NFPA Technical Committee on Standpipes (SPI-AAA)

NFPA 14 PRE-FIRST DRAFT MEETING AGENDA

November 17-18, 2020
12:00 am – 5:00 am (EST)
Web/Teleconference

Tuesday, November 17, 2020

1. Call to Order -12:00 PM (EST)
2. Attendance
3. Review Agenda (15-minute Recesses at 1:30 and 3:00)
4. Review and Approval of F2018 Second Draft Meeting Minutes
5. NFPA Staff Liaison Presentation and Review of Key Dates in Current Cycle
6. Chairman's Remarks
7. Review of Old Business Items to be discussed
8. Standpipe Survey Results/Discussion
9. Task Group Discussion:
    a. Working Pressure for Class 1 Hose Connections (Ongoing)
    b. NFPA 14 vs Building Code
    c. Metric Unit Conversion
    d. Horizontal Standpipes/Horizontal Exit Hose Valve Requirements
    e. System Zones
    f. Scissor Stairs
    g. Roof Hose Valve Connection
    h. General Cleanup Review
        i. Reorganization of Chapters / Break-up Chapter 7
        ii. System Types Clarification
        iii. FDC/Water Demand
10. Recess – 5:00 pm (EST)

Wednesday, November 18, 2020

1. Reconvene for Task Group Outline Reports - 12:00 pm (ETS)
2. Overview of Public Inputs and Potential Committee First Revisions
3. New Business
4. Next Meeting
5. Adjourn – 4:00 pm (EST)

ATTACHMENT A

National Fire Protection Association
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Phone: 617-770-3000 • Fax: 617-770-0700 • www.nfpa.org

Technical Committee on Standpipes
MINUTES
NFPA 14 Second Draft Meeting
Tuesday, April 17, 2018
Web/Teleconference

Part I, Attendance:

Committee Members and Staff:

Name	Office	Organization
Stephen Leyton	Chair	American Fire Sprinkler Association
Cecil Bilbo	Principal	Academy of Fire Sprinkler Technology, Inc.
Chad Binette	Principal	Liberty Mutual Insurance
Marinus Both	Principal	APi Group Inc.
Don Casey	Principal	City Of Mississauga Fire & Emergency Services
James Dockrill	Principal	J&S Fire Sprinkler Design & Consulting
Jeff Hebenstreit	Principal	UL LLC
Andrew Henning	Principal	CAL FIRE, Office of the State Fire Marshal
Richard Kozel	Principal	Livingston Fire Protection, Inc.
Eric Lee	Principal	Environmental Systems Design, Inc.
Terence Manning	Principal	JENSEN HUGHES
Christopher Martin	Principal	Elkhart Brass Manufacturing Co., Inc.
Thomas Meara	Principal	FDNY
David Mettauer	Principal	East Texas Fire Protection, Ltd.
Danny Moran	Principal	Fort Lauderdale Fire Department
John Norman III	Principal	Self
James Peterkin	Principal	TLC Engineering
Maurice Pilette	Principal	Mechanical Designs Ltd.
Melisa Rodriguez	Principal	Leo A Daly
Daniel Sanchez	Principal	City of Los Angeles
Peter Schwab	Principal	Wayne Automatic Fire Sprinklers, Inc.
Kyle Smith	Principal	Cobb County Fire & Emergency Services
Terry Victor	Principal	Johnson Controls/Tyco/SimplexGrinnell
Ronald Webb	Principal	S.A. Comunale Company, Inc.
Jim Widmer	Principal	Potter Roemer FIRE PRO
Donald Contois	Voting Alternate	Robert W. Sullivan, Inc.
Mark Fessenden	Alternate	Johnson Controls/Tyco Fire Protection Products
Jerry Graupman	Alternate	Great Lakes Plumbing & Heating Company
Janna Shapiro	Staff Liaison	NFPA

Guests:

