired*, 3rd edition, 2002, revised 2013.

ANSI/UL 1981, *Central Station Automation Systems*, 3rd edition, 2014, revised 2015.

ANSI/UL 2017, *Standard for General-Purpose Signaling Devices and Systems*, 2nd edition, 2008, revised 2016.

ANSI/UL 2034, *Standard for Single and Multiple Station Carbon Monoxide Alarms*, February 2008, revised February 2009.

ANSI/UL 2075, *Standard for Gas and Vapor Detectors and Sensors*, 2nd edition, March 2013.

ANSI/UL 2572, *Mass Notification Systems*, 2nd edition, 2016.

ANSI/UL 60950, *Information Technology Equipment — Safety — Part 1: General Requirements*, 3rd edition, issued December 2005, including Amendment 1 issued December 2009 and Amendment 2 issued May 2013.

ANSI/UL 2900 Series, July 5, 2017

Statement of Problem and Substantiation for Public Input

This standard is being referenced in the new Cyber Security Section 24.3.12.11.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 600-NFPA 72-2019 [New Section after 24.3.12.10]	

Submitter Information Verification

Submitter Full Name: Denise Pappas
Organization: Valcom, Inc.
Affiliation: ECS Cyber Security Task Group
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Submittal Date: Wed Jun 26 15:25:37 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: [FR-5136-NFPA 72-2019](#)

Statement: References are updated in accordance with the Manual of Style.



Public Input No. 606-NFPA 72-2019 [New Section after 2.3.9]

Add New Publication Section

2.3.9 US Government Publications. . U.S. Government

Publishing Office, 732 North Capitol Street, NW, Washington,

DC 20401-0001

NIST Framework for Improving Critical Infrastructure Cybersecurity Version 1.1, 2018

Statement of Problem and Substantiation for Public Input

This standard is being referenced in the new Cyber Security Section 24.3.12.11.

Related Public Inputs for This Document

Related Input	Relationship
<u>Public Input No. 600-NFPA 72-2019 [New Section after 24.3.12.10]</u>	

Submitter Information Verification

Submitter Full Name: Denise Pappas

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Submittal Date: Wed Jun 26 15:27:59 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: FR-5136-NFPA 72-2019

Statement: References are updated in accordance with the Manual of Style.



Public Input No. 164-NFPA 72-2019 [New Section after 3.3.23]

Add a definition for: Authorized Personnel.

Trained persons who have been instructed in the operation of the equipment and designated by the owner to use the equipment.

Statement of Problem and Substantiation for Public Input

This term appears in the Code in many places but it is not currently defined in the Code in Chapter 3. There are some explanations in the non-mandatory annexes but unless this term is defined in Chapter 3, it may create enforcement inconsistencies regarding who might be an authorized person ? and authorized by whom? The definition should clearly state that authorized personnel are trained (instructed in the operation of the equipment) and are designated by the owner. It should be a similar definition as defined in other ANSI publications such as ASME A17.1

This is the definition from the ASME A17.1 Elevator and Escalators Safety Code
authorized personnel: persons who have been instructed in the operation of the equipment and designated by the owner to use the equipment.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 165-NFPA 72-2019 [New Section after 3.3.94]	
Public Input No. 319-NFPA 72-2019 [New Section after 24.3.6.5]	
Public Input No. 323-NFPA 72-2019 [Section No. 24.4.5.2]	
Public Input No. 342-NFPA 72-2019 [Section No. 24.5.2.1]	

Submitter Information Verification

Submitter Full Name: Sagiv Weiss-Ishai
Organization: San Francisco Fire Department
Affiliation: SFFD
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City:
State:
Zip:
Submittal Date: Fri May 10 19:20:14 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: [FR-5063-NFPA 72-2019](#)

Statement: The term authorized personnel is currently defined in the NFPA glossary of terms. The Technical Committee used this definition for consistency and removed the reference to stationary storage batteries from the glossary of terms definition.



Public Input No. 613-NFPA 72-2019 [New Section after 3.3.63]

3.3.64 Cybersecurity. The protection of systems from theft or damage of data, or damage to hardware or software, as well as from unauthorize command or control or access to any information of any services the systems provide.

Statement of Problem and Substantiation for Public Input

Please see PI: 599. These PIs are part of a whole, spread across chapters 2, 3, 7, 14, 10, 21, 23, 24, 26, & 27 and are meant to work together.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 599-NFPA 72-2019 [New Section after 10.4.7.3]	definition related to proposed use in chapters 7, 14, 10, 21, 23, 24, 26, & 27

Submitter Information Verification

Submitter Full Name: Michael Pallett
Organization: Telecor Inc.
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jun 26 15:55:54 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: [FR-5069-NFPA 72-2019](#)
Statement: A new definition for "cyber security" has been added and uses the definition provided by the Department of Homeland Security to maintain consistency.



Public Input No. 165-NFPA 72-2019 [New Section after 3.3.94]

Emergency Personnel

persons who have been trained in the operation of emergency firefighting or medical equipment and in the emergency evacuation or relocation of building occupants.

Statement of Problem and Substantiation for Public Input

The current Code includes references to "Emergency Personnel" in many sections.

Annex 24.10 indicates: "firefighters or other first respondents or emergency personnel" which means that Emergency Personnel could be other persons than firefighters or first respondents, such as medical personnel, etc. Other ANSI publications such as ASME A17.1 include definitions for "Emergency Personnel" and the most important feature in the definition is the required training for those persons.

if we look at all the places in NFPA 72 indicating the term "Emergency Personnel" the proposed NEW definition will clarify who those persons might be. It is also important to distinguish between Emergency and Authorized personnel.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 164-NFPA 72-2019 [New Section after 3.3.23]	NEW Definitions existing in the A17.1 Code but not in NFPA 72
Public Input No. 168-NFPA 72-2019 [New Section after 18.4.2.1]	
Public Input No. 319-NFPA 72-2019 [New Section after 24.3.6.5]	
Public Input No. 323-NFPA 72-2019 [Section No. 24.4.5.2]	
Public Input No. 342-NFPA 72-2019 [Section No. 24.5.2.1]	

Submitter Information Verification

Submitter Full Name: Sagiv Weiss-Ishai
Organization: San Francisco Fire Department
Affiliation: SFFD
Street Address:
City:
State:
Zip:
Submittal Date: Fri May 10 19:39:28 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: [FR-5076-NFPA 72-2019](#)

Statement: The term "emergency personnel" is used in the Code and has been defined to clarify its intended use.



Public Input No. 386-NFPA 72-2019 [New Section after 3.3.99.2]

3.3.99.2.1 Commercial Uninterruptable Power Supply (UPS). A self-enclosed electrochemical energy storage device providing a primary power input, integral charging capabilities, and a common output supporting both primary and secondary power switching without interruption.

Statement of Problem and Substantiation for Public Input

Supports the term "Commerical UPS" as a specific type of Electrochemical energy storage "device", used in another PI.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 383-NFPA 72-2019 [New Section after 10.6.8.4]	Related to the term added in PI 383

Submitter Information Verification

Submitter Full Name: Michael Pallett
Organization: Telcor Inc.
Street Address:
City:
State:
Zip:
Submittal Date: Sat Jun 22 19:13:12 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: The proposed definition is for a term "commercial uninterruptible power supply (UPS)" which is not used in this document, and is redundant to the text of A.3.3.99.



Public Input No. 438-NFPA 72-2019 [New Section after 3.3.194]

Out of Service

A significant portion of the fire alarm system is not in
operation, such as an entire initiating device, signaling line,
or notification appliance circuit.

Statement of Problem and Substantiation for Public Input

"Out of service" is defined in NFPA 101, but should also be addressed in 72 where the term out of service is discussed. Out of Service has implications such as evacuation, fire watch, etc. A clear definition is needed to ensure occupants remain safe.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 439-NFPA 72-2019 [New Section after A.3.3.188]	

Submitter Information Verification

Submitter Full Name: Joshua Brackett
Organization: Baptist Health
Street Address:
City:
State:
Zip:
Submittal Date: Mon Jun 24 12:15:34 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: The term "Out of Service" is self-explanatory, definitions cannot contain requirements. The body of this document contains requirements regarding equipment that is out of service, and it would be inappropriate to contradict those requirements in a definition.



Public Input No. 490-NFPA 72-2019 [New Section after 3.3.200.5]

3.3.200.6 Trained Response Personnel

Individuals who have become proficient in performing a skill reliably and safely through instruction and practice/field experience acceptable to the AHJ to carry out the duties to which they have been assigned, including the receipt, handling, assignment, investigation, and documentation of critical assignments and duties which may have a definite effect on the life safety of building occupants.

Statement of Problem and Substantiation for Public Input

A related PI changes the term “trained personnel” to “qualified personnel” in 23.8.1.2.1 and a new description for ‘trained response personnel’ is provided as a new personnel 10.5.7. Thus, a definition of this term is offered to be added in Chapter 3 in order to be consistent with other personnel definitions. This language, for the first time, provides adequate definitions of this term.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 487-NFPA 72-2019 [Section No. 23.8.1.2]	
Public Input No. 488-NFPA 72-2019 [New Section after 10.5.6]	

Submitter Information Verification

Submitter Full Name: William Koffel
Organization: Koffel Associates, Inc.
Affiliation: Automatic Fire Alarm Association (AFAA)
Street Address:
City:
State:
Zip:
Submittal Date: Mon Jun 24 23:14:27 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: The term is not used in the Code.



Public Input No. 388-NFPA 72-2019 [New Section after 3.3.315]

3.3.316 Uninterruptable Power Supply (UPS). See **3.3.99.2.1 Commercial Uninterruptable Power Supply (UPS).**

Statement of Problem and Substantiation for Public Input

Reintroducing the term UPS in support of other proposed changes, in a place where most people will be able to more easily find it, rather then exclusively under Energy Storage Systems

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 383-NFPA 72-2019 [New Section after 10.6.8.4]	Supports reintroduction of the term Commerical UPS in PI 383.

Submitter Information Verification

Submitter Full Name: Michael Pallett
Organization: Telecor Inc.
Street Address:
City:
State:
Zip:
Submittal Date: Sat Jun 22 19:29:10 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: The Technical Committee does not support adding redundant definitions. Uninterruptible Power Supplies are a form of a Stored-Energy Emergency Power Supply System,



Public Input No. 539-NFPA 72-2019 [Section No. 7.2.1]

7.2.1*

Where documentation is required by the authority having jurisdiction, the following list shall represent the minimum documentation required for new systems and additions or alterations to existing systems:

- (1) * Written narrative providing intent and system description
- (2) Riser diagram
- (3) Floor plan layout showing locations of all devices, control equipment units, and supervising station and shared communications equipment with each sheet showing the following:
 - (4) Point of compass (north arrow)
 - (5) A graphic representation of the scale used
 - (6) Room use identification
 - (7) Building features that will affect the placement of initiating devices and notification appliances
- (8) Sequence of operation in either an input/output matrix or narrative form
- (9) Equipment technical data sheets
- (10) Manufacturers' published instructions, including operation and maintenance instructions
- (11) Battery capacity and safety margin calculations (where batteries are provided)
- (12) Voltage drop calculations for notification appliance circuits
- (13) Mounting height elevation for wall-mounted devices and appliances
- (14) Where occupant notification is required, minimum sound pressure levels that must be produced by the audible notification appliances in applicable covered areas
- (15) Locations of alarm notification appliances, including candela ratings for visual alarm notification appliances
- (16) Pathway diagrams between the control unit and shared communications equipment within the protected premises
- (17) Completed record of completion in accordance with 7.5.6 and 7.8.2
- (18) For software-based systems, a copy of site-specific software, including specific instructions on how to obtain the means of system and software access (password)
- (19) Record (as-built) drawings
- (20) Records, record retention, and record maintenance in accordance with Section 7.7
- (21) Completed record of inspection and testing in accordance with 7.6.6 and 7.8.2

Statement of Problem and Substantiation for Public Input

The term "control equipment" is not defined in the standard. The term "control unit" is defined in the standard and is the term that is appropriate to convey the intended meaning.

Submitter Information Verification

Submitter Full Name: Frank Savino
Organization: United Fire Protection Corpora
Affiliation: Task Group SIG-PRO
Street Address:
City:
State:

Zip:

Submittal Date: Wed Jun 26 10:10:35 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: [FR-5131-NFPA 72-2019](#)

Statement: A definition for the term “control equipment”, which is currently defined within the text of 7.4.7, is added for clarity.

**Public Input No. 618-NFPA 72-2019 [Section No. 7.2.1]****7.2.1***

Where documentation is required by the authority having jurisdiction, the following list shall represent the minimum documentation required for new systems and additions or alterations to existing systems:

- (1) * Written narrative providing intent and system description
- (2) Riser diagram
- (3) Floor plan layout showing locations of all devices, control equipment, and supervising station and shared communications equipment with each sheet showing the following:
 - (4) Point of compass (north arrow)
 - (5) A graphic representation of the scale used
 - (6) Room use identification
 - (7) Building features that will affect the placement of initiating devices and notification appliances
- (8) Sequence of operation in either an input/output matrix or narrative form
- (9) Equipment technical data sheets
- (10) Manufacturers' published instructions, including operation and maintenance instructions
- (11) Battery capacity and safety margin calculations (where batteries are provided)
- (12) Voltage drop calculations for notification appliance circuits
- (13) Mounting height elevation for wall-mounted devices and appliances
- (14) Where occupant notification is required, minimum sound pressure levels that must be produced by the audible notification appliances in applicable covered areas
- (15) Locations of alarm notification appliances, including candela ratings for visual alarm notification appliances
- (16) Pathway diagrams between the control unit and shared communications equipment within the protected premises
- (17) Completed record of completion in accordance with 7.5.6 and 7.8.2
- (18) For software-based systems, a copy of site-specific software, including specific instructions on how to obtain the means of system and software access (password)
- (19) Record (as-built) drawings
- (20) Records, record retention, and record maintenance in accordance with Section 7.7
- (21) Completed record of inspection and testing in accordance with 7.6.6 and 7.8.2
- (22) Cybersecurity certificate(s)

Statement of Problem and Substantiation for Public Input

Please see PI: 599. These PIs are part of a whole, spread across chapters 2, 3, 7, 14, 10, 21, 23, 24, 26, & 27 and are meant to work together.

Related Public Inputs for This Document

Related Input	Relationship
<u>Public Input No. 599-NFPA 72-2019 [New Section after 10.4.7.3]</u>	Part of a broader public input intended to work together

Submitter Information Verification

Submitter Full Name: Michael Pallett

Organization: Telcor Inc.

Committee Statement

City:

Resolution: [FR-5124-NFPA 72-2019](#)

State:

Statement: Section 7.2.1 has been revised removing unnecessary references to 7.8.2, and adds a reference to cyber security documentation at the bottom of the list.

Zip:

Submittal Date: Wed Jun 26 16:01:19 EDT 2019

Committee: SIG-FUN



Public Input No. 84-NFPA 72-2019 [Section No. 7.2.1]

7.2.1*

Where documentation is required by the authority having jurisdiction, the following list shall represent the minimum documentation required for new systems and additions or alterations to existing systems:

- (1) * Written narrative providing intent and system description
- (2) Riser diagram
- (3) Floor plan layout showing locations of all devices, control equipment, and supervising station and shared communications equipment with each sheet showing the following:
 - (4) Point of compass (north arrow)
 - (5) A graphic representation of the scale used
 - (6) Room use identification
 - (7) Building features that will affect the placement of initiating devices and notification appliances
- (8) Sequence of operation in either an input/output matrix or narrative form
- (9) Equipment technical data sheets
- (10) Manufacturers' published instructions, including operation and maintenance instructions
- (11) Battery capacity and safety margin calculations (where batteries are provided)
- (12) Voltage drop calculations for notification appliance circuits
- (13) Mounting height elevation for wall-mounted devices and appliances
- (14) Where occupant notification is required, minimum sound pressure levels that must be produced by the audible notification appliances in applicable covered areas
- (15) Locations of alarm notification appliances, including candela ratings for visual alarm notification appliances
- (16) ~~Pathway diagrams between the control unit and shared communications equipment within the protected premises~~
- (17) Completed record of completion in accordance with 7.5.6 and 7.8.2
- (18) For software-based systems, a copy of site-specific software, including specific instructions on how to obtain the means of system and software access (password)
- (19) Record (as-built) drawings
- (20) Records, record retention, and record maintenance in accordance with Section 7.7
- (21) Completed record of inspection and testing in accordance with 7.6.6- and ~~7.8.2~~

Statement of Problem and Substantiation for Public Input

With the proposed relocation of the Inspection and Testing form to the Annex and removing reference to these forms from Section 7.8.2, this line item has been revised to reference only Section 7.6.6, which in turn, would direct the reader to the Annex section where those forms have been relocated. Line item 3 was underlined by TerraView in error. This only affects line item 21.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 81-NFPA 72-2019 [Section No. 7.6.6]	
Public Input No. 90-NFPA 72-2019 [Section No. 7.8.2]	
Public Input No. 90-NFPA 72-2019 [Section No. 7.8.2]	

Submitter Information Verification

Submitter Full Name: Joe Scibetta

Organization: BuildingReports

Street Address:

City:

State:

Zip:

Submittal Date: Mon Apr 01 10:38:20 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: [FR-5124-NFPA 72-2019](#)

Statement: Section 7.2.1 has been revised removing unnecessary references to 7.8.2, and adds a reference to cyber security documentation at the bottom of the list.

**Public Input No. 57-NFPA 72-2019 [Section No. 7.3.3.1]****7.3.3.1**

When ~~a design~~ a design professional is preparing design documents that will incorporate new or modifications to a fire alarm or emergency communication system covered by this Code, preliminary bid documents shall be prepared in accordance with Section 7.3.

Statement of Problem and Substantiation for Public Input

Editorial correction

Submitter Information Verification

Submitter Full Name: William Koffel

Organization: Koffel Associates, Inc.

Affiliation: Automatic Fire Alarm Association (AFAA)

Street Address:

City:

State:

Zip:

Submittal Date: Thu Mar 28 12:09:22 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: FR-5078-NFPA 72-2019

Statement: The Technical Committee corrects an editorial issue.



Public Input No. 56-NFPA 72-2019 [New Section after 7.3.3.5]

TITLE OF NEW CONTENT

7.3.3.6 Design documents shall clearly communicate the pathway class designations in accordance with Section 12.3 for all types of circuits specified.

7.3.3.7 Design documents shall clearly communicate the pathway survivability level designations in accordance with Section 12.4 for all types of circuits requiring survivability.

Statement of Problem and Substantiation for Public Input

Circuit Pathway Class is already required to be detailed to the AHJ, but the requirements of Chapter 7 are unclear as to this being required by the design engineer. In many cases, the Pathway Class can have a huge bearing on the design of the system and the requirements for individual types of circuits. This includes where redundant paths will and will not be allowed and how this affects performance alternatives that may be considered by the system designer or vendor. These details are critical for review and approval of the system.

Circuit Pathway Survivability is already required to be detailed to the AHJ, but the requirements of Chapter 7 are unclear as to this being required by the design engineer. These details are critical for review and approval of the system. This is particularly important for pathway survivability, where the survivability can be provided by the cable, cable system, or building construction. Chapter 23 and 24 require engineering justification for the pathway survivability level that must be used, and Chapter 7 should include requirements to require this designation to be clear on the design documents.

Submitter Information Verification

Submitter Full Name: William Koffel
Organization: Koffel Associates, Inc.
Affiliation: Automatic Fire Alarm Association (AFAA)
Street Address:
City:
State:
Zip:
Submittal Date: Thu Mar 28 12:06:22 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: FR-5079-NFPA 72-2019

Statement: This revision clarifies that pathway class designation and survivability levels are part of the design documentation requirements.



Public Input No. 192-NFPA 72-2019 [Section No. 7.4.4]

7.4.4

Shop drawings shall include the following information:

- (1) Name of protected premises, owner, and occupant (where applicable)
- (2) Name and contact information of the system designer
- (3) Name and contact information of the system installer or contractor
- (4) Name and contact information of the service or maintenance company
- (5) Location of protected premises
- (6) Name, location and contact information of the approved supervising station when provided
- (7) Device legend and symbols in accordance with NFPA 170, or other symbols acceptable to the authority having jurisdiction
- (8) Date of issue and any revision dates

Statement of Problem and Substantiation for Public Input

It is important to include the name and contact information of the system designer responsible for the design of the fire alarm or emergency communication system which is defined in Section 3.3.200.3. It is important for Plan Examiners or inspectors to be able to communicate with the system designer during the shop drawings review phase and therefore, including the system designer's contact information is very important.

It is also important to include the name, location and contact information of the approved supervising station if provided to be used by the the fire jurisdiction or enforcing authority during the system acceptance inspection and any other system testing or maintenance.

It is also important to include the name and contact information of the approved service or maintenance company to ensure that there is required person/company to perform system service/maintenance.

Submitter Information Verification

Submitter Full Name: Sagiv Weiss-Ishai

Organization: San Francisco Fire Department

Affiliation: SFFD

Street Address:

City:

State:

Zip:

Submission Date: Sun May 26 23:09:59 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: The Technical Committee notes the proposed revisions are either redundant to existing requirements, or go beyond the information required to perform a review of fire alarm shop drawings.



Public Input No. 193-NFPA 72-2019 [Section No. 7.4.5]

7.4.5

Floor plan drawings shall be drawn to an indicated scale and shall include the following information, where applicable for the particular system:

- (1) Floor or level identification
- (2) Point of compass (indication of North)
- (3) Graphic scale
- (4) All walls and doors
- (5) All partitions extending to within 15 percent of the ceiling height (where applicable and when known)
- (6) Room and area descriptions
- (7) System devices/component locations
- (8) Locations of fire alarm and/or emergency communication system primary power disconnecting means
- (9) Locations of monitor/control interfaces to other systems
- (10) System riser locations
- (11) Type and number of system components/devices on each circuit, on each floor or level
- (12) Type and quantity of conductors and conduit (if used) for each circuit
- (13) Identification of any ceiling over 10 ft (3.0 m) in height where automatic fire detection is being proposed
- (14) Details of ceiling geometries, including beams and solid joists, where automatic fire detection is being proposed
- (15) Where known, acoustic properties of spaces

Statement of Problem and Substantiation for Public Input

This section should not be limited to only fire alarm control unit. All other power disconnecting means for ECS (non-FA) control units should also be identified

Submitter Information Verification

Submitter Full Name: Sagiv Weiss-Ishai
Organization: San Francisco Fire Department
Affiliation: SFFD
Street Address:
City:
State:
Zip:
Submission Date: Sun May 26 23:27:28 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: FR-5085-NFPA 72-2019

Statement: This revision clarifies that pathway class designations and survivability levels are to be included on floor plan drawings. The modifier "where applicable for the particular system" is appropriate.



Public Input No. 53-NFPA 72-2019 [Section No. 7.4.5]

7.4.5

Floor plan drawings shall be drawn to an indicated scale and shall include the following information, ~~where applicable for the particular system :~~

- (1) Floor or level identification
- (2) Point of compass (indication of North)
- (3) Graphic scale
- (4) All walls and doors
- (5) All partitions extending to within 15 percent of the ceiling height (where applicable and when known)
- (6) Room and area descriptions
- (7) System devices/component locations
- (8) Locations of fire alarm primary power disconnecting means
- (9) Locations of monitor/control interfaces to other systems
- (10) System riser locations
- (11) Type and number of system components/devices on each circuit, on each floor or level
- (12) Type and quantity of conductors and conduit (if used) for each circuit
- (13) Identification of any ceiling over 10 ft (3.0 m) in height where automatic fire detection is being proposed
- (14) Details of ceiling geometries, including beams and solid joists, where automatic fire detection is being proposed
- (15) Where known, acoustic properties of spaces
- (16) Pathway class designations in accordance with Section 12.3 for all types of circuits used, including the location of any end-of-line supervisory or power devices that may be required by the pathway class.
- (17) Pathway survivability level designations in accordance with Section 12.4 for all types of circuits.

Statement of Problem and Substantiation for Public Input

NFPA 72 already requires circuit Pathway Class and Pathway Survivability to be detailed to the AHJ, but the requirements of Chapter 7 do not include this requirement to be noted on the shop drawings. Both Classifications should be detailed on the shop drawings for review and approval by the AHJ. The details are critical for review and approval of the system. The "where applicable to the particular system" is redundant language to other language in Chapter 7 and may be in conflict with the "minimum requirements" of the Chapter.

Submitter Information Verification

Submitter Full Name: William Koffel
Organization: Koffel Associates, Inc.
Affiliation: Automatic Fire Alarm Association (AFAA)
Street Address:
City:
State:
Zip:
Submission Date: Thu Mar 28 11:56:43 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: [FR-5085-NFPA 72-2019](#)

Statement: This revision clarifies that pathway class designations and survivability levels are to be included on floor plan drawings. The modifier “where applicable for the particular system” is appropriate.

**Public Input No. 54-NFPA 72-2019 [Section No. 7.4.6]****7.4.6**

System riser diagrams shall be coordinated with the floor plans and shall include the following information, where applicable to the particular system :

- (1) General arrangement of the system in building cross-section
- (2) Number of risers
- (3) Type and number of circuits in each riser
- (4) Type and number of system components/devices on each circuit, on each floor or level
- (5) Number of conductors for each circuit
- (6) Pathway class designation in accordance with Section 12.3 for all types of circuits used, including the provision of any end-of-line supervisory or power devices that may be required by the pathway class.
- (7) Pathway survivability level designations in accordance with Section 12.4 for all types of circuits.

Statement of Problem and Substantiation for Public Input

NFPA 72 already requires circuit Pathway Class and Pathway Survivability to be detailed to the AHJ, but the requirements of Chapter 7 do not include this as a requirement to be noted on the riser diagram. Both classifications should be detailed on the riser diagram for review and approval by the AHJ. These details are critical for review and approval of the system.

The “where applicable to the particular system” is redundant language to other language in Chapter 7.

NOTE FOR DISCUSSION: IN ANOTHER PI WE HAVE PROPOSED TO DELETE THE "WHERE APPLICABLE" LANGUAGE AND NOW WE ARE PROPOSING TO ADD IT. IS THAT WHAT WE REALLY WANT?

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 55-NFPA 72-2019 [New Section after A.7.4.2]	

Submitter Information Verification

Submitter Full Name: William Koffel
Organization: Koffel Associates, Inc.
Affiliation: Automatic Fire Alarm Association (AFAA)
Street Address:
City:
State:
Zip:
Submittal Date: Thu Mar 28 12:01:11 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: [FR-5080-NFPA 72-2019](#)

Statement: This revision clarifies that pathway class designations and survivability levels are to be included on riser diagrams.

Additionally, the text clarifies that the riser diagram should show the location of required pathway survivability.





Public Input No. 194-NFPA 72-2019 [Section No. 7.4.7]

7.4.7

Control unit diagrams shall be provided for all control equipment (i.e., equipment listed as either a control unit or control unit accessory), power supplies, battery chargers, and annunciators and shall include the following information:

- (1) Identification of the control equipment depicted
- (2) Location(s) of control equipment
- (3) All field wiring terminals and terminal identifications
- (4) All circuits connected to field wiring terminals and circuit identifications
- (5) All indicators and manual controls
- (6) Location(s) of power disconnecting means for each control unit
- (7) Field connections to supervising station signaling equipment, releasing equipment, or emergency safety control interfaces, where provided

Statement of Problem and Substantiation for Public Input

Each control unit other than FACU should be also identified with the location of its associated power disconnecting means such as specifically required for fire alarm control units.

Submitter Information Verification

Submitter Full Name: Sagiv Weiss-Ishai
Organization: San Francisco Fire Department
Affiliation: SFFD
Street Address:
City:
State:
Zip:
Submittal Date: Sun May 26 23:37:00 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: The proposed language is already in the Code.



Public Input No. 110-NFPA 72-2019 [New Section after 7.4.10]

7.4.11

Pathway diagrams between the control unit and shared communications equipment within the protected premises required in 7.2 (12) shall be shown on the shop drawings.

Statement of Problem and Substantiation for Public Input

Having the required pathway diagram(s) on the drawing will better ensure compliance with the standard. This will also get the diagram onto the record drawings.

Submitter Information Verification

Submitter Full Name: Chase Browning
Organization: Medford Fire Rescue
Street Address:
City:
State:
Zip:
Submittal Date: Wed Apr 10 11:05:23 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: The proposed language covers material that is not necessarily formatted for shop drawings, reference A.7.2.1(12).



Public Input No. 448-NFPA 72-2019 [Section No. 7.5.3]

7.5.3

All systems including new systems and additions or alterations to existing systems 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 manufacturer's published instructions covering all system equipment
- (2) Record (as-built) drawings in accordance with 7.5.5
- (3) A completed record of completion form in accordance with 7.5.6
- (4) For software-based systems, record copy of the site-specific software in accordance with 7.5.7

(SIG-FUN)

(5) For software-based systems, documentation stating the name of the cybersecurity standard(s) and level to which the system has been designed in accordance with 10.5.3(new)

Statement of Problem and Substantiation for Public Input

The cybersecurity design level is important in determining the robustness of the system in various environments.

Submitter Information Verification

Submitter Full Name: Megan Hayes

Organization: Nema

Street Address:

City:

State:

Zip:

Submission Date: Mon Jun 24 14:26:40 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: FR-5126-NFPA 72-2019

Statement: Cyber security documentation must be provided to the owner.



Public Input No. 449-NFPA 72-2019 [Section No. 7.5.3]

7.5.3

All systems including new systems and additions or alterations to existing systems 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 manufacturer's published instructions covering all system equipment
- (2) Record (as-built) drawings in accordance with 7.5.5
- (3) A completed record of completion form in accordance with 7.5.6
- (4) For software-based systems, record copy of the site-specific software in accordance with 7.5.7

(SIG-FUN)

(6) For software-based systems, documentation containing instructions regarding the installation and maintenance of cybersecurity related system elements in accordance with 10.5.4(new)

Statement of Problem and Substantiation for Public Input

Cybersecurity features can be readily compromised by improper installation and maintenance practices.

Submitter Information Verification

Submitter Full Name: Megan Hayes

Organization: Nema

Street Address:

City:

State:

Zip:

Submission Date: Mon Jun 24 14:31:34 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: FR-5126-NFPA 72-2019

Statement: Cyber security documentation must be provided to the owner.



Public Input No. 619-NFPA 72-2019 [New Section after 7.8.2]

TITLE OF NEW CONTENT

Add 7.8.3 Dry Valve Testing Schematic

Furnish and install on a wall adjacent to dry pipe valve and trim a drawing under transparent plastic of all devices, valve tags and test procedures for all valves including assigned valve tags with identifying marks using either numbers or letters with test procedures to be used for initial acceptance and ongoing testing as required in Chapter 14....

Statement of Problem and Substantiation for Public Input

Often the individual testing for pressure variations required in Chapter 17 of the dry valve trim does not understand the process. Sometimes the incorrect valve is opened and causes the dry valve to open. The result is a flooded main and requires extensive labor to restore the system to normal operation. Having the test procedure in place and visible to individuals testing the system.

Submitter Information Verification

Submitter Full Name: James Mundy

Organization: Asset Protection Associates, L

Street Address:

City:

State:

Zip:

Submittal Date: Wed Jun 26 16:04:24 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: This requirement does not belong on NFPA 72, it would be better placed in NFPA 13, NFPA 25, or NFPA 4.



Public Input No. 364-NFPA 72-2019 [Section No. 7.8.2]

7.8.2 Forms for Documentation.

Forms for documentation shall be as follows:

- (1) * Unless otherwise permitted or required in 7.5.6 or 7.8.1.2, Figure 7.8.2(a) through Figure 7.8.2(f) shall be used to document the record of completion and inspection. (SIG-FUN)
- (2) * Unless otherwise permitted or required in 7.6.6 or 7.8.1.2, Figure 7.8.2(g) through Figure 7.8.2(l) shall be used to document the record of inspection and testing. (SIG-TMS)
- (3) Where a form is required by the AHJ to document the installation and inspection of a household fire alarm system or single- or multiple-station alarms, Figure 7.8.2(m) can be used to document the record of completion and inspection.

Figure 7.8.2(j) Remove the word "system" in section 3.3 (Equipment powered by an ESS system) and sentence (Location of ESS system). the word "system" is redundant.

Figure 7.8.2(k) Replace the word "communication" with communications" in sentence 2 (two places) 2.1 and section title 3.4.

Figure 7.8.2(m) Add (SIG-HOU) following the Figure 7.8.2(m) title.

Figure 7.8.2(a) System Record of Completion. (SIG-FUN)

SYSTEM RECORD OF COMPLETION	
This form is to be completed by the system installation contractor at the time of system acceptance and approval. It shall be permitted to modify this form as needed to provide a more complete and/or clear record. Insert N/A in all unused lines. Attach additional sheets, data, or calculations as necessary to provide a complete record.	
Form Completion Date: _____ Supplemental Pages Attached: _____	
1. PROPERTY INFORMATION	
Name of property: _____	
Address: _____	
Description of property: _____	
Name of property representative: _____	
Address: _____	
Phone: _____	Fax: _____ E-mail: _____
2. INSTALLATION, SERVICE, TESTING, AND MONITORING INFORMATION	
Installation contractor: _____	
Address: _____	
Phone: _____	Fax: _____ E-mail: _____
Service organization: _____	
Address: _____	
Phone: _____	Fax: _____ E-mail: _____
Testing organization: _____	
Address: _____	
Phone: _____	Fax: _____ E-mail: _____
Effective date for test and inspection contract: _____	
Monitoring organization: _____	
Address: _____	
Phone: _____	Fax: _____ E-mail: _____
Account number: _____	Phone line 1: _____ Phone line 2: _____
Means of transmission: _____	
Entity to which alarms are retransmitted: _____ Phone: _____	
3. DOCUMENTATION	
On-site location of the required record documents and site-specific software: _____	
4. DESCRIPTION OF SYSTEM OR SERVICE	
This is a: ☐ New system ☐ Modification to existing system Permit number: _____	
NFPA 72 edition: _____	
4.1 Control Unit	
Manufacturer: _____ Model number: _____	
4.2 Software and Firmware	
Firmware revision number: _____	
4.3 Alarm Verification	
☐ This system does not incorporate alarm verification.	
Number of devices subject to alarm verification: _____ Alarm verification set for _____ seconds	
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SYSTEM RECORD OF COMPLETION (continued)				
5. SYSTEM POWER				
5.1 Control Unit				
5.1.1 Primary Power				
Input voltage of control panel: _____		Control panel amperage: _____		
Overcurrent protection: Type: _____		Amperage: _____		
Branch circuit disconnecting means location: _____		Number: _____		
5.1.2 Secondary Power				
Type of secondary power: _____				
Location, if remote from the plant: _____				
Calculated capacity of secondary power to drive the system: _____				
In standby mode (hours): _____		In alarm mode (minutes): _____		
5.2 Control Unit				
☐ This system does not have power extender panels				
☐ Power extender panels are listed on supplementary sheet A				
6. CIRCUITS AND PATHWAYS				
Pathway Type	Dual Media Pathway	Separate Pathway	Class	Survivability Level
Signaling Line				
Device Power				
Initiating Device				
Notification Appliance				
Other (specify):				
7. REMOTE ANNUNCIATORS				
Type	Location			
8. INITIATING DEVICES				
Type	Quantity	Addressable or Conventional	Alarm or Supervisory	Sensing Technology
Manual Pull Stations				
Smoke Detectors				
Duct Smoke Detectors				
Heat Detectors				
Gas Detectors				
Carbon Monoxide Detectors				
Waterflow Switches				
Tamper Switches				
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SYSTEM RECORD OF COMPLETION (continued)		
9. NOTIFICATION APPLIANCES		
Type	Quantity	Description
Audible		
Visual		
Combination Audible and Visual		
10. SYSTEM CONTROL FUNCTIONS		
Type	Quantity	
Hold-Open Door Releasing Devices		
HVAC Shutdown		
Fire/Smoke Dampers		
Door Unlocking		
Elevator Recall		
Elevator Shunt Trip		
11. INTERCONNECTED SYSTEMS		
☐ This system does not have interconnected systems.		
☐ Interconnected systems are listed on supplementary sheet _____.		
12. CERTIFICATION AND APPROVALS		
12.1 System Installation Contractor		
This system as specified herein has been installed according to all NFPA standards cited herein.		
Signed: _____	Printed name: _____	Date: _____
Organization: _____	Title: _____	Phone: _____
12.2 System Operational Test		
This system as specified herein has been tested according to all NFPA standards cited herein.		
Signed: _____	Printed name: _____	Date: _____
Organization: _____	Title: _____	Phone: _____
12.3 Acceptance Test		
Date and time of acceptance test: _____		
Installing contractor representative: _____		
Testing contractor representative: _____		
Property representative: _____		
AHJ representative: _____		
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Figure 7.8.2(b) Emergency Communications System Supplementary Record of Completion. (SIG-FUN)

**EMERGENCY COMMUNICATIONS SYSTEMS
SUPPLEMENTARY RECORD OF COMPLETION**

*This form is a supplement to the System Record of Completion. It includes systems and components specific to emergency communications systems.
This form is to be completed by the system installation contractor at the time of system acceptance and approval.
It shall be permitted to modify this form as needed to provide a more complete and/or clear record.
Insert N/A in all unused lines.*

Form Completion Date: _____ Number of Supplemental Pages Attached: _____

1. PROPERTY INFORMATION

Name of property: _____
Address: _____

2. DESCRIPTION OF SYSTEM OR SERVICE

☐ Fire alarm with in-building fire emergency voice alarm communication system (EVAC)
☐ Mass notification system
☐ Combination system, with the following components:
☐ Fire alarm ☐ EVACS ☐ MNS ☐ Two-way, in-building, emergency communications system
☐ Other (specify): _____
NFPA 72 edition: _____ Additional description of system(s): _____

2.1 In-Building Fire Emergency Voice Alarm Communications System

Manufacturer: _____ Model number: _____
Number of single voice alarm channels: _____ Number of multiple voice alarm channels: _____
Number of loudspeakers: _____ Number of loudspeaker circuits: _____
Location of amplification and sound processing equipment: _____

Location of paging microphone stations: _____

Location 1: _____
Location 2: _____
Location 3: _____

2.2 Mass Notification System**2.2.1 System Type:**

☐ In-building MNS-combination
☐ In-building MNS ☐ Wide-area MNS ☐ Distributed recipient MNS
☐ Other (specify): _____

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**EMERGENCY COMMUNICATIONS SYSTEMS
SUPPLEMENTARY RECORD OF COMPLETION (continued)****2. DESCRIPTION OF SYSTEM OR SERVICE (continued)****2.2.2 System Features:**

☐ Combination fire alarm/MNS ☐ MNS autonomous control unit ☐ Wide-area MNS to regional national alerting interface
☐ Local operating console (LOC) ☐ Distributed-recipient MNS (DRMNS) ☐ Wide-area MNS to DRMNS interface
☐ Wide-area MNS to high power loudspeaker array (HPLA) interface ☐ In-building MNS to wide-area MNS interface
☐ Other (specify): _____

2.2.3 MNS Local Operating Consoles

Location 1: _____
Location 2: _____
Location 3: _____

2.2.4 High Power Loudspeaker Arrays

Number of HPLA loudspeaker initiation zones: _____
Location 1: _____
Location 2: _____
Location 3: _____

2.2.5 Mass Notification Devices

Combination fire alarm/MNS visual devices: _____ MNS-only visual devices: _____
Textual signs: _____ Other (describe): _____
Supervision class: _____

2.2.6 Special Hazard Notification

☐ This system does not have special suppression pre-discharge notification.
☐ MNS systems DO NOT override notification appliances required to provide special suppression pre-discharge notification.

