



Second Revision No. 5157-NFPA 72-2020 [Global Comment]

- 1) Revise Chapter 11 in accordance with the attached document.
- 2) Create a new Annex to address 'Guidelines for Cybersecurity' in accordance with the attached document.
- 3) Update references in accordance with the attached document.

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
SIG-FUN_SR-5157_Global-Chap_11.docx	All revisions. For staff use	
72_SIG-FUN_Global_SR-5157.pdf	for balloting	

Submitter Information Verification

Committee: SIG-FUN
Submission Date: Thu Jul 23 11:05:21 EDT 2020

Committee Statement

Committee Statement: Connecting fire alarm and signaling systems to the internet or an intranet can create the risk of unintended access to the system and requires cybersecurity measures to mitigate that risk. Cybersecurity is complex and the technologies and communication methods encompassing cybersecurity are constantly changing and rapidly evolving to address potential threats. Cybersecurity is a multi-faceted problem that affects all building systems; not just fire alarm and signaling systems.

Therefore, the Technical Committee has determined that in lieu of establishing a new Chapter 11 on cybersecurity at this time; it is appropriate to provide such guidance and framework for the design of cybersecurity in a new annex.

The new annex provides information for manufacturers, users, installers/maintainers, enforcing authorities, insurance groups, and special experts an opportunity to review. This allows the industry and the public the ability to provide constructive feedback and direction to the NFPA Correlating Committee or the Standards Council. NFPA can then determine whether cybersecurity should be a separate chapter in NFPA 72 or addressed as a separate stand-alone Standard.

The list of cybersecurity standards [in J.3] is updated with the correct titles of the published standards. NISTIR 8259 was added to provide guidance for IoT devices.

The means of assessing cybersecurity compliance [in J.4] are updated to broadly enable assessment programs that are accepted by the AHJ.

It is recommended [in J.6.2] to limit functional testing of the system following a cybersecurity update, because these changes may need to occur more frequently than system configuration changes. This recommendation is limited to changes that are for cybersecurity only and that are documented according to the specified criteria.

Response Message: SR-5157-NFPA 72-2020

[Public Comment No. 258-NFPA 72-2020 \[Chapter 11\]](#)

[Public Comment No. 271-NFPA 72-2020 \[Section No. 11.2\]](#)

[Public Comment No. 286-NFPA 72-2020 \[Section No. 11.5.1\]](#)

[Public Comment No. 113-NFPA 72-2020 \[Section No. 11.5.1\]](#)

[Public Comment No. 224-NFPA 72-2020 \[Chapter 11\]](#)

[Public Comment No. 261-NFPA 72-2020 \[Chapter 11\]](#)

[Public Comment No. 154-NFPA 72-2020 \[New Section after A.11.5\]](#)

[Public Comment No. 114-NFPA 72-2020 \[Section No. 11.5.2\]](#)

[Public Comment No. 115-NFPA 72-2020 \[Sections 11.5.3, 11.5.4\]](#)

[Public Comment No. 239-NFPA 72-2020 \[Chapter 11\]](#)

[Public Comment No. 156-NFPA 72-2020 \[Sections 11.5.3, 11.5.4\]](#)

[Public Comment No. 284-NFPA 72-2020 \[Section No. 11.3\]](#)

[Global SR-5157]

[1. Revise Chapter 11, as follows:]

Chapter 11 Cybersecurity

11.1* ~~Application~~Cybersecurity.

~~See Annex J. Where cybersecurity is required by a risk analysis, by federal, state, or local regulation, or by the authority having jurisdiction, systems shall be in accordance with the requirements of this chapter.~~

A.11.1

~~Cybersecurity is not required for every system or application; it is only required when other sections of this Code, authorities, or regulations mandate that cybersecurity be incorporated into the system(s). Generally, there are greater cybersecurity concerns when systems are connected to external networks.~~

~~Where required, cybersecurity should be considered for equipment, software, firmware, tools, installation methods, physical security of and access to equipment, data pathways, testing, and maintenance. Cybersecurity recommendations are contained in Annex J. Cybersecurity covers site end-to-end equipment, software, firmware, tools, installation, physical security of and access to equipment and data pathways, testing, and maintenance.~~

~~A network risk analysis typically addresses the following:~~

- ~~(1) Physical installation and protection of devices and pathways~~
- ~~(2) Access to devices and pathways~~
- ~~(3) External and internal accessibility to data~~
- ~~(4) Firewalls and other barrier gateways~~
- ~~(5) Interconnection to other site systems~~
- ~~(6) Anti-agent software, services, and scanning~~
- ~~(7) Vulnerability assessments~~
- ~~(8) Downtime/impairment impacts~~
- ~~(9) Recovery procedures~~
- ~~(10) Legal impacts~~
- ~~(11) Threat assessment~~
- ~~(12) Failure modes~~
- ~~(13) Backups~~
- ~~(14) Disaster recovery~~
- ~~(15) Equipment backups~~
- ~~(16) Penetration testing~~

~~(17) Updating processes~~

~~(18) Password and credential management~~

~~(19) Maintenance and support operations and devices~~

~~(20) Local and remote service connections~~

~~(21) Documentation, access to documentation, and maintenance of documentation~~

~~(22) Staff training and certifications~~

~~(23) Vendor support~~

~~11.2 Standards.~~

~~Systems shall be designed, installed, and maintained in accordance with one or more of the following cybersecurity standards:~~

~~(1) ANSI/ISA 62443, Security for Industrial Automation and Control Systems Series~~

~~(2) NIST Framework for Improving Critical Infrastructure Cybersecurity~~

~~(3) UL 2900, Software Cybersecurity for Network-Connectable Products~~

~~(4) Other standard(s) acceptable to the authority having jurisdiction~~

~~11.3 Compliance.~~

~~Evidence of cybersecurity compliance 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~~

~~11.4 Documentation.~~

~~All documentation required for compliance with the selected standard in accordance with Section 11.2 shall be provided in accordance with Chapter 7.~~

~~11.5* Operations and Maintenance.~~

~~A.11.5—~~

~~The following system solution levels (SL) should be considered as determined by the risk analysis and/or AHJ requirements:~~

~~(1) SL-0. No specific network security features or operations are required.~~

~~(2) SL-1. This level correlates to UL 2900 Level 1 (Table 4.1).~~

~~(3) SL-2. This level includes all of Level 1 and monitored physical tamper switches on all cabinets. This level correlates to UL 2900 Level 2 (Table 4.1).~~

~~(4) SL-3. This level correlates to UL 2900 Level 3 (Table 4.1) and includes all of SL-2 with the additional requirements that all bounded media should be installed in continuous raceways.~~

~~(5) SL-4. This level includes all of SL-3 and the following:~~

~~(a) All equipment enclosures that are not inside of a restricted access controlled space should be provided with tamper switches that are monitored by the system and report to required on-site control and annunciation that the enclosure has been~~

~~accessed within 10 seconds. Tamper signals should be transmitted off premises in accordance with Chapter 26.~~

- ~~(b) All junction boxes or other pathway enclosures on bounded media that are not inside of a restricted access controlled space should be equipped with one of the following:
 - ~~(i) Tamper resistant fasteners and the enclosure covers equipped with frangible, tamper evident seals.~~
 - ~~(ii) Enclosure covers equipped with tamper switches that are monitored by the system and report to required on-site control and annunciation that the enclosure has been accessed within 10 seconds. Tamper signals should be transmitted off premises in accordance with Chapter 26.~~~~
- ~~(c) Bounded and unbounded data should be protected with a minimum of 256-bit encryption.~~
- ~~(d) All unconnected or unmonitored data ports should be protected by at least one or more of the following:
 - ~~(i) Physically protected from unauthorized access~~
 - ~~(ii) Administratively shutdown~~
 - ~~(iii) Require a password or other form of credentials to access the port~~~~
- ~~(e) All on-site service data devices should be verified that they are equipped with and are operating on/with the following:
 - ~~(i) The latest operating systems with patches~~
 - ~~(ii) Current antivirus software and verification that antivirus scans have been done within the last 24 hours before the device is connected to the system being serviced~~~~

~~Where a system is connected to another non fire alarm or signaling system, the digital connectivity between the systems should be protected by a barrier gateway.~~

~~11.5.1~~

~~Verification shall be provided annually that there are no changes to network connectivity that would render initial acceptance as no longer valid.~~

~~11.5.2~~

~~Verification shall be provided annually that any system that is designated with cybersecurity certification has maintained a valid certificate.~~

~~11.5.3~~

~~Changes to the system executive software required solely for cybersecurity purposes shall not require a 10 percent functional test of the system that is otherwise required by Chapter 14.~~

~~11.5.4~~

~~Where changes to the system executive software are limited to cybersecurity enhancements, a system retest shall not be required.~~

2. Insert a new annex before Informational References, as follows:]

Annex J Guidelines for Cybersecurity

This annex is not a part of the requirements of this NFPA document but is included for informational purposes only.

J.1 Introduction.

NFPA 72 contains requirements for fire alarm and emergency communications systems that can be impacted by cybersecurity threats. Coordination of cybersecurity frameworks to protect the functions of systems is essential in order to prevent unwanted impacts on the system. Where the system would need to interface with the internet or other systems, it would make sense to provide a secure firewall or gateway. In any case, protection from cybersecurity threats is essential.

The Technical Committee has determined that, in lieu of establishing requirements in Chapter 11 on cybersecurity at this time, it is appropriate to provide such guidance and framework in this annex. This allows the industry and the public the ability to gain experience with cybersecurity measures and provide constructive feedback for future editions of this Code.

