Public Comment No. 4-NFPA 4-2022 [Global Input]

Accept Committee Input No. 1 in its entirety.

Statement of Problem and Substantiation for Public Comment

Committee Input No. 1 was created during first draft to solicit public comments on the use of the term “passive fire protection systems” in NFPA 4 and the inclusion of testing passive fire protection systems during the integrated test. Most of the text in the CI came from a task group that submitted revisions during the first draft meeting. While some of that text was revised during the first draft meeting, the concepts of clarifying how interconnected systems are to be tested per NFPA 4 were included in the CI. This CI should be considered by the technical committee during the second draft meeting.

Related Item

• CI No. 1

Submitter Information Verification

Submitter Full Name: Terry Victor
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Submittal Date: Tue May 31 11:45:14 EDT 2022
Committee: CMI-AAA

Committee Statement

Committee Action: Rejected but see related SR
Resolution: SR-2-NFPA 4-2022
Statement: The changes provide clarification to differentiate which fire protection and life safety components, systems, assemblies, barriers, and other features are to be included in the integrated test and which are not. This clarification includes extensive annex text to describe typical active integrated systems, other systems that should be in place as needed for the integrated test, as well as typical passive fire protection features.

Second Revision No. 3-NFPA 4-2022 [Detail]

3.3.1 Acceptance Test.

Test performed on an individual system to verify compliance with approved design documents and to verify installation in accordance with the applicable governing laws, regulations, codes, and standards. [**3,** 2024]

3.3.2* Basis of Design (BOD).

A document that describes the concepts and decisions used to meet the owner's project requirements and the applicable governing laws, regulations, codes, and standards. [**3,** 2024]

3.3.4.1 Commissioning (Cx).

A systematic process that provides documented confirmation that building systems function according to the intended design criteria set forth in the project documents and satisfy the owner's operational needs, including compliance with applicable governing laws, regulations, codes, and standards. [**3,** 2024]

Supplemental Information

File Name	Description	Approved
4_CI-4_Chapter_3.docx		
4_CI-5_Chapter_3.docx		
4_CI-6_Chapter_3.docx		

Submitter Information Verification

Committee: CMI-AAA
Submittal Date: Thu Sep 08 11:42:56 EDT 2022

Committee Statement

Committee Statement: Updated edition years for extracted references in chapter 3.
Response Message: SR-3-NFPA 4-2022

Second Revision No. 2-NFPA 4-2022 [Chapter 1]

Chapter 1 Administration

1.1* Scope.

~~The standard shall provide the minimum requirements for testing of integrated fire protection and life safety systems.~~

A.1.1

~~The~~ This standard describes testing methods for interconnected active ~~and passive~~ fire protection and life safety systems to verify the operational readiness and sequence of operation. Integrated active systems testing includes, but is not limited to, ~~testing~~ the following:

(1) ~~Plan~~ Testing plan scenarios

(2) ~~Participants~~ Identifying participants and responsibilities

(3) ~~Methods~~ Utilizing approved test methods

(4) ~~Documentation~~ Providing necessary documentation

It is not the intent of this standard to require implementation of emergency response procedures, evacuation drills, or other exercises that require facility staff or fire department response. However, when the integrated active systems ~~tests are~~ test is being conducted, it can also be an appropriate opportunity to practice emergency procedures or drills.

This standard allows a property owner or designated representative to require integrated active systems testing by designation in either the design intent or contract documents.

1.1.1

~~The~~ This standard shall provide the minimum requirements for testing of integrated fire protection and life safety systems.

1.1.2

The scope of this standard shall not include passive fire protection features.

1.1.3*

Passive fire protection and life safety systems shall be inspected and tested as required in accordance with NFPA 3 or the applicable installation codes or standards.

A.1.1.3

Passive fire protection and life safety systems are to be inspected and tested as required to verify proper installation prior to integrated active systems testing that relies on the integrity of passive systems.

1.2 Purpose.

1.2.1

The purpose of this standard shall be to provide a testing protocol that verifies integrated active fire protection and life safety systems perform as intended.

1.2.2*

The integrated active systems test shall verify and document the operation and function of all interconnected fire protection and life safety systems, including the following:

(1) Performance in accordance with applicable codes and standards

(2)* Sequence of operation

(3) Performance in accordance with manufacturers' published instructions

(4) Accuracy of record documents

A.1.2.2

Where integrated active systems testing is performed as part of a commissioning process, compliance with the ~~Basis~~ basis of ~~Design~~ design and ~~Owners~~ owners ~~Project~~ project ~~Requirements~~ requirements should be verified.