3. TWO-WAY EMERGENCY COMMUNICATIONS SYSTEMS**3.1 Telephone System**

Number of telephone jacks installed: _____ Number of warden stations installed: _____
Number of telephone handsets stored on site: _____
Type of telephone system installed: ☐ Electrically powered ☐ Sound powered

3.2 Area of Refuge (Area of Rescue Assistance) Emergency Communications Systems

Number of stations: _____ Location of central control point: _____
Days and hours when central control point is attended: _____
Location of alternate control point: _____
Days and hours when alternate control point is attended: _____

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EMERGENCY COMMUNICATIONS SYSTEMS SUPPLEMENTARY RECORD OF COMPLETION (continued)													
3. TWO-WAY EMERGENCY COMMUNICATIONS SYSTEMS (continued)													
3.3 Elevator Emergency Communications Systems													
Number of elevators with stations: _____ Location of central control point: _____													
Days and hours when central control point is attended: _____													
Location of alternate control point: _____													
Days and hours when alternate control point is attended: _____													
3.4 Other Two-Way Communications System													
Describe: _____													
4. CONTROL FUNCTIONS													
This system activates the following control functions specific to emergency communications systems:													
<table border="1"><thead><tr><th>Type</th><th>Quantity</th></tr></thead><tbody><tr><td>Mass Notification Override of Alarm Signaling Systems or Appliances</td><td>_____</td></tr><tr><td>_____</td><td>_____</td></tr><tr><td>_____</td><td>_____</td></tr><tr><td>_____</td><td>_____</td></tr><tr><td>_____</td><td>_____</td></tr></tbody></table>	Type	Quantity	Mass Notification Override of Alarm Signaling Systems or Appliances	_____	_____	_____	_____	_____	_____	_____	_____	_____	
Type	Quantity												
Mass Notification Override of Alarm Signaling Systems or Appliances	_____												
_____	_____												
_____	_____												
_____	_____												
_____	_____												
See Main System Record of Completion for additional information, certifications, and approvals.													
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Figure 7.8.2(c) Power Systems Supplementary Record of Completion. (SIG-FUN)

POWER SYSTEMS SUPPLEMENTARY RECORD OF COMPLETION	
This form is a supplement to the System Record of Completion. It includes systems and components specific to power systems that incorporate generators, ESS systems, remote battery systems, or other complex power systems. This form is to be completed by the system installation contractor at the time of system acceptance and approval. It shall be permitted to modify this form as needed to provide a more complete and/or clear record. Insert N/A in all unused lines.	
Form Completion Date: _____ Number of Supplemental Pages Attached: _____	
1. PROPERTY INFORMATION	
Name of property: _____	
Address: _____	
2. SYSTEM POWER	
2.1 Control Unit	
2.1.1 Primary Power	
Input voltage of control panel: _____ Control panel amperage: _____	
Overcurrent protection: Type: _____ Amps: _____	
Location of primary supply panelboard: _____	
Disconnecting means location: _____	
2.1.2 Engine-Driven Generator	
Location of generator: _____	
Location of fuel storage: _____ Type of fuel: _____	
2.1.3 Energy Storage Systems	
Equipment powered by ESS system: _____	
Location of ESS system: _____	
Calculated capacity of ESS batteries to drive the system components connected to it:	
In standby mode (hours): _____ In alarm mode (minutes): _____	
2.1.4 Batteries	
Location: _____ Type: _____ Nominal voltage: _____ Amp/hour rating: _____	
Calculated capacity of batteries to drive the system:	
In standby mode (hours): _____ In alarm mode (minutes): _____	
2.2 In-Building Fire Emergency Voice Alarm Communications System or Mass Notification System	
2.2.1 Primary Power	
Input voltage of EVACS or MNS panel: _____ EVACS or MNS panel amperage: _____	
Overcurrent protection: Type: _____ Amps: _____	
Location of primary supply panelboard: _____	
Disconnecting means location: _____	
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POWER SYSTEMS SUPPLEMENTARY RECORD OF COMPLETION (continued)	
2. SYSTEM POWER (continued)	
2.2.2 Engine-Driven Generator	
Location of generator: _____	
Location of fuel storage: _____ Type of fuel: _____	
2.2.3 Energy Storage Systems	
Equipment powered by ESS system: _____	
Location of ESS system: _____	
Calculated capacity of ESS batteries to drive the system components connected to it:	
In standby mode (hours): _____ In alarm mode (minutes): _____	
2.2.4 Batteries	
Location: _____ Type: _____ Nominal voltage: _____ Amp/hour rating: _____	
Calculated capacity of batteries to drive the system:	
In standby mode (hours): _____ In alarm mode (minutes): _____	
2.3 Notification Appliance Power Extender Panels	
☐ This system does not have power extender panels.	
2.3.1 Primary Power	
Input voltage of power extender panel(s): _____ Power extender panel amps: _____	
Overcurrent protection: Type: _____ Amps: _____	
Location (of primary supply panelboard): _____	
Disconnecting means location: _____	
2.3.2 Engine Driven Generator	
Location of generator: _____	
Location of fuel storage: _____ Type of fuel: _____	
2.3.3 Energy Storage Systems	
Equipment powered by ESS system: _____	
Location of ESS system: _____	
Calculated capacity of ESS batteries to drive the system components connected to it:	
In standby mode (hours): _____ In alarm mode (minutes): _____	
2.3.4 Batteries	
Location: _____ Type: _____ Nominal voltage: _____ Amp/hour rating: _____	
Calculated capacity of batteries to drive the system:	
In standby mode (hours): _____ In alarm mode (minutes): _____	
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POWER SYSTEMS SUPPLEMENTARY RECORD OF COMPLETION (continued)	
2. SYSTEM POWER (continued)	
2.4 Supervising Station Transmission Equipment	
☐ This system does not use transmission equipment within the building powered by any other source than the alarm system control unit.	
2.4.1 Primary Power	
Input voltage of shared transmission equipment: _____	
Shared transmission equipment panel amps: _____	
Overcurrent protection: Type: _____ Amps: _____	
Location (of primary supply panelboard): _____	
Disconnecting means location: _____	
2.4.2 Engine Driven Generator	
Location of generator: _____	
Location of fuel storage: _____ Type of fuel: _____	
2.4.3 Energy Storage Systems	
Equipment powered by ESS system: _____	
Location of ESS system: _____	
Calculated capacity of ESS batteries to drive the system components connected to it:	
In standby mode (hours): _____ In alarm mode (minutes): _____	
2.4.4 Batteries	
Location: _____ Type: _____ Nominal voltage: _____ Amp/hour rating: _____	
Calculated capacity of batteries to drive the system:	
In standby mode (hours): _____ In alarm mode (minutes): _____	
See Main System Record of Completion for additional information, certifications, and approvals.	
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Figure 7.8.2(d) Notification Appliance Power Panel Supplementary Record of Completion. (SIG-FUN)

Figure 7.8.2(e) Interconnected Systems Supplementary Record of Completion. (SIG-FUN)

Figure 7.8.2(f) Deviations from Adopted Codes and Standards Supplementary Record of Completion. (SIG-FUN)

DEVIATIONS FROM ADOPTED CODES AND STANDARDS SUPPLEMENTARY RECORD OF COMPLETION	
This form is a supplement to the System Record of Completion. It enables the designer and/or installer to document and justify deviations from accepted codes or standards. This form is to be completed by the system installation contractor at the time of system acceptance and approval. It shall be permitted to modify this form as needed to provide a more complete and/or clear record. Insert N/A in all unused lines.	
Form Completion Date: _____ Number of Supplemental Pages Attached: _____	
1. PROPERTY INFORMATION	
Name of property: _____	
Address: _____	
2. DEVIATIONS FROM ADOPTED CODES OR STANDARDS	
Description	Purpose
See Main System Record of Completion for additional information, certifications, and approvals.	
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Figure 7.8.2(g) System Record of Inspection and Testing. (SIG-TMS)

SYSTEM RECORD OF INSPECTION AND TESTING	
This form is to be completed by the system inspection and testing contractor at the time of a system test. It shall be permitted to modify this form as needed to provide a more complete and/or clear record. Insert N/A in all unused lines. Attach additional sheets, data, or calculations as necessary to provide a complete record.	
Inspection/Test Start Date/Time: _____ Inspection/Test Completion Date/Time: _____	
Supplemental Form(s) Attached: _____ (yes/no)	
1. PROPERTY INFORMATION	
Name of property: _____	
Address: _____	
Description of property: _____	
Name of property representative: _____	
Address: _____	
Phone: _____	E-mail: _____
2. TESTING AND MONITORING INFORMATION	
Testing organization: _____	
Address: _____	
Phone: _____	E-mail: _____
Monitoring organization: _____	
Address: _____	
Phone: _____	E-mail: _____
Account number: _____	Phone line 1: _____ Phone line 2: _____
Means of transmission: _____	
Entity to which alarms are retransmitted: _____	
Phone: _____	
3. DOCUMENTATION	
Onsite location of the required record documents and site-specific software: _____	
4. DESCRIPTION OF SYSTEM OR SERVICE	
4.1 Control Unit	
Manufacturer: _____	Model number: _____
4.2 Software Firmware	
Firmware revision number: _____	
4.3 System Power	
4.3.1 Primary (Main) Power	
Nominal voltage: _____	Amps: _____ Location: _____
Overcurrent protection type: _____	Amps: _____ Disconnecting means location: _____
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SYSTEM RECORD OF INSPECTION AND TESTING (continued)

4. DESCRIPTION OF SYSTEM OR SERVICE (continued)

4.3.2 Secondary Power

Type: _____ Location: _____

Battery type (if applicable): _____

Calculated capacity of batteries to drive the system: _____

In standby mode (hours): _____ In alarm mode (minutes): _____

5. NOTIFICATIONS MADE PRIOR TO TESTING

Monitoring organization Contact: _____ Time: _____

Building management Contact: _____ Time: _____

Building occupants Contact: _____ Time: _____

Authority having jurisdiction Contact: _____ Time: _____

Other, if required Contact: _____ Time: _____

6. TESTING RESULTS

6.1 Control Unit and Related Equipment

Description	Visual Inspection	Functional Test	Comments
Control unit	☐	☐	
Lamps/LEDs/LCDs	☐	☐	
Fuses	☐	☐	
Trouble signals	☐	☐	
Disconnect switches	☐	☐	
Ground-fault monitoring	☐	☐	
Supervision	☐	☐	
Local annunciator	☐	☐	
Remote annunciators	☐	☐	
Remote power panels	☐	☐	
	☐	☐	

6.2 Secondary Power

Description	Visual Inspection	Functional Test	Comments
Battery condition	☐	☐	
Load voltage	☐	☐	
Discharge test	☐	☐	
Charger test	☐	☐	
Remote panel batteries	☐	☐	

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SYSTEM RECORD OF INSPECTION AND TESTING (continued)

6. TESTING RESULTS (continued)

6.3 Alarm and Supervisory Alarm Initiating Device

Attach supplementary device test sheets for all initiating devices.

6.4 Notification Appliances

Attach supplementary appliance test sheets for all notification appliances.

6.5 Interface Equipment

Attach supplementary interface component test sheets for all interface components.

Circuit Interface / Signaling Line Circuit Interface / Fire Alarm Control Interface

6.6 Supervising Station Monitoring

Description	Yes	No	Time	Comments
Alarm signal	☐	☐		
Alarm restoration	☐	☐		
Trouble signal	☐	☐		
Trouble restoration	☐	☐		
Supervisory signal	☐	☐		
Supervisory restoration	☐	☐		

6.7 Public Emergency Alarm Reporting System

Description	Yes	No	Time	Comments
Alarm signal	☐	☐		
Alarm restoration	☐	☐		
Trouble signal	☐	☐		
Trouble restoration	☐	☐		
Supervisory signal	☐	☐		
Supervisory restoration	☐	☐		

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Figure 7.8.2(h) Notification Appliance Supplementary Record of Inspection and Testing. (SIG-TMS)

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Figure 7.8.2(i) Initiating Device Supplementary Record of Inspection and Testing. (SIG-TMS)

10/14/2019, 2:56 PM

Figure 7.8.2(j) Mass Notification System Supplementary Record of Inspection and Testing. (SIG-TMS)

10/14/2019, 2:56 PM

MASS NOTIFICATION SYSTEM SUPPLEMENTARY RECORD OF INSPECTION AND TESTING (continued)			
4. MASS NOTIFICATION EQUIPMENT TEST RESULTS			
Description	Visual Inspection	Functional Test	Comments
Functional test			
Reset/power down test			
Fuses			
Primary power supply			
ESS power test			
Trouble signals			
Disconnect switches			
Ground-fault monitoring			
CCU security mechanism			
Prerecorded message content			
Prerecorded message activation			
Software backup performed			
Test backup software			
Fire alarm to MNS interface			
MNS to fire alarm interface			
In-building MNS to wide-area MNS			
MNS to direct recipient MNS			
Sound pressure levels			
Occupied ☐ Yes ☐ No			
Ambient dBA: _____			
Alarm dBA: _____			
(attach supplementary notification appliance forms with locations, values, and weather conditions)			
System intelligibility			
Test method: _____ Score: _____			
CIS value: _____			
(attach supplementary notification appliance forms with locations, values, and weather conditions)			
Other (specify): _____			

See main System Record of Inspection and Testing for additional information, certifications, and approvals.

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Figure 7.8.2(k) Emergency Communications Systems Supplementary Record of Inspection and Testing. (SIG-TMS)

EMERGENCY COMMUNICATIONS SYSTEMS SUPPLEMENTARY RECORD OF INSPECTION AND TESTING	
<i>This form is a supplement to the System Record of Inspection and Testing. It includes systems and components specific to emergency communication systems. This form is to be completed by the system inspection and testing contractor at the time of the inspection and/or test. It shall be permitted to modify this form as needed to provide a more complete and/or clear record. Insert N/A in all unused lines.</i>	
Inspection/Test Start Date/Time: _____	Inspection/Test Completion Date/Time: _____
Number of Supplemental Pages Attached: _____	
1. PROPERTY INFORMATION	
Name of property: _____	
Address: _____	
2. DESCRIPTION OF SYSTEM OR SERVICE	
☐ Fire alarm with in-building fire emergency voice alarm communication system (EVAC)	
☐ Mass notification system	
☐ Combination system, with the following components:	
☐ Fire alarm ☐ EVACS ☐ MNS ☐ Two-way, in-building, emergency communication system	
☐ Other (specify): _____	
Additional description of system(s): _____	
2.1 In-Building Fire Emergency Voice Alarm Communication System	
Manufacturer: _____ Model number: _____	
Number of single voice alarm channels: _____ Number of multiple voice alarm channels: _____	
Number of loudspeakers: _____ Number of loudspeaker circuits: _____	
Location of amplification and sound processing equipment: _____	
Location of paging microphone stations: _____	
Location 1: _____	
Location 2: _____	
Location 3: _____	
2.2 Mass Notification System	
2.2.1 System Type:	
☐ In-building MNS—combination	
☐ In-building MNS ☐ Wide-area MNS ☐ Distributed recipient MNS	
☐ Other (specify): _____	

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**EMERGENCY COMMUNICATIONS SYSTEMS
SUPPLEMENTARY RECORD OF INSPECTION AND TESTING (continued)****2. DESCRIPTION OF SYSTEM OR SERVICE (continued)****2.2.2 System Features:**

☐ Combination fire alarm/MNS ☐ MNS autonomous control unit ☐ Wide-area MNS to regional national alerting interface
☐ Local operating console (LOC) ☐ Distributed recipient MNS (DRMNS) ☐ Wide-area MNS to DRMNS interface
☐ Wide-area MNS to high-power loudspeaker array (HPLA) interface ☐ In-building MNS to wide-area MNS interface
☐ Other (specify): _____

2.2.3 MNS Local Operating Consoles

Location 1: _____
Location 2: _____
Location 3: _____

2.2.4 High-Power Loudspeaker Arrays

Number of HPLA loudspeaker initiation zones: _____
Location 1: _____
Location 2: _____
Location 3: _____

2.2.5 Mass Notification Devices

Combination fire alarm/MNS visual devices: _____ MNS-only visual devices: _____
Textual signs: _____ Other (describe): _____
Supervision class: _____

2.2.6 Special Hazard Notification

☐ This system does not have special suppression pre-discharge notification
☐ MNS systems DO NOT override notification appliances required to provide special suppression pre-discharge notification

3. TWO-WAY EMERGENCY COMMUNICATION SYSTEMS**3.1 Telephone System**

Number of telephone jacks installed: _____ Number of warden stations installed: _____
Number of telephone handsets stored on site: _____
Type of telephone system installed: ☐ Electrically powered ☐ Sound powered

3.2 Area of Refuge (Area of Rescue Assistance) Emergency Communications Systems

Number of stations: _____ Location of central control point: _____
Days and hours when central control point is attended: _____
Location of alternate control point: _____
Days and hours when alternate control point is attended: _____

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**EMERGENCY COMMUNICATIONS SYSTEMS
SUPPLEMENTARY RECORD OF INSPECTION AND TESTING (continued)****3. TWO-WAY EMERGENCY COMMUNICATIONS SYSTEMS (continued)****3.3 Elevator Emergency Communications Systems**

Number of elevators with stations: _____ Location of central control point: _____
Days and hours when central control point is attended: _____
Location of alternate control point: _____
Days and hours when alternate control point is attended: _____

3.4 Other Two-Way Communication System

Describe: _____

4. TESTING RESULTS**4.1 Control Unit and Related Equipment**

Description	Visual Inspection	Functional Test	Comments
Control unit	☐	☐	
Lamps/LEDs/LCDs	☐	☐	
Fuses	☐	☐	
Trouble signals	☐	☐	
Disconnect switches	☐	☐	
Ground fault monitoring	☐	☐	
Supervision	☐	☐	
Local annunciator	☐	☐	
Remote annunciators	☐	☐	
Remote power panels	☐	☐	
Other:	☐	☐	

4.2 Secondary Power

Description	Visual Inspection	Functional Test	Comments
Battery condition	☐	☐	
Load voltage	☐	☐	
Discharge test	☐	☐	
Charger test	☐	☐	
Remote panel batteries	☐	☐	

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EMERGENCY COMMUNICATIONS SYSTEMS SUPPLEMENTARY RECORD OF INSPECTION AND TESTING (continued)			
4. TESTING RESULTS (continued)			
4.3 Emergency Communications Equipment			
Description	Visual Inspection	Functional Test	Comments
Control unit	☐	☐	
Lamps/LEDs/LCDs	☐	☐	
Fuses	☐	☐	
Secondary power supply	☐	☐	
Trouble signals	☐	☐	
Disconnect switches	☐	☐	
Ground fault monitoring	☐	☐	
Panel supervision	☐	☐	
System performance	☐	☐	
System audibility	☐	☐	
System intelligibility	☐	☐	
Other:	☐	☐	
4.4 Mass Notification Equipment			
Description	Visual Inspection	Functional Test	Comments
Functional test	☐	☐	
Reset/Power down test	☐	☐	
Fuses	☐	☐	
Primary power supply	☐	☐	
ESS power test	☐	☐	
Trouble signals	☐	☐	
Disconnect switches	☐	☐	
Ground fault monitoring	☐	☐	
CCU security mechanism	☐	☐	
Prerecorded message content	☐	☐	
Prerecorded message activation	☐	☐	
Software backup performed	☐	☐	
Test backup software	☐	☐	
Fire alarm to MNS Interface	☐	☐	
MNS to fire alarm interface	☐	☐	
In-building MNS to wide-area MNS	☐	☐	
MNS to direct recipient MNS	☐	☐	
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EMERGENCY COMMUNICATIONS SYSTEMS SUPPLEMENTARY RECORD OF INSPECTION AND TESTING (continued)			
4. TESTING RESULTS (continued)			
4.4 Mass Notification Equipment (continued)			
Description	Visual Inspection	Functional Test	Comments
Sound pressure levels (attach report with locations, values, and weather conditions)	☐	☐	
System intelligibility ☐ CSI ☐ STI (attach report with locations, values, and weather conditions)	☐	☐	
Other:	☐	☐	
4.5 Two-Way Communication Equipment			
Description	Visual Inspection	Functional Test	Comments
Phone handsets	☐	☐	
Phone jacks	☐	☐	
Off-hook indicator	☐	☐	
Call-in signal	☐	☐	
System performance	☐	☐	
System audibility	☐	☐	
System intelligibility	☐	☐	
Other:	☐	☐	
See main System Record of Inspection and Testing for additional information, certifications, and approvals.			
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Figure 7.8.2(I) Interface Component Supplementary Record of Inspection and Testing. (SIG-TMS)

Figure 7.8.2(m) Installation and Inspection Form Single- and Multiple-Station Alarms and Household Fire Alarm Systems.

Statement of Problem and Substantiation for Public Input

Figure 7.8.2(k) “Communication system” should be “communications system” in several places.

Submitter Information Verification

Committee: SIG-FUN

Committee Statement

Statement: The Technical Committee edits the text for clarity.



Public Input No. 432-NFPA 72-2019 [Section No. 7.8.2]

7.8.2 Forms for Documentation.

Figure 7.8.2(a) in Section 6 Dual Media Pathway, remove "Media" from this form.

Forms for documentation shall be as follows:

- (1) * Unless otherwise permitted or required in 7.5.6 or 7.8.1.2, Figure 7.8.2(a) through Figure 7.8.2(f) shall be used to document the record of completion and inspection. (SIG-FUN)
- (2) * Unless otherwise permitted or required in 7.6.6 or 7.8.1.2, Figure 7.8.2(g) through Figure 7.8.2(l) shall be used to document the record of inspection and testing. (SIG-TMS)
- (3) Where a form is required by the AHJ to document the installation and inspection of a household fire alarm system or single- or multiple-station alarms, Figure 7.8.2(m) can be used to document the record of completion and inspection.

Figure 7.8.2(a) System Record of Completion. (SIG-FUN)

SYSTEM RECORD OF COMPLETION	
This form is to be completed by the system installation contractor at the time of system acceptance and approval. It shall be permitted to modify this form as needed to provide a more complete and/or clear record. Insert N/A in all unused lines. Attach additional sheets, data, or calculations as necessary to provide a complete record.	
Form Completion Date: _____ Supplemental Pages Attached: _____	
1. PROPERTY INFORMATION	
Name of property: _____	
Address: _____	
Description of property: _____	
Name of property representative: _____	
Address: _____	
Phone: _____	Fax: _____ E-mail: _____
2. INSTALLATION, SERVICE, TESTING, AND MONITORING INFORMATION	
Installation contractor: _____	
Address: _____	
Phone: _____	Fax: _____ E-mail: _____
Service organization: _____	
Address: _____	
Phone: _____	Fax: _____ E-mail: _____
Testing organization: _____	
Address: _____	
Phone: _____	Fax: _____ E-mail: _____
Effective date for test and inspection contract: _____	
Monitoring organization: _____	
Address: _____	
Phone: _____	Fax: _____ E-mail: _____
Account number: _____	Phone line 1: _____ Phone line 2: _____
Means of transmission: _____	
Entity to which alarms are retransmitted: _____ Phone: _____	
3. DOCUMENTATION	
On-site location of the required record documents and site-specific software: _____	
4. DESCRIPTION OF SYSTEM OR SERVICE	
This is a: ☐ New system ☐ Modification to existing system Permit number: _____	
NFPA 72 edition: _____	
4.1 Control Unit	
Manufacturer: _____ Model number: _____	
4.2 Software and Firmware	
Firmware revision number: _____	
4.3 Alarm Verification	
☐ This system does not incorporate alarm verification.	
Number of devices subject to alarm verification: _____ Alarm verification set for _____ seconds	
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SYSTEM RECORD OF COMPLETION (continued)				
5. SYSTEM POWER				
5.1 Control Unit				
5.1.1 Primary Power				
Input voltage of control panel: _____		Control panel amperage: _____		
Overcurrent protection: Type: _____		Amperage: _____		
Branch circuit disconnecting means location: _____		Number: _____		
5.1.2 Secondary Power				
Type of secondary power: _____				
Location, if remote from the plant: _____				
Calculated capacity of secondary power to drive the system: _____				
In standby mode (hours): _____ In alarm mode (minutes): _____				
5.2 Control Unit				
☐ This system does not have power extender panels				
☐ Power extender panels are listed on supplementary sheet A				
6. CIRCUITS AND PATHWAYS				
Pathway Type	Dual Media Pathway	Separate Pathway	Class	Survivability Level
Signaling Line				
Device Power				
Initiating Device				
Notification Appliance				
Other (specify): _____				
7. REMOTE ANNUNCIATORS				
Type	Location			
8. INITIATING DEVICES				
Type	Quantity	Addressable or Conventional	Alarm or Supervisory	Sensing Technology
Manual Pull Stations				
Smoke Detectors				
Duct Smoke Detectors				
Heat Detectors				
Gas Detectors				
Carbon Monoxide Detectors				
Waterflow Switches				
Tamper Switches				
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SYSTEM RECORD OF COMPLETION (continued)		
9. NOTIFICATION APPLIANCES		
Type	Quantity	Description
Audible		
Visual		
Combination Audible and Visual		
10. SYSTEM CONTROL FUNCTIONS		
Type	Quantity	
Hold-Open Door Releasing Devices		
HVAC Shutdown		
Fire/Smoke Dampers		
Door Unlocking		
Elevator Recall		
Elevator Shunt Trip		
11. INTERCONNECTED SYSTEMS		
☐ This system does not have interconnected systems.		
☐ Interconnected systems are listed on supplementary sheet _____.		
12. CERTIFICATION AND APPROVALS		
12.1 System Installation Contractor		
This system as specified herein has been installed according to all NFPA standards cited herein.		
Signed: _____	Printed name: _____	Date: _____
Organization: _____	Title: _____	Phone: _____
12.2 System Operational Test		
This system as specified herein has been tested according to all NFPA standards cited herein.		
Signed: _____	Printed name: _____	Date: _____
Organization: _____	Title: _____	Phone: _____
12.3 Acceptance Test		
Date and time of acceptance test: _____		
Installing contractor representative: _____		
Testing contractor representative: _____		
Property representative: _____		
AHJ representative: _____		
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Figure 7.8.2(b) Emergency Communications System Supplementary Record of Completion. (SIG-FUN)

EMERGENCY COMMUNICATIONS SYSTEMS SUPPLEMENTARY RECORD OF COMPLETION	
<i>This form is a supplement to the System Record of Completion. It includes systems and components specific to emergency communications systems.</i>	
<i>This form is to be completed by the system installation contractor at the time of system acceptance and approval. It shall be permitted to modify this form as needed to provide a more complete and/or clear record. Insert N/A in all unused lines.</i>	
Form Completion Date: _____	Number of Supplemental Pages Attached: _____
1. PROPERTY INFORMATION	
Name of property: _____	
Address: _____	
2. DESCRIPTION OF SYSTEM OR SERVICE	
☐ Fire alarm with in-building fire emergency voice alarm communication system (EVAC)	
☐ Mass notification system	
☐ Combination system, with the following components:	
☐ Fire alarm ☐ EVACS ☐ MNS ☐ Two-way, in-building, emergency communications system	
☐ Other (specify): _____	
NFPA 72 edition: _____ Additional description of system(s): _____	
2.1 In-Building Fire Emergency Voice Alarm Communications System	
Manufacturer: _____ Model number: _____	
Number of single voice alarm channels: _____ Number of multiple voice alarm channels: _____	
Number of loudspeakers: _____ Number of loudspeaker circuits: _____	
Location of amplification and sound processing equipment: _____	
Location of paging microphone stations: _____	
Location 1: _____	
Location 2: _____	
Location 3: _____	
2.2 Mass Notification System	
2.2.1 System Type:	
☐ In-building MNS-combination	
☐ In-building MNS ☐ Wide-area MNS ☐ Distributed recipient MNS	
☐ Other (specify): _____	
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EMERGENCY COMMUNICATIONS SYSTEMS SUPPLEMENTARY RECORD OF COMPLETION (continued)	
2. DESCRIPTION OF SYSTEM OR SERVICE (continued)	
2.2.2 System Features: ☐ Combination fire alarm/MNS ☐ MNS autonomous control unit ☐ Wide-area MNS to regional national alerting interface ☐ Local operating console (LOC) ☐ Distributed-recipient MNS (DRMNS) ☐ Wide-area MNS to DRMNS interface ☐ Wide-area MNS to high power loudspeaker array (HPLA) interface ☐ In-building MNS to wide-area MNS interface ☐ Other (specify): _____	
2.2.3 MNS Local Operating Consoles Location 1: _____ Location 2: _____ Location 3: _____	
2.2.4 High Power Loudspeaker Arrays Number of HPLA loudspeaker initiation zones: _____ Location 1: _____ Location 2: _____ Location 3: _____	
2.2.5 Mass Notification Devices Combination fire alarm/MNS visual devices: _____ MNS-only visual devices: _____ Textual signs: _____ Other (describe): _____ Supervision class: _____	
2.2.6 Special Hazard Notification ☐ This system does not have special suppression predischARGE notification. ☐ MNS systems DO NOT override notification appliances required to provide special suppression predischARGE notification.	
3. TWO-WAY EMERGENCY COMMUNICATIONS SYSTEMS	
3.1 Telephone System Number of telephone jacks installed: _____ Number of warden stations installed: _____ Number of telephone handsets stored on site: _____ Type of telephone system installed: ☐ Electrically powered ☐ Sound powered	
3.2 Area of Refuge (Area of Rescue Assistance) Emergency Communications Systems Number of stations: _____ Location of central control point: _____ Days and hours when central control point is attended: _____ Location of alternate control point: _____ Days and hours when alternate control point is attended: _____	
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EMERGENCY COMMUNICATIONS SYSTEMS SUPPLEMENTARY RECORD OF COMPLETION (continued)													
3. TWO-WAY EMERGENCY COMMUNICATIONS SYSTEMS (continued)													
3.3 Elevator Emergency Communications Systems Number of elevators with stations: _____ Location of central control point: _____ Days and hours when central control point is attended: _____ Location of alternate control point: _____ Days and hours when alternate control point is attended: _____													
3.4 Other Two-Way Communications System Describe: _____													
4. CONTROL FUNCTIONS This system activates the following control functions specific to emergency communications systems:													
<table border="1"><thead><tr><th>Type</th><th>Quantity</th></tr></thead><tbody><tr><td>Mass Notification Override of Alarm Signaling Systems or Appliances</td><td>_____</td></tr><tr><td>_____</td><td>_____</td></tr><tr><td>_____</td><td>_____</td></tr><tr><td>_____</td><td>_____</td></tr><tr><td>_____</td><td>_____</td></tr></tbody></table>	Type	Quantity	Mass Notification Override of Alarm Signaling Systems or Appliances	_____	_____	_____	_____	_____	_____	_____	_____	_____	
Type	Quantity												
Mass Notification Override of Alarm Signaling Systems or Appliances	_____												
_____	_____												
_____	_____												
_____	_____												
_____	_____												
See Main System Record of Completion for additional information, certifications, and approvals.													
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Figure 7.8.2(c) Power Systems Supplementary Record of Completion. (SIG-FUN)

POWER SYSTEMS SUPPLEMENTARY RECORD OF COMPLETION	
This form is a supplement to the System Record of Completion. It includes systems and components specific to power systems that incorporate generators, ESS systems, remote battery systems, or other complex power systems. This form is to be completed by the system installation contractor at the time of system acceptance and approval. It shall be permitted to modify this form as needed to provide a more complete and/or clear record. Insert N/A in all unused lines.	
Form Completion Date: _____	Number of Supplemental Pages Attached: _____
1. PROPERTY INFORMATION	
Name of property: _____	
Address: _____	
2. SYSTEM POWER	
2.1 Control Unit	
2.1.1 Primary Power	
Input voltage of control panel: _____	Control panel amperage: _____
Overcurrent protection: Type: _____	Amps: _____
Location (of primary supply panelboard): _____	
Disconnecting means location: _____	
2.1.2 Engine-Driven Generator	
Location of generator: _____	
Location of fuel storage: _____	Type of fuel: _____
2.1.3 Energy Storage Systems	
Equipment powered by ESS system: _____	
Location of ESS system: _____	
Calculated capacity of ESS batteries to drive the system components connected to it:	
In standby mode (hours): _____	In alarm mode (minutes): _____
2.1.4 Batteries	
Location: _____	Type: _____
Nominal voltage: _____	Amphour rating: _____
Calculated capacity of batteries to drive the system:	
In standby mode (hours): _____	In alarm mode (minutes): _____
2.2 In-Building Fire Emergency Voice Alarm Communications System or Mass Notification System	
2.2.1 Primary Power	
Input voltage of EVACS or MNS panel: _____	EVACS or MNS panel amperage: _____
Overcurrent protection: Type: _____	Amps: _____
Location (of primary supply panelboard): _____	
Disconnecting means location: _____	
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POWER SYSTEMS SUPPLEMENTARY RECORD OF COMPLETION (continued)	
2. SYSTEM POWER (continued)	
2.2.2 Engine-Driven Generator	
Location of generator: _____	
Location of fuel storage: _____	Type of fuel: _____
2.2.3 Energy Storage Systems	
Equipment powered by ESS system: _____	
Location of ESS system: _____	
Calculated capacity of ESS batteries to drive the system components connected to it:	
In standby mode (hours): _____	In alarm mode (minutes): _____
2.2.4 Batteries	
Location: _____	Type: _____
Nominal voltage: _____	Amphour rating: _____
Calculated capacity of batteries to drive the system:	
In standby mode (hours): _____	In alarm mode (minutes): _____
2.3 Notification Appliance Power Extender Panels	
☐ This system does not have power extender panels.	
2.3.1 Primary Power	
Input voltage of power extender panel(s): _____	Power extender panel amperage: _____
Overcurrent protection: Type: _____	Amps: _____
Location (of primary supply panelboard): _____	
Disconnecting means location: _____	
2.3.2 Engine Driven Generator	
Location of generator: _____	
Location of fuel storage: _____	Type of fuel: _____
2.3.3 Energy Storage Systems	
Equipment powered by ESS system: _____	
Location of ESS system: _____	
Calculated capacity of ESS batteries to drive the system components connected to it:	
In standby mode (hours): _____	In alarm mode (minutes): _____
2.3.4 Batteries	
Location: _____	Type: _____
Nominal voltage: _____	Amphour rating: _____
Calculated capacity of batteries to drive the system:	
In standby mode (hours): _____	In alarm mode (minutes): _____
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Figure 7.8.2(d) Notification Appliance Power Panel Supplementary Record of Completion. (SIG-FUN)

Figure 7.8.2(e) Interconnected Systems Supplementary Record of Completion. (SIG-FUN)

INTERCONNECTED SYSTEMS SUPPLEMENTARY RECORD OF COMPLETION		
This form is a supplement to the System Record of Completion. It includes a list of types and locations of systems that are interconnected to the main system. This form is to be completed by the system installation contractor at the time of system acceptance and approval. It shall be permitted to modify this form as needed to provide a more complete and/or clear record. Insert N/A in all unused lines.		
Form Completion Date: _____		Number of Supplemental Pages Attached: _____
1. PROPERTY INFORMATION		
Name of property: _____		
Address: _____		
2. INTERCONNECTED SYSTEMS		
Description	Location	Purpose
See Main System Record of Completion for additional information, certifications, and approvals.		
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Figure 7.8.2(f) Deviations from Adopted Codes and Standards Supplementary Record of Completion. (SIG-FUN)

DEVIATIONS FROM ADOPTED CODES AND STANDARDS SUPPLEMENTARY RECORD OF COMPLETION	
This form is a supplement to the System Record of Completion. It enables the designer and/or installer to document and justify deviations from accepted codes or standards. This form is to be completed by the system installation contractor at the time of system acceptance and approval. It shall be permitted to modify this form as needed to provide a more complete and/or clear record. Insert N/A in all unused lines.	
Form Completion Date: _____ Number of Supplemental Pages Attached: _____	
1. PROPERTY INFORMATION	
Name of property: _____	
Address: _____	
2. DEVIATIONS FROM ADOPTED CODES OR STANDARDS	
Description	Purpose
See Main System Record of Completion for additional information, certifications, and approvals.	
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Figure 7.8.2(g) System Record of Inspection and Testing. (SIG-TMS)

SYSTEM RECORD OF INSPECTION AND TESTING			
<i>This form is to be completed by the system inspection and testing contractor at the time of a system test. It shall be permitted to modify this form as needed to provide a more complete and/or clear record. Insert N/A in all unused lines. Attach additional sheets, data, or calculations as necessary to provide a complete record.</i>			
Inspection/Test Start Date/Time: _____		Inspection/Test Completion Date/Time: _____	
Supplemental Form(s) Attached: _____ (yes/no)			
1. PROPERTY INFORMATION			
Name of property: _____			
Address: _____			
Description of property: _____			
Name of property representative: _____			
Address: _____			
Phone: _____		Fax: _____	E-mail: _____
2. TESTING AND MONITORING INFORMATION			
Testing organization: _____			
Address: _____			
Phone: _____		Fax: _____	E-mail: _____
Monitoring organization: _____			
Address: _____			
Phone: _____		Fax: _____	E-mail: _____
Account number: _____		Phone line 1: _____	Phone line 2: _____
Means of transmission: _____			
Entity to which alarms are retransmitted: _____		Phone: _____	
3. DOCUMENTATION			
Onsite location of the required record documents and site-specific software: _____			
4. DESCRIPTION OF SYSTEM OR SERVICE			
4.1 Control Unit			
Manufacturer: _____		Model number: _____	
4.2 Software Firmware			
Firmware revision number: _____			
4.3 System Power			
4.3.1 Primary (Main) Power			
Nominal voltage: _____		Amps: _____	Location: _____
Overcurrent protection type: _____		Amps: _____	Disconnecting means location: _____

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SYSTEM RECORD OF INSPECTION AND TESTING (continued)			
4. DESCRIPTION OF SYSTEM OR SERVICE (continued)			
4.3.2 Secondary Power			
Type: _____		Location: _____	
Battery type (if applicable): _____			
Calculated capacity of batteries to drive the system: _____			
In standby mode (hours): _____		In alarm mode (minutes): _____	
5. NOTIFICATIONS MADE PRIOR TO TESTING			
Monitoring organization	Contact: _____	Time: _____	
Building management	Contact: _____	Time: _____	
Building occupants	Contact: _____	Time: _____	
Authority having jurisdiction	Contact: _____	Time: _____	
Other, if required	Contact: _____	Time: _____	
6. TESTING RESULTS			
6.1 Control Unit and Related Equipment			
Description	Visual Inspection	Functional Test	Comments
Control unit	☐	☐	
Lamps/LEDs/LCDs	☐	☐	
Fuses	☐	☐	
Trouble signals	☐	☐	
Disconnect switches	☐	☐	
Ground-fault monitoring	☐	☐	
Supervision	☐	☐	
Local annunciator	☐	☐	
Remote annunciators	☐	☐	
Remote power panels	☐	☐	
6.2 Secondary Power			
Description	Visual Inspection	Functional Test	Comments
Battery condition	☐	☐	
Load voltage	☐	☐	
Discharge test	☐	☐	
Charger test	☐	☐	
Remote panel batteries	☐	☐	

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SYSTEM RECORD OF INSPECTION AND TESTING (continued)				
6. TESTING RESULTS (continued)				
6.3 Alarm and Supervisory Alarm Initiating Device				
Attach supplementary device test sheets for all initiating devices.				
6.4 Notification Appliances				
Attach supplementary appliance test sheets for all notification appliances.				
6.5 Interface Equipment				
Attach supplementary interface component test sheets for all interface components.				
<i>Circuit Interface / Signaling Line Circuit Interface / Fire Alarm Control Interface</i>				
6.6 Supervising Station Monitoring				
Description	Yes	No	Time	Comments
Alarm signal	☐	☐		
Alarm restoration	☐	☐		
Trouble signal	☐	☐		
Trouble restoration	☐	☐		
Supervisory signal	☐	☐		
Supervisory restoration	☐	☐		
6.7 Public Emergency Alarm Reporting System				
Description	Yes	No	Time	Comments
Alarm signal	☐	☐		
Alarm restoration	☐	☐		
Trouble signal	☐	☐		
Trouble restoration	☐	☐		
Supervisory signal	☐	☐		
Supervisory restoration	☐	☐		
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SYSTEM RECORD OF INSPECTION AND TESTING (continued)				
7. NOTIFICATIONS THAT TESTING IS COMPLETE				
Monitoring organization	Contact: _____	Time: _____		
Building management	Contact: _____	Time: _____		
Building occupants	Contact: _____	Time: _____		
Authority having jurisdiction	Contact: _____	Time: _____		
Other, if required	Contact: _____	Time: _____		
8. SYSTEM RESTORED TO NORMAL OPERATION				
Date: _____	Time: _____			
9. CERTIFICATION				
This system as specified herein has been inspected and tested according to NFPA 72, _____ edition, Chapter 14.				
Signed: _____	Printed name: _____	Date: _____		
Organization: _____	Title: _____	Phone: _____		
Qualifications (refer to 10.5.3): _____				
10. DEFECTS OR MALFUNCTIONS NOT CORRECTED AT CONCLUSION OF SYSTEM INSPECTION, TESTING, OR MAINTENANCE				

10.1 Acceptance by Owner or Owner's Representative:				
The undersigned accepted the test report for the system as specified herein:				
Signed: _____	Printed name: _____	Date: _____		
Organization: _____	Title: _____	Phone: _____		
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Figure 7.8.2(h) Notification Appliance Supplementary Record of Inspection and Testing. (SIG-TMS)

[illegible]

Figure 7.8.2(i) Initiating Device Supplementary Record of Inspection and Testing. (SIG-TMS)

[illegible]

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MASS NOTIFICATION SYSTEM SUPPLEMENTARY RECORD OF INSPECTION AND TESTING			
<i>This form is a supplement to the System Record of Inspection and Testing. It includes a mass notification system test record. This form is to be completed by the system inspection and testing contractor at the time of the inspection and/or test. It shall be permitted to modify this form as needed to provide a more complete and/or clear record. Insert N/A in all unused lines.</i>			
Inspection/Test Start Date/Time: _____		Inspection/Test Completion Date/Time: _____	
Number of Supplemental Pages Attached: _____			
1. PROPERTY INFORMATION			
Name of property: _____			
Address: _____			
2. MASS NOTIFICATION SYSTEM			
2.1 System Type			
☐ In-building MNS—combination			
☐ In-building MNS—stand alone ☐ Wide-area MNS ☐ Distributed recipient MNS			
☐ Other (specify): _____			
2.2 System Features			
☐ Combination fire alarm/MNS ☐ MNS ACU only ☐ Wide-area MNS to regional national alerting interface			
☐ Local operating console (LOC) ☐ Direct recipient MNS (DRMNS) ☐ Wide-area MNS to DRMNS interface			
☐ Wide-area MNS to high-power loudspeaker array (HPLA) interface ☐ In-building MNS to wide-area MNS interface			
☐ Other (specify): _____			
3. IN-BUILDING MASS NOTIFICATION SYSTEM			
3.1 Primary Power			
Input voltage of MNS panel: _____		MNS panel amperage: _____	
3.2 Engine-Driven Generator ☐ This system does not have a generator.			
Location of generator: _____		Type of fuel: _____	
3.3 Energy Storage Systems ☐ This system does not have an ESS.			
Equipment powered by an ESS system: _____			
Location of ESS system: _____			
Calculated capacity of ESS batteries to drive the system components connected to it:			
In standby mode (hours): _____		In alarm mode (minutes): _____	
3.4 Batteries			
Location: _____		Type: _____	
Nominal voltage: _____		Amphour rating: _____	
Calculated capacity of batteries to drive the system: _____			
In standby mode (hours): _____		In alarm mode (minutes): _____	
☐ Batteries are marked with date of manufacture.			
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MASS NOTIFICATION SYSTEM SUPPLEMENTARY RECORD OF INSPECTION AND TESTING (continued)			
4. MASS NOTIFICATION EQUIPMENT TEST RESULTS			
Description	Visual Inspection	Functional Test	Comments
Functional test			
Reset/power down test			
Fuses			
Primary power supply			
ESS power test			
Trouble signals			
Disconnect switches			
Ground-fault monitoring			
CCU security mechanism			
Prerecorded message content			
Prerecorded message activation			
Software backup performed			
Test backup software			
Fire alarm to MNS interface			
MNS to fire alarm interface			
In-building MNS to wide-area MNS			
MNS to direct recipient MNS			
Sound pressure levels			
Occupied ☐ Yes ☐ No			
Ambient dBA: _____			
Alarm dBA: _____			
(attach supplementary notification appliance form(s) with locations, values, and weather conditions)			
System intelligibility			
Test method: _____ Score: _____			
CIS value: _____			
(attach supplementary notification appliance form(s) with locations, values, and weather conditions)			
Other (specify): _____			
See main System Record of Inspection and Testing for additional information, certifications, and approvals.			
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Figure 7.8.2(k) Emergency Communications Systems Supplementary Record of Inspection and Testing. (SIG-TMS)

**EMERGENCY COMMUNICATIONS SYSTEMS
SUPPLEMENTARY RECORD OF INSPECTION AND TESTING**

*This form is a supplement to the System Record of Inspection and Testing.
It includes systems and components specific to emergency communication systems.
This form is to be completed by the system inspection and testing contractor at the time of the inspection and/or test.
It shall be permitted to modify this form as needed to provide a more complete and/or clear record.
Insert N/A in all unused lines.*

Inspection/Test Start Date/Time: _____ Inspection/Test Completion Date/Time: _____
Number of Supplemental Pages Attached: _____

1. PROPERTY INFORMATION

Name of property: _____
Address: _____

2. DESCRIPTION OF SYSTEM OR SERVICE

☐ Fire alarm with in-building fire emergency voice alarm communication system (EVAC)
☐ Mass notification system
☐ Combination system, with the following components:
☐ Fire alarm ☐ EVACS ☐ MNS ☐ Two-way, in-building, emergency communication system
☐ Other (specify): _____
Additional description of system(s): _____

2.1 In-Building Fire Emergency Voice Alarm Communication System

Manufacturer: _____ Model number: _____
Number of single voice alarm channels: _____ Number of multiple voice alarm channels: _____
Number of loudspeakers: _____ Number of loudspeaker circuits: _____
Location of amplification and sound processing equipment: _____

Location of paging microphone stations:
Location 1: _____
Location 2: _____
Location 3: _____

2.2 Mass Notification System**2.2.1 System Type:**

☐ In-building MNS—combination
☐ In-building MNS ☐ Wide-area MNS ☐ Distributed recipient MNS
☐ Other (specify): _____

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**EMERGENCY COMMUNICATIONS SYSTEMS
SUPPLEMENTARY RECORD OF INSPECTION AND TESTING (continued)****2. DESCRIPTION OF SYSTEM OR SERVICE (continued)****2.2.2 System Features:**

☐ Combination fire alarm/MNS ☐ MNS autonomous control unit ☐ Wide-area MNS to regional national alerting interface
☐ Local operating console (LOC) ☐ Distributed-recipient MNS (DRMNS) ☐ Wide-area MNS to DRMNS interface
☐ Wide-area MNS to high-power loudspeaker array (HPLA) interface ☐ In-building MNS to wide-area MNS interface
☐ Other (specify): _____

2.2.3 MNS Local Operating Consoles

Location 1: _____
Location 2: _____
Location 3: _____

2.2.4 High-Power Loudspeaker Arrays

Number of HPLA loudspeaker initiation zones: _____
Location 1: _____
Location 2: _____
Location 3: _____

2.2.5 Mass Notification Devices

Combination fire alarm/MNS visual devices: _____ MNS-only visual devices: _____
Textual signs: _____ Other (describe): _____
Supervision class: _____

2.2.6 Special Hazard Notification

☐ This system does not have special suppression pre-discharge notification
☐ MNS systems DO NOT override notification appliances required to provide special suppression pre-discharge notification

3. TWO-WAY EMERGENCY COMMUNICATION SYSTEMS**3.1 Telephone System**

Number of telephone jacks installed: _____ Number of warden stations installed: _____
Number of telephone handsets stored on site: _____
Type of telephone system installed: ☐ Electrically powered ☐ Sound powered

3.2 Area of Refuge (Area of Rescue Assistance) Emergency Communications Systems

Number of stations: _____ Location of central control point: _____
Days and hours when central control point is attended: _____
Location of alternate control point: _____
Days and hours when alternate control point is attended: _____

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EMERGENCY COMMUNICATIONS SYSTEMS SUPPLEMENTARY RECORD OF INSPECTION AND TESTING (continued)			
3. TWO-WAY EMERGENCY COMMUNICATIONS SYSTEMS (continued)			
3.3 Elevator Emergency Communications Systems			
Number of elevators with stations: _____		Location of central control point: _____	
Days and hours when central control point is attended: _____			
Location of alternate control point: _____			
Days and hours when alternate control point is attended: _____			
3.4 Other Two-Way Communication System			
Describe: _____			
4. TESTING RESULTS			
4.1 Control Unit and Related Equipment			
Description	Visual Inspection	Functional Test	Comments
Control unit	☐	☐	
Lamps/LEDs/LCDs	☐	☐	
Fuses	☐	☐	
Trouble signals	☐	☐	
Disconnect switches	☐	☐	
Ground fault monitoring	☐	☐	
Supervision	☐	☐	
Local annunciator	☐	☐	
Remote annunciators	☐	☐	
Remote power panels	☐	☐	
Other:	☐	☐	
4.2 Secondary Power			
Description	Visual Inspection	Functional Test	Comments
Battery condition	☐	☐	
Load voltage	☐	☐	
Discharge test	☐	☐	
Charger test	☐	☐	
Remote panel batteries	☐	☐	

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EMERGENCY COMMUNICATIONS SYSTEMS SUPPLEMENTARY RECORD OF INSPECTION AND TESTING (continued)			
4. TESTING RESULTS (continued)			
4.3 Emergency Communications Equipment			
Description	Visual Inspection	Functional Test	Comments
Control unit	☐	☐	
Lamps/LEDs/LCDs	☐	☐	
Fuses	☐	☐	
Secondary power supply	☐	☐	
Trouble signals	☐	☐	
Disconnect switches	☐	☐	
Ground fault monitoring	☐	☐	
Panel supervision	☐	☐	
System performance	☐	☐	
System audibility	☐	☐	
System intelligibility	☐	☐	
Other:	☐	☐	
4.4 Mass Notification Equipment			
Description	Visual Inspection	Functional Test	Comments
Functional test	☐	☐	
Reset/Power down test	☐	☐	
Fuses	☐	☐	
Primary power supply	☐	☐	
ESS power test	☐	☐	
Trouble signals	☐	☐	
Disconnect switches	☐	☐	
Ground fault monitoring	☐	☐	
CCU security mechanism	☐	☐	
Prerecorded message content	☐	☐	
Prerecorded message activation	☐	☐	
Software backup performed	☐	☐	
Test backup software	☐	☐	
Fire alarm to MNS Interface	☐	☐	
MNS to fire alarm interface	☐	☐	
In-building MNS to wide-area MNS	☐	☐	
MNS to direct recipient MNS	☐	☐	

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Figure 7.8.2(I) Interface Component Supplementary Record of Inspection and Testing. (SIG-TMS)

10/14/2019, 2:56 PM

Figure 7.8.2(m) Installation and Inspection Form Single- and Multiple-Station Alarms and Household Fire Alarm Systems.