Russel Bainbridge	American Fire Sprinkler Association
Mike Guilfoyle	Kolbi Standpipe Biscuit
Wilbur Kephart	City of Highland Park Fire Department
Robert Upson	National Fire Sprinkler Association
Erik Hohengasser	NFPA Staff

Part II, Minutes:

1. Chairman Stephen Leyton called the meeting to order at 11:00 AM EDT on Tuesday, April 17, 2018.
2. All attendees delivered their self-introductions. An address list was circulated via email and updated as necessary.
3. Chairman Leyton called for a motion to accept the minutes of the May 2017 First Draft meeting in Charleston, SC. Motion passed unanimously.
4. Staff Liaison Janna Shapiro provided standard meeting instructions and legal policies.
5. Guests Mike Guilfoyle and Wilbur Kephart provided a presentation on a Kolbi Standpipe product intended to provide information to firefighters at hose valves.
6. The Technical Committee reviewed and acted on all 3 Public Comments on NFPA 14.
7. The Technical Committee reviewed any additional items that were brought forward at the meeting and made revisions as appropriate.
8. Chairman Leyton appointed the following Task Groups for the next revision cycle:
    a. Providing information for firefighters at hose valves: This task group will review the information presented by Mr. Guilfoyle and Mr. Kephart to determine if revisions to NFPA 14 are necessary. If so, the task group will develop recommendations for proposed changes. Task group members will be determined at a later time.
    b. Maximum pressure at hose connections: This task group will review the maximum pressure at hose connections as specified in 7.2.3.2, and work with members of the fire service to obtain data and conduct testing to determine how different diameter hoses perform with different nozzles at various pressures. Task group members include John Norman (Chair), Danny Moran, Tom Meara, Rich Kozel, Terry Manning, Chris Martin, Kyle Smith, Jeff Hebenstreit, and Marinus Both. Additional task group members will be added as necessary.

c. NFPA 14 vs. Building Code: This task group will review NFPA 14 in relation to the building code to determine if there are any discrepancies and if any revisions to NFPA 14 are necessary, particularly regarding protection of piping in fire resistive construction. Task group members will be determined at a later time.
d. Metric units: This task group will review and update the metric conversions in NFPA 14 for consistency with NFPA 13.

9. The First Draft meeting of the F2021 revision cycle will be scheduled at a later time. Suggested locations include Nashville and New Orleans.
10. Chairman Leyton called for a motion to adjourn the meeting at 2:25 PM. Motion passed unanimously.

ATTACHMENT B

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Standpipes

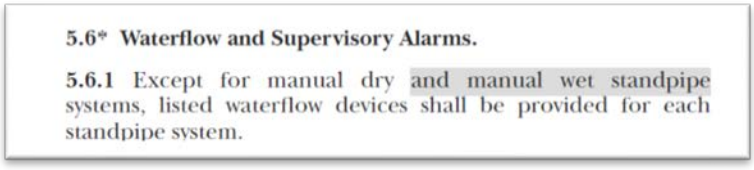
Baran Ozden 04/25/2019

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ATTACHMENT C

Old Business Items to be Discussed

1. 5.6.1 – should “waterflow devices” be “a waterflow device”?

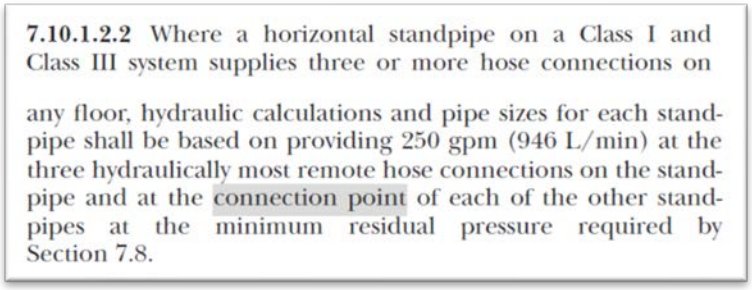


5.6* Waterflow and Supervisory Alarms.