1.3 Application.

1.3.1*

This standard shall apply to integrated ~~passive and~~ active fire protection and life safety equipment and systems, including integrated active portions of passive fire protection and life safety barriers and assemblies .

A.1.3.1

These systems and equipment can include, but are not limited to, the following:

~~Infrastructure supporting the building fire protection and life safety systems within the boundaries of the project. Project infrastructure should include those systems and utilities necessary for the support and operation of the fire protection and life safety systems of the proposed project. These infrastructure items can include the following:~~

~~Access roadways for general ingress and egress and those necessary for fire department access in accordance with local codes, standards, and policies~~

~~Utility systems for the provisions of electric power, fuel gas, water, and waste water; communication systems; and any other utility system deemed essential to the support of project operations~~

~~On-site combined heat and power generation systems, electric power generation plants or systems, fuel gas storage facilities, water supply and storage facilities, and environmental or waste management systems~~

(1) Fixed fire suppression and control systems

(2) Fire alarm systems

(3) Emergency communications systems (ECS)

(4) Smoke control systems

(5) ~~The emergency power supply and emergency power supply systems serving emergency systems, legally required standby systems, and critical operations systems should be evaluated by the Fire Commissioning Agent (FCxA) for integrated testing as a stand-alone life safety system, whether or not a fire or smoke event is occurring in the building.~~ Normal and emergency standby power systems including, but not limited to, those powering the following:

(a) Smoke control systems

(b) Stair pressurization systems

(c) Smoke-proof enclosure ventilation systems

(d) Electric driven fire pumps

(e) Elevator systems

(f) Fire suppression system controllers

(6) Explosion prevention and control systems

~~Fire-resistant and smoke-resistant assemblies. Examples include, but are not limited to, floor-ceiling assemblies and roof decks, doors, windows, barriers, and walls protected by a firestop system or device for through-penetrations and membrane penetrations, and other fire and smoke control assemblies.~~

(7) Systems associated with commercial cooking operations

(8) Elevator systems

(9) Smoke doors, fire doors, and other opening protectives as described in NFPA 80 and NFPA 105, including the following:

(a) Doors or shutters that are closed or opened from a fire alarm system

(b) Windows or other opening protectives that are operable as part of a smoke control system

(c) Dampers or other opening protectives that are operated from a fire alarm system

(10) Smoke or heat vents that are operated from a fire alarm system

(11) Sprinkler flow switches that are connected to a fire alarm system

(12) Air distribution systems/building management systems and components that are operable from the fire alarm system

(13) Air distribution systems or components that operate as part of a smoke control system

(14) Special hazard fire suppression systems

(15) Systems used for occupant notification and off-premises reporting, including emergency voice/alarm communications systems

(16) Means of egress systems and components including, but not limited to, the following:

(a) Emergency lighting and exit signs

~~Major egress components, such as corridors, stairs, ramps, and so forth~~

(b) Exit path marking systems

(c) Provisions for stairway door access control

(17) Other systems or installations integrated or connected to a fire or life safety system such as, but not limited to, access control, critical processes, and hazardous operations

Other systems that should be in place and available as needed for integrated active systems testing include the following:

(1) Infrastructure supporting the building fire protection and life safety systems within the boundaries of the project. Project infrastructure should include those systems and utilities necessary for the support and operation of the active fire protection and life safety systems of the proposed project. These infrastructure items can include the following:

(a) Access roadways for general site access and those necessary for fire department access in accordance with local codes, standards, and policies

(b) Utility systems for the provisions of electric power, fuel gas, water, and wastewater; communication systems; and any other utility system deemed essential to the support of building operations

(c) On-site combined heat and power generation systems, electric power generation plants or systems, fuel gas storage facilities, water supply and storage facilities, and environmental or waste management systems

(2) The emergency power supply and emergency power supply systems serving emergency systems, legally required standby systems, and critical operations systems should be evaluated by the integrated testing agent (ITa) for integrated testing as a stand-alone life safety system, whether or not a fire or smoke event is occurring in the building.