J.2 Cybersecurity Provisions.

Where cybersecurity provisions are required, manufacturers, system designers, system installers, inspection personnel, testing personnel, and service technicians involved in the design, installation, testing, and maintenance of cybersecurity provisions should provide cybersecurity measures as outlined in this annex.

J.3 Cybersecurity Standards.

Systems should be designed, installed, and maintained in accordance with one or more of the following cybersecurity standards:

- (1) ANSI/ISA/IEC-62443-4-2, Security for Industrial Automation and Control Systems, Part 4-2: Technical Security Requirements for IACS Components*
- (2) NISTIR 8259, Foundational Cybersecurity Activities for IoT Device Manufacturers*
- (3) NIST Framework for Improving Critical Infrastructure Cybersecurity*
- (4) UL 2900-2-3, Software Cybersecurity for Network-Connectable Products, Part 2-3: Particular Requirements for Security and Life Signaling Systems*
- (5) Other standard(s) or published documents acceptable to the authority having jurisdiction*

J.4 Evidence of Compliance.

Evidence of cybersecurity compliance should include one or more of the following:

- (1) Certification of compliance by a nationally recognized test laboratory*
- (2) Manufacturer certification for the specific type and brand of system provided*
- (3) An assessment or certification program acceptable to the authority having jurisdiction*

J.5 Documentation.

All system-related documentation associated with the use of the selected standard(s) is included as part of the system documentation required by Chapter 7.

J.6 Cybersecurity Certificate Maintenance.

J.6.1 Certificate Validation.

Where a system is provided with a cybersecurity certificate document as evidence of compliance, the validity of the certificate should be checked annually.

J.6.2 Cybersecurity Software Revisions.

Software changes made only for cybersecurity purposes to firewalls or barrier gateways should not require the functional test of the system that is otherwise required by 14.4.2.4 and 14.4.2.5 where all the following are true:

- (1) The changes do not affect the function of the executive or site-specific software.
- (2) The integrity of the software update installed in the firewall or barrier gateway is verified to ensure complete and intact software delivery.
- (3) The software is digitally signed by the manufacturer.
- (4) The digital signature of the software is verified prior to execution by the system or system components using secure signing keys.

Figure J.6.2 depicts system typical firewall/gateway operation. Such functionality is not mandated but when deployed might take the form of physical hardware, firmware, or a combination of both. The firewall/gateway might be physically integrated into the control unit as shown in the integrated control unit graphic, or a separate device/service that interacts with the control unit as shown in the nonintegrated control unit. If the firewall/gateway is segmented from the executive firmware and site-specific software and if security software changes to the firewall/gateway are made, these changes should not require system retesting. If changes are made in a firewall/gateway that is not segmented from the executive firmware and site-specific software, the system should be retested.

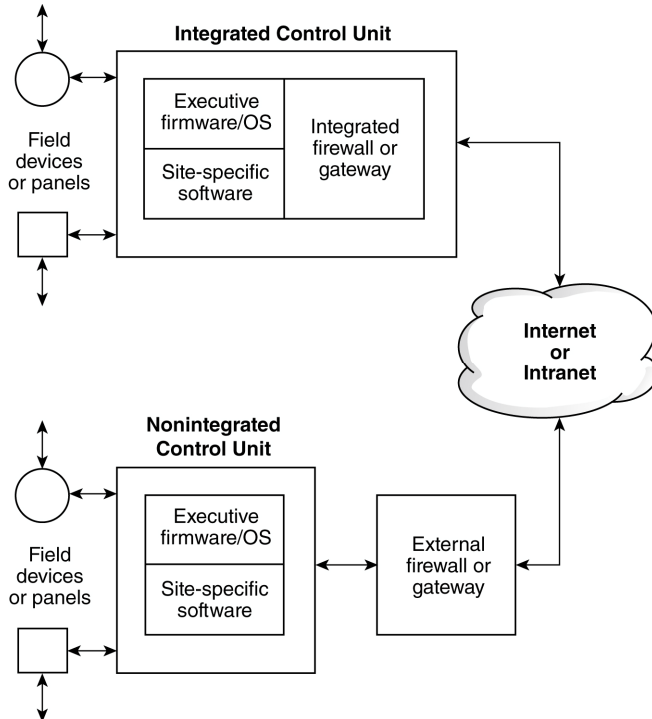


Figure J.6.2 System Typical Firewall/Gateway Operation.

J.6.3 Remote Software Changes.

Software changes to systems or system components made only for cybersecurity purposes should be permitted to be made by remote access in accordance with Chapter 23.

[3. Update the references, as follows:]

a) In 2.3.7 ISA Publications, delete the entire section.

~~**2.3.7 ISA Publications.**~~

~~International Society of Automation, 67 T.W. Alexander Drive, PO Box 12277, Research Triangle Park, NC 27709.~~

~~ANSI/ISA 62443, *Security for Industrial Automation and Control Systems*, 2019.~~

b) In 2.3.9 UL Publications, delete:

~~UL 2900, *Software Cybersecurity for Network Connectable Products*, 2017.~~

c) In 2.3.10 Other Publications, delete:

~~NIST Framework for Improving Critical Infrastructure Cybersecurity, National Institute of Standards and Technology, 100 Bureau Drive, Gaithersburg, MD 20899-1070, Version 1.1, 2018.~~

d) In K.1.2.8 ISA Publications, add:

[ANSI/ISA/IEC-62443-4-2, *Security for Industrial Automation and Control Systems, Part 4-2: Technical Security Requirements for IACS Components*, 2019.](#)

e) In K.1.2.11 NIST Publications, add:

[NISTIR 8259, *Foundational Cybersecurity Activities for IoT Device Manufacturers*, 2020.](#)



Second Revision No. 5117-NFPA 72-2020 [Section No. 2.2]

2.2 NFPA Publications.

National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

NFPA 10, *Standard for Portable Fire Extinguishers*, 2022 edition.

NFPA 13, *Standard for the Installation of Sprinkler Systems*, 2022 edition.

NFPA 25, *Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems*, 2020 edition.

NFPA 37, *Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines*, 2021 edition.

NFPA 70[®], *National Electrical Code*[®], 2020 edition.

NFPA 75, *Standard for the Fire Protection of Information Technology Equipment*, 2020 edition.

NFPA 90A, *Standard for the Installation of Air-Conditioning and Ventilating Systems*, 2021 edition.

NFPA 101[®], *Life Safety Code*[®], 2021 edition.

NFPA 110, *Standard for Emergency and Standby Power Systems*, 2022 edition.

NFPA 111, *Standard on Stored Electrical Energy Emergency and Standby Power Systems*, 2022 edition.

NFPA 170, *Standard for Fire Safety and Emergency Symbols*, 2021 edition.

NFPA 601, *Standard for Security Services in Fire Loss Prevention*, 2020 edition.

NFPA 855, *Standard for the Installation of Stationary Energy Storage Systems*, 2020 edition.

NFPA 1031, *Standard for Professional Qualifications for Fire Inspector and Plan Examiner*, 2024 2014 edition.

NFPA 1221, *Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems*, 2022 2019 edition.

NFPA 1600[®], *Standard on Continuity, Emergency, and Crisis Management*, 2019 edition.

NFPA 1620, *Standard for Pre-Incident Planning*, 2020 edition.

Submitter Information Verification

Committee: SIG-FUN

Submittal Date: Thu Jul 02 11:47:51 EDT 2020

Committee Statement

Committee Statement: The Technical Committee accepts the public comment and edits the text to include NFPA 855 as it now referenced in 10.7.4.4.

Response Message: SR-5117-NFPA 72-2020

Public Comment No. 242-NFPA 72-2020 [Section No. 2.2]



Second Revision No. 5121-NFPA 72-2020 [Section No. 2.3.11]

[Global SR-5157](#)

2.3.9 UL Publications.

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

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

UL 217, *Smoke Alarms*, 8th edition, 2015, revised 2016.

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

UL 521, *Heat Detectors for Fire Protective Signaling Systems*, 1999, revised 2017.

UL 827, *Central-Station Alarm Services*, 2014, revised 2019.

UL 864, *Control Units and Accessories for Fire Alarm Systems*, 2014, revised 2018.

UL 985, *Household Fire Warning System Units*, 2015, revised 2018.

UL 1484, *Residential Gas Detectors*, 2016, revised 2017.

UL 1638, *Visible Signaling Devices for Fire Alarm and Signaling Systems, Including Accessories*, 2016.

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

UL 1971, *Signaling Devices for the Hearing Impaired*, 2002, revised 2018.

UL 1981, *Central Station Automation Systems*, 2014, revised 2015.

UL 2017, *General-Purpose Signaling Devices and Systems*, 2008, revised 2018.

UL 2034, *Single and Multiple Station Carbon Monoxide Alarms*, 2017, revised 2018.

UL 2075, *Gas and Vapor Detectors and Sensors*, 2013, revised 2017.

UL 2525, ~~*Rescue Assistance Two-Way*~~ *Two-way Emergency Communications Systems for Stairwell and Elevator Landing/Lobby Areas of Refuge* ~~*Rescue Assistance*~~, 2018 ~~2020~~.

UL 2572, *Mass Notification Systems*, 2016, revised 2018.

~~UL 2900, *Software Cybersecurity for Network-Connectable Products*, 2017.~~

UL 60950-1, *Information Technology Equipment — Safety — Part 1: General Requirements*, 2019.

UL 62368-1, *Audio/Video, Information and Communication Technology Equipment — Part 1: Safety Requirements*, 2019.