Statement of Problem and Substantiation for Public Input

Submitter Information Verification

79 of 234

Affiliation: FUn Task Group
Street Address:
City:
State:
Zip:
Submittal Date: Mon Jun 24 10:07:54 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: [FR-5133-NFPA 72-2019](#)

Statement: The Technical Committee edits the text for clarity.



Public Input No. 517-NFPA 72-2019 [Section No. 7.8.2]

7.8.2 Forms for Documentation.

Forms for documentation shall be as follows:

- (1)* Unless otherwise permitted or required in 7.5.6 or 7.8.1.2, Figure 7.8.2(a) through Figure 7.8.2(f) shall be used to document the record of completion and inspection. (SIG-FUN)
- (2)* Unless otherwise permitted or required in 7.6.6 or 7.8.1.2, Figure 7.8.2(g) through Figure 7.8.2(l) shall be used to document the record of inspection and testing. (SIG-TMS)
- (3) Where a form is required by the AHJ to document the installation and inspection of a household fire alarm system or single- or multiple-station alarms, Figure 7.8.2(m) can be used to document the record of completion and inspection.

Figure 7.8.2(a) System Record of Completion. (SIG-FUN)

SYSTEM RECORD OF COMPLETION	
This form is to be completed by the system installation contractor at the time of system acceptance and approval. It shall be permitted to modify this form as needed to provide a more complete and/or clear record. Insert N/A in all unused lines. Attach additional sheets, data, or calculations as necessary to provide a complete record.	
Form Completion Date: _____ Supplemental Pages Attached: _____	
1. PROPERTY INFORMATION	
Name of property: _____	
Address: _____	
Description of property: _____	
Name of property representative: _____	
Address: _____	
Phone: _____	Fax: _____ E-mail: _____
2. INSTALLATION, SERVICE, TESTING, AND MONITORING INFORMATION	
Installation contractor: _____	
Address: _____	
Phone: _____	Fax: _____ E-mail: _____
Service organization: _____	
Address: _____	
Phone: _____	Fax: _____ E-mail: _____
Testing organization: _____	
Address: _____	
Phone: _____	Fax: _____ E-mail: _____
Effective date for test and inspection contract: _____	
Monitoring organization: _____	
Address: _____	
Phone: _____	Fax: _____ E-mail: _____
Account number: _____	Phone line 1: _____ Phone line 2: _____
Means of transmission: _____	
Entity to which alarms are retransmitted: _____ Phone: _____	
3. DOCUMENTATION	
On-site location of the required record documents and site-specific software: _____	
4. DESCRIPTION OF SYSTEM OR SERVICE	
This is a: ☐ New system ☐ Modification to existing system Permit number: _____	
NFPA 72 edition: _____	
4.1 Control Unit	
Manufacturer: _____ Model number: _____	
4.2 Software and Firmware	
Firmware revision number: _____	
4.3 Alarm Verification	
☐ This system does not incorporate alarm verification.	
Number of devices subject to alarm verification: _____ Alarm verification set for _____ seconds	
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SYSTEM RECORD OF COMPLETION (continued)				
5. SYSTEM POWER				
5.1 Control Unit				
5.1.1 Primary Power				
Input voltage of control panel: _____		Control panel amperage: _____		
Overcurrent protection: Type: _____		Ampere: _____		
Branch circuit disconnecting means location: _____		Number: _____		
5.1.2 Secondary Power				
Type of secondary power: _____				
Location, if remote from the plant: _____				
Calculated capacity of secondary power to drive the system: _____				
In standby mode (hours): _____		In alarm mode (minutes): _____		
5.2 Control Unit				
☐ This system does not have power extender panels				
☐ Power extender panels are listed on supplementary sheet A				
6. CIRCUITS AND PATHWAYS				
Pathway Type	Dual Media Pathway	Separate Pathway	Class	Survivability Level
Signaling Line				
Device Power				
Initiating Device				
Notification Appliance				
Other (specify): _____				
7. REMOTE ANNUNCIATORS				
Type	Location			
8. INITIATING DEVICES				
Type	Quantity	Addressable or Conventional	Alarm or Supervisory	Sensing Technology
Manual Pull Stations				
Smoke Detectors				
Duct Smoke Detectors				
Heat Detectors				
Gas Detectors				
Carbon Monoxide Detectors				
Waterflow Switches				
Tamper Switches				
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SYSTEM RECORD OF COMPLETION (continued)		
9. NOTIFICATION APPLIANCES		
Type	Quantity	Description
Audible		
Visual		
Combination Audible and Visual		
10. SYSTEM CONTROL FUNCTIONS		
Type	Quantity	
Hold-Open Door Releasing Devices		
HVAC Shutdown		
Fire/Smoke Dampers		
Door Unlocking		
Elevator Recall		
Elevator Shunt Trip		
11. INTERCONNECTED SYSTEMS		
☐ This system does not have interconnected systems.		
☐ Interconnected systems are listed on supplementary sheet _____.		
12. CERTIFICATION AND APPROVALS		
12.1 System Installation Contractor		
This system as specified herein has been installed according to all NFPA standards cited herein.		
Signed: _____	Printed name: _____	Date: _____
Organization: _____	Title: _____	Phone: _____
12.2 System Operational Test		
This system as specified herein has been tested according to all NFPA standards cited herein.		
Signed: _____	Printed name: _____	Date: _____
Organization: _____	Title: _____	Phone: _____
12.3 Acceptance Test		
Date and time of acceptance test: _____		
Installing contractor representative: _____		
Testing contractor representative: _____		
Property representative: _____		
AHJ representative: _____		
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Figure 7.8.2(b) Emergency Communications System Supplementary Record of Completion. (SIG-FUN)

EMERGENCY COMMUNICATIONS SYSTEMS SUPPLEMENTARY RECORD OF COMPLETION	
<i>This form is a supplement to the System Record of Completion. It includes systems and components specific to emergency communications systems.</i>	
<i>This form is to be completed by the system installation contractor at the time of system acceptance and approval. It shall be permitted to modify this form as needed to provide a more complete and/or clear record. Insert N/A in all unused lines.</i>	
Form Completion Date: _____	Number of Supplemental Pages Attached: _____
1. PROPERTY INFORMATION	
Name of property: _____	
Address: _____	
2. DESCRIPTION OF SYSTEM OR SERVICE	
☐ Fire alarm with in-building fire emergency voice alarm communication system (EVAC)	
☐ Mass notification system	
☐ Combination system, with the following components:	
☐ Fire alarm ☐ EVACS ☐ MNS ☐ Two-way, in-building, emergency communications system	
☐ Other (specify): _____	
NFPA 72 edition: _____ Additional description of system(s): _____	
2.1 In-Building Fire Emergency Voice Alarm Communications System	
Manufacturer: _____ Model number: _____	
Number of single voice alarm channels: _____ Number of multiple voice alarm channels: _____	
Number of loudspeakers: _____ Number of loudspeaker circuits: _____	
Location of amplification and sound processing equipment: _____	
Location of paging microphone stations: _____	
Location 1: _____	
Location 2: _____	
Location 3: _____	
2.2 Mass Notification System	
2.2.1 System Type:	
☐ In-building MNS-combination	
☐ In-building MNS ☐ Wide-area MNS ☐ Distributed recipient MNS	
☐ Other (specify): _____	
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EMERGENCY COMMUNICATIONS SYSTEMS SUPPLEMENTARY RECORD OF COMPLETION (continued)	
2. DESCRIPTION OF SYSTEM OR SERVICE (continued)	
2.2.2 System Features:	
☐ Combination fire alarm/MNS ☐ MNS autonomous control unit ☐ Wide-area MNS to regional national alerting interface	
☐ Local operating console (LOC) ☐ Distributed-recipient MNS (DRMNS) ☐ Wide-area MNS to DRMNS interface	
☐ Wide-area MNS to high power loudspeaker array (HPLA) interface ☐ In-building MNS to wide-area MNS interface	
☐ Other (specify): _____	
2.2.3 MNS Local Operating Consoles	
Location 1: _____	
Location 2: _____	
Location 3: _____	
2.2.4 High Power Loudspeaker Arrays	
Number of HPLA loudspeaker initiation zones: _____	
Location 1: _____	
Location 2: _____	
Location 3: _____	
2.2.5 Mass Notification Devices	
Combination fire alarm/MNS visual devices: _____ MNS-only visual devices: _____	
Textual signs: _____ Other (describe): _____	
Supervision class: _____	
2.2.6 Special Hazard Notification	
☐ This system does not have special suppression predischARGE notification.	
☐ MNS systems DO NOT override notification appliances required to provide special suppression predischARGE notification.	
3. TWO-WAY EMERGENCY COMMUNICATIONS SYSTEMS	
3.1 Telephone System	
Number of telephone jacks installed: _____ Number of warden stations installed: _____	
Number of telephone handsets stored on site: _____	
Type of telephone system installed: ☐ Electrically powered ☐ Sound powered	
3.2 Area of Refuge (Area of Rescue Assistance) Emergency Communications Systems	
Number of stations: _____ Location of central control point: _____	
Days and hours when central control point is attended: _____	
Location of alternate control point: _____	
Days and hours when alternate control point is attended: _____	
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EMERGENCY COMMUNICATIONS SYSTEMS SUPPLEMENTARY RECORD OF COMPLETION (continued)	
3. TWO-WAY EMERGENCY COMMUNICATIONS SYSTEMS (continued)	
3.3 Elevator Emergency Communications Systems	
Number of elevators with stations: _____ Location of central control point: _____	
Days and hours when central control point is attended: _____	
Location of alternate control point: _____	
Days and hours when alternate control point is attended: _____	
3.4 Other Two-Way Communications System	
Describe: _____	
4. CONTROL FUNCTIONS	
This system activates the following control functions specific to emergency communications systems:	
Type	Quantity
Mass Notification Override of Alarm Signaling Systems or Appliances	_____
_____	_____
_____	_____
_____	_____
_____	_____
See Main System Record of Completion for additional information, certifications, and approvals.	
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Figure 7.8.2(c) Power Systems Supplementary Record of Completion. (SIG-FUN)

POWER SYSTEMS SUPPLEMENTARY RECORD OF COMPLETION	
This form is a supplement to the System Record of Completion. It includes systems and components specific to power systems that incorporate generators, ESS systems, remote battery systems, or other complex power systems. This form is to be completed by the system installation contractor at the time of system acceptance and approval. It shall be permitted to modify this form as needed to provide a more complete and/or clear record. Insert N/A in all unused lines.	
Form Completion Date: _____ Number of Supplemental Pages Attached: _____	
1. PROPERTY INFORMATION	
Name of property: _____	
Address: _____	
2. SYSTEM POWER	
2.1 Control Unit	
2.1.1 Primary Power	
Input voltage of control panel: _____ Control panel amperage: _____	
Overcurrent protection: Type: _____ Amps: _____	
Location of primary supply panelboard: _____	
Disconnecting means location: _____	
2.1.2 Engine-Driven Generator	
Location of generator: _____	
Location of fuel storage: _____ Type of fuel: _____	
2.1.3 Energy Storage Systems	
Equipment powered by ESS system: _____	
Location of ESS system: _____	
Calculated capacity of ESS batteries to drive the system components connected to it:	
In standby mode (hours): _____ In alarm mode (minutes): _____	
2.1.4 Batteries	
Location: _____ Type: _____ Nominal voltage: _____ Amp/hour rating: _____	
Calculated capacity of batteries to drive the system:	
In standby mode (hours): _____ In alarm mode (minutes): _____	
2.2 In-Building Fire Emergency Voice Alarm Communications System or Mass Notification System	
2.2.1 Primary Power	
Input voltage of EVACS or MNS panel: _____ EVACS or MNS panel amperage: _____	
Overcurrent protection: Type: _____ Amps: _____	
Location of primary supply panelboard: _____	
Disconnecting means location: _____	
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POWER SYSTEMS SUPPLEMENTARY RECORD OF COMPLETION (continued)	
2. SYSTEM POWER (continued)	
2.2.2 Engine-Driven Generator	
Location of generator: _____	
Location of fuel storage: _____ Type of fuel: _____	
2.2.3 Energy Storage Systems	
Equipment powered by ESS system: _____	
Location of ESS system: _____	
Calculated capacity of ESS batteries to drive the system components connected to it:	
In standby mode (hours): _____ In alarm mode (minutes): _____	
2.2.4 Batteries	
Location: _____ Type: _____ Nominal voltage: _____ Amp/hour rating: _____	
Calculated capacity of batteries to drive the system:	
In standby mode (hours): _____ In alarm mode (minutes): _____	
2.3 Notification Appliance Power Extender Panels	
☐ This system does not have power extender panels.	
2.3.1 Primary Power	
Input voltage of power extender panel(s): _____ Power extender panel amperage: _____	
Overcurrent protection: Type: _____ Amps: _____	
Location of primary supply panelboard: _____	
Disconnecting means location: _____	
2.3.2 Engine-Driven Generator	
Location of generator: _____	
Location of fuel storage: _____ Type of fuel: _____	
2.3.3 Energy Storage Systems	
Equipment powered by ESS system: _____	
Location of ESS system: _____	
Calculated capacity of ESS batteries to drive the system components connected to it:	
In standby mode (hours): _____ In alarm mode (minutes): _____	
2.3.4 Batteries	
Location: _____ Type: _____ Nominal voltage: _____ Amp/hour rating: _____	
Calculated capacity of batteries to drive the system:	
In standby mode (hours): _____ In alarm mode (minutes): _____	
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POWER SYSTEMS
SUPPLEMENTARY RECORD OF COMPLETION *(continued)*

2. SYSTEM POWER *(continued)*

2.4 Supervising Station Transmission Equipment

☐ This system does not use transmission equipment within the building powered by any other source than the alarm system control unit.

2.4.1 Primary Power

Input voltage of shared transmission equipment: _____

Shared transmission equipment panel amp: _____

Overcurrent protection: Type: _____ Amps: _____

Location (of primary supply panelboard): _____

Disconnecting means location: _____

2.4.2 Engine Driven Generator

Location of generator: _____

Location of fuel storage: _____ Type of fuel: _____

2.4.3 Energy Storage Systems

Equipment powered by ESS system: _____

Calculated capacity of ESS batteries to drive the system components connected to it: _____

In standby mode (hours): _____ In alarm mode (minutes): _____

2.4.4 Batteries

Location: _____ Type: _____ Nominal voltage: _____ Amp/hour rating: _____

Calculated capacity of batteries to drive the system: _____

In standby mode (hours): _____ In alarm mode (minutes): _____

See Main System Record of Completion for additional information, certifications, and approvals.

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Figure 7.8.2(d) Notification Appliance Power Panel Supplementary Record of Completion. (SIG-FUN)

[illegible]

Figure 7.8.2(e) Interconnected Systems Supplementary Record of Completion. (SIG-FUN)

INTERCONNECTED SYSTEMS SUPPLEMENTARY RECORD OF COMPLETION		
This form is a supplement to the System Record of Completion. It includes a list of types and locations of systems that are interconnected to the main system. This form is to be completed by the system installation contractor at the time of system acceptance and approval. It shall be permitted to modify this form as needed to provide a more complete and/or clear record. Insert N/A in all unused lines.		
Form Completion Date: _____		Number of Supplemental Pages Attached: _____
1. PROPERTY INFORMATION		
Name of property: _____		
Address: _____		
2. INTERCONNECTED SYSTEMS		
Description	Location	Purpose
See Main System Record of Completion for additional information, certifications, and approvals.		
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Figure 7.8.2(f) Deviations from Adopted Codes and Standards Supplementary Record of Completion. (SIG-FUN)

DEVIATIONS FROM ADOPTED CODES AND STANDARDS SUPPLEMENTARY RECORD OF COMPLETION	
This form is a supplement to the System Record of Completion. It enables the designer and/or installer to document and justify deviations from accepted codes or standards. This form is to be completed by the system installation contractor at the time of system acceptance and approval. It shall be permitted to modify this form as needed to provide a more complete and/or clear record. Insert N/A in all unused lines.	
Form Completion Date: _____ Number of Supplemental Pages Attached: _____	
1. PROPERTY INFORMATION	
Name of property: _____	
Address: _____	
2. DEVIATIONS FROM ADOPTED CODES OR STANDARDS	
Description	Purpose
See Main System Record of Completion for additional information, certifications, and approvals.	
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Figure 7.8.2(g) System Record of Inspection and Testing. (SIG-TMS)

SYSTEM RECORD OF INSPECTION AND TESTING	
<i>This form is to be completed by the system inspection and testing contractor at the time of a system test. It shall be permitted to modify this form as needed to provide a more complete and/or clear record. Insert N/A in all unused lines. Attach additional sheets, data, or calculations as necessary to provide a complete record.</i>	
Inspection/Test Start Date/Time: _____	Inspection/Test Completion Date/Time: _____
Supplemental Form(s) Attached: _____ (yes/no)	
1. PROPERTY INFORMATION	
Name of property: _____	
Address: _____	
Description of property: _____	
Name of property representative: _____	
Address: _____	
Phone: _____	Fax: _____ E-mail: _____
2. TESTING AND MONITORING INFORMATION	
Testing organization: _____	
Address: _____	
Phone: _____	Fax: _____ E-mail: _____
Monitoring organization: _____	
Address: _____	
Phone: _____	Fax: _____ E-mail: _____
Account number: _____	Phone line 1: _____ Phone line 2: _____
Means of transmission: _____	
Entity to which alarms are retransmitted: _____ Phone: _____	
3. DOCUMENTATION	
Onsite location of the required record documents and site-specific software: _____	
4. DESCRIPTION OF SYSTEM OR SERVICE	
4.1 Control Unit	
Manufacturer: _____	Model number: _____
4.2 Software Firmware	
Firmware revision number: _____	
4.3 System Power	
4.3.1 Primary (Main) Power	
Nominal voltage: _____	Amps: _____ Location: _____
Overcurrent protection type: _____	Amps: _____ Disconnecting means location: _____

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SYSTEM RECORD OF INSPECTION AND TESTING (continued)																																														
4. DESCRIPTION OF SYSTEM OR SERVICE (continued)																																														
4.3.2 Secondary Power																																														
Type: _____ Location: _____																																														
Battery type (if applicable): _____																																														
Calculated capacity of batteries to drive the system: _____																																														
In standby mode (hours): _____	In alarm mode (minutes): _____																																													
5. NOTIFICATIONS MADE PRIOR TO TESTING																																														
Monitoring organization	Contact: _____ Time: _____																																													
Building management	Contact: _____ Time: _____																																													
Building occupants	Contact: _____ Time: _____																																													
Authority having jurisdiction	Contact: _____ Time: _____																																													
Other, if required	Contact: _____ Time: _____																																													
6. TESTING RESULTS																																														
6.1 Control Unit and Related Equipment																																														
<table border="1"><thead><tr><th>Description</th><th>Visual Inspection</th><th>Functional Test</th><th>Comments</th></tr></thead><tbody><tr><td>Control unit</td><td>☐</td><td>☐</td><td></td></tr><tr><td>Lamps/LEDs/LCDs</td><td>☐</td><td>☐</td><td></td></tr><tr><td>Fuses</td><td>☐</td><td>☐</td><td></td></tr><tr><td>Trouble signals</td><td>☐</td><td>☐</td><td></td></tr><tr><td>Disconnect switches</td><td>☐</td><td>☐</td><td></td></tr><tr><td>Ground-fault monitoring</td><td>☐</td><td>☐</td><td></td></tr><tr><td>Supervision</td><td>☐</td><td>☐</td><td></td></tr><tr><td>Local annunciator</td><td>☐</td><td>☐</td><td></td></tr><tr><td>Remote annunciators</td><td>☐</td><td>☐</td><td></td></tr><tr><td>Remote power panels</td><td>☐</td><td>☐</td><td></td></tr></tbody></table>	Description	Visual Inspection	Functional Test	Comments	Control unit	☐	☐		Lamps/LEDs/LCDs	☐	☐		Fuses	☐	☐		Trouble signals	☐	☐		Disconnect switches	☐	☐		Ground-fault monitoring	☐	☐		Supervision	☐	☐		Local annunciator	☐	☐		Remote annunciators	☐	☐		Remote power panels	☐	☐			
Description	Visual Inspection	Functional Test	Comments																																											
Control unit	☐	☐																																												
Lamps/LEDs/LCDs	☐	☐																																												
Fuses	☐	☐																																												
Trouble signals	☐	☐																																												
Disconnect switches	☐	☐																																												
Ground-fault monitoring	☐	☐																																												
Supervision	☐	☐																																												
Local annunciator	☐	☐																																												
Remote annunciators	☐	☐																																												
Remote power panels	☐	☐																																												
6.2 Secondary Power																																														
<table border="1"><thead><tr><th>Description</th><th>Visual Inspection</th><th>Functional Test</th><th>Comments</th></tr></thead><tbody><tr><td>Battery condition</td><td>☐</td><td>☐</td><td></td></tr><tr><td>Lead voltage</td><td>☐</td><td>☐</td><td></td></tr><tr><td>Discharge test</td><td>☐</td><td>☐</td><td></td></tr><tr><td>Charger test</td><td>☐</td><td>☐</td><td></td></tr><tr><td>Remote panel batteries</td><td>☐</td><td>☐</td><td></td></tr></tbody></table>	Description	Visual Inspection	Functional Test	Comments	Battery condition	☐	☐		Lead voltage	☐	☐		Discharge test	☐	☐		Charger test	☐	☐		Remote panel batteries	☐	☐																							
Description	Visual Inspection	Functional Test	Comments																																											
Battery condition	☐	☐																																												
Lead voltage	☐	☐																																												
Discharge test	☐	☐																																												
Charger test	☐	☐																																												
Remote panel batteries	☐	☐																																												

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SYSTEM RECORD OF INSPECTION AND TESTING (continued)				
6. TESTING RESULTS (continued)				
6.3 Alarm and Supervisory Alarm Initiating Device				
Attach supplementary device test sheets for all initiating devices.				
6.4 Notification Appliances				
Attach supplementary appliance test sheets for all notification appliances.				
6.5 Interface Equipment				
Attach supplementary interface component test sheets for all interface components.				
Circuit Interface / Signaling Line Circuit Interface / Fire Alarm Control Interface				
6.6 Supervising Station Monitoring				
Description	Yes	No	Time	Comments
Alarm signal	☐	☐		
Alarm restoration	☐	☐		
Trouble signal	☐	☐		
Trouble restoration	☐	☐		
Supervisory signal	☐	☐		
Supervisory restoration	☐	☐		
6.7 Public Emergency Alarm Reporting System				
Description	Yes	No	Time	Comments
Alarm signal	☐	☐		
Alarm restoration	☐	☐		
Trouble signal	☐	☐		
Trouble restoration	☐	☐		
Supervisory signal	☐	☐		
Supervisory restoration	☐	☐		
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SYSTEM RECORD OF INSPECTION AND TESTING (continued)				
7. NOTIFICATIONS THAT TESTING IS COMPLETE				
Monitoring organization	Contact: _____	Time: _____		
Building management	Contact: _____	Time: _____		
Building occupants	Contact: _____	Time: _____		
Authority having jurisdiction	Contact: _____	Time: _____		
Other, if required	Contact: _____	Time: _____		
8. SYSTEM RESTORED TO NORMAL OPERATION				
Date: _____	Time: _____			
9. CERTIFICATION				
This system as specified herein has been inspected and tested according to NFPA 72, _____ edition, Chapter 14.				
Signed: _____	Printed name: _____	Date: _____		
Organization: _____	Title: _____	Phone: _____		
Qualifications (refer to 10.5.3): _____				
10. DEFECTS OR MALFUNCTIONS NOT CORRECTED AT CONCLUSION OF SYSTEM INSPECTION, TESTING, OR MAINTENANCE				

10.1 Acceptance by Owner or Owner's Representative:				
The undersigned accepted the test report for the system as specified herein:				
Signed: _____	Printed name: _____	Date: _____		
Organization: _____	Title: _____	Phone: _____		
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Figure 7.8.2(h) Notification Appliance Supplementary Record of Inspection and Testing. (SIG-TMS)

Figure 7.8.2(i) Initiating Device Supplementary Record of Inspection and Testing. (SIG-TMS)

Figure 7.8.2(j) Mass Notification System Supplementary Record of Inspection and Testing. (SIG-TMS)

MASS NOTIFICATION SYSTEM SUPPLEMENTARY RECORD OF INSPECTION AND TESTING			
<i>This form is a supplement to the System Record of Inspection and Testing. It includes a mass notification system test record. This form is to be completed by the system inspection and testing contractor at the time of the inspection and/or test. It shall be permitted to modify this form as needed to provide a more complete and/or clear record. Insert N/A in all unused lines.</i>			
Inspection/Test Start Date/Time: _____		Inspection/Test Completion Date/Time: _____	
Number of Supplemental Pages Attached: _____			
1. PROPERTY INFORMATION			
Name of property: _____			
Address: _____			
2. MASS NOTIFICATION SYSTEM			
2.1 System Type			
☐ In-building MNS—combination			
☐ In-building MNS—stand alone ☐ Wide-area MNS ☐ Distributed recipient MNS			
☐ Other (specify): _____			
2.2 System Features			
☐ Combination fire alarm/MNS ☐ MNS ACU only ☐ Wide-area MNS to regional national alerting interface			
☐ Local operating console (LOC) ☐ Direct recipient MNS (DRMNS) ☐ Wide-area MNS to DRMNS interface			
☐ Wide-area MNS to high-power loudspeaker array (HPLA) interface ☐ In-building MNS to wide-area MNS interface			
☐ Other (specify): _____			
3. IN-BUILDING MASS NOTIFICATION SYSTEM			
3.1 Primary Power			
Input voltage of MNS panel: _____		MNS panel amperage: _____	
3.2 Engine-Driven Generator ☐ This system does not have a generator.			
Location of generator: _____		Type of fuel: _____	
Location of fuel storage: _____		Type of fuel: _____	
3.3 Energy Storage Systems ☐ This system does not have an ESS.			
Equipment powered by an ESS system: _____			
Location of ESS system: _____			
Calculated capacity of ESS batteries to drive the system components connected to it:			
In standby mode (hours): _____		In alarm mode (minutes): _____	
3.4 Batteries			
Location: _____		Type: _____	
Nominal voltage: _____		Amphour rating: _____	
Calculated capacity of batteries to drive the system: _____			
In standby mode (hours): _____		In alarm mode (minutes): _____	
☐ Batteries are marked with date of manufacture.			
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MASS NOTIFICATION SYSTEM SUPPLEMENTARY RECORD OF INSPECTION AND TESTING (continued)			
4. MASS NOTIFICATION EQUIPMENT TEST RESULTS			
Description	Visual Inspection	Functional Test	Comments
Functional test			
Reset/power down test			
Fuses			
Primary power supply			
ESS power test			
Trouble signals			
Disconnect switches			
Ground-fault monitoring			
CCU security mechanism			
Prerecorded message content			
Prerecorded message activation			
Software backup performed			
Test backup software			
Fire alarm to MNS interface			
MNS to fire alarm interface			
In-building MNS to wide-area MNS			
MNS to direct recipient MNS			
Sound pressure levels			
Occupied ☐ Yes ☐ No			
Ambient dBA: _____			
Alarm dBA: _____			
(attach supplementary notification appliance form(s) with locations, values, and weather conditions)			
System intelligibility			
Test method: _____ Score: _____			
CIS value: _____			
(attach supplementary notification appliance form(s) with locations, values, and weather conditions)			
Other (specify): _____			
See main System Record of Inspection and Testing for additional information, certifications, and approvals.			
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Figure 7.8.2(k) Emergency Communications Systems Supplementary Record of Inspection and Testing. (SIG-TMS)

EMERGENCY COMMUNICATIONS SYSTEMS SUPPLEMENTARY RECORD OF INSPECTION AND TESTING	
<i>This form is a supplement to the System Record of Inspection and Testing. It includes systems and components specific to emergency communication systems. This form is to be completed by the system inspection and testing contractor at the time of the inspection and/or test. It shall be permitted to modify this form as needed to provide a more complete and/or clear record. Insert N/A in all unused lines.</i>	
Inspection/Test Start Date/Time: _____	Inspection/Test Completion Date/Time: _____
Number of Supplemental Pages Attached: _____	
1. PROPERTY INFORMATION	
Name of property: _____	
Address: _____	
2. DESCRIPTION OF SYSTEM OR SERVICE	
☐ Fire alarm with in-building fire emergency voice alarm communication system (EVAC)	
☐ Mass notification system	
☐ Combination system, with the following components:	
☐ Fire alarm ☐ EVACS ☐ MNS ☐ Two-way, in-building, emergency communication system	
☐ Other (specify): _____	
Additional description of system(s): _____	
2.1 In-Building Fire Emergency Voice Alarm Communication System	
Manufacturer: _____	Model number: _____
Number of single voice alarm channels: _____	Number of multiple voice alarm channels: _____
Number of loudspeakers: _____	Number of loudspeaker circuits: _____
Location of amplification and sound processing equipment: _____	
Location of paging microphone stations: _____	
Location 1: _____	
Location 2: _____	
Location 3: _____	
2.2 Mass Notification System	
2.2.1 System Type:	
☐ In-building MNS—combination	
☐ In-building MNS ☐ Wide-area MNS ☐ Distributed recipient MNS	
☐ Other (specify): _____	
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EMERGENCY COMMUNICATIONS SYSTEMS SUPPLEMENTARY RECORD OF INSPECTION AND TESTING (continued)	
2. DESCRIPTION OF SYSTEM OR SERVICE (continued)	
2.2.2 System Features:	
☐ Combination fire alarm/MNS ☐ MNS autonomous control unit ☐ Wide-area MNS to regional national alerting interface	
☐ Local operating console (LOC) ☐ Distributed recipient MNS (DRMNS) ☐ Wide-area MNS to DRMNS interface	
☐ Wide-area MNS to high-power loudspeaker array (HPLA) interface ☐ In-building MNS to wide-area MNS interface	
☐ Other (specify): _____	
2.2.3 MNS Local Operating Consoles	
Location 1: _____	
Location 2: _____	
Location 3: _____	
2.2.4 High-Power Loudspeaker Arrays	
Number of HPLA loudspeaker initiation zones: _____	
Location 1: _____	
Location 2: _____	
Location 3: _____	
2.2.5 Mass Notification Devices	
Combination fire alarm/MNS visual devices: _____ MNS-only visual devices: _____	
Textual signs: _____ Other (describe): _____	
Supervision class: _____	
2.2.6 Special Hazard Notification	
☐ This system does not have special suppression pre-discharge notification	
☐ MNS systems DO NOT override notification appliances required to provide special suppression pre-discharge notification	
3. TWO-WAY EMERGENCY COMMUNICATION SYSTEMS	
3.1 Telephone System	
Number of telephone jacks installed: _____ Number of warden stations installed: _____	
Number of telephone handsets stored on site: _____	
Type of telephone system installed: ☐ Electrically powered ☐ Sound powered	
3.2 Area of Refuge (Area of Rescue Assistance) Emergency Communications Systems	
Number of stations: _____ Location of central control point: _____	
Days and hours when central control point is attended: _____	
Location of alternate control point: _____	
Days and hours when alternate control point is attended: _____	
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EMERGENCY COMMUNICATIONS SYSTEMS SUPPLEMENTARY RECORD OF INSPECTION AND TESTING (continued)			
3. TWO-WAY EMERGENCY COMMUNICATIONS SYSTEMS (continued)			
3.3 Elevator Emergency Communications Systems			
Number of elevators with stations: _____		Location of central control point: _____	
Days and hours when central control point is attended: _____			
Location of alternate control point: _____			
Days and hours when alternate control point is attended: _____			
3.4 Other Two-Way Communication System			
Describe: _____			
4. TESTING RESULTS			
4.1 Control Unit and Related Equipment			
Description	Visual Inspection	Functional Test	Comments
Control unit	☐	☐	
Lamps/LEDs/LCDs	☐	☐	
Fuses	☐	☐	
Trouble signals	☐	☐	
Disconnect switches	☐	☐	
Ground fault monitoring	☐	☐	
Supervision	☐	☐	
Local annunciator	☐	☐	
Remote annunciators	☐	☐	
Remote power panels	☐	☐	
Other:	☐	☐	
4.2 Secondary Power			
Description	Visual Inspection	Functional Test	Comments
Battery condition	☐	☐	
Load voltage	☐	☐	
Discharge test	☐	☐	
Charger test	☐	☐	
Remote panel batteries	☐	☐	

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EMERGENCY COMMUNICATIONS SYSTEMS SUPPLEMENTARY RECORD OF INSPECTION AND TESTING (continued)			
4. TESTING RESULTS (continued)			
4.3 Emergency Communications Equipment			
Description	Visual Inspection	Functional Test	Comments
Control unit	☐	☐	
Lamps/LEDs/LCDs	☐	☐	
Fuses	☐	☐	
Secondary power supply	☐	☐	
Trouble signals	☐	☐	
Disconnect switches	☐	☐	
Ground fault monitoring	☐	☐	
Panel supervision	☐	☐	
System performance	☐	☐	
System audibility	☐	☐	
System intelligibility	☐	☐	
Other:	☐	☐	
4.4 Mass Notification Equipment			
Description	Visual Inspection	Functional Test	Comments
Functional test	☐	☐	
Reset/Power down test	☐	☐	
Fuses	☐	☐	
Primary power supply	☐	☐	
ESS power test	☐	☐	
Trouble signals	☐	☐	
Disconnect switches	☐	☐	
Ground fault monitoring	☐	☐	
CCU security mechanism	☐	☐	
Prerecorded message content	☐	☐	
Prerecorded message activation	☐	☐	
Software backup performed	☐	☐	
Test backup software	☐	☐	
Fire alarm to MNS Interface	☐	☐	
MNS to fire alarm interface	☐	☐	
In-building MNS to wide-area MNS	☐	☐	
MNS to direct recipient MNS	☐	☐	

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EMERGENCY COMMUNICATIONS SYSTEMS
SUPPLEMENTARY RECORD OF INSPECTION AND TESTING *(continued)*

4. TESTING RESULTS *(continued)*

4.4 Mass Notification Equipment *(continued)*

Description	Visual Inspection	Functional Test	Comments
Sound pressure levels (attach report with locations, values, and weather conditions)	☐	☐	
System intelligibility ☐ CSI ☐ STI (attach report with locations, values, and weather conditions)	☐	☐	
Other:	☐	☐	

4.5 Two-Way Communication Equipment

Description	Visual Inspection	Functional Test	Comments
Phone handsets	☐	☐	
Phone jacks	☐	☐	
Off-hook indicator	☐	☐	
Call-in signal	☐	☐	
System performance	☐	☐	
System audibility	☐	☐	
System intelligibility	☐	☐	
Other:	☐	☐	

See main System Record of Inspection and Testing for additional information, certifications, and approvals.

Figure 7.8.2(l) Interface Component Supplementary Record of Inspection and Testing. (SIG-TMS)

[illegible]

Figure 7.8.2(m) Installation and Inspection Form Single- and Multiple-Station Alarms and Household Fire Alarm Systems.

Additional Proposed Changes

Statement of Problem and Substantiation for Public Input

Submitter Information Verification

Submitter Full Name: Andrew Berezowski

Organization: Honeywell Inc.

Committee Statement

City:

Resolution: [FR-5133-NFPA 72-2019](#)

State:

Statement: The Technical Committee edits the text for clarity.

Zip:

Submittal Date: Tue Jun 25 17:12:46 EDT 2019

Committee: SIG-FUN



Public Input No. 620-NFPA 72-2019 [Section No. 7.8.2]

7.8.2 Forms for Documentation.

Forms for documentation shall be as follows:

- (1) * Unless otherwise permitted or required in 7.5.6 or 7.8.1.2, Figure 7.8.2(a) through Figure 7.8.2(f) shall be used to document the record of completion and inspection. (SIG-FUN)
- (2) * Unless otherwise permitted or required in 7.6.6 or 7.8.1.2, Figure 7.8.2(g) through Figure 7.8.2(l) shall be used to document the record of inspection and testing. (SIG-TMS)
- (3) Where a form is required by the AHJ to document the installation and inspection of a household fire alarm system or single- or multiple-station alarms, Figure 7.8.2(m) can be used to document the record of completion and inspection.

Figure 7.8.2(a) System Record of Completion. (SIG-FUN)

7.8.2 System Record of Completion

Insert into System Record of Completion Form (Table 7.8.2.(a)):

12.4 Cybersecurity Certified ☐ Not Certified ☐ Not Applicable ☐

Certified: Certification Number _____, Issued by _____, Valid through _____.