This standard does not apply to the testing of passive fire protection and life safety systems as part of the integrated active systems test. Passive systems are an integral part of the overall fire protection features of a building. Where they could have an impact on the success of the integrated active systems test, they should be in place and fully inspected and tested prior to the integrated active systems test. For example, a stair pressurization system relies on the performance of passive firestop systems and gasketing to ensure pressure differentials are maintained. If the fire stopping and gasketing has not been properly inspected and tested in accordance with NFPA 3 through the commissioning process, and/or in accordance with the applicable installation codes and standards, the stair pressurization portion of the integrated systems test could fail and must be retested. In addition, this standard requires that all individual integrated active systems be fully tested and accepted prior to the integrated active systems test *(see 1.3.2 and A.1.3.2).* Therefore, a stair pressurization test should have been performed prior to the integrated active systems test which would identify any integrity issues with the fire stopping and gasketing.

Typical passive systems include the following:

(1) Fire-resistant and smoke-resistant assemblies. Examples include, but are not limited

to, the following:

(a) Floor-ceiling assemblies and roof decks

(b) Fire doors not operated by the fire alarm system

(c) Fire windows

(d) Fire walls and barriers protected by a firestop system or device for through-penetrations and membrane penetrations

(e) Other fire and smoke control assemblies not operated by the fire alarm system

(2) Spray-applied fire-resistant materials

(3) Means of egress systems and components including, but not limited to, major egress components such as corridors, stairs, ramps, and so forth

1.3.2*

This standard shall not provide requirements for testing of individual systems.

1.3.3

This standard shall not provide requirements for testing of passive fire protection and life safety systems or the integrity of those systems to control smoke, heat, or air flow.

1.4 Retroactivity.

1.4.1

Except as required in Chapter 6, the provisions of this standard shall not apply to facilities, equipment, structures, or installations that existed or were approved for construction or installation prior to the effective date of the standard.

1.4.2

Where required in Chapter 6, the provisions of this standard shall be retroactive.

1.4.3

In those cases where the authority having jurisdiction determines that the existing situation presents an unacceptable degree of risk, the authority having jurisdiction shall be permitted to apply retroactively any portions of this standard deemed appropriate.

1.4.4

The retroactive requirements of this standard shall be permitted to be modified if their application clearly would be impractical in the judgment of the authority having jurisdiction, and only where it is clearly evident that a reasonable degree of safety is provided.

1.5 Equivalency.

1.5.1

Nothing in this standard is intended to prevent the use of systems, methods, or devices of equivalent or superior quality, strength, fire resistance, effectiveness, durability, and safety over those prescribed by this standard.

1.5.2

Technical documentation shall be submitted to the authority having jurisdiction to demonstrate equivalency.

1.5.3

The system, method, or device shall be approved for the intended purpose by the authority having jurisdiction.

1.6 Units and Formulas.

1.6.1

The units of measure in this standard are presented first in ~~U.S.~~ US customary units (inch-pound units). International System (SI) of Units follow the inch-pound units in parentheses.

1.6.2

Either system of units shall be acceptable for satisfying the requirements in the standard.

1.6.3

Users of this standard shall apply one system of units consistently and shall not alternate between units.

1.6.4

The values presented for measurements in this standard are expressed with a degree of precision appropriate for practical application and enforcement. It is not intended that the application or enforcement of these values be more precise than the precision expressed.

1.6.5

Where extracted text contains values expressed in only one system of units, the values in the extracted text have been retained without conversion to preserve the values established by the responsible technical committee in the source document.

Supplemental Information

File Name	Description	Approved
Scope_TG_-_Working_doc_w_track_changes_PC4_.docx		

Submitter Information Verification

Committee: CMI-AAA

Submittal Date: Thu Sep 08 11:14:36 EDT 2022

Committee Statement

Committee Statement: The changes provide clarification to differentiate which fire protection and life safety components, systems, assemblies, barriers, and other features are to be included in the integrated test and which are not. This clarification includes extensive annex text to describe typical active integrated systems, other systems that should be in place as needed for the integrated test, as well as typical passive fire protection features.

Response Message: SR-2-NFPA 4-2022

Public Comment No. 3-NFPA 4-2022 [Section No. 1.3.1]

Public Comment No. 4-NFPA 4-2022 [Global Input]

Public Comment No. 2-NFPA 4-2022 [Section No. 1.1]

Public Comment No. 2-NFPA 4-2022 [Section No. 1.1]

1.1* Scope.

~~The~~ **1.1.1**

This standard shall provide the minimum requirements for testing of integrated fire protection and life safety systems.