Submitter Information Verification

Committee: SIG-FUN

Submittal Date: Thu Jul 02 12:15:07 EDT 2020

Committee Statement

Committee Statement: The Technical Committee edits the text to include UL 2525 as it now published.

Response Message: SR-5121-NFPA 72-2020

Public Comment No. 317-NFPA 72-2020 [Section No. 2.3.11]



Second Revision No. 5108-NFPA 72-2020 [Section No. 3.3.24]

3.3.24 Authorized Personnel.

The ~~person in charge of the premises property owner~~ , or ~~other persons designated representative~~ appointed or selected by the ~~person in charge of the premises property owner~~ , who performs certain duties. (SIG-FUN)

Submitter Information Verification

Committee: SIG-FUN

Submittal Date: Wed Jul 01 11:25:53 EDT 2020

Committee Statement

Committee Statement: The Technical Committee edits the text to replace “person in charge of the premises” with “property owner” and “other persons” with “designated representative”. The terms “authorized” and “trained” have different meanings and are not necessarily interchangeable.

The Technical Committee requests the Correlating Committee to assign a Task Group to review the terms “owner,” “building owner,” “property owner” and “protected premises owner.”

Response Message: SR-5108-NFPA 72-2020

[Public Comment No. 24-NFPA 72-2020 \[Section No. 3.3.24\]](#)



Second Revision No. 5109-NFPA 72-2020 [Section No. 3.3.101]

3.3.102 Emergency Personnel.

Persons Person(s) who have been trained in emergency response. (SIG-FUN)

Submitter Information Verification

Committee: SIG-FUN

Submittal Date: Wed Jul 01 11:40:13 EDT 2020

Committee Statement

Committee Statement: The Technical Committee edits the text for clarity.

Response Message: SR-5109-NFPA 72-2020

[Public Comment No. 25-NFPA 72-2020 \[Section No. 3.3.101\]](#)

**Second Revision No. 5163-NFPA 72-2020 [Section No. 3.3.106]****3.3.298** ~~Energy Storage Systems (ESS). Stored-Energy Emergency Power Supply Systems (SEPSS).~~

~~Equipment that receives electrical energy and then provides a means to store that energy in some form for later use in order to supply electrical energy when needed. The energy-storage system utilizes the technologies defined in 3.3.107.2 through 3.3.107.4 – (SIG-FUN)~~

A.3.3.106 ~~Energy Storage Systems.~~

~~Electrochemical energy storage systems include uninterruptable power supplies (UPS).~~

3.3.106.1 ~~Chemical Energy Storage System.~~

~~Consists of hydrogen storage, the hydrogen generator to supply the hydrogen for storage, and a fuel cell power system to provide electric energy upon demand. (SIG-FUN)~~

3.3.106.2 ~~Electrochemical Energy Storage System.~~

~~Consists of a secondary battery, electrochemical capacitor, flow battery, or hybrid battery capacitor system that stores energy and any associated controls or devices that can provide electric energy upon demand. (SIG-FUN)~~

3.3.106.3 ~~Mechanical Energy Storage System.~~

~~Consists of a mechanical means to store energy such as through compressed air, pumped water or fly wheel technologies, and associated controls and systems, which can be used to run an electric generator to provide electric energy upon demand. (SIG-FUN)~~

3.3.106.4 ~~Thermal Energy Storage System.~~

~~Consists of a system that uses heated fluids such as air as a means to store energy along with associated controls and systems, which can be used to run an electric generator to provide electrical energy upon demand. (SIG-FUN)~~

Submitter Information Verification

Committee: SIG-FUN

Submittal Date: Thu Jul 23 12:23:06 EDT 2020

Committee Statement

Committee Statement: The Technical Committee edits the text to clarify the term used. NFPA 72-2019, Section 10.6.4 changed the term for Uninterruptable Power Supplies (UPS) used in the 2016 edition to “Energy Storage Systems (ESS)” and referenced the requirements of NFPA 111 – Stored Electrical Energy Emergency and Standby Power Systems. The term “Stored-Energy Emergency Power Supply System (SEPSS)” is used in NFPA 111 and the definition in NFPA 72 is modified for consistency. Terms not used in the Code are deleted per the Manual of Style.

Response Message: SR-5163-NFPA 72-2020

Public Comment No. 162-NFPA 72-2020 [Section No. 3.3.106]



Second Revision No. 5110-NFPA 72-2020 [Section No. 3.3.208.3]

3.3.209.3 System Designer.

Individual responsible for the development of fire alarm ~~and~~ or signaling system plans and specifications in accordance with this Code. (SIG-FUN)

3.3.209.4 System Installer.

Individual responsible for the proper installation of fire alarm ~~and~~ or signaling systems in accordance with plans, specifications, and manufacturer's requirements. (SIG-FUN)

Submitter Information Verification

Committee: SIG-FUN

Submittal Date: Wed Jul 01 11:41:42 EDT 2020

Committee Statement

Committee Statement: The Technical Committee edits the text to clarify that a system designer could be responsible for a signaling system that does not involve a fire alarm system.

Response Message: SR-5110-NFPA 72-2020

[Public Comment No. 163-NFPA 72-2020 \[Sections 3.3.208.3, 3.3.208.4\]](#)



Second Revision No. 5111-NFPA 72-2020 [Section No. 3.3.299]

3.3.302 Supervised Notification Appliance Control Circuit.

An output circuit that is monitored for integrity and used exclusively to activate control equipment for notification appliance circuits, ~~-on-control-equipment-~~ (SIG-FUN)

Submitter Information Verification

Committee: SIG-FUN

Submittal Date: Wed Jul 01 11:49:42 EDT 2020

Committee Statement

Committee Statement: The Technical Committee edits the text to clarify the purpose of the circuit. The TC reviewed the direction from the Correlating Committee and clarified the scope of supervised control circuits by inserting notification appliance.

Response Message: SR-5111-NFPA 72-2020

[Public Comment No. 105-NFPA 72-2020 \[Section No. 3.3.299\]](#)

[Public Comment No. 164-NFPA 72-2020 \[Section No. 3.3.299\]](#)



Second Revision No. 5160-NFPA 72-2020 [Section No. 7.1.6]

7.1.6

The requirements of Chapters 10, 11, 12, 14, 17, 18, 21, 23, 24, 26, and 27 shall apply unless otherwise noted in this chapter.

Submitter Information Verification

Committee: SIG-FUN

Submittal Date: Thu Jul 23 11:33:08 EDT 2020

Committee Statement

Committee Statement: The Technical Committee edits the text to reference new Chapter 11 cybersecurity requirements.

Response Message: SR-5160-NFPA 72-2020

[Public Comment No. 106-NFPA 72-2020 \[Section No. 7.1.6\]](#)

[Public Comment No. 171-NFPA 72-2020 \[Section No. 7.1\]](#)



Second Revision No. 5162-NFPA 72-2020 [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:
 - (a) Point of compass (north arrow)
 - (b) A graphic representation of the scale used
 - (c) Room use identification
 - (d) Building features that will affect the placement of initiating devices and notification appliances
 - (4) Sequence of operation in either an input/output matrix or narrative form
 - (5) Equipment technical data sheets
 - (6) Manufacturers' published instructions, including operation and maintenance instructions
 - (7) Battery capacity and safety margin calculations (where batteries are provided)
 - (8) Voltage drop calculations for notification appliance circuits
 - (9) Mounting height elevation for wall-mounted devices and appliances
 - (10) Where occupant notification is required, minimum sound pressure levels that must be produced by the audible notification appliances in applicable covered areas
 - (11) Locations of alarm notification appliances, including candela ratings for visual alarm notification appliances
 - (12) Pathway diagrams between the control unit and shared communications equipment within the protected premises
 - (13) Completed record of completion in accordance with 7.5.6
 - (14) 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)
 - (15) Record (as-built) drawings
 - (16) Records, record retention, and record maintenance in accordance with Section 7.7
 - (17) Completed record of inspection and testing in accordance with 7.6.6
- Where applicable, cybersecurity documentation

Submitter Information Verification

Committee: SIG-FUN

Submittal Date: Thu Jul 23 11:48:25 EDT 2020

Committee Statement

Committee Statement: NFPA 72 has no requirements for cybersecurity documentation.

Response Message: SR-5162-NFPA 72-2020

Public Comment No. 107-NFPA 72-2020 [Section No. 7.2.1]



Second Revision No. 5112-NFPA 72-2020 [Section No. 7.4.3]

7.4.3

Shop drawings for fire alarm ~~and~~ or emergency communications systems shall provide basic information and shall provide the basis for the record (as-built) drawings required in accordance with 7.5.2.

Submitter Information Verification

Committee: SIG-FUN

Submittal Date: Wed Jul 01 12:12:57 EDT 2020

Committee Statement

Committee Statement: The Technical Committee edits the text to clarify that shop drawings could be for a fire alarm system or an emergency communications system.

Response Message: SR-5112-NFPA 72-2020

[Public Comment No. 172-NFPA 72-2020 \[Section No. 7.4.3\]](#)



Second Revision No. 5161-NFPA 72-2020 [Section No. 7.5.3.1]

7.5.3.1

All systems, including new systems and additions or alterations to existing systems, shall include the following documentation:

- (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

~~Where applicable, cybersecurity documentation~~

Submitter Information Verification

Committee: SIG-FUN

Submittal Date: Thu Jul 23 11:45:46 EDT 2020

Committee Statement

Committee Statement: NFPA 72 has no requirements for cybersecurity documentation.