SYSTEM RECORD OF COMPLETION	
This form is to be completed by the system installation contractor at the time of system acceptance and approval. It shall be permitted to modify this form as needed to provide a more complete and/or clear record. Insert N/A in all unused lines.	
Attach additional sheets, data, or calculations as necessary to provide a complete record.	
Form Completion Date: _____	Supplemental Pages Attached: _____
1. PROPERTY INFORMATION	
Name of property: _____	
Address: _____	
Description of property: _____	
Name of property representative: _____	
Address: _____	
Phone: _____	Fax: _____ E-mail: _____
2. INSTALLATION, SERVICE, TESTING, AND MONITORING INFORMATION	
Installation contractor: _____	
Address: _____	
Phone: _____	Fax: _____ E-mail: _____
Service organization: _____	
Address: _____	
Phone: _____	Fax: _____ E-mail: _____
Testing organization: _____	
Address: _____	
Phone: _____	Fax: _____ E-mail: _____
Effective date for test and inspection contract: _____	
Monitoring organization: _____	
Address: _____	
Phone: _____	Fax: _____ E-mail: _____
Account number: _____	Phone line 1: _____ Phone line 2: _____
Means of transmission: _____	
Entity to which alarms are retransmitted: _____ Phone: _____	
3. DOCUMENTATION	
On-site location of the required record documents and site-specific software: _____	
4. DESCRIPTION OF SYSTEM OR SERVICE	
This is a: ☐ New system ☐ Modification to existing system Permit number: _____	
NFPA 72 edition: _____	
4.1 Control Unit	
Manufacturer: _____ Model number: _____	
4.2 Software and Firmware	
Firmware revision number: _____	
4.3 Alarm Verification	
☐ This system does not incorporate alarm verification.	
Number of devices subject to alarm verification: _____ Alarm verification set for _____ seconds	
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SYSTEM RECORD OF COMPLETION (continued)				
5. SYSTEM POWER				
5.1 Control Unit				
5.1.1 Primary Power				
Input voltage of control panel: _____		Control panel amperage: _____		
Overcurrent protection: Type: _____		Amperage: _____		
Branch circuit disconnecting means location: _____		Number: _____		
5.1.2 Secondary Power				
Type of secondary power: _____				
Location, if remote from the plant: _____				
Calculated capacity of secondary power to drive the system: _____				
In standby mode (hours): _____		In alarm mode (minutes): _____		
5.2 Control Unit				
☐ This system does not have power extender panels				
☐ Power extender panels are listed on supplementary sheet A				
6. CIRCUITS AND PATHWAYS				
Pathway Type	Dual Media Pathway	Separate Pathway	Class	Survivability Level
Signaling Line				
Device Power				
Initiating Device				
Notification Appliance				
Other (specify):				
7. REMOTE ANNUNCIATORS				
Type	Location			
8. INITIATING DEVICES				
Type	Quantity	Addressable or Conventional	Alarm or Supervisory	Sensing Technology
Manual Pull Stations				
Smoke Detectors				
Duct Smoke Detectors				
Heat Detectors				
Gas Detectors				
Carbon Monoxide Detectors				
Waterflow Switches				
Tamper Switches				
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SYSTEM RECORD OF COMPLETION (continued)		
9. NOTIFICATION APPLIANCES		
Type	Quantity	Description
Audible		
Visual		
Combination Audible and Visual		
10. SYSTEM CONTROL FUNCTIONS		
Type	Quantity	
Hold-Open Door Releasing Devices		
HVAC Shutdown		
Fire/Smoke Dampers		
Door Unlocking		
Elevator Recall		
Elevator Shunt Trip		
11. INTERCONNECTED SYSTEMS		
☐ This system does not have interconnected systems.		
☐ Interconnected systems are listed on supplementary sheet _____.		
12. CERTIFICATION AND APPROVALS		
12.1 System Installation Contractor		
This system as specified herein has been installed according to all NFPA standards cited herein.		
Signed: _____	Printed name: _____	Date: _____
Organization: _____	Title: _____	Phone: _____
12.2 System Operational Test		
This system as specified herein has been tested according to all NFPA standards cited herein.		
Signed: _____	Printed name: _____	Date: _____
Organization: _____	Title: _____	Phone: _____
12.3 Acceptance Test		
Date and time of acceptance test: _____		
Installing contractor representative: _____		
Testing contractor representative: _____		
Property representative: _____		
AHJ representative: _____		
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Figure 7.8.2(b) Emergency Communications System Supplementary Record of Completion. (SIG-FUN)

EMERGENCY COMMUNICATIONS SYSTEMS SUPPLEMENTARY RECORD OF COMPLETION	
This form is a supplement to the System Record of Completion. It includes systems and components specific to emergency communications systems. This form is to be completed by the system installation contractor at the time of system acceptance and approval. It shall be permitted to modify this form as needed to provide a more complete and/or clear record. Insert N/A in all unused lines.	
Form Completion Date: _____ Number of Supplemental Pages Attached: _____	
1. PROPERTY INFORMATION	
Name of property: _____	
Address: _____	
2. DESCRIPTION OF SYSTEM OR SERVICE	
☐ Fire alarm with in-building fire emergency voice alarm communication system (EVAC)	
☐ Mass notification system	
☐ Combination system, with the following components:	
☐ Fire alarm ☐ EVACS ☐ MNS ☐ Two-way, in-building, emergency communications system	
☐ Other (specify): _____	
NFPA 72 edition: _____ Additional description of system(s): _____	
2.1 In-Building Fire Emergency Voice Alarm Communications System	
Manufacturer: _____ Model number: _____	
Number of single voice alarm channels: _____ Number of multiple voice alarm channels: _____	
Number of loudspeakers: _____ Number of loudspeaker circuits: _____	
Location of amplification and sound processing equipment: _____	
Location of paging microphone stations: _____	
Location 1: _____	
Location 2: _____	
Location 3: _____	
2.2 Mass Notification System	
2.2.1 System Type:	
☐ In-building MNS-combination	
☐ In-building MNS ☐ Wide-area MNS ☐ Distributed recipient MNS	
☐ Other (specify): _____	
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EMERGENCY COMMUNICATIONS SYSTEMS SUPPLEMENTARY RECORD OF COMPLETION (continued)	
2. DESCRIPTION OF SYSTEM OR SERVICE (continued)	
2.2.2 System Features:	
☐ Combination fire alarm/MNS ☐ MNS autonomous control unit ☐ Wide-area MNS to regional national alerting interface	
☐ Local operating console (LOC) ☐ Distributed-recipient MNS (DRMNS) ☐ Wide-area MNS to DRMNS interface	
☐ Wide-area MNS to high power loudspeaker array (HPLA) interface ☐ In-building MNS to wide-area MNS interface	
☐ Other (specify): _____	
2.2.3 MNS Local Operating Consoles	
Location 1: _____	
Location 2: _____	
Location 3: _____	
2.2.4 High Power Loudspeaker Arrays	
Number of HPLA loudspeaker initiation zones: _____	
Location 1: _____	
Location 2: _____	
Location 3: _____	
2.2.5 Mass Notification Devices	
Combination fire alarm/MNS visual devices: _____ MNS-only visual devices: _____	
Textual signs: _____ Other (describe): _____	
Supervision class: _____	
2.2.6 Special Hazard Notification	
☐ This system does not have special suppression pre-discharge notification.	
☐ MNS systems DO NOT override notification appliances required to provide special suppression pre-discharge notification.	
3. TWO-WAY EMERGENCY COMMUNICATIONS SYSTEMS	
3.1 Telephone System	
Number of telephone jacks installed: _____ Number of warden stations installed: _____	
Number of telephone handsets stored on site: _____	
Type of telephone system installed: ☐ Electrically powered ☐ Sound powered	
3.2 Area of Refuge (Area of Rescue Assistance) Emergency Communications Systems	
Number of stations: _____ Location of central control point: _____	
Days and hours when central control point is attended: _____	
Location of alternate control point: _____	
Days and hours when alternate control point is attended: _____	
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EMERGENCY COMMUNICATIONS SYSTEMS SUPPLEMENTARY RECORD OF COMPLETION (continued)													
3. TWO-WAY EMERGENCY COMMUNICATIONS SYSTEMS (continued)													
3.3 Elevator Emergency Communications Systems													
Number of elevators with stations: _____ Location of central control point: _____													
Days and hours when central control point is attended: _____													
Location of alternate control point: _____													
Days and hours when alternate control point is attended: _____													
3.4 Other Two-Way Communications System													
Describe: _____													
4. CONTROL FUNCTIONS													
This system activates the following control functions specific to emergency communications systems:													
<table border="1"><thead><tr><th>Type</th><th>Quantity</th></tr></thead><tbody><tr><td>Mass Notification Override of Alarm Signaling Systems or Appliances</td><td>_____</td></tr><tr><td>_____</td><td>_____</td></tr><tr><td>_____</td><td>_____</td></tr><tr><td>_____</td><td>_____</td></tr><tr><td>_____</td><td>_____</td></tr></tbody></table>	Type	Quantity	Mass Notification Override of Alarm Signaling Systems or Appliances	_____	_____	_____	_____	_____	_____	_____	_____	_____	
Type	Quantity												
Mass Notification Override of Alarm Signaling Systems or Appliances	_____												
_____	_____												
_____	_____												
_____	_____												
_____	_____												
See Main System Record of Completion for additional information, certifications, and approvals.													
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Figure 7.8.2(c) Power Systems Supplementary Record of Completion. (SIG-FUN)

POWER SYSTEMS SUPPLEMENTARY RECORD OF COMPLETION	
This form is a supplement to the System Record of Completion. It includes systems and components specific to power systems that incorporate generators, ESS systems, remote battery systems, or other complex power systems. This form is to be completed by the system installation contractor at the time of system acceptance and approval. It shall be permitted to modify this form as needed to provide a more complete and/or clear record. Insert N/A in all unused lines.	
Form Completion Date: _____ Number of Supplemental Pages Attached: _____	
1. PROPERTY INFORMATION	
Name of property: _____	
Address: _____	
2. SYSTEM POWER	
2.1 Control Unit	
2.1.1 Primary Power	
Input voltage of control panel: _____ Control panel amperage: _____	
Overcurrent protection: Type: _____ Amps: _____	
Location of primary supply panelboard: _____	
Disconnecting means location: _____	
2.1.2 Engine-Driven Generator	
Location of generator: _____	
Location of fuel storage: _____ Type of fuel: _____	
2.1.3 Energy Storage Systems	
Equipment powered by ESS system: _____	
Location of ESS system: _____	
Calculated capacity of ESS batteries to drive the system components connected to it:	
In standby mode (hours): _____ In alarm mode (minutes): _____	
2.1.4 Batteries	
Location: _____ Type: _____ Nominal voltage: _____ Amp/hour rating: _____	
Calculated capacity of batteries to drive the system:	
In standby mode (hours): _____ In alarm mode (minutes): _____	
2.2 In-Building Fire Emergency Voice Alarm Communications System or Mass Notification System	
2.2.1 Primary Power	
Input voltage of EVACS or MNS panel: _____ EVACS or MNS panel amperage: _____	
Overcurrent protection: Type: _____ Amps: _____	
Location of primary supply panelboard: _____	
Disconnecting means location: _____	
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POWER SYSTEMS SUPPLEMENTARY RECORD OF COMPLETION (continued)	
2. SYSTEM POWER (continued)	
2.2.2 Engine-Driven Generator	
Location of generator: _____	
Location of fuel storage: _____ Type of fuel: _____	
2.2.3 Energy Storage Systems	
Equipment powered by ESS system: _____	
Location of ESS system: _____	
Calculated capacity of ESS batteries to drive the system components connected to it:	
In standby mode (hours): _____ In alarm mode (minutes): _____	
2.2.4 Batteries	
Location: _____ Type: _____ Nominal voltage: _____ Amp/hour rating: _____	
Calculated capacity of batteries to drive the system:	
In standby mode (hours): _____ In alarm mode (minutes): _____	
2.3 Notification Appliance Power Extender Panels	
☐ This system does not have power extender panels.	
2.3.1 Primary Power	
Input voltage of power extender panel(s): _____ Power extender panel amps: _____	
Overcurrent protection: Type: _____ Amps: _____	
Location (of primary supply panelboard): _____	
Disconnecting means location: _____	
2.3.2 Engine Driven Generator	
Location of generator: _____	
Location of fuel storage: _____ Type of fuel: _____	
2.3.3 Energy Storage Systems	
Equipment powered by ESS system: _____	
Location of ESS system: _____	
Calculated capacity of ESS batteries to drive the system components connected to it:	
In standby mode (hours): _____ In alarm mode (minutes): _____	
2.3.4 Batteries	
Location: _____ Type: _____ Nominal voltage: _____ Amp/hour rating: _____	
Calculated capacity of batteries to drive the system:	
In standby mode (hours): _____ In alarm mode (minutes): _____	
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NFPA 72 (p. 2 of 3)	

POWER SYSTEMS SUPPLEMENTARY RECORD OF COMPLETION (continued)	
2. SYSTEM POWER (continued)	
2.4 Supervising Station Transmission Equipment	
☐ This system does not use transmission equipment within the building powered by any other source than the alarm system control unit.	
2.4.1 Primary Power	
Input voltage of shared transmission equipment: _____	
Shared transmission equipment panel amps: _____	
Overcurrent protection: Type: _____ Amps: _____	
Location (of primary supply panelboard): _____	
Disconnecting means location: _____	
2.4.2 Engine Driven Generator	
Location of generator: _____	
Location of fuel storage: _____ Type of fuel: _____	
2.4.3 Energy Storage Systems	
Equipment powered by ESS system: _____	
Location of ESS system: _____	
Calculated capacity of ESS batteries to drive the system components connected to it:	
In standby mode (hours): _____ In alarm mode (minutes): _____	
2.4.4 Batteries	
Location: _____ Type: _____ Nominal voltage: _____ Amp/hour rating: _____	
Calculated capacity of batteries to drive the system:	
In standby mode (hours): _____ In alarm mode (minutes): _____	
See Main System Record of Completion for additional information, certifications, and approvals.	
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Figure 7.8.2(d) Notification Appliance Power Panel Supplementary Record of Completion. (SIG-FUN)

Figure 7.8.2(e) Interconnected Systems Supplementary Record of Completion. (SIG-FUN)

Figure 7.8.2(f) Deviations from Adopted Codes and Standards Supplementary Record of Completion. (SIG-FUN)

DEVIATIONS FROM ADOPTED CODES AND STANDARDS SUPPLEMENTARY RECORD OF COMPLETION	
This form is a supplement to the System Record of Completion. It enables the designer and/or installer to document and justify deviations from accepted codes or standards. This form is to be completed by the system installation contractor at the time of system acceptance and approval. It shall be permitted to modify this form as needed to provide a more complete and/or clear record. Insert N/A in all unused lines.	
Form Completion Date: _____ Number of Supplemental Pages Attached: _____	
1. PROPERTY INFORMATION	
Name of property: _____	
Address: _____	
2. DEVIATIONS FROM ADOPTED CODES OR STANDARDS	
Description	Purpose
See Main System Record of Completion for additional information, certifications, and approvals.	
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Figure 7.8.2(g) System Record of Inspection and Testing. (SIG-TMS)

SYSTEM RECORD OF INSPECTION AND TESTING	
This form is to be completed by the system inspection and testing contractor at the time of a system test. It shall be permitted to modify this form as needed to provide a more complete and/or clear record. Insert N/A in all unused lines. Attach additional sheets, data, or calculations as necessary to provide a complete record.	
Inspection/Test Start Date/Time: _____ Inspection/Test Completion Date/Time: _____	
Supplemental Form(s) Attached: _____ (yes/no)	
1. PROPERTY INFORMATION	
Name of property: _____	
Address: _____	
Description of property: _____	
Name of property representative: _____	
Address: _____	
Phone: _____	E-mail: _____
2. TESTING AND MONITORING INFORMATION	
Testing organization: _____	
Address: _____	
Phone: _____	E-mail: _____
Monitoring organization: _____	
Address: _____	
Phone: _____	E-mail: _____
Account number: _____	Phone line 1: _____
Means of transmission: _____	
Entity to which alarms are retransmitted: _____	
Phone: _____	
3. DOCUMENTATION	
Onsite location of the required record documents and site-specific software: _____	
4. DESCRIPTION OF SYSTEM OR SERVICE	
4.1 Control Unit	
Manufacturer: _____	Model number: _____
4.2 Software Firmware	
Firmware revision number: _____	
4.3 System Power	
4.3.1 Primary (Main) Power	
Nominal voltage: _____	Amperage: _____
Location: _____	
Overcurrent protection type: _____	Amperage: _____
Disconnecting means location: _____	
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SYSTEM RECORD OF INSPECTION AND TESTING (continued)

4. DESCRIPTION OF SYSTEM OR SERVICE (continued)

4.3.2 Secondary Power

Type: _____ Location: _____

Battery type (if applicable): _____

Calculated capacity of batteries to drive the system: _____

In standby mode (hours): _____ In alarm mode (minutes): _____

5. NOTIFICATIONS MADE PRIOR TO TESTING

Monitoring organization Contact: _____ Time: _____

Building management Contact: _____ Time: _____

Building occupants Contact: _____ Time: _____

Authority having jurisdiction Contact: _____ Time: _____

Other, if required Contact: _____ Time: _____

6. TESTING RESULTS

6.1 Control Unit and Related Equipment

Description	Visual Inspection	Functional Test	Comments
Control unit	☐	☐	
Lamps/LEDs/LCDs	☐	☐	
Fuses	☐	☐	
Trouble signals	☐	☐	
Disconnect switches	☐	☐	
Ground-fault monitoring	☐	☐	
Supervision	☐	☐	
Local annunciator	☐	☐	
Remote annunciators	☐	☐	
Remote power panels	☐	☐	
	☐	☐	

6.2 Secondary Power

Description	Visual Inspection	Functional Test	Comments
Battery condition	☐	☐	
Load voltage	☐	☐	
Discharge test	☐	☐	
Charger test	☐	☐	
Remote panel batteries	☐	☐	

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SYSTEM RECORD OF INSPECTION AND TESTING (continued)

6. TESTING RESULTS (continued)

6.3 Alarm and Supervisory Alarm Initiating Device

Attach supplementary device test sheets for all initiating devices.

6.4 Notification Appliances

Attach supplementary appliance test sheets for all notification appliances.

6.5 Interface Equipment

Attach supplementary interface component test sheets for all interface components.

Circuit Interface / Signaling Line Circuit Interface / Fire Alarm Control Interface

6.6 Supervising Station Monitoring

Description	Yes	No	Time	Comments
Alarm signal	☐	☐		
Alarm restoration	☐	☐		
Trouble signal	☐	☐		
Trouble restoration	☐	☐		
Supervisory signal	☐	☐		
Supervisory restoration	☐	☐		

6.7 Public Emergency Alarm Reporting System

Description	Yes	No	Time	Comments
Alarm signal	☐	☐		
Alarm restoration	☐	☐		
Trouble signal	☐	☐		
Trouble restoration	☐	☐		
Supervisory signal	☐	☐		
Supervisory restoration	☐	☐		

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Figure 7.8.2(h) Notification Appliance Supplementary Record of Inspection and Testing. (SIG-TMS)

10/14/2019, 2:56 PM

Figure 7.8.2(i) Initiating Device Supplementary Record of Inspection and Testing. (SIG-TMS)

10/14/2019, 2:56 PM

Figure 7.8.2(j) Mass Notification System Supplementary Record of Inspection and Testing. (SIG-TMS)

10/14/2019, 2:56 PM

MASS NOTIFICATION SYSTEM SUPPLEMENTARY RECORD OF INSPECTION AND TESTING (continued)			
4. MASS NOTIFICATION EQUIPMENT TEST RESULTS			
Description	Visual Inspection	Functional Test	Comments
Functional test			
Reset/power down test			
Fuses			
Primary power supply			
ESS power test			
Trouble signals			
Disconnect switches			
Ground-fault monitoring			
CCU security mechanism			
Prerecorded message content			
Prerecorded message activation			
Software backup performed			
Test backup software			
Fire alarm to MNS interface			
MNS to fire alarm interface			
In-building MNS to wide-area MNS			
MNS to direct recipient MNS			
Sound pressure levels			
Occupied ☐ Yes ☐ No			
Ambient dBA: _____			
Alarm dBA: _____			
(attach supplementary notification appliance forms with locations, values, and weather conditions)			
System intelligibility			
Test method: _____ Score: _____			
CIS value: _____			
(attach supplementary notification appliance forms with locations, values, and weather conditions)			
Other (specify): _____			

See main System Record of Inspection and Testing for additional information, certifications, and approvals.

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Figure 7.8.2(k) Emergency Communications Systems Supplementary Record of Inspection and Testing. (SIG-TMS)

EMERGENCY COMMUNICATIONS SYSTEMS SUPPLEMENTARY RECORD OF INSPECTION AND TESTING	
<i>This form is a supplement to the System Record of Inspection and Testing. It includes systems and components specific to emergency communication systems. This form is to be completed by the system inspection and testing contractor at the time of the inspection and/or test. It shall be permitted to modify this form as needed to provide a more complete and/or clear record. Insert N/A in all unused lines.</i>	
Inspection/Test Start Date/Time: _____	Inspection/Test Completion Date/Time: _____
Number of Supplemental Pages Attached: _____	
1. PROPERTY INFORMATION	
Name of property: _____	
Address: _____	
2. DESCRIPTION OF SYSTEM OR SERVICE	
☐ Fire alarm with in-building fire emergency voice alarm communication system (EVAC)	
☐ Mass notification system	
☐ Combination system, with the following components:	
☐ Fire alarm ☐ EVACS ☐ MNS ☐ Two-way, in-building, emergency communication system	
☐ Other (specify): _____	
Additional description of system(s): _____	
2.1 In-Building Fire Emergency Voice Alarm Communication System	
Manufacturer: _____ Model number: _____	
Number of single voice alarm channels: _____ Number of multiple voice alarm channels: _____	
Number of loudspeakers: _____ Number of loudspeaker circuits: _____	
Location of amplification and sound processing equipment: _____	
Location of paging microphone stations: _____	
Location 1: _____	
Location 2: _____	
Location 3: _____	
2.2 Mass Notification System	
2.2.1 System Type:	
☐ In-building MNS—combination	
☐ In-building MNS ☐ Wide-area MNS ☐ Distributed recipient MNS	
☐ Other (specify): _____	

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EMERGENCY COMMUNICATIONS SYSTEMS SUPPLEMENTARY RECORD OF INSPECTION AND TESTING (continued)			
2. DESCRIPTION OF SYSTEM OR SERVICE (continued)			
2.2.2 System Features:			
☐ Combination fire alarm/MNS ☐ MNS autonomous control unit ☐ Wide-area MNS to regional national alerting interface			
☐ Local operating console (LOC) ☐ Distributed recipient MNS (DRMNS) ☐ Wide-area MNS to DRMNS interface			
☐ Wide-area MNS to high-power loudspeaker array (HPLA) interface ☐ In-building MNS to wide-area MNS interface			
☐ Other (specify): _____			
2.2.3 MNS Local Operating Consoles			
Location 1: _____			
Location 2: _____			
Location 3: _____			
2.2.4 High-Power Loudspeaker Arrays			
Number of HPLA loudspeaker initiation zones: _____			
Location 1: _____			
Location 2: _____			
Location 3: _____			
2.2.5 Mass Notification Devices			
Combination fire alarm/MNS visual devices: _____ MNS-only visual devices: _____			
Textual signs: _____ Other (describe): _____			
Supervision class: _____			
2.2.6 Special Hazard Notification			
☐ This system does not have special suppression pre-discharge notification			
☐ MNS systems DO NOT override notification appliances required to provide special suppression pre-discharge notification			
3. TWO-WAY EMERGENCY COMMUNICATION SYSTEMS			
3.1 Telephone System			
Number of telephone jacks installed: _____ Number of warden stations installed: _____			
Number of telephone handsets stored on site: _____			
Type of telephone system installed: ☐ Electrically powered ☐ Sound powered			
3.2 Area of Refuge (Area of Rescue Assistance) Emergency Communications Systems			
Number of stations: _____ Location of central control point: _____			
Days and hours when central control point is attended: _____			
Location of alternate control point: _____			
Days and hours when alternate control point is attended: _____			
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EMERGENCY COMMUNICATIONS SYSTEMS SUPPLEMENTARY RECORD OF INSPECTION AND TESTING (continued)			
3. TWO-WAY EMERGENCY COMMUNICATIONS SYSTEMS (continued)			
3.3 Elevator Emergency Communications Systems			
Number of elevators with stations: _____ Location of central control point: _____			
Days and hours when central control point is attended: _____			
Location of alternate control point: _____			
Days and hours when alternate control point is attended: _____			
3.4 Other Two-Way Communication System			
Describe: _____			
4. TESTING RESULTS			
4.1 Control Unit and Related Equipment			
Description	Visual Inspection	Functional Test	Comments
Control unit	☐	☐	
Lamps/LEDs/LCDs	☐	☐	
Fuses	☐	☐	
Trouble signals	☐	☐	
Disconnect switches	☐	☐	
Ground fault monitoring	☐	☐	
Supervision	☐	☐	
Local annunciator	☐	☐	
Remote annunciators	☐	☐	
Remote power panels	☐	☐	
Other:	☐	☐	
4.2 Secondary Power			
Description	Visual Inspection	Functional Test	Comments
Battery condition	☐	☐	
Load voltage	☐	☐	
Discharge test	☐	☐	
Charger test	☐	☐	
Remote panel batteries	☐	☐	
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NFPA 72 (p. 3 of 5)			

EMERGENCY COMMUNICATIONS SYSTEMS SUPPLEMENTARY RECORD OF INSPECTION AND TESTING (continued)			
4. TESTING RESULTS (continued)			
4.3 Emergency Communications Equipment			
Description	Visual Inspection	Functional Test	Comments
Control unit	☐	☐	
Lamps/LEDs/LCDs	☐	☐	
Fuses	☐	☐	
Secondary power supply	☐	☐	
Trouble signals	☐	☐	
Disconnect switches	☐	☐	
Ground fault monitoring	☐	☐	
Panel supervision	☐	☐	
System performance	☐	☐	
System audibility	☐	☐	
System intelligibility	☐	☐	
Other:	☐	☐	
4.4 Mass Notification Equipment			
Description	Visual Inspection	Functional Test	Comments
Functional test	☐	☐	
Reset/Power down test	☐	☐	
Fuses	☐	☐	
Primary power supply	☐	☐	
ESS power test	☐	☐	
Trouble signals	☐	☐	
Disconnect switches	☐	☐	
Ground fault monitoring	☐	☐	
CCU security mechanism	☐	☐	
Prerecorded message content	☐	☐	
Prerecorded message activation	☐	☐	
Software backup performed	☐	☐	
Test backup software	☐	☐	
Fire alarm to MNS Interface	☐	☐	
MNS to fire alarm interface	☐	☐	
In-building MNS to wide-area MNS	☐	☐	
MNS to direct recipient MNS	☐	☐	
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EMERGENCY COMMUNICATIONS SYSTEMS SUPPLEMENTARY RECORD OF INSPECTION AND TESTING (continued)			
4. TESTING RESULTS (continued)			
4.4 Mass Notification Equipment (continued)			
Description	Visual Inspection	Functional Test	Comments
Sound pressure levels (attach report with locations, values, and weather conditions)	☐	☐	
System intelligibility ☐ CSI ☐ STI (attach report with locations, values, and weather conditions)	☐	☐	
Other:	☐	☐	
4.5 Two-Way Communication Equipment			
Description	Visual Inspection	Functional Test	Comments
Phone handsets	☐	☐	
Phone jacks	☐	☐	
Off-hook indicator	☐	☐	
Call-in signal	☐	☐	
System performance	☐	☐	
System audibility	☐	☐	
System intelligibility	☐	☐	
Other:	☐	☐	
See main System Record of Inspection and Testing for additional information, certifications, and approvals.			
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Figure 7.8.2(I) Interface Component Supplementary Record of Inspection and Testing. (SIG-TMS)

Figure 7.8.2(m) Installation and Inspection Form Single- and Multiple-Station Alarms and Household Fire Alarm Systems.

**INSTALLATION AND INSPECTION FORM
SINGLE- AND MULTIPLE-STATION ALARMS AND
HOUSEHOLD FIRE ALARM SYSTEMS**

This form is to be completed at the time of installation/final inspection of any household fire alarm system and single- or multiple-station alarms. It is to be permitted to modify this form as required to provide a more complete and/or clear record. Insert N/A in all unused lines.

Attach additional sheets, data, or calculations as necessary to complete form.

Form Completion Date: _____ Supplemental Pages Attached: _____

1. PROPERTY INFORMATION

Property Owner: _____
 Address: _____
 Phone: _____ E-Mail: _____ Other: _____

2. INSTALLATION, CONTRACTOR, AND MONITORING INFORMATION

Installation Contractor: _____
 Address: _____
 Phone: _____ E-Mail: _____ Other: _____

2.1 Type of Off-Premises Notification

Monitoring Organization: _____
 Address: _____
 Phone: _____ E-Mail: _____ Other: _____
 Account Number: _____ Means of Transmission: _____

3. DESCRIPTION OF SYSTEM OR SERVICE

3.1 Type of System
 NFPA 72 Edition: _____

☐ Single-Station ☐ Multiple-Station ☐ Household Fire Alarm System ☐ Carbon Monoxide Alarm System

3.2 Number of Devices

Single-Station Smoke Alarms: _____ Multiple-Station Smoke Alarms: _____
 Single-Station Heat Alarms: _____ Multiple-Station Heat Alarms: _____
 Single-Station Carbon Monoxide Alarms: _____ Multiple-Station Carbon Monoxide Alarms: _____
 System Smoke Detectors: _____ System Heat Detectors: _____
 Waterflow Switches: _____
 Notification Appliances: _____ Type: _____
 Interfaced/Other Equipment: _____

3.3 Location (L) and Date (D) of Devices

Device type, location and manufacture date of devices (date shown back of devices)

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Electrical Panel (L): _____ Breaker Number: _____
 Alarm Control Unit (L): _____ Battery Back-up (D): _____
 Plug in Transformer (L): _____
 Relay for Interconnection (L): _____

4. PREPARED BY

Signed: _____ Printed Name: _____ Date: _____
 Title: _____ Organization: _____

Statement of Problem and Substantiation for Public Input

Please see PI: 599. These PIs are part of a whole, spread across chapters 2, 3, 7, 14, 10, 21, 23, 24, 26, & 27 and are meant to work together.

Related Public Inputs for This Document

Related Input	Relationship
<u>Public Input No. 599-NFPA 72-2019 [New Section after 10.4.7.3]</u>	Part of a broader public input intended to work together

Submitter Information Verification

Submitter Full Name: Michael Pallett
Organization: Telecor Inc.
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jun 26 16:05:03 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: The forms need to be further reviewed to determine the exact placement of cyber security documentation.

**Public Input No. 615-NFPA 72-2019 [New Section after 10.3]****TITLE OF NEW CONTENT**

Type your content here ...Abandoned fire alarm equipment shall be removed or clearly marked as not in service.

Statement of Problem and Substantiation for Public Input

The standard does not address abandoned equipment or already installed equipment that is no longer needed. The intent of the modification is to provide the system owner with options regarding equipment that it is already installed, but no longer needed.

Submitter Information Verification

Submitter Full Name: Paul Kahle
Organization: Code Consultants, Inc.
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jun 26 15:59:37 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: FR-5091-NFPA 72-2019
Statement: Abandoned equipment must be removed to avoid confusion between which fire alarm equipment is functional and which is not.



Public Input No. 226-NFPA 72-2019 [New Section after 10.3.3]

Equipment required for seismic risk category usage shall be evaluated for the purpose to AC156 - "Seismic Certification by Shake-table Testing of Nonstructural Components."

Statement of Problem and Substantiation for Public Input

As more buildings are being constructed to withstand seismic activity the fire alarm control unit is being asked to also meet some type of testing compliance to prove the system is able to withstand seismic activity in a building. Language has been added for other life safety systems like sprinkler and battery systems but NFPA 72 has not addressed the concept. This language should be added to start the recognition of fire alarm and life safety systems needing to be hardened to withstand seismic activity and still operate to notify the occupants and send signals offsite.

More information about the testing criteria can be found at <https://icc-es.org/acceptance-criteria/ac156/>

Submitter Information Verification

Submitter Full Name: Rodger Reiswig

Organization: Johnson Controls

Street Address:

City:

State:

Zip:

Submittal Date: Tue Jun 04 15:13:08 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: [FR-5101-NFPA 72-2019](#)

Statement: This language should be added to start the recognition of fire alarm and life safety systems needing to be hardened to withstand seismic activity.



Public Input No. 103-NFPA 72-2019 [Section No. 10.3.3]

10.3.3*

All devices and appliances that receive their operating power from ~~the~~ an initiating device circuit (IDC) or from a signaling line circuit (SLC) of a control unit shall be listed for use with the control unit.

Statement of Problem and Substantiation for Public Input

Clarification that the "power" in question is operating power, not, for example, signaling power and not political power. See related edits to annex material.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 104-NFPA 72-2019 [Section No. A.10.3.3]	
Public Input No. 104-NFPA 72-2019 [Section No. A.10.3.3]	

Submitter Information Verification

Submitter Full Name: Robert Schifiliti
Organization: R. P. Schifiliti Associates, I
Street Address:
City:
State:
Zip:
Submittal Date: Mon Apr 08 11:48:07 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: [FR-5097-NFPA 72-2019](#)

Statement: The text clarifies that the "power" in question is operating power. See related edits to annex material.

**Public Input No. 174-NFPA 72-2019 [Section No. 10.3.5]****10.3.5**

Equipment shall be designed so that it is capable of performing its intended functions under the following conditions:

- (1) * At 85 percent and at 110 percent of the nameplate primary (main) and secondary (standby) input voltage(s)
- (2) At ambient temperatures of 32°F (0°C) and ~~120°F~~ 100°F (~~49°C~~ 38°C)
- (3) At a relative humidity of 85 percent and an ambient temperature of 86°F (30°C)

Statement of Problem and Substantiation for Public Input

This clause appears to be in conflict with 17.7.1.8 and UL 217/UL 268. Chapter 17 only requires that detectors be listed to work to 100 degrees F.

Submitter Information Verification

Submitter Full Name: Scott Lang
Organization: Honeywell International
Street Address:
City:
State:
Zip:
Submittal Date: Fri May 17 14:00:39 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: The requirements of Chapter 10 apply to all equipment unless otherwise modified by other chapters. Section 17.1.3 states that Chapters 7, 10, 12, 21, 23, and 24 apply unless they are in conflict with Chapter 17.

**Public Input No. 40-NFPA 72-2019 [Section No. 10.3.5]****10.3.5**

Equipment shall be designed so that it is capable of performing its intended functions under the following conditions:

- (1) * At 85 percent and at 110 percent of the nameplate primary (main) and secondary (standby) input voltage(s)
- (2) At ambient temperatures of 32°F (0°C) and 120°F (49°C)
- (3) At a relative humidity of 85 percent and an ambient temperature of 86°F (30°C)

Delete the statement "(3) At a relative humidity of 85 percent and an ambient temperature of 86 degrees F (30 degrees C)."

In its place, please insert "(3) At a relative humidity of 10 percent and a relative humidity of 90 percent, irrespective of temperature."

-

-

Statement of Problem and Substantiation for Public Input

The reason for this change is that the 85% RH and 86F test point is just that, a point. It's unclear whether 119F and 85% RH is acceptable. It's also unclear whether 33F and 85% is acceptable, but it should be noted that either of these conditions could well be more exacting than the single point 85% RH and 86F. Further, the single point has been taken to mean (by some authorities) that the room in which the panel is installed, has to be maintained at that condition. In doing so, the AHJ is forcing the issue of air conditioning for the fire alarm panel room, which is clearly not the intent in light of the allowable 32F to 120F range. The test point offered by number (3) above, does not dovetail with the intent of the Code and this document is, after all, a Code, not a test description or test standard.

The 90 percent RH number is being suggested as a "shift" from the 85 percent relative humidity because in hot humid climates, many mornings could present conditions that exceed 85 percent relative humidity. Without this wider tolerance, the Code, in effect, would mandate air conditioning in hot humid climates, and clearly this is not the intent.

Submitter Information Verification

Submitter Full Name: Alfonso Fernandez-Fraga

Organization: Initial Engineers PA

Street Address:

City:

State:

Zip:

Submission Date: Mon Jan 28 15:55:44 EST 2019

Committee: SIG-FUN

Committee Statement

Resolution: The parameters are used by the listing agencies to confirm the ability of the equipment to be installed to meet the requirements of NFPA 72. These values are the minimum requirements that the test standards use to establish their testing guidelines. Air-conditioning may be needed for certain installations based on ambient conditions. There is no technical substantiation provided supporting the change in values.



Public Input No. 315-NFPA 72-2019 [New Section after 10.4.4]

TITLE OF NEW CONTENT

Accessibility of Equipment - All electrical panels, control panels, power supplies and other equipment that requires servicing while energized shall be readily accessible.

Statement of Problem and Substantiation for Public Input

Power supplies and control panels require servicing, inspection, testing or maintenance while energized need to be readily accessible so that they can be safely serviced. This is an existing requirement in NFPA 70-, (NEC) Article 110.26 and needs to be added here for additional clarity.

Submitter Information Verification

Submitter Full Name: Thomas Parrish

Organization: Telgian Corporation

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jun 20 12:06:02 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: The proposed language is too restrictive based on the definitions of accessible and readily accessible as defined in NFPA 72.



Public Input No. 181-NFPA 72-2019 [Section No. 10.4.4]

10.4.4*

Unless otherwise ~~permitted~~ required by the authority having jurisdiction, control unit displays, visible indicators, or controls shall be mounted such that the distance to the highest switch, lamp, or textual display does not exceed 6 ft (1.8 m) above the finished floor, and the lowest switch, lamp, or textual display shall not be less than 45 ~~in~~ 48 in . (375 mm) above the finished floor.

Statement of Problem and Substantiation for Public Input

The current text of Section 10.4.4 is problematic for the fire service. First, the text indicates that "Unless otherwise permitted by the authority having jurisdiction..." the displays, indicators or controls shall be mounted such that they are located within a specified range above and below the finished floor. The use of the word "permitted" allows the AHJ to authorize a different mounting height, but does not allow the AHJ to specify a height which may allow for the functional access to the displays, indicators or controls by firefighters. An AHJ may "permit" a mounting height of 60 inches AFF, but, as currently worded, the installer could still choose to mount the equipment anywhere within the prescribed range. The use of the word "...required..." would allow the AHJ to specify a more practical range, or specific mounting height, than currently is indicated in the code.

Second, a mounting height of 15 inches above the finish floor is not functionally practical for a firefighter wearing an SCBA. In order to read the display a firefighter would have to get down on their hands and knees. A minimal mounting height of 48 inches would be practical for any firefighter while remaining on their feet.

Submitter Information Verification

Submitter Full Name: Warren Olsen
Organization: Fire Safety Consultants, Inc.
Affiliation: Illinois Fire Inspectors Association
Street Address:
City:
State:
Zip:
Submittal Date: Sun May 19 14:53:02 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: Based on the size of panels and space where they are located it may not be possible to install them within the proposed range. The panels consist of LED lights, switches, and textual displays (labels) which are intended to be allowed to be installed within 15 in. of the finished floor.



Public Input No. 191-NFPA 72-2019 [Section No. 10.4.4]

10.4.4*

Unless otherwise permitted by the authority having jurisdiction, control unit displays, visible indicators, or controls shall be mounted such that the distance to the highest switch, lamp, or the center line of the textual display does not exceed 6 ft (1.8 m) above the finished floor, and the lowest switch, lamp, or the center line of the textual display shall not be less than 15 in. (375 mm) above the finished floor.

Statement of Problem and Substantiation for Public Input

This revision is added since different panels or control units have different types of textual displays that can have various dimensions (some of them can be very large displays) . In order to prevent inconsistencies regarding the intent of the code, this PI proposes to apply the specific measurements to the center line of any textual display.

Submitter Information Verification

Submitter Full Name: Sagiv Weiss-Ishai
Organization: San Francisco Fire Department
Affiliation: SFFD
Street Address:
City:
State:
Zip:
Submittal Date: Sun May 26 17:23:47 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: The construction of the panels for the space where they are installed may not place the center line within this range.



Public Input No. 515-NFPA 72-2019 [New Section after 10.4.5]

10.4.5*

(3) When the FACU is installed on the exterior of the building, a heat detector shall be installed in accordance with this code to protect the FACU.

Statement of Problem and Substantiation for Public Input

This section does not address a FACU being installed on the exterior of the building. A heat detector shall be required to be installed to protect the FACU.

Submitter Information Verification

Submitter Full Name: Kevin Green

Organization: Pyro-Comm Systems, Inc.

Affiliation: FUN Task Group

Street Address:

City:

State:

Zip:

Submittal Date: Tue Jun 25 16:16:25 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: Proposed changes to the Code gives one both a prescriptive and risk assessment options.

**Public Input No. 210-NFPA 72-2019 [Section No. 10.4.5]****10.4.5***

Unless otherwise permitted by 10.4.6 [5.1](#) or [10.4.5.2](#) , in areas that are not continuously occupied, early warning fire detection shall be at the location of each control unit(s), notification appliance circuit power extender(s), and supervising station transmitting equipment to provide notification of fire at that location by one of the following means:

- (1) An automatic smoke detector at the location of each control unit(s), notification appliance circuit power extender(s), and supervising station transmitting equipment
- (2) An automatic heat detector where ambient conditions prohibit installation of an automatic smoke detector

Statement of Problem and Substantiation for Public Input

The Correlating Committee has directed the Technical Committee to review 10.4.5 with regard to the following:

- Does this section require a detector if the FACU is installed in a NEMA enclosure on the exterior wall of the building?
- If so, is the intent to provide a heat detector (assuming the environment is not suitable for smoke detection) on the wall or overhang above the enclosure or should the detector be installed inside the NEMA enclosure?
- What if there is no overhang to collect heat?
- What if the building exterior is noncombustible?
- If a detector is not required when the panel is located outdoors, can clarifying language be provided?

The questions above focus on the FACU being installed in a NEMA enclosure, however, there are likely many other applications that would create a list of similar questions. A risk analysis needs to be performed to determine if early warning fire detection is necessary to provide protection for the control unit(s), notification appliance circuit power extender(s) and supervising station transmitting equipment AND if the risk analysis shows smoke or heat detectors are not necessary, the omission must be approved by the AHJ.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 211-NFPA 72-2019 [Section No. 10.4.6]	
Public Input No. 212-NFPA 72-2019 [New Section after 10.4.6]	
Public Input No. 213-NFPA 72-2019 [Section No. A.10.4.5]	
Public Input No. 214-NFPA 72-2019 [New Section after A.10.4.5]	

Submitter Information Verification

Submitter Full Name: Todd Warner
Organization: Brooks Equipment Company, Inc.
Affiliation: Fire Equipment Manufacturer's Association (FEMA)
Street Address:
City:
State:
Zip:
Submission Date: Fri May 31 12:39:29 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: [FR-5341-NFPA 72-2019](#)

Statement: A risk analysis needs to be performed to determine if early warning fire detection is necessary to provide protection for the control unit(s), notification appliance circuit power extender(s) and supervising station transmitting equipment AND if the risk analysis shows smoke or heat detectors are not necessary, the omission must be approved by the AHJ.