1.1.2

The scope of this standard shall not include passive fire protection features that are commissioned in accordance with NFPA 3.

Statement of Problem and Substantiation for Public Comment

In support of CI-1, the pass/fail criteria of an integrated test should be based on the interface between electronic components and signals. For example, an integrated test of a stair pressurization system would pass if the ventilation fans turn on, fire dampers close, and fire doors shut. Actual performance tests should be previously accomplished through commissioning in accordance with NFPA 3.

Related Item

• CI-1

Submitter Information Verification

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Submittal Date: Mon Feb 21 18:47:16 EST 2022
Committee: CMI-AAA

Committee Statement

Committee Action: Rejected but see related SR
Resolution: SR-2-NFPA 4-2022
Statement: The changes provide clarification to differentiate which fire protection and life safety components, systems, assemblies, barriers, and other features are to be included in the integrated test and which are not. This clarification includes extensive annex text to describe typical active integrated systems, other systems that should be in place as needed for the integrated test, as well as typical passive fire protection features.

Public Comment No. 3-NFPA 4-2022 [Section No. 1.3.1]

1.3.1*

This standard shall apply to integrated ~~passive and~~ active fire protection and life safety equipment and systems and active portions of passive fire protection and life safety barriers and assemblies ..

Statement of Problem and Substantiation for Public Comment

This standard has struggled with the concept of testing passive fire and life safety fire protection systems for several cycles now. Everyone seems to understand that passive fire protection features will include active components. Fire walls and smoke partitions can include fire doors, fire dampers, smoke dampers, and other active parts of the overall barrier or assembly. The passive fire protection features include the construction materials that make up the barrier or assembly. These cannot be tested during the integrated test but must be installed in accordance with design documents and accepted prior to the integrated test. Any active components within the barrier or assembly must also be acceptance tested prior to the integrated test but will also be verified as operating as intended with all other interconnected systems during the integrated test.
Hopefully by recognizing that there are active components that are part of a passive barrier or assembly, the intent that the integrated test only verifies the proper operation of the interconnected active components and systems is made clear.

Related Item

• CI No. 1

Submitter Information Verification

Submitter Full Name: Terry Victor
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Submittal Date: Tue May 31 11:39:17 EDT 2022
Committee: CMI-AAA

Committee Statement

Committee Action: Rejected but see related SR
Resolution: SR-2-NFPA 4-2022
Statement: The changes provide clarification to differentiate which fire protection and life safety components, systems, assemblies, barriers, and other features are to be included in the integrated test and which are not. This clarification includes extensive annex text to describe typical active integrated systems, other systems that should be in place as needed for the integrated test, as well as typical passive fire protection features.

Second Revision No. 4-NFPA 4-2022 [Section No. 2.4]

2.4 References for Extracts in Mandatory Sections.

NFPA 3, *Standard for Commissioning of Fire Protection and Life Safety Systems,* 2024 edition.

NFPA 70®, National Electrical Code®, ~~2020~~ 2023 edition.

NFPA 72®, National Fire Alarm and Signaling Code®, ~~2019~~ 2022 edition.

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

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

NFPA 820, *Standard for Fire Protection in Wastewater Treatment and Collection Facilities,* 2020 edition.

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

NFPA 5000®, Building Construction and Safety Code®, 2021 edition.

Submitter Information Verification

Committee: CMI-AAA
Submittal Date: Thu Sep 08 11:45:47 EDT 2022

Committee Statement

Committee Statement: Updated edition years
Response Message: SR-4-NFPA 4-2022

Second Revision No. 1-NFPA 4-2022 [Section No. A.3.3.26.7]

A.3.3.26.7 Passive Fire Protection System.

Examples of passive systems include, but are not limited to, floor-ceiling assemblies and roof, door, window, and wall assemblies, spray-applied fire-resistant materials, and other fire and smoke control assemblies. Passive fire protection systems can include integrated active components and can also be impacted by active systems that are not integrated , such as fire dampers with fusible links .

Submitter Information Verification

Committee: CMI-AAA

Submittal Date: Thu Sep 08 11:10:30 EDT 2022

Committee Statement

Committee Statement: Annex material for the passive fire protection system has been revised to clarify that passive fire protection systems or features can have active components installed, some of which can be integrated active components included in an integrated test, as well as active components that are not interconnected.

Response Message: SR-1-NFPA 4-2022