Response Message: SR-5161-NFPA 72-2020

[Public Comment No. 108-NFPA 72-2020 \[Section No. 7.5.3.1\]](#)



Second Revision No. 5164-NFPA 72-2020 [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.

DELETED

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).

In Figure 7.8.2(a), section 6, an example of a dual pathway is a circuit that is a continuous circuit connected to an FACU at two terminal locations, and an example of a separate pathway is a circuit that is only connected to the FACU 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 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: 27152 Santa Anita Boulevard, Hilo, HI
 Description of property: Warehouse and Office Building
 Name of property representative: Joe Bago Dorote
 Address: As above
 Phone: (743) 225-9766 Fax: (743) 225-9766 E-mail: jbagod@world.net

2. INSTALLATION, SERVICE, TESTING, AND MONITORING INFORMATION

Installation contractor: Sparkie's Electric
 Address: 1954 Nimetz Highway, Honolulu, HI 96842
 Phone: (978) 456-0676 Fax: (978) 456-0676 E-mail: shortcircuits@sparkies.net
 Service organization: None
 Address: _____ Fax: _____ E-mail: _____
 Testing organization: Jim's Protection, Inc.
 Address: 2500 Daly Boulevard, Austin, TX
 Phone: (407) 736-4587 Fax: (407) 736-4586 E-mail: testertj@jps.com
 Effective date for test and inspection contract: 25 January 2011
 Monitoring organization: Look the Other Way, Inc.
 Address: 895 Highway 59N, Minneapolis, MN
 Phone: (612) 456-9275 Fax: (612) 456-7272 E-mail: Look@otherway.com
 Account number: 56734568 Phone line 1: (212) 976-6976 Phone line 2: (212) 976-8976
 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 Mgrs. 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 Cabinets Model number: 1019-7647

4.2 Software and Firmware

Firmware revision number: 7.0 B Executive Kit 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 amps: 7.5 Amps
 Overcurrent protection: Type: Breaker Amps: 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: Kitar 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 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
Dust 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	Connected to a Notification Appliance Circuit (NAC)	Connected to a Signaling Line Circuit (SLC)
Audible	16			
Visual	24			
Combination Audible and Visual	0			

10. SYSTEM CONTROL FUNCTIONS

Type	Quantity
Hold-Open Door Releasing Devices	4
HVAC Shutdown	2
Fire/Smoke Dumpers	
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: Harry Johnson Printed name: Harry Johnson Date: 11 November 2019
 Organization: Sparker's Electric Title: Principal Phone: (907) 456-9876

12.2 System Operational Test
 This system as specified herein has been tested according to all NFPA standards cited herein.

Signed: Jim Kverbottom Printed name: Jim Kverbottom Date: 14 January 2011
 Organization: Jim's Protection, Inc. Title: President Phone: (407) 738-4583

12.3 Acceptance Test
 Date and time of acceptance test: 0830 hrs. — 10 November 2019
 Installing contractor representative: Jim Johnson
 Testing contractor representative: Ronald O'Haraquist
 Property representative: Danny Machtosh
 AHJ representative: Inspector DiDonato

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SYSTEM RECORD OF COMPLETION (continued)

9. NOTIFICATION APPLIANCES

Type	Quantity	Description	Connected to a Notification Appliance Circuit (NAC)	Connected to a Signaling Line Circuit (SLC)
Audible	16	Horns	✓	
Visual	24	Strobes	✓	
Combination Audible and Visual	0	Horns/Strobes	✓	

10. SYSTEM CONTROL FUNCTIONS

Type	Quantity
Hold-Open Door Releasing Devices	4
HVAC Shutdown	2
Fire/Smoke Dumpers	
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: Harry Johnson Printed name: Harry Johnson Date: 11 November 2019
 Organization: Sparker's Electric Title: Principal Phone: (907) 456-9876

12.2 System Operational Test
 This system as specified herein has been tested according to all NFPA standards cited herein.

Signed: Jim Kverbottom Printed name: Jim Kverbottom Date: 14 January 2011
 Organization: Jim's Protection, Inc. Title: President Phone: (407) 738-4583

12.3 Acceptance Test
 Date and time of acceptance test: 0830 hrs. — 10 November 2019
 Installing contractor representative: Jim Johnson
 Testing contractor representative: Ronald O'Haraquist
 Property representative: Danny Machtosh
 AHJ representative: Inspector DiDonato

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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: 2 November 2019 Number of Supplemental Pages Attached: _____

1. PROPERTY INFORMATION
 Name of property: World Storage and Transfer Headquarters
 Address: 27152 Santa Anita Boulevard, Hills, HI

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: 2019 Additional description of system(s): _____

2.1 In-Building Fire Emergency Voice Alarm Communications System
 Manufacturer: Hatter Cabinet Model number: 1018-7646
 Number of single voice alarm channels: 2 Number of multiple voice alarm channels: 0
 Number of loudspeakers: 99 Number of loudspeaker circuits: 12
 Location of amplification and sound processing equipment: Fire Control Room

Location of paging microphone stations:
 Location 1: Fire Control Room
 Location 2: Security Office
 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: Fire Control Room
 Location 2: Security Office
 Location 3: _____

2.2.4 High-Power Loudspeaker Arrays
 Number of HPLA loudspeaker initiation zones: 0
 Location 1: _____
 Location 2: _____
 Location 3: _____

2.2.5 Mass Notification Devices
 Combination fire alarm/MNS visual devices: 46 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: 15 Number of warden stations installed: 0
 Number of telephone handsets stored on site: 0
 Type of telephone system installed: Electrically powered Sound powered

3.2 Area of Refuge (Area of Rescue Assistance) Emergency Communications Systems
 Number of stations: 0 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: 2 Location of central control point: Fire Control Room
 Days and hours when central control point is attended: 24
 Location of alternate control point: None
 Days and hours when alternate control point is attended: None

3.4 Other Two-Way Communications System
 Describe: _____

4. CONTROL FUNCTIONS
 This system actuates the following control functions specific to emergency communications systems:

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 generation, 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: North Storage and Transfer Headquarters
 Address: 27150 Santa Anita Boulevard, Niles, IL

2. SYSTEM POWER

2.1 Control Unit

2.1.1 Primary Power
 Input voltage of control panel: 120 vdc Control panel amps: 7.5
 Overcurrent protection: Type: Circuit Breaker Amps: 20
 Location (of primary supply panel/board): 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): 2.4 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 vdc EVACS or MNS panel amps: 5.0
 Overcurrent protection: Type: Circuit Breaker Amps: 20
 Location (of primary supply panel/board): Main Electrical Room in Basement
 Disconnecting means location: Panel E2 - Electric Room

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**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, SEPPS 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 vdc 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 Stored-Energy Emergency Power Supply Systems
 Equipment powered by SEPPS system: None
 Location of SEPPS system: _____
 Calculated capacity of SEPPS batteries to drive the system components connected to it:
 In standby mode (hours): _____ In alarm mode (minutes): _____

2.1.4 Batteries
 Location: FAU 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 vdc 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: ESS 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 vdc 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: 15
 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)

2.2.2 Engine-Driven Generator
Location of generator: _____
Location of fuel storage: _____ Type of fuel: Diesel

2.2.3 Stored-Energy Emergency Power Supply Systems
Equipment powered by SEPPSS system: None
Location of SEPPSS system: N/A
Calculated capacity of SEPPSS 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: ECB Panel Type: Gel Cell Nominal voltage: 24 Amp/hour rating: 20
Calculated capacity of batteries to drive the system:
In standby mode (hours): 2.4 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 volt Power extender panel amperage: 0
Overcurrent protection: Type: Circuit Breaker Amperage: 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 Stored-Energy Emergency Power Supply Systems
Equipment powered by SEPPSS system: None
Location of SEPPSS system: _____
Calculated capacity of SEPPSS batteries to drive the system components connected to it:
In standby mode (hours): _____ In alarm mode (minutes): _____

2.3.4 Batteries
Location: Fluor Panel Type: Gel Cell Nominal voltage: 24 Amp/hour rating: 12
Calculated capacity of batteries to drive the system:
In standby mode (hours): 2.4 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 AMP
Overcurrent protection: Type: Breaker Amperage: 20 amp
Location of primary supply panelboard: Breaker Panel B-23
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: FAU Type: Gel Nominal voltage: 12 Amp/hour rating: 16
Calculated capacity of batteries to drive the system:
In standby mode (hours): 2.4 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: 120VAC
Shared transmission equipment panel amperage: 75 amp
Overcurrent protection: Type: Breaker Amperage: 20 amp
Location of primary supply panelboard: Breaker Panel B-23
Disconnecting means location: Electric Room

2.4.2 Engine Driven Generator
Location of generator: _____
Location of fuel storage: _____ Type of fuel: _____

2.4.3 Stored-Energy Emergency Power Supply Systems
Equipment powered by SEPPSS system: _____
Calculated capacity of SEPPSS batteries to drive the system components connected to it:
In standby mode (hours): _____ In alarm mode (minutes): _____

2.4.4 Batteries
Location: FAU Type: Gel Nominal voltage: 12 Amp/hour rating: 16
Calculated capacity of batteries to drive the system:
In standby mode (hours): 2.4 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.

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. Attach additional sheets, data, or calculations as necessary to provide a complete record.

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 Roadmark, Hills 10

Lorem ipsum

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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- (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.
- (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) shall be permitted to be used to document the record of completion and inspection.