**Public Input No. 322-NFPA 72-2019 [Section No. 10.4.5]****10.4.5***

Unless otherwise permitted by 10.4.6 and 10.4.6.1 , in areas that are not continuously occupied, early warning fire detection shall be at the location of each control unit(s), notification appliance circuit power extender(s), and supervising station transmitting equipment to provide notification of fire at that location by one of the following means:

- (1) An automatic smoke detector at the location of each control unit(s), notification appliance circuit power extender(s), and supervising station transmitting equipment
- (2) An automatic heat detector where ambient conditions prohibit installation of an automatic smoke detector

Statement of Problem and Substantiation for Public Input

This change is needed to correlate with new section 10.4.6.1.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 324-NFPA 72-2019 [New Section after 10.4.6]	

Submitter Information Verification

Submitter Full Name: David Fable
Organization: US General Services Administration
Street Address:
City:
State:
Zip:
Submittal Date: Thu Jun 20 15:51:00 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: This section reference is not required as Section 10.4.5 already references risk analysis which would allow the removal of the detector based on the results of the risk analysis.

**Public Input No. 212-NFPA 72-2019 [New Section after 10.4.6]****TITLE OF NEW CONTENT**

10.4.5.2 Where a risk analysis shows that early warning fire detection is not required and where acceptable to the authority having jurisdiction, the requirements of 10.4.5 shall not apply.

Statement of Problem and Substantiation for Public Input

Additional section relating to PI#210

Related Public Inputs for This Document

Related Input	Relationship
<u>Public Input No. 210-NFPA 72-2019 [Section No. 10.4.5]</u>	Existing modified to include new sub-paragraph
<u>Public Input No. 211-NFPA 72-2019 [Section No. 10.4.6]</u>	New sub-paragraph to address issues raised by CC

Submitter Information Verification

Submitter Full Name: Todd Warner

Organization: Brooks Equipment Company, Inc.

Affiliation: Fire Equipment Manufacturers Association (FEMA)

Street Address:

City:

State:

Zip:

Submission Date: Fri May 31 12:44:05 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: FR-5341-NFPA 72-2019

Statement: A risk analysis needs to be performed to determine if early warning fire detection is necessary to provide protection for the control unit(s), notification appliance circuit power extender(s) and supervising station transmitting equipment AND if the risk analysis shows smoke or heat detectors are not necessary, the omission must be approved by the AHJ.

**Public Input No. 324-NFPA 72-2019 [New Section after 10.4.6]****TITLE OF NEW CONTENT**

10.4.6.1 Early warning fire detection shall not be required to be installed at the location of the fire control unit(s) located in a fire command center or emergency command center protected by an automatic sprinkler system designed in accordance with NFPA 13, Standard for the Installation of Sprinkler Systems.

Statement of Problem and Substantiation for Public Input

I have proposed to provide an additional reasonable and cost effective option via a new subsection for ensuring the performance of the fire alarm control unit(s) located within a fire command center/emergency command center. This option would permit fire control unit(s) located in a fire command center/emergency command center protected by an automatic sprinkler system designed in accordance with NFPA 13, Standard for the Installation of Sprinkler Systems to not be required to have early warning fire detection installed at the location of the fire control unit(s). This option acknowledges the benefits of a building protected throughout by an automatic sprinkler system designed and installed in accordance with NFPA 13. Since the purpose of a sprinkler system is to control fire spread, it makes sense that in a sprinklered fire command center/emergency command center fire would not experience growth to the point of disabling equipment. This option would also reduce the costs associated with the current protection requirements (e.g., installation and ITM).

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 322-NFPA 72-2019 [Section No. 10.4.5]	

Submitter Information Verification

Submitter Full Name: David Fable
Organization: US General Services Administration
Street Address:
City:
State:
Zip:
Submission Date: Thu Jun 20 15:55:13 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: The intent is, should there be a risk of fire in the fire command center that the fire control unit shall be capable of initiating onsite and/or supervising station notification signals prior to potential damage from the activation of a sprinkler system.

**Public Input No. 211-NFPA 72-2019 [Section No. 10.4.6]****10.4.6 – 5.1 ***

Smoke or heat detector(s) shall not be required to be installed at the location of dedicated function(s) fire alarm control unit(s) that are not required to provide local or supervising station notification signals.

Statement of Problem and Substantiation for Public Input

Required as part of PI#210. New appendix section needed due to incorrect references.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 210-NFPA 72-2019 [Section No. 10.4.5]	Renumbered as needed by PI#210
Public Input No. 213-NFPA 72-2019 [Section No. A.10.4.5]	
Public Input No. 214-NFPA 72-2019 [New Section after A.10.4.5]	
Public Input No. 212-NFPA 72-2019 [New Section after 10.4.6]	
Public Input No. 213-NFPA 72-2019 [Section No. A.10.4.5]	
Public Input No. 214-NFPA 72-2019 [New Section after A.10.4.5]	

Submitter Information Verification

Submitter Full Name: Todd Warner

Organization: Brooks Equipment Company, Inc.

Affiliation: Fire Equipment Manufacturers Association (FEMA)

Street Address:

City:

State:

Zip:

Submittal Date: Fri May 31 12:41:54 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: [FR-5341-NFPA 72-2019](#)

Statement: A risk analysis needs to be performed to determine if early warning fire detection is necessary to provide protection for the control unit(s), notification appliance circuit power extender(s) and supervising station transmitting equipment AND if the risk analysis shows smoke or heat detectors are not necessary, the omission must be approved by the AHJ.



Public Input No. 450-NFPA 72-2019 [New Section after 10.4.7.3]

TITLE OF NEW CONTENT 10.5 (new) Cyber Security Requirements

Type your content here ...

10.5.1 Systems shall be designed and installed in accordance with one or more of the following cyber security standards:

- (1) ANSI/ISA-62443 Series
- (2) NIST Framework for Improving Critical Infrastructure Cybersecurity Version 1.1
- (3) ANSI/UL 2900 Series
- (4) or other standards accepted by the authority having jurisdiction

10.5.2 Evidence of compliance with the requirements of 10.5.1 shall include one or more of the following:

- (1) The ISA Security Compliance Institute (ISCI) Conformity Assessment Program
- (2) Certification of compliance by a Nationally Recognized Test Laboratory
- (3) Manufacturer certification for the specific type and brand of system provided.

Statement of Problem and Substantiation for Public Input

Legislation has been enacted in several jurisdictions requiring design for cyber security. The standards proposed here contain the current industry recognized methodology for cyber security software design and maintenance and should be included in the fundamental requirements for fire alarm and signaling systems.

Submitter Information Verification

Submitter Full Name: Megan Hayes

Organization: Nema

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jun 24 14:36:39 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: FR-5122-NFPA 72-2019

Statement: With the changes in technology and communication methods this is a place holder to address potential cyber security threats.



Public Input No. 599-NFPA 72-2019 [New Section after 10.4.7.3]

10.4.8 Cybersecurity Classification

Emergency Communications Systems (ECS) and fire alarm systems shall be designated as a) Cybersecurity Certified, or b) Cybersecurity not certified, or c) Cybersecurity not applicable.

10.4.8.1 Emergency communication systems and fire alarm systems designated as Cybersecurity Certified must maintain a record of certification in accordance with Chapter 7.

10.4.8.2* In accordance with section 21.2.11 cybersecurity classification designation shall be acceptable to the authority having jurisdiction.

10.4.8.3 Cybersecurity Certificate issuing body and reference standard shall be internationally recognized such as:

Underwriters Laboratory UL 2900-2-3, *Outline of Investigation for Software Cybersecurity for Network-Connectable Products, Part 2-3: Particular Requirements for Security and Life Safety Signaling Systems*

NIST Framework for Improving Critical Infrastructure Cybersecurity

ISO/IEC 27001, *Information technology – Security techniques – Information security management systems – Requirements*

ISO 15408, *Information technology -- Security techniques -- Evaluation criteria for IT security*

ANSI/ISA/IEC 62443 , *Security for industrial automation and control system.*

Statement of Problem and Substantiation for Public Input

To quote from Casey Grant, executive director of the Fire Protection Research Foundation. “Today, built-in fire protection systems are everywhere, including fire alarm systems, sprinkler systems, special suppression systems, and so on. To improve their capabilities, these systems are becoming more and more interconnected—the ability of these systems to actively communicate with other systems is critical to their functionality and effectiveness. But this interconnectedness also raises a great concern: Are fire protection systems being exposed as the soft underbelly of the cyber safety infrastructure?” [<https://www.nfpa.org/News-and-Research/Publications-and-media/NFPA-Journal/2019/May-June-2019/Columns/Research>].

Cybersecurity is not a one size fits all risk. An isolated fire alarm, with no direct interconnection with other systems or networks is at minimal risk of being manipulated remotely by bad actors accessing the system via a computer network. Existing emergency control function code already creates data security requirements for interconnected systems. Systems that only transmit data, rather than receive are at a lower risk of being inappropriately manipulated. However, as technology evolves, so do the risks. Unforeseen or unknown vulnerabilities in the most secure interconnected systems are discovered and exploited by bad actors.

Cybersecurity standards utilize risk assessment models and tools that are routinely updated as new threats and vulnerabilities become known. This code should take the same approach to cybersecurity, applying a risk assessment model, creating appropriate requirements. Higher likelihood risks with moderate to catastrophic consequences should be required to prove the efficacy of the systems resistance to cyber attacks. Since cybersecurity threats are always evolving, this concern cannot be treated as a static design factor but must be considered ongoingly. Once a system has been determined to have a risk profile to mandate ongoing and evolving protection, certification becomes a necessity. Cybersecurity certificates issued by independent testing laboratories purposely expire in a short time frame (i.e., one year) to establish an ongoing pattern of assessment, testing, and updates to address newly discovered vulnerabilities.

This series of public inputs addresses the issue of introducing cybersecurity concerns and actions in a responsible manor that respects both the risks, and the individuality of a multitude of system types and occupancies. By avoiding a painting every system with the same brush approach, and instead utilizing the risk assessment principles of the cybersecurity industry, the costs associated with providing a comprehensive level of cybersecurity and the additional cost of ongoing independent testing and verification can be applied where the risk likelihood and consequences require it.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 603-NFPA 72-2019 [Section No. 21.2.11]	

[Public Input No. 613-NFPA 72-2019 \[New Section after 3.3.63\]](#)

[Public Input No. 618-NFPA 72-2019 \[Section No. 7.2.1\]](#)

[Public Input No. 620-NFPA 72-2019 \[Section No. 7.8.2\]](#)

[Public Input No. 621-NFPA 72-2019 \[New Section after A.10.4.5\]](#)

[Public Input No. 622-NFPA 72-2019 \[Section No. 14.3.1\]](#)

[Public Input No. 626-NFPA 72-2019 \[New Section after 23.6.3.8.8\]](#)

[Public Input No. 629-NFPA 72-2019 \[New Section after 24.3.12.10\]](#)

[Public Input No. 630-NFPA 72-2019 \[New Section after 26.2.9\]](#)

[Public Input No. 631-NFPA 72-2019 \[New Section after 27.2.4\]](#)

Submitter Information Verification

Submitter Full Name: Michael Pallett

Organization: Telecor Inc.

Street Address:

City:

State:

Zip:

Submittal Date: Wed Jun 26 15:14:48 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: The Technical Committee has proposed a first revision which addresses the cyber security concerns.



Public Input No. 451-NFPA 72-2019 [Section No. 10.5.3]

10.5.3* Inspection, Testing, and Service Personnel. (SIG-TMS)

10.5.3 The system completion documentation shall include the name of the cyber security standard(s) and levels employed.

10.5.3.1* Inspection Personnel.

Inspections shall be performed by personnel who have developed competence through training and experience that are acceptable to the authority having jurisdiction or meet the requirement of 10.5.3.4.

10.5.3.2* Testing Personnel.

Testing personnel shall have knowledge and experience of the testing requirements contained in this Code, of the equipment being tested, and of the test methods. That knowledge and experience shall be acceptable to the authority having jurisdiction or meet the requirement of 10.5.3.4.

10.5.3.3 Service Personnel.

Service personnel shall have knowledge and experience of the maintenance and servicing requirements contained in this Code, of the equipment being serviced or maintained, and of the servicing or maintenance methods. That knowledge and experience shall be acceptable to the authority having jurisdiction or meet the requirement of 10.5.3.4.

10.5.3.4 Means of Qualification.

Qualified personnel shall include, but not be limited to, one or more of the following:

- (1)* Personnel who are factory trained and certified for the specific type and brand of system being serviced
- (2)* Personnel who are certified by a nationally recognized certification organization acceptable to the authority having jurisdiction
- (3)* Personnel who are registered, licensed, or certified by a state or local authority to perform service on systems addressed within the scope of this Code, either individually or through their affiliation with an organization
- (4) Personnel who are employed and qualified by an organization listed by a nationally recognized testing laboratory for the servicing of systems within the scope of this Code

10.5.3.5* Programming Personnel.

10.5.3.5.1

Personnel programming a system shall be certified by the system manufacturer.

10.5.3.5.2

System installation personnel shall be permitted to configure systems in the field per manufacturers' published instructions.

10.5.3.5.3

System end users shall be permitted to manage system operation per manufacturers' published instructions or training.

10.5.3.6 Evidence of Qualification.

Evidence of qualifications shall be provided to the authority having jurisdiction upon request.

Statement of Problem and Substantiation for Public Input

The cyber security design level is important in determining the robustness of the system in various environments.

Submitter Information Verification

Submitter Full Name: Megan Hayes

Organization: Nema

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jun 24 14:48:57 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: The requirements are proposed in the wrong location and have been addressed in the documentation, Chapter 7.



Public Input No. 452-NFPA 72-2019 [Section No. 10.5.4]

10.5.4 Plans Examiners and Inspectors.

10.5.4 Documentation containing instructions regarding the installation and maintenance of cyber security related system elements shall be provided to the system owner, or network provider as applicable.

10.5.4.1

Plans and specifications submitted for review and approval shall be reviewed by personnel who are qualified to review such plans and specifications.

10.5.4.2

System installations shall be inspected by personnel who are qualified to perform such inspections.

10.5.4.3

State or local licensure regulations shall be followed to determine qualified personnel.

10.5.4.4

Personnel shall provide documentation of their qualifications by one or more of the following:

- (1) Registration, licensing, or certification by a state or local authority
- (2) Meeting the requirements of NFPA 1031
- (3) Assignment by the authority having jurisdiction to personnel having equivalent competency with 10.5.4.4(1) or 10.5.4.4(2)

Statement of Problem and Substantiation for Public Input

Cyber security features can be readily compromised by improper installation and maintenance practices and the responsible parties must be made aware of the installation and maintenance required practices.

Submitter Information Verification

Submitter Full Name: Megan Hayes

Organization: Nema

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jun 24 14:51:25 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: The requirements are proposed in the wrong location and have been addressed in the documentation, Chapter 7.

**Public Input No. 488-NFPA 72-2019 [New Section after 10.5.6]****10.5.7 Trained Response Personnel**

10.5.7.1* Trained Response Personnel shall be individuals who have become proficient in performing a skill reliably and safely through instruction and practice/field experience acceptable to the AHJ to carry out the duties to which they have been assigned, including the receipt, handling, assignment, investigation, and documentation of critical assignments and duties which may have a definite effect on the life safety of building occupants.

10.5.7.2 Trained response personnel shall be qualified or shall be supervised by persons who are qualified in the receipt, handling, investigation, and documentation of life safety system alarm response.

10.5.7.3 Fire service response personnel shall meet the requirement of qualified and trained response personnel.

A.10.5.7.1 For the purposes of this Code, Trained Response Personnel shall be trained and experienced personnel who should be thoroughly aware or trained, including the following items:

- (1) Be thoroughly familiar with the floor plan and layout of the facility, including room names and descriptions.
- (2) Understand the programmed fire alarm sequence, including presignal, positive alarm sequence, cross-zoning, or other applicable sequences. This includes understanding the specific time sequences involved in the programming.
- (3) Be able to accurately distinguish all specific fire alarm devices by sight and accurately understand what activates each device.
- (4) Be able to make an accurate and thorough decision regarding the emergency situation in a limited amount of time.

Statement of Problem and Substantiation for Public Input

Paragraph 23.8.1.2.1 requires that “trained personnel” acknowledge an alarm condition within 15 seconds and investigate an alarm condition within 180 seconds “to evaluate the fire condition and reset the system.” This “trained personnel” term is not defined in NFPA 72 nor in the “NFPA Glossary of Terms – 2019”. Thus, given the importance of this alarm investigation, a defined term should be added. A related PI changes the term “trained personnel” to “qualified personnel” in 23.8.1.2.1 and a new definition for ‘trained response personnel’ is provided as a new paragraph 10.5.7. A definition of this term is offered, and Annex material is offered that is more specific to this term as it applies to NFPA 72, Paragraph 23.8.1.2.1. The Annex material is based on what is critical for the trained/qualified personnel to understand as they investigate a positive alarm sequence within the very limited amount of time available in the Code. The AHJ must know that the “trained/qualified personnel” will be adequately qualified before permitting a delayed notification sequence like positive alarm sequence, and this language, for the first time, provides adequate definitions of this term.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 487-NFPA 72-2019 [Section No. 23.8.1.2]	
Public Input No. 489-NFPA 72-2019 [Section No. 23.8.1.1.2]	
Public Input No. 490-NFPA 72-2019 [New Section after 3.3.200.5]	

Submitter Information Verification

Submitter Full Name: William Koffel
Organization: Koffel Associates, Inc.
Affiliation: Automatic Fire Alarm Association (AFAA)
Street Address:

City:

State:

Zip:

Submittal Date: Mon Jun 24 23:01:18 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: Trained response personnel may not only be the fire service but could be onsite fire brigades or facility managers for example. Qualified personnel are already defined and used within the body of the code.



Public Input No. 440-NFPA 72-2019 [Section No. 10.6.4]

Consider revising the section below to align with

10.6.4* Stored Energy Storage- Power Supply Systems (ESS SEPSS):-

10.6.4.1

The ~~ESS device~~ SEPSS device shall be configured in compliance with NFPA 111 for a Type O, Class 24, Level 1 system.

10.6.4.2

Where connected to an engine-driven generator arranged in accordance with 10.6.11.3.1, the ~~ESS device~~ SEPSS device shall be permitted to be configured in compliance with NFPA 111 for a Type O, Class 4, Level 1 system.

10.6.4.3

The ~~ESS device~~ SPESS device shall comply with the requirements of 10.6.5.

10.6.4.4

Failure of the ~~ESS shall~~ SPESS shall result in the initiation of a trouble signal in accordance with Section 10.15.

Statement of Problem and Substantiation for Public Input

Aligned with NFPA 111 terminology. ESS are now covered by NFPA 855 and carry a different meaning/use than SEPSS.

Submitter Information Verification

Submitter Full Name: Joshua Brackett

Organization: Baptist Health

Street Address:

City:

State:

Zip:

Submission Date: Mon Jun 24 12:24:15 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: FR-5157-NFPA 72-2019

Statement: The text correlates with NFPA 111 Standard on Stored Electrical Energy Emergency and Standby Power Systems. The Technical Committee revises the text by deleting the Class 24 capacity designation and adds text to require EPSS/SEPSS capacity in accordance with this Code. The reference to 10.6.7.3.1(2) in PI 636 was not included since this is addressed by the 10.6.4.2 Class 4 requirement and there is no standby vs. alarm load differentiated in 10.6.7.3.1(2).

**Public Input No. 636-NFPA 72-2019 [New Section after 10.6.4.1]****TITLE OF NEW CONTENT**

The energy capacity of the ESS device shall be determined using the same loading requirements as for secondary power supplies specified in 10.6.7.2 or for an ESS backed by a generator, 10.6.7.3.1(2).

Statement of Problem and Substantiation for Public Input

See related PI that removes Class 24. This makes it clear that the ESS must have the same storage capability as secondary power supplies. That is 24/5, 25/15 or 4/5, 4/15.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 635-NFPA 72-2019 [Section No. 10.6.4.1]	
Public Input No. 637-NFPA 72-2019 [New Section after 10.6.4.1]	
Public Input No. 635-NFPA 72-2019 [Section No. 10.6.4.1]	
Public Input No. 637-NFPA 72-2019 [New Section after 10.6.4.1]	

Submitter Information Verification

Submitter Full Name: Robert Schifiliti
Organization: R. P. Schifiliti Associates, I
Street Address:
City:
State:
Zip:
Submission Date: Wed Jun 26 16:44:15 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: [FR-5157-NFPA 72-2019](#)

Statement: The text correlates with NFPA 111 Standard on Stored Electrical Energy Emergency and Standby Power Systems. The Technical Committee revises the text by deleting the Class 24 capacity designation and adds text to require EPSS/SEPSS capacity in accordance with this Code. The reference to 10.6.7.3.1(2) in PI 636 was not included since this is addressed by the 10.6.4.2 Class 4 requirement and there is no standby vs. alarm load differentiated in 10.6.7.3.1(2).

**Public Input No. 637-NFPA 72-2019 [New Section after 10.6.4.1]****TITLE OF NEW CONTENT**

The power delivered by the ESS device shall be based on the largest system demand.

Statement of Problem and Substantiation for Public Input

An ESS stores energy. Like a keg. However, I can have a large energy capacity, but the system might not be able to discharge at the rate that the system needs. That is the difference between power and energy. It is typically only with very large systems where the ability to provide sufficient current is hampered by ESS capabilities. In short, I can have a full keg (7.75 gallons) but will go thirsty is it can only discharge at a rate of 1/4 gal/hour. An ESS might have a capacity of 1000 amp-hours, but not be able to discharge at a rate of 15 amps (made up example). While this might be an issue also for secondary batteries, it is rare because the charger and power supply are designed by the mfg to work over a specified range. An ESS is a complete 3rd party system, so requires additional engineering scrutiny.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 635-NFPA 72-2019 [Section No. 10.6.4.1]	
Public Input No. 636-NFPA 72-2019 [New Section after 10.6.4.1]	
Public Input No. 635-NFPA 72-2019 [Section No. 10.6.4.1]	
Public Input No. 636-NFPA 72-2019 [New Section after 10.6.4.1]	

Submitter Information Verification

Submitter Full Name: Robert Schifiliti
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Submittal Date: Wed Jun 26 16:50:14 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: [FR-5157-NFPA 72-2019](#)

Statement: The text correlates with NFPA 111 Standard on Stored Electrical Energy Emergency and Standby Power Systems. The Technical Committee revises the text by deleting the Class 24 capacity designation and adds text to require EPSS/SEPSS capacity in accordance with this Code. The reference to 10.6.7.3.1(2) in PI 636 was not included since this is addressed by the 10.6.4.2 Class 4 requirement and there is no standby vs. alarm load differentiated in 10.6.7.3.1(2).

**Public Input No. 635-NFPA 72-2019 [Section No. 10.6.4.1]****10.6.4.1**

The ESS device shall be configured in compliance with NFPA 111 for a Type O, ~~Class 24~~, Level 1 system.

Statement of Problem and Substantiation for Public Input

Removed the Class 24 requirement. See related proposal for defining required capacity. This was done because "Class" in NFPA 111 is a rating for how long the load can be carried. But, in NFPA 72 we typically require two different loads for different periods of time. Specifying Class 24 might result in a system with 24 hours of standby and zero energy reserve for a subsequent alarm load as would be required if a user chooses the two source option in 10.6.3.1.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 636-NFPA 72-2019 [New Section after 10.6.4.1]	
Public Input No. 637-NFPA 72-2019 [New Section after 10.6.4.1]	
Public Input No. 636-NFPA 72-2019 [New Section after 10.6.4.1]	
Public Input No. 637-NFPA 72-2019 [New Section after 10.6.4.1]	

Submitter Information Verification

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Committee: SIG-FUN

Committee Statement

Resolution: [FR-5157-NFPA 72-2019](#)

Statement: The text correlates with NFPA 111 Standard on Stored Electrical Energy Emergency and Standby Power Systems. The Technical Committee revises the text by deleting the Class 24 capacity designation and adds text to require EPSS/SEPSS capacity in accordance with this Code. The reference to 10.6.7.3.1(2) in PI 636 was not included since this is addressed by the 10.6.4.2 Class 4 requirement and there is no standby vs. alarm load differentiated in 10.6.7.3.1(2).

**Public Input No. 384-NFPA 72-2019 [Section No. 10.6.4.3]****10.6.4.3**

The ESS device shall ESS shall comply with the requirements of 10.6.5.

Statement of Problem and Substantiation for Public Input

By it's own definition, an ESS is a system not a device. This clarification supports the differenation, eliminating potential confusion between an ESS in the context of NFPA 111 and a commerical UPS - which many would consider a device.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 383-NFPA 72-2019 [New Section after 10.6.8.4]	Supporting the changes proposed in 10.6.8 and the substantiation of PI 383.

Submitter Information Verification

Submitter Full Name: Michael Pallett
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Submittal Date: Sat Jun 22 18:55:44 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: [FR-5157-NFPA 72-2019](#)

Statement: The text correlates with NFPA 111 Standard on Stored Electrical Energy Emergency and Standby Power Systems. The Technical Committee revises the text by deleting the Class 24 capacity designation and adds text to require EPSS/SEPSS capacity in accordance with this Code. The reference to 10.6.7.3.1(2) in PI 636 was not included since this is addressed by the 10.6.4.2 Class 4 requirement and there is no standby vs. alarm load differentiated in 10.6.7.3.1(2).



Public Input No. 309-NFPA 72-2019 [Section No. 10.6.7.2]

10.6.7.2 *

~~–Capacity~~

Capacity .

10.6.7.2.1

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The

The secondary power supply for all systems that do not use in-building fire emergency voice/alarm communications service shall have sufficient capacity to operate the system under quiescent load (system operating in a nonalarm condition) for a minimum of 24 hours and, at the end of that period, shall be capable of operating all alarm notification appliances used for evacuation or to direct aid to the location of an emergency for 5 minutes, unless otherwise permitted or required by 10.6.7.2.

4.4

2 through 10.6.7.2.

2.

10.

6.7.

2.

4.4 * –

~~Battery calculations shall include a minimum 20 percent safety margin above the calculated amp-hour capacity required.~~

10.6.7.2.

4.

2

–

The secondary power supply for in-building fire 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.

10.6.7.2.

4.

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–

The secondary power supply capacity for supervising station facilities and equipment shall be capable of supporting operations for a minimum of 24 hours.

10.6.7.2.

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4

–

The secondary power supply for high-power loudspeaker arrays used for wide-area mass notification systems shall be in accordance with 24.6.5.2 .

10.6.7.2.

4.

5

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The secondary power supply for textual visual notification appliances shall be in accordance with 24.6.10.1 .

10.6.7.2.

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6

—
The secondary power supply capacity for emergency command centers of a wide-area mass notification systems shall be capable of supporting operations for a minimum of 24 hours.

10.6.7.2.

4.

7

—
The secondary power supply for in-building mass notification systems 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 emergency conditions for a period of 15 minutes at maximum connected load.

10.6.7.2.

2—

8 The secondary power supply capacity required shall include all power supply loads that are not automatically disconnected upon the transfer to secondary power supply.

10.6.7.2.

3 * —

9* Battery calculations shall include a minimum 20 percent safety margin above the calculated amp-hour capacity required. (note: annex would be the old A.10.6.7.2.1.1)

10.6.7.2.10 Carbon Monoxide Detection

10.6.7.2.10.1* Where carbon monoxide detection is not monitored by a supervising station, the secondary power supply shall have sufficient capacity to operate the carbon monoxide detection system under quiescent load (system operating in a nonalarm condition) for a minimum of 24 hours and, at the end of that period, shall be capable of operating the carbon monoxide detection system and all carbon monoxide notification appliances for 12 hours.

~~(note annex would be the old A. 10.6.7.2.~~

4

~~3) —~~

~~**10.6.7.2.10.2** Where carbon monoxide detection is monitored by a supervising station, the secondary power supply shall have sufficient capacity to operate the carbon monoxide detection system under quiescent load (system operating in a nonalarm condition) for a minimum of 24 hours and, at the end of that period, shall be capable of operating the carbon monoxide detection system and all notification appliances for 5 minutes.~~

Additional Proposed Changes

File Name	Description	Approved
Secondary_Power.docx	A clean version of the proposed new text	

Statement of Problem and Substantiation for Public Input

This is suggested as a reorganization that is not intended to change any requirements, but to make the requirements more clear. The problem is that the sections are not mutually exclusive, so the Code contradicts itself and the 20% safety factor technically only applies to section 10.6.7.2.1 since it is a subset of that section. It could be argued that the 20% safety factor does not apply to existing section 10.6.7.2.1.2 since it is a subset of 10.6.7.2.1 and has no effect on 10.6.7.2.1.2, but the intent of the committee seems to be that they want it to apply to 10.6.7.2.1.2.

The language of 10.6.7.2.1.2 is contradictory to 10.6.7.2.1.1 since 10.6.7.2.1.1 seems to apply to all systems. The language needs to clarify that 10.6.7.2.1.1 only applies to those systems where 10.6.7.2.1.2 does not apply. I have tried to fix these problems with the reorganization.

Submitter Information Verification

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Submittal Date: Mon Jun 17 17:08:01 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: [FR-5186-NFPA 72-2019](#)

Statement: The text has been reorganized for readability. Thus, carbon monoxide detection remains a separate section.

The Technical Committee revises the text for derating batteries (10.6.7.2.3) to apply a minimum 1.25 correction factor and adds further guidance to the annex for other battery technologies and temperature compensation.

The Technical Committee adds the section numbered 10.6.7.2.1.7 to clarify that communications equipment at the protected premises that is used to transmit signals to a supervising station must have primary and secondary power sources.

The Technical Committee does not accept a mandated minimum with respect to the number of addressable devices that should be supported during an alarm condition. This parameter should be specified by the manufacturer in accordance with the product listing.



Public Input No. 17-NFPA 72-2018 [Section No. 10.6.7.2.1.1]

10.6.7.2.1.1*

Battery calculations shall include a minimum 20 percent safety margin above the calculated amp-hour capacity required. When calculating the battery alarm load in systems with Signaling Line Circuits, the designer shall allow for a maximum of 20% of the initiating device being in alarm per circuit that must include the total number of signal and relay modules that will operate to a worst case alarm condition.

Statement of Problem and Substantiation for Public Input

There is no real set or defined amounts of devices in addressable system that must be calculated to be in alarm when figuring the back up battery requirements. Figuring 100% percent is not realistic and from my investigation the manufactures are not stating a number but just providing a chart used to figure this out. For example, a system with three loops may have a total of three hundred smoke detectors, if all were in alarm at the same time all the lights on they would not be on due to loop current power limitations and the likelihood of this happening with the building being fully occupied is little to none. Everyone would or should have been out or safe by that point. There got to be some sort of a rule and number to use here just like the 20% figure for over sizing the batteries. This was recently discussed with a manufactures and others in the industry with me. Additionally there are limitations as to the size batteries that these fire alarm systems can handle and charge so there got to be limitations here as well. To figure 100% can exceed the sized of the battery changes so what then? We are forced by AHJ's to figure 100% because this is undefined as it must be and not at 100%. The alarm operation time is set and this should be as well. What is calculated for the backup battery load but does not state when doing the backup battery load calculations what percent of the alarm detection devices must be calculated to be in alarm and using the 100% figure on a very large addressable systems does not make any sense. This should apply to systems with IDC's and conventional detection zones since the same issues applies with the LED operation based upon current limitations. I can also applies to conventional system without IDC's.

Submitter Information Verification

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Submittal Date: Sat Oct 27 15:53:55 EDT 2018

Committee: SIG-FUN

Committee Statement

Resolution: [FR-5186-NFPA 72-2019](#)

Statement: The text has been reorganized for readability. Thus, carbon monoxide detection remains a separate section.

The Technical Committee revises the text for derating batteries (10.6.7.2.3) to apply a minimum 1.25 correction factor and adds further guidance to the annex for other battery technologies and temperature compensation.

The Technical Committee adds the section numbered 10.6.7.2.1.7 to clarify that communications equipment at the protected premises that is used to transmit signals to a supervising station must have primary and secondary power sources.

The Technical Committee does not accept a mandated minimum with respect to the number of

addressable devices that should be supported during an alarm condition. This parameter should be specified by the manufacturer in accordance with the product listing.

**Public Input No. 560-NFPA 72-2019 [Section No. 10.6.7.2.1.1]****10.6.7.2.1.1***

Battery calculations shall include a minimum 20 percent safety margin above the calculated amp-hour capacity required correction factor of 1.25 to ensure the system's current demand can be met by the battery after a 20 percent loss in capacity at the end of useful service life .

Additional Proposed Changes

File Name	Description	Approved
IEEE_485.docx	IEEE-485, Section 6.2.3 Aging factor	

Statement of Problem and Substantiation for Public Input

Fire alarm manufacturer's published literature (e.g., Simplex 4100ES, Notifier NFS2-640, Gamewell S3 installation manuals) often list a derating factor of 1.2 in battery calculations to offset reductions in battery performance. A derating factor of 1.2 is mathematically incorrect and does not provide a 20 percent safety margin at the end of battery service life. Since a battery must continue to provide 100 percent of the system's calculated current demand even when capacity has decreased to 80 percent, the correct multiplication factor that should be used in battery calculations is 1.25 (e.g., $80\% \times 1.2 = 96\%$ whereas $80\% \times 1.25 = 100\%$). Fire alarm manufacturers should begin using 1.25 as the standard correction factor. From Section 6.2.3, Aging Factor, of IEEE-Std-485, Recommended Practice for Sizing Lead-Acid Batteries for Stationary Applications, . . . "to ensure that the battery is capable of meeting its design loads throughout its service life, the battery's rated capacity should be at least 125% (1.25 aging factor) of the load expected at the end of its service life."

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 564-NFPA 72-2019 [New Section after 10.6.7.2.1.2]	
Public Input No. 564-NFPA 72-2019 [New Section after 10.6.7.2.1.2]	
Public Input No. 576-NFPA 72-2019 [Section No. A.10.6.7.2.1.1]	
Public Input No. 580-NFPA 72-2019 [New Section after A.10.6.7.2.1.1]	

Submitter Information Verification

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Submittal Date: Wed Jun 26 12:15:58 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: [FR-5186-NFPA 72-2019](#)

Statement: The text has been reorganized for readability. Thus, carbon monoxide detection remains a separate section.

The Technical Committee revises the text for derating batteries (10.6.7.2.3) to apply a minimum 1.25 correction factor and adds further guidance to the annex for other battery technologies and temperature compensation.

The Technical Committee adds the section numbered 10.6.7.2.1.7 to clarify that communications equipment at the protected premises that is used to transmit signals to a supervising station must have primary and secondary power sources.

The Technical Committee does not accept a mandated minimum with respect to the number of addressable devices that should be supported during an alarm condition. This parameter should be specified by the manufacturer in accordance with the product listing.

**Public Input No. 564-NFPA 72-2019 [New Section after 10.6.7.2.1.2]****10.6.7.2.1.2***

For battery operation in environments less than 77F battery calculations shall include a temperature correction factor for the minimum expected design temperature.

Additional Proposed Changes

File Name	Description	Approved
IEEE_485.docx	IEEE-485 Table 1, Correction Factors for Temperature	

Statement of Problem and Substantiation for Public Input

This PI was originally submitted as part of the Chapter 14 Battery Task Group effort to revise battery testing for the 2019 edition. The Task Group included members of the IEEE Stationary Battery Committee who recognized that provisions for temperature compensation are not included in NFPA 72. Fire panels are listed for temperatures as low as 32F. As can be seen from the Attachment 1, TABLE 1 of IEEE-Std-485, Recommended Practice for Sizing Lead-Acid Batteries for Stationary Applications, there's a temperature correction factor of 1.3 at 40F because battery capacity is reduced approximately 23 percent between the rated temperature of 77F and 40F. For example, the capacity of an 18AH battery will be reduced to 13.8 AH at 40F from temperature alone.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 560-NFPA 72-2019 [Section No. 10.6.7.2.1.1]	
Public Input No. 576-NFPA 72-2019 [Section No. A.10.6.7.2.1.1]	
Public Input No. 580-NFPA 72-2019 [New Section after A.10.6.7.2.1.1]	
Public Input No. 560-NFPA 72-2019 [Section No. 10.6.7.2.1.1]	
Public Input No. 576-NFPA 72-2019 [Section No. A.10.6.7.2.1.1]	
Public Input No. 580-NFPA 72-2019 [New Section after A.10.6.7.2.1.1]	

Submitter Information Verification

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Submission Date: Wed Jun 26 12:25:25 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: [FR-5186-NFPA 72-2019](#)

Statement: The text has been reorganized for readability. Thus, carbon monoxide detection remains a separate section.

The Technical Committee revises the text for derating batteries (10.6.7.2.3) to apply a minimum 1.25 correction factor and adds further guidance to the annex for other battery technologies and temperature compensation.

The Technical Committee adds the section numbered 10.6.7.2.1.7 to clarify that communications equipment at the protected premises that is used to transmit signals to a supervising station must have primary and secondary power sources.

The Technical Committee does not accept a mandated minimum with respect to the number of addressable devices that should be supported during an alarm condition. This parameter should be specified by the manufacturer in accordance with the product listing.

**Public Input No. 393-NFPA 72-2019 [New Section after 10.6.7.2.1.7]****TITLE OF NEW CONTENT**

10.6.7.2.1.8 The secondary power supply for communications technologies used to transmit signals between the protected premises and a supervising station shall be capable of operating the communications technology for a minimum of 24 hours under a non-transmit condition.

Statement of Problem and Substantiation for Public Input

Many times a transmitter used to send signals from a protected premises to a supervising station is integral to the fire alarm control unit and the secondary power for the FACU will supply secondary power to the transmitter (DACT, IP Communicator, etc.). There are also many times when the transmitter is detached (Private One-Way radio, DACT, GSM radio, IP Communicator) from the FACU and receives its own primary power. This equipment would also require secondary power to ensure its operation during the loss of the primary power. Based on questions from AHJs and contractors about secondary power requirements for these detached transmission means, SIG-FUN should consider adding this requirement for clarification.

Submitter Information Verification

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Submission Date: Sun Jun 23 13:19:23 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: FR-5186-NFPA 72-2019

Statement: The text has been reorganized for readability. Thus, carbon monoxide detection remains a separate section.

The Technical Committee revises the text for derating batteries (10.6.7.2.3) to apply a minimum 1.25 correction factor and adds further guidance to the annex for other battery technologies and temperature compensation.

The Technical Committee adds the section numbered 10.6.7.2.1.7 to clarify that communications equipment at the protected premises that is used to transmit signals to a supervising station must have primary and secondary power sources.

The Technical Committee does not accept a mandated minimum with respect to the number of addressable devices that should be supported during an alarm condition. This parameter should be specified by the manufacturer in accordance with the product listing.



Public Input No. 204-NFPA 72-2019 [New Section after 10.6.7.3.2]

TITLE OF NEW CONTENT

Type your content here ...New Paragraph 10.6.7.3.3

Fire Alarm Systems monitoring Emergency Services Communications System shall increase the secondary energy source capacity to comply with NFPA 1221 as outlined in paragraph 9.6.12.2 (2)

Statement of Problem and Substantiation for Public Input

NFPA 1221 which is for Emergency Services Communication Systems is required to continue functioning as the first responders resolve the fire situation at the protected Premise. Therefore the secondary capacity needs to be 24 hours of standby plus alarm for fire alarm panel of either 5 to 10 minutes of alarm or 15 minutes for fire voice at 100% is not enough capacity to comply with the requirements of NFPA 1221 which is 12 hours at 100% useage.

Submitter Information Verification

Submitter Full Name: Vic Humm

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Submittal Date: Thu May 30 10:40:05 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: NFPA 1221 section 9.6.13.2.1 requires that a dedicated annunciator be provided within the fire command center to annunciate the status a two-way radio communications enhancement system. NFPA 1221 section 9.6.12 requires a secondary source of power that provides 12 hours of operation for all active electronic components. The dedicated annunciator is an active component and it will therefore provide system status during emergency operations for up to 12 hours. The fire alarm system should not be required to increase alarm load capacity to 12 hours when the status of the two-way radio communications enhancement system is available to the emergency operations personnel via the dedicated annunciator.



Public Input No. 574-NFPA 72-2019 [Section No. 10.6.8]

10.6.8 Power Supply for Remotely Located Control Equipment.

10.6.8.1*

Additional power supplies required for system operation shall comply with 10.6.1 through 10.6.6 and with 10.6.9.

10.6.8.2

The location of remotely located power supplies shall be identified at the master control unit.

10.6.8.3

The master control unit display shall be permitted to satisfy the requirement of 10.6.8.2.

10.6.8.4

The location of remotely located power supplies shall be identified on the record drawings.

Statement of Problem and Substantiation for Public Input

There is no definition of "control equipment" in the standard. The component potentially used in this application might or might not be a control unit. The term "equipment" conveys the intended meaning.

Submitter Information Verification

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Affiliation: Task Group SIG-PRO

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Submittal Date: Wed Jun 26 12:57:21 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: A new definition for control equipment has been added to Chapter 3.



Public Input No. 383-NFPA 72-2019 [New Section after 10.6.8.4]

10.6.8.5 Commercial Uninterruptable Power Supplies (UPS) utilized as an energy storage system (ESS) for remotely located control equipment are permitted to be listed to UL 1778 in leu of being configured in compliance with UL 111 when providing capacity in compliance with section 10.6.7.2.

Statement of Problem and Substantiation for Public Input

Commercial UPS are a well developed and mature standby power technology that is widely utilized in commercial, security, and health care applications for computer, network, and other equipment utilized for critical infrastructure and life safety purposes. It is often utilized to support power supply reliability requirements for remote equipment powered by means of power over ethernet, such as may be deployed on a Class N network. 10.6.8 recognizes the need for reliable power for remotely located control equipment and applies the same requirements as for other emergency equipment (as given by 10.6.1 through 10.6.6 and 10.6.9).

Power supply sources may consist of either "secondary power" or "energy storage systems". In the case of Class N equipment powered over ethernet, the "secondary power option" of 10.6.3.2 – 10.6.3.4 is not appropriate because:

- (a) The requirement calls for "at least two independent and reliable power supplies"... "one primary and one secondary", which could be interpreted such that commercial UPS don't qualify because they are often one integral device.
- (b) Monitoring of the integrity of the power supply is required "at the point of connection to the system" which is not appropriate for remote equipment in general, and in the case of Power over Ethernet, it is monitored at the UPS itself, not the equipment being supplied.
- (c) The storage battery must be dedicated to the system. For a UPS powering a PoE switch supplying power to remote equipment, it may be hard to argue that the battery is dedicated to the system. This requirement clearly reflects the traditional practice of installing batteries directly in the control panels, rather than as part of an external remote device as would be reflected by a commercial UPS.