Figure 7.8.2(a) 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: _____ 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 amps: _____
 Overcurrent protection: Type: _____ Amps: _____
 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 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	Connected to a Notification Appliance Circuit (NAC)	Connected to a Signaling Line Circuit (SLC)
Audible				
Visual				
Combination Audible and Visual				

10. SYSTEM CONTROL FUNCTIONS

Type	Quantity
Hold-Open Door Releasing Devices	
HVAC Shutdown	
Fire/Smoke Dumpers	
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 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.

Figure 7.8.2(c) 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: _____ 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 amps: _____
Overcurrent protection: Type: _____ Amps: _____
Location (of primary supply panel/board): _____
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 amps: _____
Overcurrent protection: Type: _____ Amps: _____
Location (of primary supply panel/board): _____
Disconnecting means location: _____

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**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, SEPSS 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 amps: _____
Overcurrent protection: Type: _____ Amps: _____
Location (of primary supply panel/board): _____
Disconnecting means location: _____

2.1.2 Engine-Driven Generator
Location of generator: _____
Location of fuel storage: _____ Type of fuel: _____

2.1.3 Stored-Energy Emergency Power Supply Systems
Equipment powered by SEPSS system: _____
Location of SEPSS system: _____
Calculated capacity of SEPSS 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 amps: _____
Overcurrent protection: Type: _____ Amps: _____
Location (of primary supply panel/board): _____
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)

2.2.2 Engine-Driven Generator
Location of generator: _____
Location of fuel storage: _____ Type of fuel: _____

2.2.3 Stored-Energy Emergency Power Supply Systems
Equipment powered by SEPESS system: _____
Location of SEPESS system: _____
Calculated capacity of SEPESS 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 Stored-Energy Emergency Power Supply Systems
Equipment powered by SEPESS system: _____
Location of SEPESS system: _____
Calculated capacity of SEPESS 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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**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.

**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.

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: _____ 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	<input type="checkbox"/>	<input type="checkbox"/>	
Lamps/LEDs/LCDs	<input type="checkbox"/>	<input type="checkbox"/>	
Fuses	<input type="checkbox"/>	<input type="checkbox"/>	
Trouble signals	<input type="checkbox"/>	<input type="checkbox"/>	
Disconnect switches	<input type="checkbox"/>	<input type="checkbox"/>	
Ground-fault monitoring	<input type="checkbox"/>	<input type="checkbox"/>	
Supervision	<input type="checkbox"/>	<input type="checkbox"/>	
Local annunciator	<input type="checkbox"/>	<input type="checkbox"/>	
Remote annunciators	<input type="checkbox"/>	<input type="checkbox"/>	
Remote power panels	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	

6.2 Secondary Power

Description	Visual Inspection	Functional Test	Comments
Battery condition	<input type="checkbox"/>	<input type="checkbox"/>	
Load voltage	<input type="checkbox"/>	<input type="checkbox"/>	
Discharge test	<input type="checkbox"/>	<input type="checkbox"/>	
Charger test	<input type="checkbox"/>	<input type="checkbox"/>	
Remote panel batteries	<input type="checkbox"/>	<input type="checkbox"/>	

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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	<input type="checkbox"/>	<input type="checkbox"/>		
Alarm restoration	<input type="checkbox"/>	<input type="checkbox"/>		
Trouble signal	<input type="checkbox"/>	<input type="checkbox"/>		
Trouble restoration	<input type="checkbox"/>	<input type="checkbox"/>		
Supervisory signal	<input type="checkbox"/>	<input type="checkbox"/>		
Supervisory restoration	<input type="checkbox"/>	<input type="checkbox"/>		

6.7 Public Emergency Alarm Reporting System

Description	Yes	No	Time	Comments
Alarm signal	<input type="checkbox"/>	<input type="checkbox"/>		
Alarm restoration	<input type="checkbox"/>	<input type="checkbox"/>		
Trouble signal	<input type="checkbox"/>	<input type="checkbox"/>		
Trouble restoration	<input type="checkbox"/>	<input type="checkbox"/>		
Supervisory signal	<input type="checkbox"/>	<input type="checkbox"/>		
Supervisory restoration	<input type="checkbox"/>	<input type="checkbox"/>		

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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 10.6.3): _____

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.

**MASS NOTIFICATION SYSTEM
SUPPLEMENTARY RECORD OF INSPECTION AND TESTING**

*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.*

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 amps: _____

3.2 Engine-Driven Generator This system does not have a generator.
Location of generator: _____
Location of fuel storage: _____ Type of fuel: _____

3.3 Energy Storage Systems This system does not have an ESS.
Equipment powered by an ESS: _____
Location of ESS: _____
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: _____ Amp/hour 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**

*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.*

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 amps: _____

3.2 Engine-Driven Generator This system does not have a generator.
Location of generator: _____
Location of fuel storage: _____ Type of fuel: _____

3.3 Stored-Energy Emergency Power Supply Systems This system does not have a SEPSS.
Equipment powered by an SEPSS: _____
Location of SEPSS: _____
Calculated capacity of SEPSS batteries to drive the system components connected to it:
In standby mode (hours): _____ In alarm mode (minutes): _____

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): _____
 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 <input type="checkbox"/> Yes <input type="checkbox"/> 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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**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			
SEPPSS 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 <input type="checkbox"/> Yes <input type="checkbox"/> 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.

**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 communications system (EVAC)
 Mass notification system
 Combination system, with the following components:
 Fire alarm EVACS MNS Two-way, in-building, emergency communications system
 Other (specify): _____
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 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 Communications System
 Describe: _____

4. TESTING RESULTS

4.1 Control Unit and Related Equipment

Description	Visual Inspection	Functional Test	Comments
Control unit	<input type="radio"/>	<input type="radio"/>	
Lamps/LEDs/LCDs	<input type="radio"/>	<input type="radio"/>	
Fuses	<input type="radio"/>	<input type="radio"/>	
Trouble signals	<input type="radio"/>	<input type="radio"/>	
Disconnect switches	<input type="radio"/>	<input type="radio"/>	
Ground fault monitoring	<input type="radio"/>	<input type="radio"/>	
Supervision	<input type="radio"/>	<input type="radio"/>	
Local annunciator	<input type="radio"/>	<input type="radio"/>	
Remote annunciators	<input type="radio"/>	<input type="radio"/>	
Remote power panels	<input type="radio"/>	<input type="radio"/>	
Other:	<input type="radio"/>	<input type="radio"/>	

4.2 Secondary Power

Description	Visual Inspection	Functional Test	Comments
Battery condition	<input type="radio"/>	<input type="radio"/>	
Load voltage	<input type="radio"/>	<input type="radio"/>	
Discharge test	<input type="radio"/>	<input type="radio"/>	
Charger test	<input type="radio"/>	<input type="radio"/>	
Remote panel batteries	<input type="radio"/>	<input type="radio"/>	

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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	<input type="checkbox"/>	<input type="checkbox"/>	
Lamps/LEDs/LCDs	<input type="checkbox"/>	<input type="checkbox"/>	
Fuses	<input type="checkbox"/>	<input type="checkbox"/>	
Secondary power supply	<input type="checkbox"/>	<input type="checkbox"/>	
Trouble signals	<input type="checkbox"/>	<input type="checkbox"/>	
Disconnect switches	<input type="checkbox"/>	<input type="checkbox"/>	
Ground fault monitoring	<input type="checkbox"/>	<input type="checkbox"/>	
Panel supervision	<input type="checkbox"/>	<input type="checkbox"/>	
System performance	<input type="checkbox"/>	<input type="checkbox"/>	
System audibility	<input type="checkbox"/>	<input type="checkbox"/>	
System intelligibility	<input type="checkbox"/>	<input type="checkbox"/>	
Other:	<input type="checkbox"/>	<input type="checkbox"/>	

4.4 Mass Notification Equipment

Description	Visual Inspection	Functional Test	Comments
Functional test	<input type="checkbox"/>	<input type="checkbox"/>	
Reset/Power down test	<input type="checkbox"/>	<input type="checkbox"/>	
Fuses	<input type="checkbox"/>	<input type="checkbox"/>	
Primary power supply	<input type="checkbox"/>	<input type="checkbox"/>	
ESS power test	<input type="checkbox"/>	<input type="checkbox"/>	
Trouble signals	<input type="checkbox"/>	<input type="checkbox"/>	
Disconnect switches	<input type="checkbox"/>	<input type="checkbox"/>	
Ground fault monitoring	<input type="checkbox"/>	<input type="checkbox"/>	
CCU security mechanism	<input type="checkbox"/>	<input type="checkbox"/>	
Prerecorded message content	<input type="checkbox"/>	<input type="checkbox"/>	
Prerecorded message activation	<input type="checkbox"/>	<input type="checkbox"/>	
Software backup performed	<input type="checkbox"/>	<input type="checkbox"/>	
Test backup software	<input type="checkbox"/>	<input type="checkbox"/>	
Fire alarm to MNS interface	<input type="checkbox"/>	<input type="checkbox"/>	
MNS to fire alarm interface	<input type="checkbox"/>	<input type="checkbox"/>	
In-building MNS to wide-area MNS	<input type="checkbox"/>	<input type="checkbox"/>	
MNS to direct recipient MNS	<input type="checkbox"/>	<input type="checkbox"/>	

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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	<input type="checkbox"/>	<input type="checkbox"/>	
Lamps/LEDs/LCDs	<input type="checkbox"/>	<input type="checkbox"/>	
Fuses	<input type="checkbox"/>	<input type="checkbox"/>	
Secondary power supply	<input type="checkbox"/>	<input type="checkbox"/>	
Trouble signals	<input type="checkbox"/>	<input type="checkbox"/>	
Disconnect switches	<input type="checkbox"/>	<input type="checkbox"/>	
Ground fault monitoring	<input type="checkbox"/>	<input type="checkbox"/>	
Panel supervision	<input type="checkbox"/>	<input type="checkbox"/>	
System performance	<input type="checkbox"/>	<input type="checkbox"/>	
System audibility	<input type="checkbox"/>	<input type="checkbox"/>	
System intelligibility	<input type="checkbox"/>	<input type="checkbox"/>	
Other:	<input type="checkbox"/>	<input type="checkbox"/>	

4.4 Mass Notification Equipment

Description	Visual Inspection	Functional Test	Comments
Functional test	<input type="checkbox"/>	<input type="checkbox"/>	
Reset/Power down test	<input type="checkbox"/>	<input type="checkbox"/>	
Fuses	<input type="checkbox"/>	<input type="checkbox"/>	
Primary power supply	<input type="checkbox"/>	<input type="checkbox"/>	
SEFSS power test	<input type="checkbox"/>	<input type="checkbox"/>	
Trouble signals	<input type="checkbox"/>	<input type="checkbox"/>	
Disconnect switches	<input type="checkbox"/>	<input type="checkbox"/>	
Ground fault monitoring	<input type="checkbox"/>	<input type="checkbox"/>	
CCU security mechanism	<input type="checkbox"/>	<input type="checkbox"/>	
Prerecorded message content	<input type="checkbox"/>	<input type="checkbox"/>	
Prerecorded message activation	<input type="checkbox"/>	<input type="checkbox"/>	
Software backup performed	<input type="checkbox"/>	<input type="checkbox"/>	
Test backup software	<input type="checkbox"/>	<input type="checkbox"/>	
Fire alarm to MNS interface	<input type="checkbox"/>	<input type="checkbox"/>	
MNS to fire alarm interface	<input type="checkbox"/>	<input type="checkbox"/>	
In-building MNS to wide-area MNS	<input type="checkbox"/>	<input type="checkbox"/>	
MNS to direct recipient MNS	<input type="checkbox"/>	<input type="checkbox"/>	

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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)	<input type="checkbox"/>	<input type="checkbox"/>	
System intelligibility <input type="checkbox"/> CSI <input type="checkbox"/> STI (attach report with locations, values, and weather conditions)	<input type="checkbox"/>	<input type="checkbox"/>	
Other:	<input type="checkbox"/>	<input type="checkbox"/>	

4.5 Two-Way Communication Equipment

Description	Visual Inspection	Functional Test	Comments
Phone handsets	<input type="checkbox"/>	<input type="checkbox"/>	
Phone jacks	<input type="checkbox"/>	<input type="checkbox"/>	
Off-hook indicator	<input type="checkbox"/>	<input type="checkbox"/>	
Call-in signal	<input type="checkbox"/>	<input type="checkbox"/>	
System performance	<input type="checkbox"/>	<input type="checkbox"/>	
System audibility	<input type="checkbox"/>	<input type="checkbox"/>	
System intelligibility	<input type="checkbox"/>	<input type="checkbox"/>	
Other:	<input type="checkbox"/>	<input type="checkbox"/>	

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

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



Second Revision No. 5158-NFPA 72-2020 [Section No. 10.1.2]

10.1.2

The requirements of this chapter shall apply to systems, equipment, and components addressed in Chapters [11](#) , [12](#), [14](#), [17](#), [18](#), [21](#), [23](#), [24](#), [26](#), and [27](#).

Submitter Information Verification

Committee: SIG-FUN

Submittal Date: Thu Jul 23 11:18:33 EDT 2020

Committee Statement

Committee Statement: The Technical Committee revises the text to include compliance with Chapter 11 and to maintain consistency with the language that is used throughout the Standard.

Response Message: SR-5158-NFPA 72-2020

[Public Comment No. 175-NFPA 72-2020 \[Section No. 10.1\]](#)

[Public Comment No. 109-NFPA 72-2020 \[Section No. 10.1.1\]](#)



Second Revision No. 5159-NFPA 72-2020 [Section No. 10.5]

10.5 Cybersecurity Requirements.

~~Where required by other governing laws, codes, or standards, systems shall be protected by cybersecurity requirements.~~

10.5.1

~~Systems shall be designed and installed in accordance with one or more of the following cybersecurity standards:~~

~~ANSI/ISA-62443 series~~

~~NIST Framework for Improving Critical Infrastructure Cybersecurity, Version 1.1~~

~~UL 2900 series~~

~~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:~~

~~The ISA Security Compliance Institute (ISCI) conformity assessment program~~

~~Certification of compliance by a nationally recognized test laboratory~~

~~Manufacturer certification for the specific type and brand of system provided~~

Submitter Information Verification

Committee: SIG-FUN

Submittal Date: Thu Jul 23 11:25:55 EDT 2020

Committee Statement

Committee Statement: Guidance on cybersecurity has been relocated. See Annex J.

Response Message: SR-5159-NFPA 72-2020

[Public Comment No. 176-NFPA 72-2020 \[Section No. 10.5\]](#)

[Public Comment No. 194-NFPA 72-2020 \[Section No. 10.5 \[Excluding any Sub-Sections\]\]](#)

[Public Comment No. 111-NFPA 72-2020 \[Section No. 10.5\]](#)



Second Revision No. 5134-NFPA 72-2020 [Section No. 10.7.4]

10.6.4* Emergency Power Supply Systems (EPSS) and Stored-Energy Emergency Power Supply Systems (SEPSS).

A.10.6.4

Emergency power supply systems (EPSS) containing engine-driven generators are found in NFPA 110 and stored-energy emergency power supply systems (SEPSS) classifications are found in NFPA 111. Previous editions of NFPA 72 referenced ESS energy storage systems (ESS) and uninterruptible power supplies (UPS) systems. A UPS used for this purpose is an SEPSS, and a UPS is one type of can also be included with an ESS. NFPA 111 power supply systems listed by UL are listed to UL 1778, *Uninterruptible Power Systems* - EPSS.

10.6.4.1

An EPSS/ SEPSS that is not arranged in accordance with 10.6.4.2 shall comply with all of the following:

- (1) An EPSS/ SEPSS shall be configured in compliance with NFPA 111 for a Type O or U, Level 1 system.

~~An SEPSS shall be configured in compliance with NFPA 111 for a Type U, Level 1 system.~~

- (2) The EPSS/ SEPSS shall be capable of powering the maximum required system load.
- (3) The EPSS/ SEPSS shall have capacity in accordance with 10.6.7.2.

10.6.4.2

Where connected to an engine-driven generator arranged in accordance with 10.6.11.3.1, an EPSS/ SEPSS that complies with all of the following shall be permitted:

- (1) An EPSS/ SEPSS shall be configured in compliance with NFPA 111 for a Type O or U, Class 4, Level 1 system.

~~An SEPSS shall be configured in compliance with NFPA 111 for a Type U, Class 4, Level 1 system.~~

- (2) The EPSS/ SEPSS shall be capable of powering the maximum required system load.

10.6.4.3

An EPSS/ SEPSS shall comply with the requirements of 10.6.5.

10.6.4.4*

SEPSS equipment shall be installed in the manner and location recommended by the manufacturer and in accordance with NFPA 855 for SEPSS equipment whose rated energy capacity is within the scope of NFPA 855.

A.10.6.4.4

NFPA 855 provides requirements for mitigating the hazards associated with an SEPSS when the rated energy capacity of the SEPSS exceeds the values in NFPA 855, Section 1.3.

10.6.4.5

Failure of an EPSS/ SEPSS shall result in the initiation of a trouble signal in accordance with Section 10.15.

Supplemental Information

File Name	Description	Approved
SR-5134_A.10.7.4_SIG-FUN_legislative_changes.docx	Annex changes - for staff use	

Submitter Information Verification

Committee: SIG-FUN

Submittal Date: Tue Jul 07 15:03:49 EDT 2020

Committee Statement

Committee Statement: The Technical Committee revises the text to eliminate the incorrect inclusion of EPSS engine driven systems in this section.

Annex: The Technical Committee revises the text to eliminate the incorrect inclusion of EPSS engine driven systems in this section and adds a requirement for compliance with the now published NFPA 855 for any SEPSS that falls within the scope of NFPA 855. The annex reference to UL 1778 was deleted because UL 1778 scope excludes legally required standby systems.

Response Message: SR-5134-NFPA 72-2020

[Public Comment No. 244-NFPA 72-2020 \[New Section after 10.7.4.3\]](#)

[Public Comment No. 202-NFPA 72-2020 \[Section No. A.10.7.4\]](#)

**Second Revision No. 5138-NFPA 72-2020 [Section No. 10.7.7.2]****10.6.7.2* Capacity.****10.6.7.2.1**

The secondary power supply for the protected premises system 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 10.6.7.2.2 through 10.6.7.2.9.~~

10.6.7.2.2

~~and, at~~ At the end of that the period, in 10.6.7.2.1, the secondary power supply 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, through 10.6.7.2.9.

10.6.7.2.3

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

At the end of the period in 10.6.7.2.3, the secondary power supply shall be capable of operating the system during a fire or other emergency condition for a period of 15 minutes at maximum connected load.

10.6.7.2.5

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

10.6.7.2.6

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.

10.6.7.2.7

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

10.6.7.2.8

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.