The natural conclusion is that the option presented by 10.6.4, Energy Storage Systems, could be utilized. However, commercial UPS were removed from the body of the code and relegated to the Annex as a subset of an energy storage system. And while it is true that UPS in the broad definition is an energy storage system, the context of energy storage systems as used in 10.6.4 tends to practically speaking exclude commercial UPS.

10.6.4 creates the context of a Stored Electrical Energy Emergency and Standby Power Systems (SEPSS) by tying compliance to NFPA 111. These standby power systems, as expressed by NFPA 111 are distinct from a commercial UPS. NFPA 111 is written for a SEPSS. It separately and distinctly defines an Emergency Power System, and a UPS. NFPA 111 is not meant to apply to specific equipment or devices. It is designed to address the emergency standby power requirements of an entire facility. The scope of NFPA 111 is specifically: "installation, maintenance, operation, and testing requirements as they pertain to the performance of the stored energy emergency power supply system (SEPSS)".

Searching several leading commercial UPS manufactures product offerings, I did not discover a single reference to NFPA 111. However, very commonly these devices were listed to UL 1778, Standard for Uninterruptible Power System Equipment. There are no references to UL 1778 in NFPA 111, nor are there any references to NFPA111 in UL 1778. The conclusion is that NFPA 111 was not intended to apply to commercial UPS's - these are different things. So even though in the broad sense a commercial UPS is a type of ESS, in the context created by 10.6.4, it is not.

Class N devices are legitimately recognized by NFPA 72 and are expected to be deployed remotely. The Class N network pathway was created with power over ethernet networking in mind with expectation of leveraging commercially available technology ubiquitously deployed worldwide. A mature, listed, and readily available class of energy storage devices are available to support remote power supply requirements, but are excluded from use for remote devices by 10.6 as it currently stands. This public input resolves this problem in a responsible way by leveraging an ANSI/UL standard ensuring that these devices are listed for their purpose, and making a direct reference to the capacity requirements in 10.6.7.2 that are missing from 10.6.4 (but which certainly applies to remote control equipment deployed for emergency systems). Additionally, it re-introduces UPS in a way that clearly differentiates it from Stored Electrical Energy Emergency Standby Power Systems intended to be deployed on a larger scale than a commercial UPS device.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 384-NFPA 72-2019 [Section No. 10.6.4.3]	
Public Input No. 385-NFPA 72-2019 [Section No. A.10.6.4]	
Public Input No. 386-NFPA 72-2019 [New Section after 3.3.99.2]	
Public Input No. 387-NFPA 72-2019 [New Section after A.3.3.99]	
Public Input No. 388-NFPA 72-2019 [New Section after 3.3.315]	
Public Input No. 389-NFPA 72-2019 [Section No. A.10.6.6]	

Submitter Information Verification

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Submittal Date: Sat Jun 22 18:50:19 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: [FR-5143-NFPA 72-2019](#)

Statement: The appropriate standard for fire alarm systems is UL 864.



Public Input No. 146-NFPA 72-2019 [New Section after 10.6.10.1.2]

TITLE OF NEW CONTENT

Type your content here ...

10.6.10.1.3 Effective January 1, 2024, batteries used for secondary power supply use in control units, devices and accessories shall be listed or component recognized to UL 1989 Standard for Standby Batteries or UL 1642 Standard for Lithium Batteries as appropriate.

Statement of Problem and Substantiation for Public Input

As the energy density and safety concerns increase we need to take steps to ensure these energy storage devices meet basic safety standards.

Submitter Information Verification

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Submittal Date: Tue May 07 10:52:40 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: [FR-5147-NFPA 72-2019](#)

Statement: The Technical Committee adds a requirement for the use of recognized rechargeable batteries because energy density and associated safety concerns are increasing.



Public Input No. 64-NFPA 72-2019 [Section No. 10.6.11.3.1.3]

10.6.11.3.1.3

Where ~~survivability of~~ pathway survivability of circuits is required by another section of the Code, equal protection shall be provided for the secondary power supply circuits.

Statement of Problem and Substantiation for Public Input

Pathway survivability is the defined term in NFPA 72.

Submitter Information Verification

Submitter Full Name: William Koffel

Organization: Koffel Associates, Inc.

Affiliation: Automatic Fire Alarm Association (AFAA)

Street Address:

City:

State:

Zip:

Submittal Date: Thu Mar 28 14:09:57 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: FR-5148-NFPA 72-2019

Statement: The text is revised for consistency with defined terms.

**Public Input No. 66-NFPA 72-2019 [New Section after 10.7.9]****10.7.10**

Combination systems shall comply with 23.8.4.7.

Statement of Problem and Substantiation for Public Input

Chapter 23 contains priority of signals when combination systems are installed.

Submitter Information Verification

Submitter Full Name: William Koffel

Organization: Koffel Associates, Inc.

Affiliation: Automatic Fire Alarm Association (AFAA)

Street Address:

City:

State:

Zip:

Submittal Date: Thu Mar 28 14:32:01 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: FR-5149-NFPA 72-2019

Statement: Chapter 23 contains priority of signals when combination systems are installed.



Public Input No. 359-NFPA 72-2019 [New Section after 10.9]

Sequence of Operation.

The system Sequence of Operation shall be indicated on the system drawings and shall indicate the required notification appliances operations, sub-functions operations, supervisory operations, and the initiating device operations.

Statement of Problem and Substantiation for Public Input

Fire alarm and other systems drawings require a "Sequence of Operation" and this code does not provide guidance or reference a Sequence of Operations.

Submitter Information Verification

Submitter Full Name: Kevin Green

Organization: Pyro-Comm Systems, Inc.

Street Address:

City:

State:

Zip:

Submittal Date: Sat Jun 22 09:58:09 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: Chapter 7 contains requirements for a sequence of operation and the associated Annex material provides an example of how to document the sequence of operation.

**Public Input No. 366-NFPA 72-2019 [Section No. 10.10.9]****10.10.9**

Carbon monoxide alarm signals shall comply with 18.4.4 3 .2 .

Statement of Problem and Substantiation for Public Input

In 10.10.9, review x-ref "18.4.4.2" to "18.4.3" (distinctive CO audible alarm signal). Based on the original PI submittal from the CO Task Group, this section should parallel 10.10.8, which references 18.4.2 for distinctive evacuation signals. The x-ref appears to have been misplaced at the First Draft, with all of the new material from NFPA 720.

18.4.4.2 is the section that permits audible signaling to be eliminated for public mode where approved and when visual signaling is provided.

Submitter Information Verification

Submitter Full Name: Kevin Green

Organization: Pyro-Comm Systems, Inc.

Affiliation: FUN Task Group

Street Address:

City:

State:

Zip:

Submittal Date: Sat Jun 22 11:51:16 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: [FR-5150-NFPA 72-2019](#)

Statement: The Technical Committee corrects the section reference.

**Public Input No. 254-NFPA 72-2019 [Section No. 10.12.2]****10.12.2 ***

When an occupant notification alarm signal deactivation means is actuated, both audible and visual notification appliances shall be simultaneously deactivated, unless deactivation of only the audible devices is approved by the AHJ.

Statement of Problem and Substantiation for Public Input

The current provisions of 10.12.2 are not always helpful to responders, particularly to larger buildings with multiple exterior assembly points. The FD needs to turn off the audible device so they can hear each other and their radios while searching for the problem. When evacuated occupants no longer hear the audible device and no longer see the visual devices operating, they assume it is clear and safe to return through access points, most not controlled by the FD. The suggestions in A.10.12.2 are likewise not helpful as it is difficult to command an incident near an entrance with an audible device sounding.

Submitter Information Verification

Submitter Full Name: Charles Jarrett
Organization: Gorham Fire Department
Street Address:
City:
State:
Zip:
Submittal Date: Mon Jun 10 15:50:20 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: The Technical Committee continues to require that both audible and visual notification appliances to alert the public be activated and deactivated simultaneously so as not to treat blind and hard of hearing individuals differently.

**Public Input No. 646-NFPA 72-2019 [Section No. 10.15.9.2]****10.15.9.2**

The audible and visible trouble signal associated with signaling the depletion or failure of the primary battery of a wireless system as required by 23.16.2.1 (3) and (4) and 23.16.2.2 (3), (4) nad (6) shall automatically resound every 4 hours or less until the depletion signal is restored to normal.

Statement of Problem and Substantiation for Public Input

Editorial revision. The reference to Clause 23.16.2.is not accurate because the clause was separated into two clauses - 23.16.2.1 and 23.16.2.2. This revision adds the intended referenced clauses.

Submitter Information Verification

Submitter Full Name: Lawrence Shudak

Organization: UL LLC

Street Address:

City:

State:

Zip:

Submittal Date: Wed Jun 26 18:18:53 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: FR-5152-NFPA 72-2019

Statement: The Technical Committee corrects the section references.



Public Input No. 47-NFPA 72-2019 [Section No. 10.17.2]

10.17.2*

~~Notification appliance circuits that do not have notification appliances connected directly to the circuit shall be considered control circuits~~ A circuit that is connected to the notification appliance circuit terminals of a fire alarm system or NAC extender panel and is not directly connected to a notification appliance shall be considered a control circuit .

Statement of Problem and Substantiation for Public Input

This statement is in conflict with the definition of Notification Appliance Circuit. How can there be a notification appliance circuit without a notification appliance connected to it? That is the very definition of a notification appliance circuit. This would be similar to saying "An SLC that is not addressable" , "A heat detector that does not detect heat". This language adds clarity to what a control circuit is.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 50-NFPA 72-2019 [Section No. 10.17.3]	
Public Input No. 50-NFPA 72-2019 [Section No. 10.17.3]	

Submitter Information Verification

Submitter Full Name: John McCamish
Organization: NECA IBEW Electrical Training
Affiliation: Self
Street Address:
City:
State:
Zip:
Submission Date: Fri Mar 15 13:40:20 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: [FR-5172-NFPA 72-2019](#)

Statement: The term "Control Circuit" has been defined in Chapter 3 to distinguish it from a Notification Appliance Circuit and deletes 10.17.2 and A.10.17.2 as they are no longer needed.

The Technical Committee requests the SIG-PRO Technical Committee and the Correlating Committee change 21.2.4 and A.21.2.4 to replace the term "control circuit" with "pathway" to avoid conflict.



Public Input No. 392-NFPA 72-2019 [Section No. 10.17.3]

10.17.3

Control circuits used for the purpose of controlling NAC extender panels shall comply with all of the following:

- (1) The NAC extender panel(s) connected to the control circuit shall not serve more than one notification zone where partial evacuation or relocation is used within the building .
- (2) The control circuit shall be monitored for integrity in accordance with Section 12.6.
- (3) A fault in the control circuit installation conductors shall result in a trouble signal in accordance with Section 10.15.

Statement of Problem and Substantiation for Public Input

The text of the NFPA 72 Handbook explains that Section 10.17.3 applies to extender panels where partial evacuation or relocation is the chosen method of signaling the occupants of the building. The revised code text would clarify this requirement as the current code text makes no mention of this condition.

Submitter Information Verification

Submitter Full Name: Warren Olsen
Organization: Fire Safety Consultants, Inc.
Affiliation: Illinois Fire Inspectors Association
Street Address:
City:
State:
Zip:
Submittal Date: Sun Jun 23 13:08:58 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: [FR-5175-NFPA 72-2019](#)

Statement: The Technical Committee edits the text to clarify use of control circuits. By limiting control circuits to a single notification zone, it addresses partial evacuation. [The change to "supervised control circuits" is addressed separately in FR-5174.]

**Public Input No. 48-NFPA 72-2019 [Section No. 10.17.3]****10.17.3**

Control circuits used for the purpose of controlling NAC extender panels shall comply with all of the following:

- (1) ~~The~~ A control circuit connected to a NAC extender panel ~~(s)-connected to the control circuit-~~ shall not serve more than one notification zone.
- (2) The control circuit shall be monitored for integrity in accordance with Section 12.6.
- (3) A fault in the control circuit installation conductors shall result in a trouble signal in accordance with Section 10.15.

Statement of Problem and Substantiation for Public Input

Currently, An extender panel could not serve more than one floor of a building. This is an enormous expense in additional installation time and materials. By making this change an extender panel served by more than one control circuit can be used to serve different notification zones. If one control circuit is opened, only one notification zone is affected. This is accomplish by programming of the extender panel by the setting of dip switches, for example.

Submitter Information Verification

Submitter Full Name: John McCamish
Organization: NECA IBEW Electrical Training
Affiliation: Self
Street Address:
City:
State:
Zip:
Submittal Date: Fri Mar 15 13:59:52 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: FR-5175-NFPA 72-2019

Statement: The Technical Committee edits the text to clarify use of control circuits. By limiting control circuits to a single notification zone, it addresses partial evacuation. [The change to "supervised control circuits" is addressed separately in FR-5174.]

**Public Input No. 50-NFPA 72-2019 [Section No. 10.17.3]****10.17.3**

Control circuits used for the purpose of controlling NAC extender panels shall comply with all of the following:

- (1) The NAC extender panel(s) connected to the control circuit shall not serve more than one notification zone.
- (2) The control circuit shall be monitored for integrity in accordance with Section 12.6.
- (3) A fault in the control circuit installation conductors shall result in a trouble signal in accordance with Section 10.15.
- (4) Notification Appliances shall not be connected to control circuits.

Statement of Problem and Substantiation for Public Input

Circuits that are used for control of a NAC extender panel are not notification appliance circuits. This makes is clear that notification appliances are only to be installed on notification appliance circuits.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 47-NFPA 72-2019 [Section No. 10.17.2]	
Public Input No. 47-NFPA 72-2019 [Section No. 10.17.2]	

Submitter Information Verification

Submitter Full Name: John McCamish
Organization: NECA IBEW Electrical Training
Affiliation: Self
Street Address:
City:
State:
Zip:
Submittal Date: Fri Mar 15 14:15:57 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: [FR-5172-NFPA 72-2019](#)

Statement: The term "Control Circuit" has been defined in Chapter 3 to distinguish it from a Notification Appliance Circuit and deletes 10.17.2 and A.10.17.2 as they are no longer needed.

The Technical Committee requests the SIG-PRO Technical Committee and the Correlating Committee change 21.2.4 and A.21.2.4 to replace the term "control circuit" with "pathway" to avoid conflict.

**Public Input No. 62-NFPA 72-2019 [Section No. 10.17.3]****10.17.3**

Control circuits used for the purpose of controlling ~~NAC~~ multiple NAC extender panels shall comply with all of the following:

- (1) ~~The NAC extender panel(s) connected to the control~~ The control circuit shall not serve more than one notification zone.
- (2) The control circuit shall be monitored for integrity in accordance with Section 12.6.
- (3) A fault in the control circuit installation conductors shall result in a trouble signal in accordance with Section 10.15.

Statement of Problem and Substantiation for Public Input

Clarifies the intent of the document with respect to NAC extender panels serving multiple floors in a building.

Submitter Information Verification

Submitter Full Name: William Koffel

Organization: Koffel Associates, Inc.

Affiliation: Automatic Fire Alarm Association (AFAA)

Street Address:

City:

State:

Zip:

Submittal Date: Thu Mar 28 13:25:35 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: FR-5175-NFPA 72-2019

Statement: The Technical Committee edits the text to clarify use of control circuits. By limiting control circuits to a single notification zone, it addresses partial evacuation. [The change to "supervised control circuits" is addressed separately in FR-5174.]



Public Input No. 130-NFPA 72-2019 [Sections 10.18.1.1.1, 10.18.1.1.2]

Sections 10.18.1.1.1, 10.18.1.1.2

~~10.18.1.1.1~~ 2

Visible annunciation of the location of an operated initiating device shall be by an indicator lamp, alphanumeric display, printout, or other approved means.

~~10.18.1.1.2~~ 3

The visible annunciation of the location of operated initiating devices shall not be canceled by the means used to deactivate alarm notification appliances.

Statement of Problem and Substantiation for Public Input

10.18.1.1 is an orphan - there is no 10.18.1.2. The existing 10.18.1.1.1 and 10.18.1.1.2 are subordinate to 10.18.1 and do not have to be subordinate to 10.18.1.1.

Submitter Information Verification

Submitter Full Name: Robert Schifiliti

Organization: R. P. Schifiliti Associates, I

Street Address:

City:

State:

Zip:

Submittal Date: Tue Apr 23 16:02:05 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: FR-5171-NFPA 72-2019

Statement: The Technical Committee reorganizes the sections to address style and editorial issues. The Technical Committee views the visible annunciation as generally provided by an annunciator (defined in 3.3.21) and not a notification appliance (defined in 3.3.182). Thus the "other" as suggested in PI 131 and PI 133 was not included. Attempts to rewrite the section to use the term annunciator was defeated by the allowance of a printout, which is neither an annunciator or a notification appliance.



Public Input No. 131-NFPA 72-2019 [Section No. 10.18.1.1.2]

10.18.1.1.2

The visible annunciation of the location of operated initiating devices shall not be canceled by the means used to deactivate other alarm notification appliances.

Statement of Problem and Substantiation for Public Input

Technically, the visual alarm display is an alarm notification appliance. This addition of "other" clarifies the intent and works with proposed Annex text.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 132-NFPA 72-2019 [New Section after A.10.17.2]	
Public Input No. 132-NFPA 72-2019 [New Section after A.10.17.2]	

Submitter Information Verification

Submitter Full Name: Robert Schifiliti
Organization: R. P. Schifiliti Associates, I
Street Address:
City:
State:
Zip:
Submittal Date: Tue Apr 23 16:05:06 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: [FR-5171-NFPA 72-2019](#)

Statement: The Technical Committee reorganizes the sections to address style and editorial issues. The Technical Committee views the visible annunciation as generally provided by an annunciator (defined in 3.3.21) and not a notification appliance (defined in 3.3.182). Thus the "other" as suggested in PI 131 and PI 133 was not included. Attempts to rewrite the section to use the term annunciator was defeated by the allowance of a printout, which is neither an annunciator or a notification appliance.



Public Input No. 25-NFPA 72-2019 [New Section after 10.18.2.1.1]

10.18.2.1.2 Where addressable initiating devices are used, they shall be programmed with the room number, room description, general area, or specific location of the device.

Statement of Problem and Substantiation for Public Input

Some contractors do not properly program addressable devices to facilitate an efficient response. The AHJ is left with somewhat vague language to enforce proper identification of the area where alarm signals originate. This change would provide the teeth needed to ensure devices indicate the correct room or area they serve.

Submitter Information Verification

Submitter Full Name: Merton Bunker
Organization: Merton Bunker and Associates
Affiliation: None
Street Address:
City:
State:
Zip:
Submittal Date: Thu Jan 10 08:36:39 EST 2019
Committee: SIG-FUN

Committee Statement

Resolution: The Technical Committee does not consider 10.18.1 to be the appropriate location for a requirement on the specificity of location for addressable initiating devices. Neither was the Technical Committee able to identify a suitable location without setting out different requirements for conventional, addressable, and hybrid systems. As this section is invoked only when required, this issue would be better handled by specifications, other codes, and standards when they specify addressable systems or limits on zones.



Public Input No. 133-NFPA 72-2019 [Sections 10.18.2.1.1, 10.18.2.1.2]

Sections 10.18.2.1.1, 10.18.2.1.2

~~10.18.2.1.1~~ 2

Visible annunciation shall be by an indicator lamp, an alphanumeric display, a printout, or other means.

10.18.2.1.2 – 3

The visible annunciation of supervisory and/or trouble conditions shall not be canceled by the means used to deactivate other supervisory or trouble notification appliances.

Statement of Problem and Substantiation for Public Input

10.18.2.1 is an orphan - there is no 10.18.2.2. The existing 10.18.2.1.1 and 10.18.2.1.2 are subordinate to 10.18.2 and do not have to be subordinate to 10.18.2.1.

Technically, the visual alarm display is an alarm notification appliance. The addition of "other" clarifies the intent and works with proposed Annex text.

Deleted "a" before printout to be consistent with existing 10.18.1.1.1.

Submitter Information Verification

Submitter Full Name: Robert Schifiliti

Organization: R. P. Schifiliti Associates, I

Street Address:

City:

State:

Zip:

Submittal Date: Tue Apr 23 16:18:42 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: [FR-5171-NFPA 72-2019](#)

Statement: The Technical Committee reorganizes the sections to address style and editorial issues. The Technical Committee views the visible annunciation as generally provided by an annunciator (defined in 3.3.21) and not a notification appliance (defined in 3.3.182). Thus the "other" as suggested in PI 131 and PI 133 was not included. Attempts to rewrite the section to use the term annunciator was defeated by the allowance of a printout, which is neither an annunciator or a notification appliance.

**Public Input No. 655-NFPA 72-2019 [New Section after 17.12.7]****17.12.11 System Action Upon Activation of Carbon Monoxide Detector**

17.12.11.1 Activation of a carbon monoxide signal shall generate an alarm throughout the building.

17.12.11.2 If there is an approved building response plan, evacuation plan, fire safety plan, or similar documentation detailing what is to be done upon activation of the various types of initiating devices and other equipment, developed by a qualified engineer and approved by the local authorities, then the fire alarm system processing for and occupant response to carbon monoxide alarm signals shall be in accordance with this approved building response plan, evacuation plan, fire safety plan, or similar documentation. The design professional shall include this information in the design drawings and documents, including those submitted to the local authorities. If not such plans exist, then activation of a carbon monoxide signal shall be generated throughout the building.

17.12.11.3 Multiple interconnected carbon monoxide detectors shall activate each other upon activation of one of them.

-

-

Additional Proposed Changes

File Name	Description	Approved
72_HELD_PC_528_SIG-IDS.pdf	NFPA 72 HELD Public Comments No. 528	

Statement of Problem and Substantiation for Public Input

NOTE: This Public Input appeared as "Rejected but Held" in Public Comment No. 528 of the (A2018) Second Draft Report for NFPA 72 and per the Regs. at 4.4.8.3.1.

it would be beneficial to provide additional information as to what the response is to activation of a carbon monoxide detector.

Furthermore, it is not defined in the current text what is to be done should there not be such a plan. See also Section 23.8.4.8.2

Submitter Information Verification

Submitter Full Name: TC on SIG-IDS

Organization: NFPA

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jun 27 16:33:18 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: This is currently addressed in 23.8.6.1. (SIG-FUN) The following committees also reviewed this Public Input: SIG-PRO: Agrees with the action, as 23.8.6.1.2 and 23.8.6.1.3 already address notification of occupants for carbon monoxide detectors. SIG-IDS: Agrees with the action, as the recommended text does not belong in Chapter 17.



Public Input No. 381-NFPA 72-2019 [New Section after 17.12.9]

TITLE OF NEW CONTENT

Type your content here ...

17.12.10 Action upon Activation of Carbon Monoxide detector

Activation of a carbon monoxide detector shall generate an alarm at the detector activated, as well as throughout the building if a fire alarm system is provided.

If there is an approved building response plan, evacuation plan, fire safety plan, or similar documentation, developed by a qualified engineer and approved by the local authorities then the fire alarm system processing for and occupant response to carbon monoxide alarm signals shall be in accordance with this approved building response plan, evacuation plan, fire safety plan, or similar documentation. The design professional shall include this information in the design drawings and documents, including those submitted to the local authorities.

Multiple interconnected carbon monoxide detectors shall activate each other upon activation of one of them.

Statement of Problem and Substantiation for Public Input

It would help to clarify what the response is to a CO detector activating, including if there is/is not an evacuation plan.

Submitter Information Verification

Submitter Full Name: Chris Marrion

Organization: Marrion Fire & Risk Consulting

Street Address:

City:

State:

Zip:

Submittal Date: Sat Jun 22 18:43:04 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: This is currently addressed in 23.8.6.1. (SIG-FUN) The following committees also reviewed this Public Input: SIG-PRO: Agrees with the action, as 23.8.6.1.2 and 23.8.6.1.3 already address notification of occupants for carbon monoxide detectors. SIG-IDS: Agrees with the action, as the recommended text does not belong in Chapter 17.



Public Input No. 361-NFPA 72-2019 [Section No. A.3.3.61.1.2]

A.3.3.61.1.2 Pre-Alarm Condition.

Some examples of pre-alarm conditions include the following: the presence of a very small amount of visible smoke (at levels below listed initiating device alarm thresholds), the presence of a smoke-like odor, a somewhat elevated temperature, and a gradually increasing temperature. Any abnormal condition that typically precedes an alarm condition can be termed a *pre-alarm condition*.

The amount of time available for investigating the cause of a pre-alarm condition is not a known quantity. If conditions deteriorate to the point of alarm, time is no longer available for investigation. Pre-alarm conditions might or might not progress to alarm conditions.

The detection of pre-alarm conditions ~~may~~ be desirable in some occupancies, particularly if environmental conditions are ordinarily well controlled (e.g., integrated circuit fabrication facility) and personnel are trained to respond appropriately. In other occupancies, the detection of pre-alarm conditions ~~may~~ not be desirable or necessary.

The term *pre-alarm condition* is different from the terms *positive alarm sequence*, *alarm verification*, and *pre-signal*.

Statement of Problem and Substantiation for Public Input

the uses of "may" does not comply with MOS.

Submitter Information Verification

Submitter Full Name: Kevin Green

Organization: Pyro-Comm Systems, Inc.

Affiliation: FUN Task Group

Street Address:

City:

State:

Zip:

Submittal Date: Sat Jun 22 10:59:19 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: FR-5074-NFPA 72-2019

Statement: The Technical Committee removes the word "may" in accordance with the Manual of Style.



Public Input No. 387-NFPA 72-2019 [New Section after A.3.3.99]

A.3.3.99.2.1 UPS is also defined as Uninterruptable Power Systems By Underwriters Laboratory in UL 1779, Standard for Safety, Uninterruptable Power Systems as "Combination of converters, switches, and energy storage devices (such as batteries), constituting a power system for maintaining continuity of power to load in case of input power failure. Many commercial UPS are listed to UL 1778.

Statement of Problem and Substantiation for Public Input

Create a relationship between Commerical UPS and ANSI/UL 1778. Also, normalize the difference between UL's UPS langage as a Uninterruptable Power Systems, as opposed to what UPS is commonly understood to be: Uninterruptable Power Supply.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 383-NFPA 72-2019 [New Section after 10.6.8.4]	Supports the different language that UPS is defined under with respect to UL 1778.

Submitter Information Verification

Submitter Full Name: Michael Pallett
Organization: Telecor Inc.
Street Address:
City:
State:
Zip:
Submittal Date: Sat Jun 22 19:21:26 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: The proposed language is not necessary, and is redundant to the text of A.3.3.99.



Public Input No. 439-NFPA 72-2019 [New Section after A.3.3.188]

A3.3.194 Out of Service

It is not the intent of the Code to require notification of the authority having jurisdiction, or evacuation of the portion of the building affected, for a single nonoperating device or appliance.

Statement of Problem and Substantiation for Public Input

Annex to provide additional guidance on the new definition

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 438-NFPA 72-2019 [New Section after 3.3.194]	

Submitter Information Verification

Submitter Full Name: Joshua Brackett
Organization: Baptist Health
Street Address:
City:
State:
Zip:
Submittal Date: Mon Jun 24 12:19:03 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: The body of this document contains requirements regarding equipment that is out of service, and it would be inappropriate to contradict those requirements in the annex material.



Public Input No. 55-NFPA 72-2019 [New Section after A.7.4.2]

A.7.4.6(7)

A.7.4.6(7) This includes indication of where pathway survivability is being provided.

Statement of Problem and Substantiation for Public Input

The riser diagram should identify where pathway survivability is to be provided as well as the Level.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 54-NFPA 72-2019 [Section No. 7.4.6]	

Submitter Information Verification

Submitter Full Name: William Koffel
Organization: Koffel Associates, Inc.
Affiliation: Automatic Fire Alarm Association (AFAA)
Street Address:
City:
State:
Zip:
Submittal Date: Thu Mar 28 12:03:48 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: [FR-5080-NFPA 72-2019](#)

Statement: This revision clarifies that pathway class designations and survivability levels are to be included on riser diagrams.

Additionally, the text clarifies that the riser diagram should show the location of required pathway survivability.



Public Input No. 602-NFPA 72-2019 [New Section after A.7.8.2(1)]

A7.8.1.2(k) 2.1

An example of a single voice channel fire alarm system is a voice evaluation system that provides a single evacuation signal throughout a building or selected floor.

Statement of Problem and Substantiation for Public Input

An example is need for a single voice channel fire alarm system to provide clarity.

Submitter Information Verification

Submitter Full Name: Kevin Green

Organization: Pyro-Comm Systems, Inc.

Affiliation: FUN Task Group

Street Address:

City:

State:

Zip:

Submittal Date: Wed Jun 26 15:22:04 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: [FR-5106-NFPA 72-2019](#)

Statement: Examples are added to provide clarity.



Public Input No. 608-NFPA 72-2019 [New Section after A.7.8.2(1)]

A7.8.1.2(k) 2.1

An example of a multiple voice channel fire alarm system is a system that can provide multiple messages or evacuation signals to multiple floors or areas at the same time.

Statement of Problem and Substantiation for Public Input

An example of a multiple channel system is needed to provide clarity.

Submitter Information Verification

Submitter Full Name: Kevin Green

Organization: Pyro-Comm Systems, Inc.

Affiliation: FUN Task Group

Street Address:

City:

State:

Zip:

Submittal Date: Wed Jun 26 15:36:41 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: [FR-5106-NFPA 72-2019](#)

Statement: Examples are added to provide clarity.



Public Input No. 199-NFPA 72-2019 [Section No. A.7.8.2(1)]

A.7.8.2(1)

Examples of completed record of completion forms are shown in Figure A.7.8.2(1)(a) through Figure A.7.8.2(1)(f).

Figure A.7.8.2(1)(a) Example of Completed System Record of Completion.

SYSTEM RECORD OF COMPLETION

This form is to be completed by the system installation contractor at the time of system acceptance and approval.
It shall be permitted to modify this form as needed to provide a more complete and/or clear record.
Insert N/A in all unused lines.
Attach additional sheets, data, or calculations as necessary to provide a complete record.

Form Completion Date: 2 November 2019 Supplemental Pages Attached: 0

1. PROPERTY INFORMATION

Name of property: World Storage and Transfer Headquarters
Address: 2732 Santa Anita Boulevard, Hilo, HI
Description of property: Business and Office Building
Name of property representative: Joe Bago Donita
Address: As above
Phone: (743) 225-9768 Fax: (743) 225-9768 E-mail: jbago@WLSI.net

2. INSTALLATION, SERVICE, TESTING, AND MONITORING INFORMATION

Installation contractor: Sparken's Electric
Address: 1954 Nimitz Highway, Honolulu, HI 76542
Phone: (978) 456-8876 Fax: (978) 456-8876 E-mail: shortcircuitguy@sparken.net
Service organization: None
Address: _____ Phone: _____ Fax: _____ E-mail: _____
Testing organization: Jim's Protection, Inc.
Address: 2300 Daly Boulevard, Austin, TX
Phone: (407) 758-4587 Fax: (407) 758-4588 E-mail: testerjim@JPI.com
Effective date for test and inspection contract: 25 January 2011
Monitoring organization: Look the Other Way, Inc.
Address: 995 Highway 35W, Minneapolis, MN
Phone: (412) 456-9078 Fax: (412) 456-7272 E-mail: Look@otherway.com
Account number: 56734589 Phone line 1: (212) 978-6676 Phone line 2: (212) 978-8976
Means of transmission: IF
Entity to which alarms are retransmitted: Honolulu FD Phone: (808) 455-5555

3. DOCUMENTATION

On-site location of the required record documents and site-specific software: Building Mgmt. Office Room 203

4. DESCRIPTION OF SYSTEM OR SERVICE

This is a: ☒ New system ☐ Modification to existing system Permit number: 11-907645
NFPA 72 edition: 2019

4.1 Control Unit

Manufacturer: Halter Cabinet Model number: 1019-7647

4.2 Software and Firmware

Firmware revision number: 7.0 B Executive Rev 9.11

4.3 Alarm Verification ☒ This system does not incorporate alarm verification.
Number of devices subject to alarm verification: _____ Alarm verification set for _____ seconds

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SYSTEM RECORD OF COMPLETION (continued)

5. SYSTEM POWER

5.1 Control Unit

5.1.1 Primary Power

Input voltage of control panel: 120 VAC Control panel amperage: 7.3 Amps
Overcurrent protection: Type: Breaker Amperage: 20 Amps
Branch circuit disconnecting means location: Breaker Panel — Room B-23 Number: 23

5.1.2 Secondary Power

Type of secondary power: Battery
Location, if remote from the plant: Near Yard
Calculated capacity of secondary power to drive the system: _____
In standby mode (hours): 24 In alarm mode (minutes): 15

5.2 Control Unit

☐ This system does not have power extender panels
☐ Power extender panels are listed on supplementary sheet A

6. CIRCUITS AND PATHWAYS

Pathway Type	Dual Media Pathway	Separate Pathway	Class	Survivability Level
Signaling Line		X	A	1
Device Power				
Initiating Device		X	B	1
Notification Appliance		X	B	1
Other (specify):				

7. REMOTE ANNUNCIATORS

Type	Location
Tabular	Front Lobby

8. INITIATING DEVICES

Type	Quantity	Addressable or Conventional	Alarm or Supervisory	Sensing Technology
Manual Pull Stations	12	Addressable	Alarm	
Smoke Detectors	8	Addressable	Alarm	Photoelectric
Duct Smoke Detectors				
Heat Detectors				
Gas Detectors	1	Conventional	Supervisory	
Carbon Monoxide Detectors				
Waterflow Switches	2	Conventional	Alarm	
Tamper Switches	4	Conventional	Supervisory	

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SYSTEM RECORD OF COMPLETION (continued)		
9. NOTIFICATION APPLIANCES		
Type	Quantity	Description
Audible	15	
Visual	24	
Combination Audible and Visual	6	
10. SYSTEM CONTROL FUNCTIONS		
Type	Quantity	
Hold-Open Door Releasing Devices	4	
HVAC Shutdown	2	
Fire/Smoke Dampers		
Door Unlocking	1	
Elevator Recall	2	
Elevator Shunt Trip		
11. INTERCONNECTED SYSTEMS		
☐ This system does not have interconnected systems.		
☐ Interconnected systems are listed on supplementary sheet _____.		
12. CERTIFICATION AND APPROVALS		
12.1 System Installation Contractor		
This system as specified herein has been installed according to all NFPA standards cited herein.		
Signed: <u>Harry Johnson</u>	Printed name: <u>Harry Johnson</u>	Date: <u>11 November 2019</u>
Organization: <u>Sparkie's Electric</u>	Title: <u>Principal</u>	Phone: <u>(978) 456-9876</u>
12.2 System Operational Test		
This system as specified herein has been tested according to all NFPA standards cited herein.		
Signed: <u>Jim Riverbottom</u>	Printed name: <u>Jim Riverbottom</u>	Date: <u>14 January 2011</u>
Organization: <u>Jim's Protection, Inc.</u>	Title: <u>President</u>	Phone: <u>(407) 758-4565</u>
12.3 Acceptance Test		
Date and time of acceptance test: <u>0830 hrs, 16 November 2019</u>		
Installing contractor representative: <u>Jim Johnson</u>		
Testing contractor representative: <u>Reginald O'Hanrahan</u>		
Property representative: <u>Danny Macintosh</u>		
AHJ representative: <u>Inspector DiDonato</u>		
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Figure A.7.8.2(1)(b) Example of Completed Emergency Communications System Supplementary Record of Completion.

EMERGENCY COMMUNICATIONS SYSTEMS SUPPLEMENTARY RECORD OF COMPLETION	
This form is a supplement to the System Record of Completion. It includes systems and components specific to emergency communications systems.	
This form is to be completed by the system installation contractor at the time of system acceptance and approval. It shall be permitted to modify this form as needed to provide a more complete and/or clear record. Insert N/A in all unused lines.	
Form Completion Date: <u>2 November 2019</u>	Number of Supplemental Pages Attached: _____
1. PROPERTY INFORMATION	
Name of property: <u>World Storage and Transfer Headquarters</u>	
Address: <u>27132 Santa Anita Boulevard, Hilo, HI</u>	
2. DESCRIPTION OF SYSTEM OR SERVICE	
☐ Fire alarm with in-building fire emergency voice alarm communication system (EVAC)	
☐ Mass notification system	
☒ Combination system, with the following components:	
☐ Fire alarm ☐ EVACS ☒ MNS ☐ Two-way, in-building, emergency communications system	
☐ Other (specify): _____	
NFPA 72 edition: <u>2019</u> Additional description of system(s): _____	
2.1 In-Building Fire Emergency Voice Alarm Communications System	
Manufacturer: <u>Halter Cabinet</u> Model number: <u>1018-7648</u>	
Number of single voice alarm channels: <u>2</u> Number of multiple voice alarm channels: <u>0</u>	
Number of loudspeakers: <u>99</u> Number of loudspeaker circuits: <u>12</u>	
Location of amplification and sound processing equipment: <u>Fire Control Room</u>	
Location of paging microphone stations:	
Location 1: <u>Fire Control Room</u>	
Location 2: <u>Security Office</u>	
Location 3: _____	
2.2 Mass Notification System	
2.2.1 System Type:	
☒ In-building MNS-combination	
☐ In-building MNS ☐ Wide-area MNS ☐ Distributed recipient MNS	
☐ Other (specify): _____	
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EMERGENCY COMMUNICATIONS SYSTEMS SUPPLEMENTARY RECORD OF COMPLETION (continued)	
2. DESCRIPTION OF SYSTEM OR SERVICE (continued)	
2.2.2 System Features:	
☒ Combination fire alarm/MNS ☐ MNS autonomous control unit ☐ Wide-area MNS to regional national alerting interface	
☐ Local operating console (LOC) ☐ Distributed endpoint MNS (DIRMNS) ☐ Wide-area MNS to DIRMNS interface	
☐ Wide-area MNS to high power loudspeaker array (HPLA) interface ☐ In-building MNS to wide-area MNS interface	
☐ Other (specify): _____	
2.2.3 MNS Local Operating Consoles	
Location 1: <u>Fire Control Room</u>	
Location 2: <u>Security Office</u>	
Location 3: _____	
2.2.4 High-Power Loudspeaker Arrays	
Number of HPLA loudspeaker initiation zones: <u>0</u>	
Location 1: _____	
Location 2: _____	
Location 3: _____	
2.2.5 Mass Notification Devices	
Combination fire alarm/MNS visual devices: <u>45</u> MNS-only visual devices: _____	
Textual signs: _____ Other (describe): _____	
Supervision class: _____	
2.2.6 Special Hazard Notification	
☒ This system does not have special suppression pre-discharge notification.	
☐ MNS systems DO NOT override notification appliances required to provide special suppression pre-discharge notification.	
3. TWO-WAY EMERGENCY COMMUNICATIONS SYSTEMS	
3.1 Telephone System	
Number of telephone jacks installed: <u>35</u> Number of warden stations installed: <u>3</u>	
Number of telephone handsets stored on site: <u>6</u>	
Type of telephone system installed: ☐ Electrically powered ☒ Sound powered	
3.2 Area of Refuge (Area of Rescue Assistance) Emergency Communications Systems	
Number of stations: <u>0</u> Location of central control point: _____	
Days and hours when central control point is attended: _____	
Location of alternate control point: _____	
Days and hours when alternate control point is attended: _____	
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EMERGENCY COMMUNICATIONS SYSTEMS SUPPLEMENTARY RECORD OF COMPLETION (continued)															
3. TWO-WAY EMERGENCY COMMUNICATIONS SYSTEMS (continued)															
3.3 Elevator Emergency Communications Systems															
Number of elevators with stations: <u>2</u> Location of central control point: <u>Fire Control Room</u>															
Days and hours when central control point is attended: <u>24</u>															
Location of alternate control point: <u>None</u>															
Days and hours when alternate control point is attended: <u>None</u>															
3.4 Other Two-Way Communications System															
Describe: _____															
4. CONTROL FUNCTIONS															
This system actuates the following control functions specific to emergency communications systems:															
<table border="1"><thead><tr><th>Type</th><th>Quantity</th></tr></thead><tbody><tr><td>Mass Notification Override of Alarm Signaling Systems or Appliances</td><td>1</td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr></tbody></table>	Type	Quantity	Mass Notification Override of Alarm Signaling Systems or Appliances	1											
Type	Quantity														
Mass Notification Override of Alarm Signaling Systems or Appliances	1														
See Main System Record of Completion for additional information, certifications, and approvals.															
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Figure A.7.8.2(1)(c) Example of Completed Power Systems Supplementary Record of Completion.

POWER SYSTEMS SUPPLEMENTARY RECORD OF COMPLETION			
This form is a supplement to the System Record of Completion. It includes systems and components specific to power systems that incorporate generators, ESS systems, remote battery systems, or other complex power systems. This form is to be completed by the system installation contractor at the time of system acceptance and approval. It shall be permitted to modify this form as needed to provide a more complete and/or clear record. Insert N/A in all unused lines.			
Form Completion Date: 2 November 2019	Number of Supplemental Pages Attached: 0		
1. PROPERTY INFORMATION			
Name of property: World Storage and Transfer Headquarters			
Address: 27132 Santa Anita Boulevard, Hilo, HI			
2. SYSTEM POWER			
2.1 Control Unit			
2.1.1 Primary Power			
Input voltage of control panel: 120 volts	Control panel amps: 7.5		
Overcurrent protection: Type: Circuit Breaker	Amps: 20		
Location (of primary supply panelboard): Main Electrical Room in Basement			
Disconnecting means location: Panel E2 - Electric Room			
2.1.2 Engine-Driven Generator			
Location of generator:			
Location of fuel storage: Type of fuel: Diesel			
2.1.3 Energy Storage Systems			
Equipment powered by ESS system: None			
Location of ESS system:			
Calculated capacity of ESS batteries to drive the system components connected to it:			
In standby mode (hours):	In alarm mode (minutes):		
2.1.4 Batteries			
Location: FACU	Type: Gel Cell	Nominal voltage: 24	Amp/hour rating: 16
Calculated capacity of batteries to drive the system:			
In standby mode (hours): 24	In alarm mode (minutes): 15		
2.2 In-Building Fire Emergency Voice Alarm Communications System or Mass Notification System			
2.2.1 Primary Power			
Input voltage of EVACS or MNS panel: 120 volts	EVACS or MNS panel amps: 8.8		
Overcurrent protection: Type: Circuit Breaker	Amps: 20		
Location (of primary supply panelboard): Main Electrical Room in Basement			
Disconnecting means location: Panel E2 - Electric Room			

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POWER SYSTEMS SUPPLEMENTARY RECORD OF COMPLETION (continued)			
2. SYSTEM POWER (continued)			
2.2.2 Engine-Driven Generator			
Location of generator:			
Location of fuel storage: Type of fuel: Diesel			
2.2.3 Energy Storage Systems			
Equipment powered by ESS system: None			
Location of ESS system: N/A			
Calculated capacity of ESS batteries to drive the system components connected to it:			
In standby mode (hours): N/A	In alarm mode (minutes): N/A		
2.2.4 Batteries			
Location: ECD Panel	Type: Gel Cell	Nominal voltage: 24	Amp/hour rating: 20
Calculated capacity of batteries to drive the system:			
In standby mode (hours): 24	In alarm mode (minutes): 15		
2.3 Notification Appliance Power Extender Panels			
☐ This system does not have power extender panels.			
2.3.1 Primary Power			
Input voltage of power extender panel(s): 120 volts	Power extender panel amps: 8		
Overcurrent protection: Type: Circuit Breaker	Amps: 20		
Location (of primary supply panelboard): See Table			
Disconnecting means location:			
2.3.2 Engine-Driven Generator			
Location of generator:			
Location of fuel storage: Type of fuel: Diesel			
2.3.3 Energy Storage Systems			
Equipment powered by ESS system: None			
Location of ESS system:			
Calculated capacity of ESS batteries to drive the system components connected to it:			
In standby mode (hours):	In alarm mode (minutes):		
2.3.4 Batteries			
Location: Power Panel	Type: Gel Cell	Nominal voltage: 24	Amp/hour rating: 12
Calculated capacity of batteries to drive the system:			
In standby mode (hours): 24	In alarm mode (minutes): 15		
See Main System Record of Completion for additional information, certifications, and approvals.			