10.6.7.2.9

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.~~

10.6.7.2.10

~~and then~~ The secondary power supply for in-building mass notification systems shall be capable of operating the system during emergency conditions for a period of 15 minutes at maximum connected load.

10.6.7.2.11

The secondary power supply for communications equipment at the protected premises that is used to transmit signals to a supervising station 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 transmitting signals for a period of 5 minutes.~~

10.6.7.2.12

~~and, at~~ At the end of that the period in 10.6.7.2.11, the secondary power supply for communications equipment period, shall be capable of transmitting signals for a period of 5 minutes.

10.6.7.2.13

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

10.6.7.2.14*

As a minimum, battery calculations shall apply a correction factor of 1.25 for aging to ensure the battery can meet its current demand at the end of service life.

10.6.7.2.15*

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.~~

10.6.7.2.16

~~and, at At~~ the end of that ~~the~~ period, in 10.6.7.2.15, the secondary power supply shall be capable of operating the carbon monoxide detection system and all carbon monoxide notification appliances for 12 hours.

10.6.7.2.17

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.

Submitter Information Verification

Committee: SIG-FUN

Submittal Date: Tue Jul 07 15:35:26 EDT 2020

Committee Statement

Committee Statement: The Technical Committee edits the text and limits each paragraph to one requirement.

Response Message: SR-5138-NFPA 72-2020

[Public Comment No. 177-NFPA 72-2020 \[Section No. 10.7.7.2\]](#)

**Second Revision No. 5122-NFPA 72-2020 [Section No. 10.7.10.1.2]****10.6.10.1.2**

Where the battery is not marked with the month/year by the manufacturer, ~~The the~~ installer shall obtain the date-code and mark the battery with the month/year of battery manufacture. ~~both of the following shall apply:~~

~~The installer shall obtain the date-code and mark the battery with the month/year of battery manufacture.~~

~~The installer shall label the battery with a replacement date that does not exceed 4 years from the installation date.~~

10.6.10.1.3*

The installer shall label the battery with a replacement date that does not exceed 4 years from the installation date.

A.10.6.10.1.3

The replacement/load test frequency for VRLA batteries is every 3 years as indicated in Table 14.4.3.2, item 9(5). The expected service life for this type of battery is approximately 4 years, so the battery should be replaced within 4 years of the installation date as labeled.

10.6.10.1.4

The battery shall be replaced on or before the replacement date identified in 10.6.10.1.3 .

Submitter Information Verification

Committee: SIG-FUN

Submission Date: Thu Jul 02 12:26:36 EDT 2020

Committee Statement

Committee Statement: The Technical Committee revises the text of the replacement date marking. The Technical Committee intends that the battery be marked with a replacement date regardless of the date of manufacture marking method. The Technical Committee provides annex material to explain the reasons for marking the battery with a replacement date.

The Technical Committee does not see a correlation issue because the Replacement/Load test frequency for VRLA batteries in Chapter 14 is every three years and the approximate battery service life is four years, so if the battery was load tested at three years, it would not be tested again for another three years and that is after the typical battery service life for this type of battery.

Response Message: SR-5122-NFPA 72-2020

Public Comment No. 178-NFPA 72-2020 [Section No. 10.7.10.1.2]



Second Revision No. 5124-NFPA 72-2020 [Section No. 10.7.11.6.3]

10.6.11.6.3

Fuel systems using natural or manufactured gas supplied through reliable utility mains shall not be required to have fuel storage tanks unless ~~located in seismic risk zone 3 or greater~~ the structure is a seismic design category C, D, E, or F as defined in ASCE/SEI 7, *Minimum Design Loads and Associated Criteria for Buildings and Other Structures*.

Submitter Information Verification

Committee: SIG-FUN

Submittal Date: Thu Jul 02 12:44:15 EDT 2020

Committee Statement

Committee Statement: The Technical Committee edits the text and for the seismic design categories. Exclusive reference to seismic zones is obsolete. Building codes and ASCE/SEI 7 refer to seismic design categories that include both seismic risk factors and occupancy groups.

The reference to seismic design categories C, D, E, and F is consistent with NFPA 110.

ASCE provides that:

Seismic design category C includes buildings of occupancy groups IV (police stations, hospitals, emergency control centers and other critical structures) where ground shaking is expected to be moderate and occupancy categories I, II, and III where ground shaking is expected to be stronger.

Seismic design category D includes buildings and structures in areas expected to experience severe and destructive ground shaking that are not located close to a major fault (soil conditions can be a factor).

Seismic design category E includes buildings of occupancy groups I, II and III in major active fault areas.

Seismic design category F includes buildings of occupancy groups IV in major active fault areas.

Response Message: SR-5124-NFPA 72-2020

[Public Comment No. 68-NFPA 72-2020 \[Section No. 10.7.11.6.3\]](#)



Second Revision No. 5139-NFPA 72-2020 [Section No. 10.15.1]

10.14.1 Self-Restoring Supervisory Signal Indication.

Visible and audible indication of self-restoring supervisory signals and visible indication of their restoration to normal shall be automatically indicated within 90 seconds at the following locations:

- (1) Fire alarm control unit for local fire alarm systems
- (2) Building fire command center for in-building fire emergency voice/alarm communications systems
- (3) Emergency command center for one or more buildings where responsible authorities receive and disseminate information
- (4) Supervising station location for systems installed in compliance with Chapter 26

Submitter Information Verification

Committee: SIG-FUN

Submittal Date: Tue Jul 07 15:44:40 EDT 2020

Committee Statement

Committee Statement: The Technical Committee edits the text by adding Emergency Command Center, with the addition of item 3 and renumbering item 4. Items 1-4 clarify the different facilities for both a single building fire command center and a campus wide Emergency Command Center addressed in this paragraph. The word "building" is not superfluous, just part of the description.

Response Message: SR-5139-NFPA 72-2020

[Public Comment No. 179-NFPA 72-2020 \[Section No. 10.15.1\]](#)



Second Revision No. 5140-NFPA 72-2020 [Section No. 10.16.7]

10.15.7

Visible and audible trouble signals and visible indication of their restoration to normal shall be indicated at the following locations:

- (1) Fire alarm control unit for protected premises alarm systems
- (2) Building fire command center for in-building fire emergency voice/alarm communications systems
- (3) Emergency command center for one or more buildings where responsible authorities receive and disseminate information
- (4) Central station or remote station location for systems installed in compliance with Chapter 26

Submitter Information Verification

Committee: SIG-FUN

Submittal Date: Tue Jul 07 15:46:03 EDT 2020

Committee Statement

Committee Statement: The Technical Committee edits the text by adding Emergency Command Center, with the addition of item 3 and renumbering item 4. Items 1-4 clarify the different facilities for both a single building fire command center and a campus wide Emergency Command Center addressed in this paragraph. The word "building" is not superfluous, just part of the description.

Response Message: SR-5140-NFPA 72-2020

[Public Comment No. 181-NFPA 72-2020 \[Section No. 10.16.7\]](#)



Second Revision No. 5125-NFPA 72-2020 [Section No. 10.18]

10.17 Notification Appliance Circuits and Supervised Notification Appliance Control Circuits.

10.17.1

An open, ground-fault, or short-circuit fault on the installation conductors of one alarm notification appliance circuit shall not affect the operation of any other alarm notification appliance circuit for more than 200 seconds regardless of whether the short-circuit fault is present during the normal or activated circuit state.

10.17.2

Supervised notification appliance control circuits shall comply with all of the following:

- (1) A supervised notification appliance control circuit shall not serve more than one notification zone.
- (2) The supervised notification appliance control circuit shall be monitored for integrity in accordance with Section 12.6.
- (3) A fault in the supervised notification appliance control circuit installation conductors shall result in a trouble signal in accordance with Section 10.15.

Submitter Information Verification

Committee: SIG-FUN

Submittal Date: Thu Jul 02 12:48:17 EDT 2020

Committee Statement

Committee Statement: The Technical Committee adds "notification appliance" to the term "supervised control circuit(s)" to distinguish it from other control circuits. See related action on PC 105.

Response Message: SR-5125-NFPA 72-2020

[Public Comment No. 112-NFPA 72-2020 \[Section No. 10.18\]](#)



Second Revision No. 5137-NFPA 72-2020 [Section No. 10.19.6]

10.18.6* ~~Standard- Emergency Service Interface~~ Services Interfaces .

Where required by the enforcing authority; governing laws, codes, or standards; or other parts of this Code, annunciators, information display systems, and controls for portions of a system provided for use by emergency service personnel shall be designed, arranged, and located in accordance with the requirements of the organizations intended to use the equipment.

A.10.18.6

~~Standard- Emergency Service Interface~~ Services Interfaces . Annunciators, information display systems, and controls for portions of a system provided for use by emergency service personnel should be designed, arranged, and located in accordance with the needs of the organizations intended to use the equipment.

~~Where annunciators, information display systems, and controls for portions of the system are provided for use by emergency service personnel, these should have a common design and operation to avoid confusion of users.~~

Supplemental Information

<u>File Name</u>	<u>Description</u>	<u>Approved</u>
SR-5137_A.10.19.6_SIG-FUN_legislative_changes.docx	Annex changes - for staff use	

Submitter Information Verification

Committee: SIG-FUN

Submittal Date: Tue Jul 07 15:28:50 EDT 2020

Committee Statement

Committee Statement: The Technical Committee revises the text so that it does not refer to a standard emergency interface since a standard interface has not been defined or produced.