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Figure A.7.8.2(1)(d) Example of Completed Notification Appliance Power Panel Supplementary Record of Completion.

Figure A.7.8.2(1)(e) Example of Completed Interconnected Systems Supplementary Record of Completion.

INTERCONNECTED SYSTEMS SUPPLEMENTARY RECORD OF COMPLETION		
This form is a supplement to the System Record of Completion. It includes a list of types and locations of systems that are interconnected to the main system. This form is to be completed by the system installation contractor at the time of system acceptance and approval. It shall be permitted to modify this form as needed to provide a more complete and/or clear record. Insert N/A in all unused lines.		
Form Completion Date: 2 November 2019		Number of Supplemental Pages Attached: _____
1. PROPERTY INFORMATION		
Name of property: World Storage and Transfer Headquarters		
Address: 27132 Santa Anita Boulevard, Hilo, HI		
2. INTERCONNECTED SYSTEMS		
Description	Location	Purpose
Fan Shutdown	Roof	Shut down fans on fire alarm activation
Elevator Recall	Elevator Room	Recall elevators in case of alarm on lobby smoke detectors
See Main System Record of Completion for additional information, certifications, and approvals.		
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Figure A.7.8.2(1)(f) Example of Completed Deviations from Adopted Codes and Standards Supplementary Record of Completion.

DEVIATIONS FROM ADOPTED CODES AND STANDARDS SUPPLEMENTARY RECORD OF COMPLETION	
This form is a supplement to the System Record of Completion. It enables the designer and/or installer to document and justify deviations from accepted codes or standards. This form is to be completed by the system installation contractor at the time of system acceptance and approval. It shall be permitted to modify this form as needed to provide a more complete and/or clear record. Insert N/A in all unused lines.	
Form Completion Date: 2 November 2019	
Number of Supplemental Pages Attached: _____	
1. PROPERTY INFORMATION	
Name of property: World Storage and Transfer Headquarters	
Address: 27132 Santa Anita Boulevard, Hilo, HI	
2. DEVIATIONS FROM ADOPTED CODES OR STANDARDS	
Description	Purpose
Waterflow switch set to a 120-second trip	Issue has been identified that there are water surges during evening hours
See Main System Record of Completion for additional information, certifications, and approvals.	
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Statement of Problem and Substantiation for Public Input

This PI proposes to relocate these forms to the same section of Annex A as they appeared in the 2016 edition. In that edition, these forms appear correctly at the conclusion of the Annex notes for Chapter 7. However, in the 2019 edition, these forms appear in the middle of the notes section for Chapter 10, with the result that the forms are separated from their respective annex note A.7.8.2(1) and also the notes for Chapter 10 are broken up in such a way that Section A.10.5.3.1 gets split up, with the latter portion of that note being orphaned on page 72-210, along with Sections A.10.5.3.2 through A.10.5.3.5. This has made it more difficult, not easier, for the user of the Code to navigate and locate these important notes.

Submitter Information Verification

Submitter Full Name: Joe Scibetta

Organization: BuildingReports

Committee Statement

City:

Resolution: Paging of the printed edition is not within the control of the Technical Committee.

State:

Zip:

Submittal Date: Wed May 29 12:29:29 EDT 2019

Committee: SIG-FUN



Public Input No. 363-NFPA 72-2019 [Section No. A.7.8.2(1)]

A.7.8.2(1)

Examples of completed record of completion forms are shown in Figure A.7.8.2(1)(a) through Figure A.7.8.2(1)(f).

Figure A.7.8.2(a) Section 6 Dual Media Pathway. An example of a Dual Media Pathway is circuit that is continuous circuit connected to a FACU at two terminal locations.

Figure A.7.8.2(a) Section 6 Separate Pathway. An example of a Separate Pathway is a circuit that is only connected to the FACP at one terminal location.

Figure A.7.8.2(1)(a) Example of Completed System Record of Completion.

SYSTEM RECORD OF COMPLETION				
This form is to be completed by the system installation contractor at the time of system acceptance and approval. It shall be permitted to modify this form as needed to provide a more complete and/or clear record. Insert full in all unused lines. Attach additional sheets, data, or calculations as necessary to provide a complete record. Form Completion Date: 2 November 2019 Supplemental Pages Attached: 0				
1. PROPERTY INFORMATION				
Name of property: World Storage and Transfer Headquarters				
Address: 2732 Santa Anita Boulevard, Hilo, HI				
Description of property: Business and Office Building				
Name of property representative: Joe Bago Donite				
Address: As above				
Phone: (743) 225-9768 Fax: (743) 225-9768 E-mail: jrbago@WLS.net				
2. INSTALLATION, SERVICE, TESTING, AND MONITORING INFORMATION				
Installation contractor: Sparker's Electric				
Address: 9954 Nimitz Highway, Honolulu, HI 70542				
Phone: (978) 456-8876 Fax: (978) 456-8876 E-mail: shortcircuitguy@sparkers.net				
Service organization: None				
Address: _____				
Phone: _____ Fax: _____ E-mail: _____				
Testing organization: Jim's Protection, Inc.				
Address: 2300 Daly Boulevard, Austin, TX				
Phone: (407) 738-4587 Fax: (407) 738-4588 E-mail: testerjim@JPI.com				
Effective date for test and inspection contract: 25 January 2011				
Monitoring organization: Look the Other Way, Inc.				
Address: 995 Highway 36W, Minneapolis, MN				
Phone: (412) 456-9076 Fax: (412) 456-7272 E-mail: Look@otherway.com				
Account number: 56734568 Phone line 1: (212) 978-6576 Phone line 2: (212) 978-9976				
Means of transmission: IF				
Entity to which alarms are retransmitted: Honolulu FD Phone: (808) 456-5555				
3. DOCUMENTATION				
On-site location of the required record documents and site-specific software: Building Mgmt. Office Room 203				
4. DESCRIPTION OF SYSTEM OR SERVICE				
This is a: ☒ New system ☐ Modification to existing system Permit number: 11-907645				
NFPA 72 edition: 2019				
4.1 Control Unit				
Manufacturer: Hatter Cabinets Model number: 1019-7647				
4.2 Software and Firmware				
Firmware revision number: 7.0 B Executive Rev B.11				
4.3 Alarm Verification				
☒ This system does not incorporate alarm verification.				
Number of devices subject to alarm verification: _____ Alarm verification set for _____ seconds				
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SYSTEM RECORD OF COMPLETION (continued)				
5. SYSTEM POWER				
5.1 Control Unit				
5.1.1 Primary Power				
Input voltage of control panel: 120 VAC Control panel amperage: 7.3 Amps				
Overcurrent protection: Type: Breaker Amperage: 20 Amps				
Branch circuit disconnecting means location: Breaker Panel - Room B-23 Number: 23				
5.1.2 Secondary Power				
Type of secondary power: Battery				
Location, if remote from the plant: Rear Yard				
Calculated capacity of secondary power to drive the system:				
In standby mode (hours): 24 In alarm mode (minutes): 15				
5.2 Control Unit				
☐ This system does not have power extender panels				
☐ Power extender panels are listed on supplementary sheet A				
6. CIRCUITS AND PATHWAYS				
Pathway Type	Dual Media Pathway	Separate Pathway	Class	Survivability Level
Signaling Line		X	A	1
Device Power				
Initiating Device		X	B	1
Notification Appliance		X	B	1
Other (specify):				
7. REMOTE ANNUNCIATORS				
Type	Location			
Tabular	Front Lobby			
8. INITIATING DEVICES				
Type	Quantity	Addressable or Conventional	Alarm or Supervisory	Sensing Technology
Manual Pull Stations	12	Addressable	Alarm	
Smoke Detectors	8	Addressable	Alarm	Photoelectric
Duct Smoke Detectors				
Heat Detectors				
Gas Detectors	1	Conventional	Supervisory	
Carbon Monoxide Detectors				
Waterflow Switches	2	Conventional	Alarm	
Tamper Switches	4	Conventional	Supervisory	
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SYSTEM RECORD OF COMPLETION (continued)		
9. NOTIFICATION APPLIANCES		
Type	Quantity	Description
Audible	15	
Visual	24	
Combination Audible and Visual	6	
10. SYSTEM CONTROL FUNCTIONS		
Type	Quantity	
Hold-Open Door Releasing Devices	4	
HVAC Shutdown	2	
Fire/Smoke Dampers		
Door Unlocking	1	
Elevator Recall	2	
Elevator Shunt Trip		
11. INTERCONNECTED SYSTEMS		
☐ This system does not have interconnected systems.		
☐ Interconnected systems are listed on supplementary sheet _____.		
12. CERTIFICATION AND APPROVALS		
12.1 System Installation Contractor		
This system as specified herein has been installed according to all NFPA standards cited herein.		
Signed: <u>Harry Johnson</u>	Printed name: <u>Harry Johnson</u>	Date: <u>11 November 2019</u>
Organization: <u>Sparkie's Electric</u>	Title: <u>Principal</u>	Phone: <u>(978) 456-9876</u>
12.2 System Operational Test		
This system as specified herein has been tested according to all NFPA standards cited herein.		
Signed: <u>Jim Riverbottom</u>	Printed name: <u>Jim Riverbottom</u>	Date: <u>14 January 2011</u>
Organization: <u>Jim's Protection, Inc.</u>	Title: <u>President</u>	Phone: <u>(407) 738-4563</u>
12.3 Acceptance Test		
Date and time of acceptance test: <u>0830 hrs. — 18 November 2019</u>		
Installing contractor representative: <u>Jim Johnson</u>		
Testing contractor representative: <u>Reginald O'Haraquest</u>		
Property representative: <u>Danny Macintosh</u>		
AHJ representative: <u>Inspector DiDonato</u>		
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NFPA 72 (p. 3 of 3)		

Figure A.7.8.2(1)(b) Example of Completed Emergency Communications System Supplementary Record of Completion.

EMERGENCY COMMUNICATIONS SYSTEMS SUPPLEMENTARY RECORD OF COMPLETION	
This form is a supplement to the System Record of Completion. It includes systems and components specific to emergency communications systems.	
This form is to be completed by the system installation contractor at the time of system acceptance and approval. It shall be permitted to modify this form as needed to provide a more complete and/or clear record. Insert N/A in all unused lines.	
Form Completion Date: <u>2 November 2019</u>	Number of Supplemental Pages Attached: _____
1. PROPERTY INFORMATION	
Name of property: <u>World Storage and Transfer Headquarters</u>	
Address: <u>2732 Santa Anita Boulevard, Hilo, HI</u>	
2. DESCRIPTION OF SYSTEM OR SERVICE	
☐ Fire alarm with in-building fire emergency voice alarm communication system (EVAC)	
☐ Mass notification system	
☒ Combination system, with the following components:	
☐ Fire alarm ☐ EVACS ☒ MNS ☐ Two-way, in-building, emergency communications system	
☐ Other (specify): _____	
NFPA 72 edition: <u>2019</u> Additional description of system(s): _____	
2.1 In-Building Fire Emergency Voice Alarm Communications System	
Manufacturer: <u>Halter Cabinet</u> Model number: <u>1018-7648</u>	
Number of single voice alarm channels: <u>2</u> Number of multiple voice alarm channels: <u>0</u>	
Number of loudspeakers: <u>99</u> Number of loudspeaker circuits: <u>12</u>	
Location of amplification and sound processing equipment: <u>Fire Control Room</u>	
Location of paging microphone stations:	
Location 1: <u>Fire Control Room</u>	
Location 2: <u>Security Office</u>	
Location 3: _____	
2.2 Mass Notification System	
2.2.1 System Type:	
☒ In-building MNS—combination	
☐ In-building MNS ☐ Wide-area MNS ☐ Distributed recipient MNS	
☐ Other (specify): _____	
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EMERGENCY COMMUNICATIONS SYSTEMS SUPPLEMENTARY RECORD OF COMPLETION (continued)	
2. DESCRIPTION OF SYSTEM OR SERVICE (continued)	
2.2.2 System Features: ☒ Combination fire alarm/MNS ☐ MNS autonomous control unit ☐ Wide-area MNS to regional national alerting interface ☐ Local operating console (LOC) ☐ Distributed-receiver MNS (DRMNS) ☐ Wide-area MNS to DRMNS interface ☐ Wide-area MNS to high power loudspeaker array (HPLA) interface ☐ In-building MNS to wide-area MNS interface ☐ Other (specify): _____	
2.2.3 MNS Local Operating Consoles Location 1: <u>Fire Control Room</u> Location 2: <u>Security Office</u> Location 3: _____	
2.2.4 High-Power Loudspeaker Arrays Number of HPLA loudspeaker initiation zones: <u>0</u> Location 1: _____ Location 2: _____ Location 3: _____	
2.2.5 Mass Notification Devices Combination fire alarm/MNS visual devices: <u>48</u> MNS-only visual devices: _____ Textual signs: _____ Other (describe): _____ Supervision class: _____	
2.2.6 Special Hazard Notification ☒ This system does not have special suppression predischARGE notification. ☐ MNS systems DO NOT override notification appliances required to provide special suppression predischARGE notification.	
3. TWO-WAY EMERGENCY COMMUNICATIONS SYSTEMS	
3.1 Telephone System Number of telephone jacks installed: <u>15</u> Number of warden stations installed: <u>5</u> Number of telephone handsets stored on site: <u>6</u> Type of telephone system installed: ☐ Electrically powered ☒ Sound powered	
3.2 Area of Refuge (Area of Rescue Assistance) Emergency Communications Systems Number of stations: <u>0</u> Location of central control point: _____ Days and hours when central control point is attended: _____ Location of alternate control point: _____ Days and hours when alternate control point is attended: _____	
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EMERGENCY COMMUNICATIONS SYSTEMS SUPPLEMENTARY RECORD OF COMPLETION (continued)													
3. TWO-WAY EMERGENCY COMMUNICATIONS SYSTEMS (continued)													
3.3 Elevator Emergency Communications Systems Number of elevators with stations: <u>2</u> Location of central control point: <u>Fire Control Room</u> Days and hours when central control point is attended: <u>24</u> Location of alternate control point: <u>None</u> Days and hours when alternate control point is attended: <u>None</u>													
3.4 Other Two-Way Communications System Describe: _____													
4. CONTROL FUNCTIONS This system actuates the following control functions specific to emergency communications systems:													
<table border="1"><thead><tr><th>Type</th><th>Quantity</th></tr></thead><tbody><tr><td>Mass Notification Override of Alarm Signaling Systems or Appliances</td><td>1</td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr></tbody></table>	Type	Quantity	Mass Notification Override of Alarm Signaling Systems or Appliances	1									
Type	Quantity												
Mass Notification Override of Alarm Signaling Systems or Appliances	1												
See Main System Record of Completion for additional information, certifications, and approvals.													
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Figure A.7.8.2(1)(c) Example of Completed Power Systems Supplementary Record of Completion.

POWER SYSTEMS SUPPLEMENTARY RECORD OF COMPLETION			
This form is a supplement to the System Record of Completion. It includes systems and components specific to power systems that incorporate generators, ESS systems, remote battery systems, or other complex power systems. This form is to be completed by the system installation contractor at the time of system acceptance and approval. It shall be permitted to modify this form as needed to provide a more complete and/or clear record. Insert N/A in all unused lines.			
Form Completion Date: 2 November 2019	Number of Supplemental Pages Attached: 0		
1. PROPERTY INFORMATION			
Name of property: World Storage and Transfer Headquarters			
Address: 27132 Santa Anita Boulevard, Hilo, HI			
2. SYSTEM POWER			
2.1 Control Unit			
2.1.1 Primary Power			
Input voltage of control panel: 120 volts	Control panel amps: 7.5		
Overcurrent protection: Type: Circuit Breaker	Amps: 20		
Location (of primary supply panelboard): Main Electrical Room in Basement			
Disconnecting means location: Panel E2 - Electric Room			
2.1.2 Engine-Driven Generator			
Location of generator:			
Location of fuel storage: Type of fuel: Diesel			
2.1.3 Energy Storage Systems			
Equipment powered by ESS system: None			
Location of ESS system:			
Calculated capacity of ESS batteries to drive the system components connected to it:			
In standby mode (hours):	In alarm mode (minutes):		
2.1.4 Batteries			
Location: FACU	Type: Gel Cell	Nominal voltage: 24	Amphour rating: 16
Calculated capacity of batteries to drive the system:			
In standby mode (hours): 24	In alarm mode (minutes): 15		
2.2 In-Building Fire Emergency Voice Alarm Communications System or Mass Notification System			
2.2.1 Primary Power			
Input voltage of EVACS or MNS panel: 120 volts	EVACS or MNS panel amps: 8.6		
Overcurrent protection: Type: Circuit Breaker	Amps: 20		
Location (of primary supply panelboard): Main Electrical Room in Basement			
Disconnecting means location: Panel E2 - Electric Room			
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POWER SYSTEMS SUPPLEMENTARY RECORD OF COMPLETION (continued)			
2. SYSTEM POWER (continued)			
2.2.2 Engine-Driven Generator			
Location of generator:			
Location of fuel storage: Type of fuel: Diesel			
2.2.3 Energy Storage Systems			
Equipment powered by ESS system: None			
Location of ESS system: N/A			
Calculated capacity of ESS batteries to drive the system components connected to it:			
In standby mode (hours): N/A	In alarm mode (minutes): N/A		
2.2.4 Batteries			
Location: ECR Panel	Type: Gel Cell	Nominal voltage: 24	Amphour rating: 20
Calculated capacity of batteries to drive the system:			
In standby mode (hours): 24	In alarm mode (minutes): 15		
2.3 Notification Appliance Power Extender Panels			
☒ This system does not have power extender panels.			
2.3.1 Primary Power			
Input voltage of power extender panel(s): 120 volts	Power extender panel amps: 8		
Overcurrent protection: Type: Circuit Breaker	Amps: 20		
Location (of primary supply panelboard): See Table			
Disconnecting means location:			
2.3.2 Engine-Driven Generator			
Location of generator:			
Location of fuel storage: Type of fuel: Diesel			
2.3.3 Energy Storage Systems			
Equipment powered by ESS system: None			
Location of ESS system:			
Calculated capacity of ESS batteries to drive the system components connected to it:			
In standby mode (hours):	In alarm mode (minutes):		
2.3.4 Batteries			
Location: Power Panel	Type: Gel Cell	Nominal voltage: 24	Amphour rating: 12
Calculated capacity of batteries to drive the system:			
In standby mode (hours): 24	In alarm mode (minutes): 15		
See Main System Record of Completion for additional information, certifications, and approvals.			
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POWER SYSTEMS
SUPPLEMENTARY RECORD OF COMPLETION *(continued)*

2. SYSTEM POWER *(continued)*

2.4 Supervising Station Transmission Equipment

Ⓐ This system does not use transmission equipment within the building powered by any other source than the alarm system control unit.

2.4.1 Primary Power

Input voltage of shared transmission equipment: 120 VAC

Shared transmission equipment panel amperage: 75 amperes

Overcurrent protection: Type: Breaker Amperage: 20 amperes

Location of (primary supply) panelboard: Breaker Panel B-25

Disconnecting means location: Electric Room

2.4.2 Engine Driven Generator

Location of generator: _____

Location of fuel storage: _____ Type of fuel: _____

2.4.3 Energy Storage Systems

Equipment powered by ESS system:

Calculated capacity of ESS batteries to drive the system components connected to it:

In standby mode (hours): _____ In alarm mode (minutes): _____

2.4.4 Batteries

Location: FACU Type: Gel Nominal voltage: 12 Amp/hour rating: 16

Calculated capacity of batteries to drive the system:

In standby mode (hours): 24 In alarm mode (minutes): 15

Figure A.7.8.2(1)(d) Example of Completed Notification Appliance Power Panel Supplementary Record of Completion.

[illegible]

Figure A.7.8.2(1)(e) Example of Completed Interconnected Systems Supplementary Record of Completion.

INTERCONNECTED SYSTEMS SUPPLEMENTARY RECORD OF COMPLETION		
This form is a supplement to the System Record of Completion. It includes a list of types and locations of systems that are interconnected to the main system. This form is to be completed by the system installation contractor at the time of system acceptance and approval. It shall be permitted to modify this form as needed to provide a more complete and/or clear record. Insert N/A in all unused lines.		
Form Completion Date: <u>2 November 2019</u> Number of Supplemental Pages Attached: _____		
1. PROPERTY INFORMATION		
Name of property: <u>World Storage and Transfer Headquarters</u>		
Address: <u>27132 Santa Anita Boulevard, Hilo, HI</u>		
2. INTERCONNECTED SYSTEMS		
Description	Location	Purpose
Fan Shutdown	Roof	Shut down fans on fire alarm activation
Elevator Recall	Elevator Room	Recall elevators in case of alarm on lobby smoke detectors
See Main System Record of Completion for additional information, certifications, and approvals.		
© 2018 National Fire Protection Association NFPA 72		

Figure A.7.8.2(1)(f) Example of Completed Deviations from Adopted Codes and Standards Supplementary Record of Completion.

DEVIATIONS FROM ADOPTED CODES AND STANDARDS SUPPLEMENTARY RECORD OF COMPLETION	
This form is a supplement to the System Record of Completion. It enables the designer and/or installer to document and justify deviations from accepted codes or standards. This form is to be completed by the system installation contractor at the time of system acceptance and approval. It shall be permitted to modify this form as needed to provide a more complete and/or clear record. Insert N/A in all unused lines.	
Form Completion Date: <u>2 November 2019</u> Number of Supplemental Pages Attached: _____	
1. PROPERTY INFORMATION	
Name of property: <u>World Storage and Transfer Headquarters</u>	
Address: <u>27132 Santa Anita Boulevard, Hilo, HI</u>	
2. DEVIATIONS FROM ADOPTED CODES OR STANDARDS	
Description	Purpose
Waterflow switch set to a 120-second trip	Issue has been identified that there are water surges during evening hours
See Main System Record of Completion for additional information, certifications, and approvals.	
© 2018 National Fire Protection Association NFPA 72	

Statement of Problem and Substantiation for Public Input

Examples are needed for Dual Media Pathway and Separate Pathway to provide clarity.

Submitter Information Verification

Submitter Full Name: Kevin Green

Organization: Pyro-Comm Systems, Inc.

Affiliation: FUN Task Group

Street Address:

City:

State:

Zip:

Submittal Date: Sat Jun 22 11:18:48 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: [FR-5107-NFPA 72-2019](#)

Statement: The Technical Committee edits the text for clarity.



Public Input No. 104-NFPA 72-2019 [Section No. A.10.3.3]

A.10.3.3

This requirement does not apply to conventional notification appliance circuits (NACs) . Conventional NACs are simple circuits that deliver power to connected appliances. Hybrid addressable NACs deliver power and also serve as a digital signaling pathway (SLC). For that reason, addressable notification appliances must be listed to work with the specific control unit and the control unit's hybrid SLC/NAC.

Statement of Problem and Substantiation for Public Input

Expands discussion to addressable notification appliances.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 103-NFPA 72-2019 [Section No. 10.3.3]	Parent.
Public Input No. 103-NFPA 72-2019 [Section No. 10.3.3]	

Submitter Information Verification

Submitter Full Name: Robert Schifiliti
Organization: R. P. Schifiliti Associates, I
Street Address:
City:
State:
Zip:
Submittal Date: Mon Apr 08 11:54:04 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: The Technical Committee clarifies the text of 10.3.3; see action on PI 103.



Public Input No. 214-NFPA 72-2019 [New Section after A.10.4.5]

TITLE OF NEW CONTENT

A.10.4.5.1 10.4.5 permits the use of a heat detector if ambient conditions are not suitable for smoke detection. It is important to also evaluate whether the area is suitable for the control unit.

Statement of Problem and Substantiation for Public Input

This change is required due to the format changes made to follow the Manual of Style. The text remains the same as currently found under the Exception.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 210-NFPA 72-2019 [Section No. 10.4.5]	
Public Input No. 211-NFPA 72-2019 [Section No. 10.4.6]	
Public Input No. 213-NFPA 72-2019 [Section No. A.10.4.5]	
Public Input No. 211-NFPA 72-2019 [Section No. 10.4.6]	

Submitter Information Verification

Submitter Full Name: Todd Warner
Organization: Brooks Equipment Company, Inc.
Affiliation: Fire Equipment Manufacturers Association (FEMA)
Street Address:
City:
State:
Zip:
Submittal Date: Fri May 31 13:10:52 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: [FR-5341-NFPA 72-2019](#)

Statement: A risk analysis needs to be performed to determine if early warning fire detection is necessary to provide protection for the control unit(s), notification appliance circuit power extender(s) and supervising station transmitting equipment AND if the risk analysis shows smoke or heat detectors are not necessary, the omission must be approved by the AHJ.



Public Input No. 621-NFPA 72-2019 [New Section after A.10.4.5]

A.10.4.8.2 Cybersecurity classification designations should be referenced in the risk analysis for a mass notification system, or any emergency communication system or fire alarm system design that conducts a risk analysis. For systems that are designated as not certified, an explanation should be provided; such as the system is air gapped. An "air gapped" computer or network or system is one that has no network interfaces, either wired or wireless, connected to outside networks. Systems that have remote monitoring, or remote maintenance functionality are not normally considered air gapped. Systems may be initially installed as air gapped, but subsequently have remote capabilities added or enabled, so inspection is required to ensure certification requirements have not changed. For systems designated as not applicable, an explanation should be provided; such as no digital communication capability with outside networks physically exists.

Statement of Problem and Substantiation for Public Input

Please see PI: 599. These PIs are part of a whole, spread across chapters 2, 3, 7, 14, 10, 21, 23, 24, 26, & 27 and are meant to work together.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 599-NFPA 72-2019 [New Section after 10.4.7.3]	Part of a broader public input intended to work together

Submitter Information Verification

Submitter Full Name: Michael Pallett
Organization: Telcor Inc.
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jun 26 16:13:10 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: The Technical Committee has proposed a first revision which addresses the cyber security concerns.



Public Input No. 213-NFPA 72-2019 [Section No. A.10.4.5]

A.10.4.5

The control units that are to be protected are those that provide notification of a fire to the occupants and responders. The term *control unit* does not include equipment such as annunciators and addressable devices. Requiring smoke detection at the transmitting equipment is intended to increase the probability that an alarm signal will be transmitted to a supervising station prior to that transmitting equipment being disabled due to the fire condition.

~~CAUTION: Exception No. 1 to 10.4.5 permits the use of a heat detector if ambient conditions are not suitable for smoke detection. It is important to also evaluate whether the area is suitable for the control unit.~~

Where the area or room containing the control unit is provided with total smoke detection coverage, additional smoke detection is not required to protect the control unit. Where total smoke detection coverage is not provided, the Code intends that only one smoke detector is required at the control unit even when the area of the room would require more than one detector if installed according to the spacing rules in Chapter 17. The intent of selective coverage is to address the specific location of the equipment.

The location of the required detection should be in accordance with 17.7.3.2.1.

Statement of Problem and Substantiation for Public Input

The CC has directed the TC to review A.10.4.4 for references that no longer exist.

The reference to the exception is removed. The information will be moved to a new A.10.4.5.1

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 210-NFPA 72-2019 [Section No. 10.4.5]	
Public Input No. 211-NFPA 72-2019 [Section No. 10.4.6]	
Public Input No. 211-NFPA 72-2019 [Section No. 10.4.6]	
Public Input No. 214-NFPA 72-2019 [New Section after A.10.4.5]	

Submitter Information Verification

Submitter Full Name: Todd Warner
Organization: Brooks Equipment Company, Inc.
Affiliation: Fire Equipment Manufacturers Association (FEMA)
Street Address:
City:
State:
Zip:
Submittal Date: Fri May 31 13:07:27 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: [FR-5341-NFPA 72-2019](#)

Statement: A risk analysis needs to be performed to determine if early warning fire detection is necessary to provide protection for the control unit(s), notification appliance circuit power extender(s) and supervising station transmitting equipment AND if the risk analysis shows smoke or heat detectors are not necessary, the omission must be approved by the AHJ.

**Public Input No. 465-NFPA 72-2019 [New Section after A.10.5.3]****TITLE OF NEW CONTENT**

A.10.5.1.2 National Council of Examiners for Engineering and Surveying (NCEES), and most states classify the design of fire alarm and detection systems as the "practice of engineering"; therefore, the fire alarm and detection design should be performed by, or overseen by a licensed professional engineer. Consult the Board of Technical Professions or licensing board for which the project is located to determine if the design of the fire alarm and detection system is classified as the "practice of engineering" and if the design documents need to be sealed by a licensed professional engineer. See the NCEES Position Statement #22 on page 36 of the attached 2018 NCEES Policy Manual. Also see the NSPE Position Statement No. 08-1749 - SFPE/NSPE/NICET Joint Position on the Engineer and the Engineering Technician Designing Fire Protection Systems.

Additional Proposed Changes

File Name	Description Approved
NCEES_Policy_Manual-August-2018.pdf	
SFPE_NSPE_NICET_Joint_Position.pdf	

Statement of Problem and Substantiation for Public Input

NCEES and most, if not all states classify the design of fire alarm and detection systems, including the development of the layout drawings as the "practice of engineering", which will require a licensed professional engineer to develop or be in responsible charge for the system design. This only adds Annex material to provide further guidance for the designers qualifications.

Submitter Information Verification

Submitter Full Name: Jack Poole
Organization: Poole Fire Protection, Inc.
Street Address:
City:
State:
Zip:
Submittal Date: Mon Jun 24 16:27:36 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: The requirement for State or local licensure is already clearly stated in the Code. "State or local licensure regulations shall be followed to determine qualified personnel." (NFPA 72, 2019 10.5.1.2)
Many states have an exception for contractors to submit plans for their projects without a PE stamp.

**Public Input No. 365-NFPA 72-2019 [Section No. A.10.5.5.1(2)]****A.10.5.5.1(2)**

An example of an organization providing alarm monitoring operator training is the ~~Central Station Alarm~~ The Monitoring Association (CSAA TMA) . Note that this reference is for information purposes only, information concerning the product or service has been provided by the manufacturer or other outside sources, and the information concerning the product or service has not been independently verified nor has the product or service been endorsed or certified by the NFPA or any of its technical committees.

Statement of Problem and Substantiation for Public Input

CSAA stands for the Central Station Alarm Association and it has been around since 1950 but has recently changed to TMA which stands for The Monitoring Association. It's an organization that works with UL-Listed and FM Approved central monitoring facilities.

Submitter Information Verification

Submitter Full Name: Kevin Green

Organization: Pyro-Comm Systems, Inc.

Affiliation: FUN Task Group

Street Address:

City:

State:

Zip:

Submittal Date: Sat Jun 22 11:39:57 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: FR-5130-NFPA 72-2019

Statement: The Technical Committee updates the reference.



Public Input No. 385-NFPA 72-2019 [Section No. A.10.6.4]

A.10.6.4

ESS classifications are found in NFPA 111. ~~Previous editions of NFPA 72 referenced uninterruptible~~ Uninterruptible power supplies (UPS) systems, ~~which is are~~ one type of an ESS. Commercial UPS devices are also a type of ESS; they are usually integral devices co-located with the specific equipment they service. Commercial UPS tend to be listed to ANSI/UL 1778, rather than referenced to NFPA 111. Neither NFPA 111 or ANSI/UL 1778 reference each other.

Statement of Problem and Substantiation for Public Input

Related PIs in this series are attempting to re-introduce the notion of a stand-alone commercial UPS device in contrast to a broader ESS. This PI maintains consistency with other proposed language and clarifies the relationship between ESS and UPS by pointing out the isolation between NFPA 111 and UL 1778.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 383-NFPA 72-2019 [New Section after 10.6.8.4]	Related to the reasons behind PI 383 and its substantiation .

Submitter Information Verification

Submitter Full Name: Michael Pallett
Organization: Telecor Inc.
Street Address:
City:
State:
Zip:
Submittal Date: Sat Jun 22 19:02:47 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: [FR-5157-NFPA 72-2019](#)

Statement: The text correlates with NFPA 111 Standard on Stored Electrical Energy Emergency and Standby Power Systems. The Technical Committee revises the text by deleting the Class 24 capacity designation and adds text to require EPSS/SEPSS capacity in accordance with this Code. The reference to 10.6.7.3.1(2) in PI 636 was not included since this is addressed by the 10.6.4.2 Class 4 requirement and there is no standby vs. alarm load differentiated in 10.6.7.3.1(2).



Public Input No. 638-NFPA 72-2019 [Section No. A.10.6.4]

A.10.6.4

ESS classifications are found in NFPA 111. Previous editions of *NFPA 72* referenced uninterruptible power supplies (UPS) systems, which is one type of an ESS.

Note that 10.6.3.1 permits the use of an ESS as the sole power source for a system. Using the ESS option means that there is no primary and secondary supply. The ESS serves both purposes, but from one supply point. Because of this, the risk of common mode failures should be considered since certain faults in the ESS will leave the signaling system without any power.

Statement of Problem and Substantiation for Public Input

Added new text to existing Annex to caution designers. Most people do not realize that they have no secondary power source when using the ESS option. The ESS option results in single point of potential failure.

Submitter Information Verification

Submitter Full Name: Robert Schifiliti

Organization: R. P. Schifiliti Associates, I

Street Address:

City:

State:

Zip:

Submittal Date: Wed Jun 26 17:01:23 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: [FR-5159-NFPA 72-2019](#)

Statement: The text provides correlation with NFPA 111, Standard on Stored Electrical Energy Emergency and Standby Power Systems and provides a reference to historical terminology. Additionally, a note to indicate that EPSS/SEPSS systems are UL 1778 listed (or equivalent) and a note to indicate EPSS/SEPSS equipment serves systems from a single connection point.

**Public Input No. 389-NFPA 72-2019 [Section No. A.10.6.6]****A.10.6.6**

Where a computer system of any kind ~~is kind~~ that is supported by emergency standby power provided by an energy storage system (ESS), ~~is~~ used to receive and process alarm or supervisory signals, an ESS with sufficient capacity to operate the system until the secondary supply is capable of operating the fire alarm system might be required in order to prevent signal loss or a greater than 10-second signal delay.

ESS equipment often contains an internal bypass arrangement to supply the load directly from the line. These internal bypass arrangements are a potential source of failure. ESS equipment also requires periodic maintenance. It is, therefore, necessary to provide a means of promptly and safely bypassing and isolating the ESS equipment from all power sources while maintaining continuity of power supply to the equipment normally supplied by the ESS.

Statement of Problem and Substantiation for Public Input

Want to differentiate the circumstances to make it clearer that this applies to NFPA 111 type of emergency power system rather than a commercial UPS. An ESS has it's own switching gear that may require service. At that time, if there was not a way of isolating the switching gear from load, all the equipment connected to the entire facilities emergency power system would be shut off. Compared to a computer being supported by a commercial UPS, the computer would typically be powered down while a UPS was serviced for a short interval, or the UPS would be replaced and the UPS needing service removed if a longer interval was required.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 383-NFPA 72-2019 [New Section after 10.6.8.4]	related to teh distinction between a ESS and a commerial UPS in PI 383

Submitter Information Verification

Submitter Full Name: Michael Pallett
Organization: Telecor Inc.
Street Address:
City:
State:
Zip:
Submittal Date: Sat Jun 22 19:39:23 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: [FR-5176-NFPA 72-2019](#)

Statement: The Technical Committee edits the text to correlate with the current NFPA 111 terminology and clarifies that an UL 864 UPS is suitable for the purpose.



Public Input No. 580-NFPA 72-2019 [New Section after A.10.6.7.2.1.1]

A.10.6.7.2.1.2

Batteries are sized with a 1.25 correction factor for normal aging. However, in temperatures less than 77F, the battery will not be able to provide full rated amperes. IEEE-485 provides guidelines for additional correction factors based on minimum anticipated design temperatures.

Statement of Problem and Substantiation for Public Input

Additional clarification of PI 564 to fire alarm system designers.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 560-NFPA 72-2019 [Section No. 10.6.7.2.1.1]	
Public Input No. 564-NFPA 72-2019 [New Section after 10.6.7.2.1.2]	
Public Input No. 576-NFPA 72-2019 [Section No. A.10.6.7.2.1.1]	
Public Input No. 564-NFPA 72-2019 [New Section after 10.6.7.2.1.2]	

Submitter Information Verification

Submitter Full Name: Herbert Hurst
Organization: Savannah River Nuclear Solutio
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jun 26 13:43:37 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: [FR-5186-NFPA 72-2019](#)

Statement: The text has been reorganized for readability. Thus, carbon monoxide detection remains a separate section.

The Technical Committee revises the text for derating batteries (10.6.7.2.3) to apply a minimum 1.25 correction factor and adds further guidance to the annex for other battery technologies and temperature compensation.

The Technical Committee adds the section numbered 10.6.7.2.1.7 to clarify that communications equipment at the protected premises that is used to transmit signals to a supervising station must have primary and secondary power sources.

The Technical Committee does not accept a mandated minimum with respect to the number of addressable devices that should be supported during an alarm condition. This parameter should be specified by the manufacturer in accordance with the product listing.

**Public Input No. 576-NFPA 72-2019 [Section No. A.10.6.7.2.1.1]****A.10.6.7.2.1.1**

The ~~20-percent safety margin correction factor~~ is intended to address normal aging effects on battery capacity. As a battery ages, rated capacity will decrease to 80 percent, which is considered the end of service life. As a minimum, a ~~20-percent~~ correction factor of 1.25 should be applied ~~for aging to~~ to offset the 20 percent loss in capacity due to aging and ensure the battery can meet its current demand at the end of service life. At initial installation, battery capacity can be as low as 90 percent and should gradually increase when it is subjected to several deep discharge/charging cycles or when it remains on float-charge for several weeks. For additional information on battery sizing considerations refer to IEEE 485, *Recommended Practice for Sizing Lead-Acid Batteries for Stationary Applications*.

Statement of Problem and Substantiation for Public Input

Alignment of PI 576 with PI 564.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 560-NFPA 72-2019 [Section No. 10.6.7.2.1.1]	
Public Input No. 564-NFPA 72-2019 [New Section after 10.6.7.2.1.2]	
Public Input No. 564-NFPA 72-2019 [New Section after 10.6.7.2.1.2]	
Public Input No. 580-NFPA 72-2019 [New Section after A.10.6.7.2.1.1]	

Submitter Information Verification

Submitter Full Name: Herbert Hurst
Organization: Savannah River Nuclear Solutio
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jun 26 13:18:03 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: [FR-5186-NFPA 72-2019](#)

Statement: The text has been reorganized for readability. Thus, carbon monoxide detection remains a separate section.

The Technical Committee revises the text for derating batteries (10.6.7.2.3) to apply a minimum 1.25 correction factor and adds further guidance to the annex for other battery technologies and temperature compensation.

The Technical Committee adds the section numbered 10.6.7.2.1.7 to clarify that communications equipment at the protected premises that is used to transmit signals to a supervising station must have primary and secondary power sources.

The Technical Committee does not accept a mandated minimum with respect to the number of addressable devices that should be supported during an alarm condition. This parameter should be specified by the manufacturer in accordance with the product listing.

**Public Input No. 145-NFPA 72-2019 [Section No. A.10.6.10.3.4]****A.10.6.10.3.4**

The circuitry and methods for charging batteries of various types are to be evaluated by a nationally recognized testing laboratory to ensure they are appropriate for the purpose. During primary power use, batteries are trickle-charged if they are off-line and waiting to be put under load in the event of a loss of power.

Float-charged batteries are fully charged and connected across the output of the rectifiers to smooth the output and to serve as a standby source of power in the event of a loss of line power. Other charging methods are used to restore capacity to a battery after it has been utilized during a loss of primary power.

A.10.6.10.6

Manufacturers of fire alarm and emergency communication systems provide a means for supervising the battery chargers capability to properly charge the battery(ies). There typically is no means to test the battery charger for this trouble condition in the field.

Statement of Problem and Substantiation for Public Input

There are installations that are being challenged to have the installer verify that the charger circuits are functioning properly and verify that components on the charges are tested beyond that required by 72. This section is being proposed in the annex to help with the intent that the internal testing and monitoring that is verified by the NRTL is sufficient and further component testing of the charger is not necessary and in many cases not able to be performed.

Submitter Information Verification

Submitter Full Name: Megan Hayes

Organization: Nema

Street Address:

City:

State:

Zip:

Submittal Date: Tue May 07 10:48:06 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: FR-5179-NFPA 72-2019

Statement: The Technical Committee adds annex material to indicate that it may not be possible to test the battery charger monitoring means in the field.

**Public Input No. 132-NFPA 72-2019 [New Section after A.10.17.2]****TITLE OF NEW CONTENT**

A.10.18.1.1.2 The visible annunciation required by this section must remain "on" even if other appliances are silenced, shut off or disabled. Most often, a control unit will sound an audible signal and display a visual alert on an incoming signal. The audible signal is permitted to be deactivated, but the visual signal must remain active. Or, a system in a high noise area might use high power visual appliances for occupant alerting. Deactivating those signals, without resetting the system, is not permitted to deactivate the visual means required by this section.