Response Message: SR-5137-NFPA 72-2020

[Public Comment No. 193-NFPA 72-2020 \[Section No. 10.19.6\]](#)



Second Revision No. 5113-NFPA 72-2020 [Section No. A.7.5.7.1.1]

A.7.5.7.1.1

~~The intent is for the building owner to be able to obtain the software security access to their equipment and not be placed in a position that other qualified vendors could not be utilized. The software would be the fire alarm control unit, DACTs wireless transmitters, MNS components, and so forth.~~

Submitter Information Verification

Committee: SIG-FUN

Submittal Date: Wed Jul 01 12:53:36 EDT 2020

Committee Statement

Committee Statement: The Technical Committee reviewed the text and deletes the entire Annex text as it is not required and does not add clarity to the requirement.

Response Message: SR-5113-NFPA 72-2020

[Public Comment No. 337-NFPA 72-2020 \[Section No. A.7.5.7.1.1\]](#)



Second Revision No. 5165-NFPA 72-2020 [Section No. I.1.1]

K.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*, 2021 edition.

NFPA 4, *Standard for Integrated Fire Protection and Life Safety System Testing*, 2021 edition.

NFPA 10, *Standard for Portable Fire Extinguishers*, 2022 edition.

~~NFPA 11, *Standard for Low-, Medium-, and High-Expansion Foam*, 2021 edition.~~

~~NFPA 12, *Standard on Carbon Dioxide Extinguishing Systems*, 2021 edition.~~

~~NFPA 12A, *Standard on Halon 1301 Fire Extinguishing Systems*, 2021 edition.~~

NFPA 13, *Standard for the Installation of Sprinkler Systems*, 2022 edition.

~~NFPA 14, *Standard for the Installation of Standpipe and Hose Systems*, 2019 edition.~~

~~NFPA 15, *Standard for Water Spray Fixed Systems for Fire Protection*, 2017 edition.~~

~~NFPA 17, *Standard for Dry Chemical Extinguishing Systems*, 2021 edition.~~

~~NFPA 17A, *Standard for Wet Chemical Extinguishing Systems*, 2021 edition.~~

NFPA 70[®], *National Electrical Code*[®], 2020 edition.

NFPA 72E, *Standard for Automatic Fire Detectors*, 1984 edition.

NFPA 80, *Standard for Fire Doors and Other Opening Protectives*, 2022 edition.

NFPA 90A, *Standard for the Installation of Air-Conditioning and Ventilating Systems*, 2021 edition.

NFPA 90B, *Standard for the Installation of Warm Air Heating and Air-Conditioning Systems*, 2021 edition.

NFPA 92, *Standard for Smoke Control Systems*, 2021 edition.

NFPA 101[®], *Life Safety Code*[®], 2021 edition.

NFPA 105, *Standard for Smoke Door Assemblies and Other Opening Protectives*, 2022 edition.

NFPA 111, *Standard on Stored Electrical Energy Emergency and Standby Power Systems*, 2022 edition.

NFPA 170, *Standard for Fire Safety and Emergency Symbols*, 2021 edition.

NFPA 551, *Guide for the Evaluation of Fire Risk Assessments*, 2019 edition.

NFPA 730, *Guide for Premises Security*, 2020 edition.

~~NFPA 731, *Standard for the Installation of Electronic Premises Security Systems*, 2020 edition.~~

~~NFPA 750, *Standard on Water Mist Fire Protection Systems*, 2019 edition.~~

NFPA 855, *Standard for the Installation of Stationary Energy Storage Systems*, 2020 edition.

NFPA 909, *Code for the Protection of Cultural Resource Properties — Museums, Libraries, and Places of Worship*, 2021 edition.

NFPA 914, *Code for Fire Protection of Historic Structures*, 2019 edition.

NFPA 1221, *Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems, 2022 2019* edition.

NFPA 1600[®], *Standard on Continuity, Emergency, and Crisis Management*, 2019 edition.

NFPA 5000[®], *Building Construction and Safety Code*[®], 2021 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.

Submitter Information Verification

Committee: SIG-FUN

Submittal Date: Sat Jul 25 12:00:22 EDT 2020

Committee Statement

Committee Statement: The Technical Committee adds NFPA 855 as it is referenced in new annex A.10.7.4.4.

Response Message: SR-5165-NFPA 72-2020



Second Revision No. 5120-NFPA 72-2020 [Section No. I.1.2.6]

K.1.2.6 IEEE Standards Association Publications.

Institute of Electrical and Electronics Engineers [IEEE](#) , 3 Park Avenue, New York, NY 10016-5997.

IEEE 485, *Recommended Practice for Sizing Lead-Acid Batteries for Stationary Applications*, 2010.

IEEE 1188, *Recommended Practice for Maintenance, Testing, and Replacement of Valve-Regulated Lead-Acid (VRLA) Batteries for Stationary Applications*, 2005 (R2010).

IEEE 802.3, *Standard for Information Technology — Telecommunications and Information Exchange Between Systems — Local and Metropolitan Area Networks — Specific Requirements — Part 3*, 2006.

[IEEE 802.3bt™](#), *IEEE Standard for Ethernet, Amendment 2: Physical Layer and Management Parameters for Power over Ethernet over 4 pairs*, 2018.

Submitter Information Verification

Committee: SIG-FUN

Submittal Date: Thu Jul 02 12:06:54 EDT 2020

Committee Statement

Committee Statement: The Technical Committee adds IEEE 802.3bt™ as it is referenced in A.23.6.3.6.2 in SR-5107.

Response Message: SR-5120-NFPA 72-2020

[Public Comment No. 315-NFPA 72-2020 \[Section No. I.1.2.6\]](#)



Second Revision No. 5077-NFPA 72-2020 [Section No. I.1.2.10]

K.1.2.10 NEMA Publications.

National Electrical Manufacturers Association, 1300 North 17th Street, Suite 900, Arlington, VA 22209.

NEMA SB-7, *Applications Guide for Carbon Monoxide Alarms and Detectors*, 2018.

ANSI/NEMA SB-40, *Communications Systems for Life Safety in Schools*, 2015.

NEMA SB-50, *Emergency Communications Audio Intelligibility Applications Guide*, 2014.

Submitter Information Verification

Committee: SIG-FUN

Submittal Date: Tue Jun 23 16:13:09 EDT 2020

Committee Statement

Committee Statement: The Technical Committee adds reference to NEMA SB-7, as it is referenced in SR-5044.

Response Message: SR-5077-NFPA 72-2020



Second Revision No. 5030-NFPA 72-2020 [Section No. I.1.2.15]

K.1.2.15 UL Publications.

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

UL 217, *Smoke Alarms*, 8th edition, 2015, revised 2016.

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

UL 268A, *Smoke Detectors for Duct Application*, 2008, revised 2016.

UL 827, *Central-Station Alarm Services*, 2014, revised 2019.

UL 864, *Control Units and Accessories for Fire Alarm Systems*, 2014, revised 2018.

UL 1638, *Visible Signaling Devices for Fire Alarm and Signaling Systems, Including Accessories*, 2016.

UL 1778, *Uninterruptible Power Source*, 2017.

UL 1971, *Signaling Devices for the Hearing Impaired*, 2002, revised 2018.

UL 1989, *Standby Batteries*, 2018.

UL 2034, *Single and Multiple Station Carbon Monoxide Alarms*, 2008 2017 , revised 2009 2018 .

UL 2054, *Household and Commercial Batteries*, 2004.

UL 2075, *Safety Gas and Vapor Detectors and Sensors*, 2013, revised 2017.

UL 2572, *Mass Notification Systems*, 2018.

UL 2900, *Software Cybersecurity for Network-Connectable Products*, 2017.

UL 2900-1, *Standard for Software Cybersecurity for Network-Connectable Products, Part 1: General Requirements* , 2017.

UL 2900-2-3, *Standard for Software Cybersecurity for Network-Connectable Products, Part 2-3: Particular Requirements for Security and Life Safety Signaling Systems* , 2020.

Submitter Information Verification

Committee: SIG-FUN

Submittal Date: Wed Jun 17 12:15:40 EDT 2020

Committee Statement

Committee Statement: The Technical Committee edits the text to include publications referenced in A.29.10.10.1 and the new annex on cybersecurity.

Response Message: SR-5030-NFPA 72-2020

Public Comment No. 314-NFPA 72-2020 [Section No. I.1.2.15]



Second Revision No. 5186-NFPA 72-2020 [New Section after I.2.2]

K.2.3 IMSA Publications.

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

IMSA Official Wire and Cable Specifications Manual , 2012.

Submitter Information Verification

Committee: SIG-FUN

Submittal Date: Tue Aug 04 08:10:47 EDT 2020

Committee Statement

Committee Statement: IIMSA Official Wire and Cable Specifications Manual, 2012 is relocated from 2.3.6 as it is not used in Chapter 27.

Response Message: SR-5186-NFPA 72-2020



Second Revision No. 5187-NFPA 72-2020 [Section No. I.3]

K.3 References for Extracts in Informational Sections.

NFPA 70[®], *National Electrical Code*[®], 2020 edition.

NFPA 92B, *Smoke Management Systems in Malls, Atria, and Large Spaces*, 1995 edition (withdrawn).

NFPA 101[®], *Life Safety Code*[®], 2021 edition.

NFPA 1221, *Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems, 2022 2019* edition.

Submitter Information Verification

Committee: SIG-FUN

Submittal Date: Tue Aug 04 11:02:35 EDT 2020

Committee Statement

Committee Statement: NFPA 1221 -- no 2022 edition; now part of 1225, 2023 edition. Edition/extracts should revert to 2019.

Response Message: SR-5187-NFPA 72-2020