Statement of Problem and Substantiation for Public Input

Adds annex text explaining the importance and the operation of the visual alert.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 131-NFPA 72-2019 [Section No. 10.18.1.1.2]	
Public Input No. 131-NFPA 72-2019 [Section No. 10.18.1.1.2]	

Submitter Information Verification

Submitter Full Name: Robert Schifiliti
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Submittal Date: Tue Apr 23 16:10:38 EDT 2019
Committee: SIG-FUN

Committee Statement

Resolution: [FR-5171-NFPA 72-2019](#)

Statement: The Technical Committee reorganizes the sections to address style and editorial issues. The Technical Committee views the visible annunciation as generally provided by an annunciator (defined in 3.3.21) and not a notification appliance (defined in 3.3.182). Thus the "other" as suggested in PI 131 and PI 133 was not included. Attempts to rewrite the section to use the term annunciator was defeated by the allowance of a printout, which is neither an annunciator or a notification appliance.



Public Input No. 144-NFPA 72-2019 [Section No. A.10.19.1]

A.10.19.1

Amplifiers generally require significant power regardless of load. To reduce the secondary power demand, there is no requirement to monitor the integrity of amplifiers during non-alarm operation on secondary power. This allows the amplifiers to be shut down while the system is operating on secondary power until an alarm occurs. When an alarm occurs, monitoring of integrity must resume so that an operator is aware of current conditions and so that any backup amplifiers can be engaged.

Backup amplifying and evacuation signal-generating equipment is recommended with automatic transfer upon primary equipment failure to ensure prompt restoration of service in the event of equipment failure.

A.10.19.1.3

Manufacturers of fire alarm and emergency communication systems provide a means for supervising the tone generating equipment capability to properly generate tones. There typically is no means to test the tone generator failure for this trouble condition in the field.

Statement of Problem and Substantiation for Public Input

There are installations that are being challenged to have the installer verify that the tone generator is functioning properly and verify that components on the tone generator is tested beyond that required by 72. This section is being proposed in the annex to help with the intent that the internal testing and monitoring that is verified by the NRTL is sufficient and further component testing of the tone generator is not necessary and in many cases not able to be performed.

Submitter Information Verification

Submitter Full Name: Megan Hayes

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Submittal Date: Tue May 07 10:43:49 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: FR-5170-NFPA 72-2019

Statement: The Technical Committee adds annex text to indicate that testing of the tone generator supervision may not be possible in the field.



Public Input No. 367-NFPA 72-2019 [Section No. E.1]

E.1

The following sample ordinance is provided to assist a jurisdiction in the adoption of this Code and is not part of this Code.

ORDINANCE NO. _____

An ordinance of the *[jurisdiction]* adopting the 2019 edition of *NFPA 72, National Fire Alarm and Signaling Code*, and documents listed in Chapter 2 of that Code; prescribing regulations governing conditions hazardous to life and property from fire or explosion; providing for the issuance of permits and collection of fees; repealing Ordinance No. _____ of the *[jurisdiction]* and all other ordinances and parts of ordinances in conflict therewith; providing a penalty; providing a severability clause; and providing for publication; and providing an effective date.

BE IT ORDAINED BY THE *[governing body]* OF THE *[jurisdiction]*:

SECTION 1 That the *NFPA 72, National Fire Alarm and Signaling Code*, and documents adopted by Chapter 2, three (3) copies of which are on file and are open to inspection by the public in the office of the *[jurisdiction's keeper of records]* of the *[jurisdiction]*, are hereby adopted and incorporated into this ordinance as fully as if set out at length herein, and from the date on which this ordinance shall take effect, the provisions thereof shall be controlling within the limits of the *[jurisdiction]*. The same are hereby adopted as the Code of the *[jurisdiction]* for the purpose of prescribing regulations governing conditions hazardous to life and property from fire or explosion and providing for issuance of permits and collection of fees.

SECTION 2 Any person who shall violate any provision of this code or standard hereby adopted or fail to comply therewith; or who shall violate or fail to comply with any order made thereunder; or who shall build in violation of any detailed statement of specifications or plans submitted and approved thereunder; or fail to operate in accordance with any certificate or permit issued thereunder; and from which no appeal has been taken; or who shall fail to comply with such an order as affirmed or modified by a court of competent jurisdiction, within the time fixed herein, shall severally for each and every such violation and noncompliance, respectively, be guilty of a misdemeanor, punishable by a fine of not less than \$ _____ nor more than \$ _____ or by imprisonment for not less than _____ days nor more than _____ days or by both such fine and imprisonment. The imposition of one penalty for any violation shall not excuse the violation or permit it to continue; and all such persons shall be required to correct or remedy such violations or defects within a reasonable time; and when not otherwise specified the application of the above penalty shall not be held to prevent the enforced removal of prohibited conditions. Each day that prohibited conditions are maintained shall constitute a separate offense.

SECTION 3 Additions, insertions, and changes — that the 2019 edition of *NFPA 72, National Fire Alarm and Signaling Code*, is amended and changed in the following respects:

List Amendments

SECTION 4 That ordinance No. _____ of *[jurisdiction]* entitled *[fill in the title of the ordinance or ordinances in effect at the present time]* and all other ordinances or parts of ordinances in conflict herewith are hereby repealed.

SECTION 5 That if any section, subsection, sentence, clause, or phrase of this ordinance is, for any reason, held to be invalid or unconstitutional, such decision shall not affect the validity or constitutionality of the remaining portions of this ordinance. The *[governing body]* hereby declares that it would have passed this ordinance, and each section, subsection, clause, or phrase hereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses, and phrases be declared unconstitutional.

SECTION 6 That the *[jurisdiction's keeper of records]* is hereby ordered and directed to cause this ordinance to be published.

[NOTE: An additional provision may be required to direct the number of times the ordinance is to be published and to specify that it is to be in a newspaper in general circulation. Posting may also be required.]

SECTION 7 That this ordinance and the rules, regulations, provisions, requirements, orders, and matters established and adopted hereby shall take effect and be in full force and effect *[time period]* from and after the date of its final passage and adoption.

Statement of Problem and Substantiation for Public Input

The word "may" does not comply with the MOS.

Submitter Information Verification

Submitter Full Name: Kevin Green

Organization: Pyro-Comm Systems, Inc.

Affiliation: FUN Task Group

Street Address:

City:

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Zip:

Submittal Date: Sat Jun 22 12:16:07 EDT 2019

Committee: SIG-FUN

Committee Statement

Resolution: [FR-5169-NFPA 72-2019](#)

Statement: The Technical Committee updates the text per the Manual of Style.



Public Input No. 19-NFPA 72-2018 [Chapter I]

Annex I Informational References

I.1 Referenced Publications.

The documents or portions thereof listed in this annex are referenced within the informational sections of this Code and are not part of the requirements of this document unless also listed in Chapter 2 for other reasons.

I.1.1 NFPA Publications.

National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

NFPA 3, *Standard for Commissioning of Fire Protection and Life Safety Systems*, 2018 edition.

NFPA 4, *Standard for Integrated Fire Protection and Life Safety System Testing*, 2018 edition.

NFPA 10, *Standard for Portable Fire Extinguishers*, 2018 edition.

NFPA 11, *Standard for Low-, Medium-, and High-Expansion Foam*, 2016 edition.

NFPA 12, *Standard on Carbon Dioxide Extinguishing Systems*, 2018 edition.

NFPA 12A, *Standard on Halon 1301 Fire Extinguishing Systems*, 2018 edition.

NFPA 13, *Standard for the Installation of Sprinkler Systems*, 2019 edition.

NFPA 14, *Standard for the Installation of Standpipe and Hose Systems*, 2016 edition.

NFPA 15, *Standard for Water Spray Fixed Systems for Fire Protection*, 2017 edition.

NFPA 17, *Standard for Dry Chemical Extinguishing Systems*, 2017 edition.

NFPA 17A, *Standard for Wet Chemical Extinguishing Systems*, 2017 edition.

NFPA 70[®], *National Electrical Code*[®], 2017 edition.

NFPA 72E, *Standard for Automatic Fire Detectors*, 1984 edition.

NFPA 80, *Standard for Fire Doors and Other Opening Protectives*, 2019 edition.

NFPA 90A, *Standard for the Installation of Air-Conditioning and Ventilating Systems*, 2018 edition.

NFPA 90B, *Standard for the Installation of Warm Air Heating and Air-Conditioning Systems*, 2018 edition.

NFPA 92, *Standard for Smoke Control Systems*, 2018 edition.

NFPA 101[®], *Life Safety Code*[®], 2018 edition.

NFPA 105, *Standard for Smoke Door Assemblies and Other Opening Protectives*, 2019 edition.

NFPA 111, *Standard on Stored Electrical Energy Emergency and Standby Power Systems*, 2019 edition.

NFPA 170, *Standard for Fire Safety and Emergency Symbols*, 2018 edition.

NFPA 551, *Guide for the Evaluation of Fire Risk Assessments*, 2016 edition.

NFPA 730, *Guide for Premises Security*, 2018 edition.

NFPA 731, *Standard for the Installation of Electronic Premises Security Systems*, 2017 edition.

NFPA 750, *Standard on Water Mist Fire Protection Systems*, 2019 edition.

NFPA 909, *Code for the Protection of Cultural Resource Properties — Museums, Libraries, and Places of Worship*, 2017 edition.

NFPA 914, *Code for Fire Protection of Historic Structures*, 2015 edition.

NFPA 1221, *Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems*, 2019 edition.

NFPA 1600[®], *Standard on Disaster/Emergency Management and Business Continuity/Continuity of Operations Programs*, 2016 edition.

NFPA 5000[®], *Building Construction and Safety Code*[®], 2018 edition.

Fire Protection Research Foundation, *Elevator Messaging Strategies*, 2011.

Fire Protection Research Foundation, *Optimizing Fire Alarm Notification for High Risk Groups*, 2007.

Fire Protection Research Foundation (FPRF) Report, *Development of Technical Basis for Carbon Monoxide Detector Siting*, prepared by C. Beyler and D. Gottuk, 2007.

I.1.2 Other Publications.

I.1.2.1 ANSI Publications.

American National Standards Institute, Inc., 25 West 43rd Street, 4th Floor, New York, NY 10036.

ANSI ~~ASA~~ S3.2, *Method for Measuring the Intelligibility of Speech Over Communications Systems*, 1989, revised 2009, **2009**, **reaffirmed 20 14**.

ANSI/ASA S3.41, *American National Standard Audible Emergency Evacuation (E2) and Evacuation Signals with Relocation Instructions (ESRI)*, 1990, ~~reaffirmed~~ **Signal**, **2015**.

I.1.2.2 ASME Publications.

American Society of Mechanical Engineers, Two Park Avenue, New York, NY 10016-5990.

ANSI/ASME A17.1/CSA B44, *Safety Code for Elevators and Escalators*, 2016.

ASME A ~~A17~~ .17. 2, *Guide for Inspection of Elevators, Escalators and Moving Walks*, 2014 **201 7**.

I.1.2.3 FEMA Publications.

Federal Emergency Management Agency, U.S. Department of Homeland Security, 500 C Street, SW, Washington, DC 20024.

FEMA Publication CPG-17, *Outdoor Warning Systems Guide*, March 1980.

I.1.2.4 FM Publications.

FM Global, 270 Central Avenue, P.O. Box 7500, Johnston, RI 02919.

FM 3210, *Heat Detectors for Automatic Fire Alarm Signaling*, 2007.

ANSI/FM 3260, *American National Standard for Energy-Sensing Fire Detectors for Automatic Fire Alarm Signaling*, 2014.

I.1.2.5 IEC Publications.

International Electrotechnical Commission, 3 rue de Varembé, P.O. Box 131, CH-1211 Geneva 20, Switzerland. IEC documents are available through ANSI.

IEC 60268-~~16~~, *Sound system equipment — Part 16: Objective rating of speech intelligibility by speech transmission index*, 2nd edition, 2011.

I.1.2.6 IEEE Standards Association Publications.

Institute of Electrical and Electronics Engineers, 3 Park Avenue, New York, NY 10016-5997.

IEEE Std ~~TM~~ 450, *Recommended Practice for Maintenance, Testing, and Replacement of Vented Lead-Acid Batteries for Stationary Applications*, 2010.

IEEE Std ~~TM~~ 485, *Recommended Practice for Sizing Lead-Acid Batteries for Stationary Applications*, 2010.

IEEE Std ~~TM~~ 1106, *Recommended Practice for Installation, Maintenance, Testing, and Replacement of Vented Nickel-Cadmium Batteries for Stationary Applications*, 2005 **20 1 5**.

IEEE Std ~~TM~~ 1188, *Recommended Practice for Maintenance, Testing, and Replacement of Valve-Regulated Lead-Acid (VRLA) Batteries for Stationary Applications*, 2005 **20 10, amendment 1, 2014**.

IEEE 802.3, **Ehternet, 2018**. (**802. 3af**, *Standard for Information Technology — Telecommunications and Information Exchange Between Systems — Local and Metropolitan Area Networks — Specific Requirements — Part 3*, 2003. **superseded and incorporated into 802.3)**

I.1.2.7 IES Publications.

Illuminating Engineering Society of North America, 120 Wall Street, 17th floor, New York, NY 10005.

IES Lighting Hanbook- 10T, *Lighting Handbook - Reference and Application*, 2008 **20 11, errata, 2015**.

I.1.2.8 ISO Publications.

International Organization for Standardization, ISO Central Secretariat, BIBC II, Chemin de Blandonnet 8, CP 401, 1214 Vernier, Geneva, Switzerland.

ISO/TR 4870, *Acoustics — The Construction and Calibration of Speech Intelligibility Tests*, 1991.

(Withdrawn)

ISO 7240-19, *Fire Detection and Alarm Systems — Part 19: Design, Installation, Commissioning, and Service of Sound Systems for Emergency Purposes*, 2007.

ISO 8201, *Audible Emergency Evacuation Signal*, 2015 **2017**.

ISO/IEC 14763-2, *Information technology — Implementation and operation of customer premises cabling — Part 2: Planning and installation*, 2012, **amendment 1, 2015**.

ISO/IEC 14763-3, *Informational technology — implementation and operation of customer premises cabling — Part 3: Testing of optical fibre cabling*, 2014, **amendment 1, 2018**.

I.1.2.9 NEMA Publications.

National Electrical Manufacturers Association, 1300 North 17th Street, Suite 900, Arlington, VA 22209.

ANSI/NEMA SB-40, *Communications Systems for Life Safety in Schools*, 2015.

NEMA SB-50, *Emergency Communications Audio Intelligibility Applications Guide*, 2014.

I.1.2.10 NIST Publications.

National Institute of Standards and Technology, 100 Bureau Drive, Gaithersburg, MD 20899-1070.

NIST 6055, *Electromagnetic Signal Attenuation in Construction Materials*, 1997.

NIST Technical Note 1779, *General Guidance on Emergency Communications Strategies for Buildings*, February 2013.

I.1.2.11 OASIS Publications.

Organization for the Advancement of Structured Information Standards (OASIS), 25 Corporate Drive, Suite 103, Burlington, MA 01803.

OASIS Standard CAP-V1.2, *OASIS Common Alerting Protocol*, Version 1.2.

I.1.2.12 SFPE Publications.

Society of Fire Protection Engineers, 9711 Washingtonian Blvd., Suite 380, Gaithersburg, MD 20878.

SFPE Engineering Guide: Evaluation of the Computer Fire Model DETACT QS, 2002.

SFPE Engineering Guide to Human Behavior in Fire, 2003.

SFPE Engineering Guide to Performance-Based Fire Protection, 2nd edition, 2007.

SFPE Handbook of Fire Protection Engineering, 5th edition, 2016.

Keating, John P. and Loftus, Elizabeth F., "People Care in Fire Emergencies — Psychological Aspects, 1975," SFPE, 1975.

I.1.2.13 TIA Publications.

Telecommunications Industry Association, 1320 North Courthouse Road, Suite 200, Arlington, VA 22201.

ANSI/TIA-569-D, *Telecommunications Pathways and Spaces*, April 2015, **addendum 1, 2016, addendum 2, 2018**.

TIA-526, *Standard Test Procedures for Fiber Optic Systems*, September 1992.

I.1.2.14 UL Publications.

Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096.

ANSI/UL 268, *Standard for Smoke Detectors for Fire Alarm Systems*, - 6th 7th edition, 2009 20 16, **revised 2016**.

ANSI/UL 268A, *Standard for Smoke Detectors for Duct Application*, 4th edition, 2008, revised 2016.

ANSI/UL 827, *Standard for Central-Station Alarm Services*, 2014, **revised 2018**.

ANSI/UL 864, *Standard for Control Units and Accessories for Fire Alarm Systems*, 9th 10th edition, 2003 20 14, revised 2012 201 8.

ANSI/UL 1638, *Visible Signaling Devices for Fire Alarm and Signaling Systems, Including Accessories*, 5th edition, 2016, **revised 2017**.

ANSI/UL 1971, *Standard for Signaling Devices for the Hearing Impaired*, 3rd edition, 2002, revised 2013 201 8.

ANSI/UL 2075, *Standard for Safety Gas and Vapor Detectors and Sensors*, 2013, **revised 2017**.

ANSI/UL 2572, *Mass Notification Systems*, 2nd edition, 2016.

I.1.2.15 U.S. Government Publications.

U.S. Government Publishing Office, 732 North Capitol Street, NW, Washington, DC 20401-0001.

ADA-ABA-AG, *Americans with Disabilities Act and Architectural Barriers Act Accessibility Guidelines*, 2010.

NIST Technical Note 1455-1, *Performance of Home Smoke Alarms, Analysis of the Response of Several Available Technologies in Residential Fire Settings*, February 2008.

Title 29, Code of Federal Regulations, Part 1910.5.

Title 47, Code of Federal Regulations, Part 15.

I.1.2.16 References Associated with Annex A.**I.1.2.16.1** Reference to A.18.4.7.2.

<http://www.aip.org/pt/nov99/locsound.html>.

I.1.2.16.2 Reference to A.18.5.5.5.1.

"Recommended Light Levels," National Optical Astronomy Observatory, www.noao.edu.

I.1.2.16.3 References to A.24.3.12.

(1) CARVER — *Target Analysis and Vulnerability Assessment Methodology*, Washington, DC: U.S. Department of Defense (see Field Manual 34-36, Special Operation Forces Intelligence and Electronics Warfare Operation, Sept. 30, 1991), www.defense.gov

(2) *General Security Risk Assessment Guidelines*. Alexandria, VA: American Society for Industrial Security International, www.asisonline.org

(3) NFPA 1600, *Standard on Disaster/Emergency Management and Business Continuity/Continuity of Operations Programs*, Quincy, MA: National Fire Protection Association, www.nfpa.org

(4) NFPA 730, *Guide for Premises Security*, Quincy, MA: National Fire Protection Association, www.nfpa.org

(5) *Responsible Care Code*, Washington, DC: American Chemistry Council, www.americanchemistry.com

(6) *Risk and Resilience Management of Water & Wastewater Systems*, Denver, CO: American Water Works Association, www.awwa.org

(7) VAMCAP® *Vulnerability Assessment Methodology for Critical Asset Protection*, Wilmington, DE: SafePlace Corporation, www.safeplace.com

(8) *Vulnerability Assessment Methodologies*, Albuquerque, NM: Sandia National Laboratories, www.sandia.gov

I.1.2.16.4 References to A.24.4.8.

- (1) Schifiliti, R.P., "To Leave or Not to Leave — That is the Question!", National Fire Protection Association, World Fire Safety Congress & Exposition, May 16, 2000, Denver, CO.
- (2) Ramachandran, G., "Informative Fire Warning Systems," *Fire Technology*, Volume 47, Number 1, February 1991, National Fire Protection Association, 66–81.
- (3) J. Bryan, "Psychological Variables That May Affect Fire Alarm Design," *Fire Protection Engineering*, Society of Fire Protection Engineers, Issue No. 11, Fall 2001.
- (4) Proulx, G., "Cool Under Fire," *Fire Protection Engineering*, Society of Fire Protection Engineers, Issue No. 16, Fall 2002.
- (5) General Services Administration, Proceedings of the Reconvened International Conference on Fire Safety in High Rise Buildings, Washington, D.C., October 1971.
- (6) Proulx, G., "Strategies for Ensuring Appropriate Occupant Response to Fire Alarm Signals," National Research Council of Canada, Ottawa, Ontario, *Construction Technology Update*, No. 43, 1–6, December 2000.

I.1.2.16.5 References to A.29.2.

- "A Few Facts at the Household Level," NFPA Fire Analysis Division, *Fire Journal*, July 2009.
- Ahrens, M., "Home Structure Fires," NFPA Fire Analysis and Research Division, September 2016.
- Haynes, Hylton J.G., "Fire Loss in the United States during 2015," NFPA Fire Analysis and Research Division, September 2016.
- Injury Facts*, National Safety Council, Itasca, IL, 2011.

I.1.2.16.6 References to A.29.5.8.

- Bruck, D. and Thomas, I., "Smoke alarms for sleeping adults who are hard-of-hearing: comparison of auditory, visual, and tactile signals," *Ear and Hearing*, 30(1), February 2009, pp. 73–80.
- Bruck, D., Thomas, I., and Ball, M., "Optimizing Fire Alarm Notification for High Risk Groups Research Project — Waking effectiveness of alarms (auditory, visual and tactile) for the alcohol impaired," Report to the Fire Protection Research Foundation, June 2007.
- Roby, R., "Smoke Detector Alert for the Deaf," Phase II SBIR, Final Report, NIH Grant No. 2R44 DC004254-2, May 27, 2005.

I.1.2.16.7 References to A.29.8.1.

- NBS GCR 75-51, *Detector Sensitivity and Siting Requirements for Dwellings*, 1975.
- NBS GCR 77-82, *Detector Sensitivity and Siting Requirements for Dwellings Phase 2*, 1977.
- NIST Technical Note 1455-1, *Performance of Home Smoke Detectors Analysis of the Response of Several Available Technologies in a Residential Setting*, 2007.

I.1.2.16.8 References to A.29.8.2.1.1.

- Green, M. A. and Andres, C., "2004–2005 National Sample Survey of Unreported Residential Fires," CPSC, 2009.
- Ahrens, M., "Factors in Smoke Alarm Performance," National Fire Protection Association, December 2009.
- Thomas, I. and Bruck, D., "Smoke Alarms in Dwellings: Timely Activation and Effective Notification," Victoria University, June 2010.

I.1.2.16.9 References to A.29.10.8.2.1.

- Stone, W., "Electromagnetic Attenuation in Construction Materials," National Institute of Standards and Technology, NISTIR 6055, 1997.

I.1.2.16.10 References to A.29.11.3.

- Kemano Fire Studies Part 1 of Residential Smoke Alarms, National Research Council Canada, April 2003.
- Spacing Requirements for Complex Beamed and Sloped Ceilings Report, The Fire Protection Research Foundation, NFPA, April 2008.

I.1.2.16.11 References to A.29.11.3.4(9).

- Gottuk, E.D. and Gottuk, D.T., "The Effect of Ceiling Fans on Smoke Alarm Performance," NFPA Research Foundation SUPDET Symposium presentation, 2015.

I.1.2.17 Other Publications — Related to Carbon Monoxide Provisions.

Ashley, E., DuBois, J., "Waking Effectiveness of Audible, Visual, and Vibratory Emergency Alarms Across All Hearing Levels," Fire Suppression and Detection Research Symposium, Orlando, FL 2005.

Coburn, R. F., Forster, R. E., and Kane, P. G., "Considerations for the physiological variables that determine the blood carboxyhemoglobin concentration in man," Journal of Clinical Investigation, 1965, November; 44(11):1899–1910.

Fire Protection Research Foundation (FPRF) Report, Development of Technical Basis for Carbon Monoxide Detector Siting, prepared by C. Beyler and D. Gottuk, 2007.

Report of research on emergency signaling devices for use by the hearing impaired (Subject 1971), Underwriters Laboratories, 1991.

Steinberg, S., and Nielson, G. D., "A proposal for evaluating human exposure to carbon monoxide contamination in military vehicles," AMCMS Code 672716.H700011, March 1977.

Stone, W. Electromagnetic Attenuation in Construction Materials, National Institute of Standards and Technology, NISTIR 6055, 1997.

Title 47, Code of Federal Regulations, Part 15.

I.1.2.18 References Associated with Annex B.

- (1) Alpert, R. "Ceiling Jets," *Fire Technology*, August 1972.
- (2) "Evaluating Unsprinklered Fire Hazards," *SFPE Technology Report* 83-2.
- (3) Babrauskas, V., Lawson, J. R., Walton, W. D., and Twilley, W. H. "Upholstered Furniture Heat Release Rates Measured with a Furniture Calorimeter," (NBSIR 82-2604) (Dec. 1982). National Institute of Standards and Technology (formerly National Bureau of Standards), Center for Fire Research, Gaithersburg, MD 20889.
- (4) Beyler, C. "A Design Method for Flaming Fire Detection," *Fire Technology*, Vol. 20, No. 4, November 1984.
- (5) Hurley, M. J., ed., Chapter 40, *SFPE Handbook of Fire Protection Engineering*, by R. Schifiliti, R. Custer, and B. Meacham, 2016.
- (6) Evans, D. D. and Stroup, D. W. "Methods to Calculate Response Time of Heat and Smoke Detectors Installed Below Large Unobstructed Ceilings," (NBSIR 85-3167) (Feb. 1985, issued Jul. 1986). National Institute of Standards and Technology (formerly National Bureau of Standards), Center for Fire Research, Gaithersburg, MD 20889.
- (7) Heskestad, G. "Characterization of Smoke Entry and Response for Products-of-Combustion Detectors" Proceedings, 7th International Conference on Problems of Automatic Fire Detection, Rheinisch-Westfälischen Technischen Hochschule Aachen (March 1975).
- (8) Heskestad, G. "Investigation of a New Sprinkler Sensitivity Approval Test: The Plunge Test," FMRC Tech. Report 22485, Factory Mutual Research Corporation, 1151 Providence Turnpike, Norwood, MA 02062.
- (9) Heskestad, G. and Delichatsios, M. A. "The Initial Convective Flow in Fire: Seventeenth Symposium on Combustion," The Combustion Institute, Pittsburgh, PA (1979).
- (10) Heskestad, G. and Delichatsios, M. A. "Environments of Fire Detectors — Phase 1: Effect of Fire Size, Ceiling Height and Material," Measurements Vol. I (NBS-GCR-77-86), Analysis Vol. II (NBS-GCR-77-95). National Technical Information Service (NTIS), Springfield, VA 22151.
- (11) Heskestad, G. and Delichatsios, M. A. "Update: The Initial Convective Flow in Fire," *Fire Safety Journal*, Vol. 15, No. 5, 1989.
- (12) International Organization for Standardization, *Audible Emergency Evacuation Signal*, ISO 8201, 1987.
- (13) Klote, J. and Milke, J. "Principles of Smoke Management," American Society of Heating, Refrigerating and Air Conditioning Engineers, Atlanta, GA, 2002.
- (14) Lawson, J. R., Walton, W. D., and Twilley, W. H. "Fire Performance of Furnishings as Measured in the NBS Furniture Calorimeter, Part 1," (NBSIR 83-2787) (Aug. 1983). National Institute of Standards and Technology (formerly National Bureau of Standards), Center for Fire Research, Gaithersburg, MD 20889.
- (15) Morton, B. R., Taylor, Sir Geoffrey, and Turner, J. S. "Turbulent Gravitational Convection from Maintained and Instantaneous Sources," *Proc. Royal Society A*, 234, 1–23, 1956.
- (16) Schifiliti, R. "Use of Fire Plume Theory in the Design and Analysis of Fire Detector and Sprinkler Response," Master's Thesis, Worcester Polytechnic Institute, Center for Firesafety Studies, Worcester, MA, 1986.
- (17) Title 47, Code of Federal Regulations, Communications Act of 1934 Amended.
- (18) Schifiliti, R. and Pucci, W. "Fire Detection Modelling, State of the Art," 6 May, 1996 sponsored by the Fire Detection Institute, Bloomfield, CT.
- (19) Forney, G., Bukowski, R., Davis, W. "Field Modelling: Effects of Flat Beamed Ceilings on Detector and Sprinkler Response," Technical Report, Year 1. International Fire Detection Research Project, National Fire Protection Research Foundation, Quincy, MA. October, 1993.
- (20) Davis, W., Forney, G., Bukowski, R. "Field Modelling: Simulating the Effect of Sloped Beamed Ceilings on Detector and Sprinkler Response," Year 1. International Fire Detection Research Project Technical Report, National Fire Protection Research Foundation, Quincy, MA. October, 1994.
- (21) Brozovski, E. "A Preliminary Approach to Siting Smoke Detectors Based on Design Fire Size and Detector Aerosol Entry Lag Time," Master's Thesis, Worcester Polytechnic, Worcester, MA, 1989.
- (22) Cote, A. *NFPA Fire Protection Handbook*, 20th edition, National Fire Protection Association, Quincy, MA, 2008.
- (23) Tewarson, A., "Generation of Heat and Chemical Compounds in Fires," *SFPE Handbook of Fire Protection Engineering*, Second Edition, NFPA and SFPE, 1995.
- (24) Hollman, J. P. *Heat Transfer*, McGraw-Hill, New York, 1976.

- (25) Custer, R. L. P., and Meacham, B. "Introduction to Performance Based Fire Safety," SFPE, 1997.
- (26) Schifiliti, R. P., Meacham B., Custer, R. L. P. "Design of Detection Systems," *SFPE Handbook of Fire Protection Engineering*.
- (27) Marrion, C. "Correction Factors for the Heat of Combustion in NFPA 72," Appendix B, Fire Protection Engineering, SFPE, 1998.
- (28) Marrion, C. "Designing and Analyzing the Response of Detection Systems: An Update to Previous Correlations," 1988.
- (29) Custer, R. and Bright, R. "Fire Detection: The State-of-the-Art," NBS Tech. Note 839, National Bureau of Standards, Washington, 1974.
- (30) Meacham, Brian J. "Characterization of Smoke from Burning Materials for the Evaluation of Light Scattering-Type Smoke Detector Response," MS Thesis, WPI Center for Firesafety Studies, Worcester, MA, 1991.
- (31) Delichatsios, M. A. "Categorization of Cable Flammability, Detection of Smoldering, and Flaming Cable Fires," Interim Report, Factory Mutual Research Corporation, Norwood, MA, NP-1630, November 1980.
- (32) Heskestad, G. FMRC Serial Number 21017, Factory Mutual Research Corp., Norwood, MA, 1974.
- (33) Marrion, C. E. "Lag Time Modeling and Effects of Ceiling Jet Velocity on the Placement of Optical Smoke Detectors," MS Thesis, WPI Center for Firesafety Studies, Worcester, MA, 1989.
- (34) Kokkala, M. et al. "Measurements of the Characteristic Lengths of Smoke Detectors," *Fire Technology*, Vol. 28, No. 2, National Fire Protection Association, Quincy, MA, 1992.
- (34a) Yamauchi et al. "A Calculation Method for Predicting Heat and Smoke Detector's Response."
- (34b) Cleary et al. "Particulate Entry Lag in Spot Type Smoke Detectors," IAFSS Proceedings, Boston, MA 2000.
- (34c) Keski-Rahkonen, "Revisiting Modeling of Fluid Penetration into Smoke Detectors," AUBE 2001.
- (34d) Bjoerkman et al. "Determination of Dynamic Model Parameters of Smoke Detectors," *Fire Safety Journal*, No 37, pp. 395–407, 2002.
- (34e) Keski-Rahkonen, "A New Model for Time Lag of Smoke Detectors," International Collaborative Project to Evaluate Fire Models for Nuclear Power Plant Application, Gaithersburg, MD May 2002.
- (35) UL 268, *Standard for Smoke Detectors for Fire Alarm Systems*, Underwriters Laboratories, Inc., Northbrook, IL, 2009.
- (36) Deal, Scott. "Technical Reference Guide for FPEtool Version 3.2," NISTIR 5486, National Institute for Standards and Technology, U.S. Department of Commerce, Gaithersburg, MD, Aug. 1994.
- (37) Mowrer, F. W. "Lag Times Associated with Detection and Suppression," *Fire Technology*, Vol. 26, No. 3, pp. 244–265, 1990.
- (38) Newman, J. S. "Principles for Fire Detection," *Fire Technology*, Vol. 24, No. 2, pp. 116–127, 1988.
- (39) Custer, R., Meacham, B., Wood, C. "Performance Based Design Techniques for Detection and Special Suppression Applications," Proceedings of the SFPE Engineering Seminars on Advances in Detection and Suppression Technology, 1994.
- (40) *SFPE Engineering Guide to Performance Based Fire Protection*, 2nd edition, 2007, SFPE, Gaithersburg, MD.
- (41) *SFPE Handbook of Fire Protection Engineering*, 5th edition 5th edition , SFPE, Gaithersburg, MD, 2016.
- (42) Drysdale, Dougal, *An Introduction to Fire Dynamics*, John Wiley & Sons, New York, NY, 1998, ISBN 0 471 90613 1, 2nd edition.
- (43) Nam S., Donovan L.P. and Kim S.G., Establishing Heat Detectors Thermal Sensitivity Through Bench Scale Tests, *Fire Safety Journal*, Volume 39, Number 3, 191–215, April 2004.
- (44) Nam S., Thermal Response Coefficient TRC of Heat Detectors and Its Field Applications, Fire Detection and Research Applications Symposium, NFP Research Foundation, January 2003.
- (45) Nam S., Performance-Based Heat Detector Spacing, Interflam 2004, pp 883–892.
- (46) Geiman, J. A., "Evaluation of Smoke Detector Response Estimation Methods," Master of Science Thesis, University of Maryland, College Park, MD, December 2003.
- (47) Projected Beam Smoke Detectors — More Than Just a Substitute for Spot Detectors; Fire Protection Engineering, Summer 2004, SFPE.

- (48) Geiman, J.A., and Gottuck, D.T., "Alarm Thresholds for Smoke Detector Modeling," *Fire Safety Science — Proceeding of the Seventh International Symposium*, 2003, pp. 197–208.
- (49) *The SFPE Code Official's Guide to Performance-based Design Review and Analysis of Buildings*, Society of Fire Protection Engineers, Bethesda, MD, 2004.
- (50) NFPA 101, *Life Safety Code*, National Fire Protection Association, Quincy, MA, 2009.
- (51) NFPA 909, *Code for the Protection of Cultural Resource Properties — Museums, Libraries, and Places of Worship*, National Fire Protection Association, Quincy, MA, 2010.
- (52) NFPA 914, *Code for Fire Protection of Historic Structures*, National Fire Protection Association, Quincy, MA, 2010.
- (53) Performance-based Building Design Concepts, International Code Council, Washington DC, 2004.
- (54) *Extreme Event Mitigation In Buildings — Analysis and Design*, Meacham, National Fire Protection Association, Quincy, MA, 2006.
- (55) Geiman, Gottuk, and Milke, "Evaluation of Smoke Detector Response Estimation Methods: Optical Density, Temperature Rise and Velocity at Alarm," *Journal of Fire Protection Engineering*, 2006.
- (56) Su et al., "Kemano Fire Studies — Part 1: Response of Residential Smoke Alarms," Research Report 108, NRCC, April 2003.
- (57) Davis, W., The Zone Model Jet, "A Model for the Prediction of Detector Activation and Gas Temperature in the Presence of a Smoke Layer," NISTIR 6324, NIST, May 1999.
- (58) *SFPE Engineering Guide to Human Behavior in Fire*.

I.1.2.19 References Associated with Annex D.

- (1) Jacob, K. & Tyson, T., "Computer-Based Prediction of Speech Intelligibility for Mass Notification Systems," SUPDET 2008, Fire Protection Research Foundation, March 2008.
- (2) IEC 60268-16, "Sound system equipment — Part 16: Objective rating of speech intelligibility by speech transmission index," 2003.
- (3) ANSI/ASA S3.5, "American National Standard Methods for Calculation of the Speech Intelligibility Index," 1997.
- (4) Barnett, P.W. and Knight, A.D., "The Common Intelligibility Scale," *Proceedings of the Institute of Acoustics*, Vol. 17, Part 7, 1995.
- (5) IEC 60849, Annex B, Sound Systems for Emergency Purposes, February 1998.
- (6) Sander J. van Wijngaarden and Jan A. Verhave, Past Present and Future of the Speech Transmission Index, Chapter 9, Measurement and Prediction of Speech Intelligibility in Traffic Tunnels Using the STI, p113, TNO Human Factors, The Netherlands, 2002.
- (7) Mapp, P., "Systematic & Common Errors in Sound System STI and Intelligibility Measurements," Convention Paper 6271, Audio Engineering Society, 117th Convention, San Fran, CA, 28–31 October 2004.
- (8) Peter Mapp, Past Present and Future of the Speech Transmission Index, Chapter 8, Practical Application of STI to Assessing Public Address and Emergency Sound Systems, TNO Human Factors, The Netherlands, 2002.

I.1.2.20 References Associated with Annex G.

Kuligowski, Erica D., NIST Technical Note 1779: "General Guidance on Emergency Communication Strategies for Buildings," February 2013.

I.1.2.21 References Associated with Annex H.

U.S. Consumer Product Safety Commission, *Responding to Residential Carbon Monoxide Incidents: Guidelines for Fire and Other Emergency Response Personnel*, Washington, DC, July 2002, <http://www.cpsc.gov/s3fs-public/coguide.pdf>.

I.2 Informational References.

The following documents or portions thereof are listed here as informational resources only. They are not a part of the requirements of this document.

I.2.1 ASTM Publications.

ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959.

ASTM E2292, *Standard Guide for Field Investigation of Carbon Monoxide Poisoning Incidents*, 2014.

I.2.2 EPRI Publications.

Electric Power Research Institute, 3420 Hillview Avenue, Palo Alto, CA 94304.

Technical Report 1002925, *Stationary Battery Monitoring by Internal Ohmic Measurement*, 2002.

Technical Report TR-10067577, *Stationary Battery Guide; Design, Application, and Maintenance*, 2002.

I.2.3 NFPA Publications.

National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

NFPA 1192, *Standard on Recreational Vehicles*, 2018 edition.

I.2.4 UL Publications.

Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096.

UL 1973, *Standard for Batteries for Use in Light Electric Rail (LER) Applications and Stationary Applications*, 1st edition, 2013, revised 2016.

ANSI/UL 2034, *Standard for Single and Multiple Station Carbon Monoxide Alarms*, - 2008 - 20 17 , revised 2009 20 18 .

UL 2054, *Standard for Household and Commercial Batteries*, 2nd edition, 2004, revised 2011.

ANSI/UL 2075, *Gas and Vapor Detectors and Sensors*, 2004 20 13, **revised 2017** .

UL 9540, *Outline of Investigation for Energy Storage Systems and Equipment*, 1st edition, 2016.

I.3 References for Extracts in Informational Sections.

NFPA 70[®], *National Electrical Code*[®], 2017 edition.

NFPA 92, *Standard for Smoke Control Systems*, 2018 edition.

NFPA 92B, *Smoke Management Systems in Malls, Atria, and Large Spaces*, 1995 edition.

NFPA 101[®], *Life Safety Code*[®], 2018 edition.

NFPA 1221, *Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems*, 2016 edition.

Statement of Problem and Substantiation for Public Input

Referenced current national consensus standard editions.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 18-NFPA 72-2018 [Section No. <u>2.3</u>]	Referenced current national consensus standard editions.

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**Public Input No. 292-NFPA 72-2019 [Section No. I.1.2.12]****I.1.2.12 SFPE Publications.**

Society of Fire Protection Engineers, 9711 Washingtonian Blvd., Suite 380, Gaithersburg, MD 20878.

SFPE Engineering Guide: Evaluation of the Computer Fire Model DETACT QS, 2002.

SFPE Engineering Guide to Human Behavior in Fire, 2003 2019 .

SFPE Engineering Guide to Performance-Based Fire Protection, 2nd edition, 2007.

SFPE Handbook of Fire Protection Engineering, 5th edition, 2016.

Keating, John P. and Loftus, Elizabeth F., "People Care in Fire Emergencies — Psychological Aspects, 1975," SFPE, 1975.

Statement of Problem and Substantiation for Public Input

Revision needed to highlight new edition of the SFPE Guide to Human Behavior.

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**Public Input No. 267-NFPA 72-2019 [Section No. I.1.2.14]****I.1.2.14** UL Publications.

Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096.

ANSI/UL 268, *Standard for Smoke Detectors for Fire Alarm Systems*, - ~~6th edition, 2009~~ 2016 .

ANSI/UL 268A, *Standard for Smoke Detectors for Duct Application*, - ~~4th edition 2008 , 2008,~~ revised 2016.

ANSI/UL 827, *Standard for Central-Station Alarm Services*, 2014, revised 2019 .

ANSI/UL 864, *Standard for Control Units and Accessories for Fire Alarm Systems*, - ~~9th edition 2014 , 2003,~~ revised 2012- 2018

ANSI/UL 1638, *Visible Signaling Devices for Fire Alarm and Signaling Systems, Including Accessories*, - ~~5th edition, 2016~~ 2016 .

ANSI/UL 1971, *Standard for Signaling Devices for the Hearing Impaired*, - ~~3rd edition 2002 , 2002,~~ revised 2013 2018 .

ANSI/UL 2075, *Standard for Safety Gas and Vapor Detectors and Sensors*, 2013, revised 2017 .

ANSI/UL 2572, *Mass Notification Systems*, - ~~2nd edition, 2016~~ 2018 .

Statement of Problem and Substantiation for Public Input

Update the publishing dates for each of the UL standards listed to reflect the most up to date edition.

Related Public Inputs for This Document

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I.1.2.16.9 – References to A.29.10.8.2.1.

Stone, W., "Electromagnetic Attenuation in Construction Materials," National Institute of Standards and Technology, NISTIR 6055, 1997.

Statement of Problem and Substantiation for Public Input

Public Input was submitted to revise 29.10.8.2. In conjunction with that change, the formula would be removed and the reference information would not be needed in Annex I 1.2.16.9.

Related Public Inputs for This Document

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Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096.

UL 1973, *Standard for Batteries for Use in Light Electric Rail (LER) Applications and Stationary Applications*, - 1st edition, 2013, revised 2016 2018 .

ANSI/UL 2034, *Standard for Single and Multiple Station Carbon Monoxide Alarms*, - 2008 2017 , revised 2009 2018 .

UL 2054, *Standard for Household and Commercial Batteries*, - 2nd edition 2004 , 2004, - revised 2011.

ANSI/UL 2075, *Gas and Vapor Detectors and Sensors*, 2004 2013, revised 2017 .

UL 9540, *Outline of Investigation for Energy Storage Systems and Equipment*, - 1st edition, 2016 2016 .

Statement of Problem and Substantiation for Public Input

Update the publishing dates for each of the UL standards listed to reflect the most up to date edition.

Related Public Inputs for This Document

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