5.6.1 Except for manual dry and manual wet standpipe systems, listed waterflow devices shall be provided for each standpipe system.

Proposal: Update to “A listed waterflow device”

2. 7.10.1.2.2 – make reference to 1000/1250 gpm max



7.10.1.2.2 Where a horizontal standpipe on a Class I and Class III system supplies three or more hose connections on any floor, hydraulic calculations and pipe sizes for each standpipe shall be based on providing 250 gpm (946 L/min) at the three hydraulically most remote hose connections on the standpipe and at the connection point of each of the other standpipes at the minimum residual pressure required by Section 7.8.

Proposal: Yes 7.10.1.1.2 can refer to max flow rate shall be in accordance with 7.10.1.1.5

3. 5.5.2.2 – does this only apply to master stream pressure regulating devices (should reference just be 7.2.4?) Seems to conflict with A.5.5.2.

> **5.5.2.2** Approved pressure gauges shall be installed on both upstream and downstream sides of every pressure-regulating device installed in accordance with 7.2.4(6).

Proposal: Create a First Revision or Committee Input

There is conflict, we need to revise 5.5.2.2 and A.5.5.2 to allow for different conditions and clarify intent. Focus on distinguishing inline (zone) pressure reducing device & hose valve (point of connection) PRV's master configuration schematic in A.7.2.4

> **7.2.4*** Where more than two hose connections are used downstream of a pressure-regulating device, the following conditions shall apply:
>
> (1) In systems with multiple zones, pressure-regulating device(s) shall be permitted to be used in lieu of providing separate pumps to control pressure in the lower zone(s) as long as the devices comply with all requirements in 7.2.4.
> (2) A method to isolate the pressure-regulating device(s) shall be provided for maintenance and repair.
> (3) To provide redundancy, pressure-regulating devices shall be arranged in series so that the failure of any single device does not allow pressure in excess of 175 psi (12.1 bar) to any of the multiple hose connections downstream.
> (4) An equally sized bypass around the pressure-regulating device(s), with a normally closed control valve, shall be installed.
> (5) Pressure-regulating device(s) shall be installed not more than 7 ft 6 in. (2.31 m) above the floor.
> (6) The pressure-regulating device shall be provided with inlet and outlet pressure gauges.
> (7) The fire department connection(s) shall be connected to the system side of the outlet isolation valve.
> (8) The pressure-regulating device shall be provided with a pressure relief valve in accordance with the manufacturer's recommendations.
> (9) Remote monitoring and supervision for detecting high pressure failure of the pressure-regulating device shall be provided in accordance with *NFPA 72*.

> **A.5.5.2** It is the intent of the standard that pressures can be read on each floor where pressure-regulating devices are installed and that a valved outlet be provided for a pressure gauge. A permanently installed pressure gauge is not required.

Corollary Action(3a): Should "pressure control valve" be removed as it's not used in the main body of the standard (only used in A.3.3.13).

Pressure restricting valve should remain for legacy systems.

4. 4.4.2.4.1 & 4.4.2.4.2 –annex material should be split up between the sections like it was in NFPA 13 (all used to be one section and got broken up into two in NFPA 13, 2013). Does second half of annex ("the loads…") only apply to partial penetration? Looks like it did when it was all one section in 13.

NFPA 14

4.4.2.4 Welding Requirements.

4.4.2.4.1* Welds between pipe and welding outlet fittings shall be permitted to be attached by full penetration welds, partial penetration groove welds, or fillet welds. [**13:**7.5.2.4.1]

4.4.2.4.2 The minimum throat thickness shall be not less than the thickness of the pipe, the thickness of the welding fitting, or 3/16 in. (4.5 mm), whichever is least. [**13:**7.5.2.4.2]

A.4.4.2.4.1 Partial penetration welds on outlet fitting connections are considered adequate, since there is no significant load on the joint other than that caused by pressure internal to the pipe *(see Figure A.4.4.2.4.1)*. [**13:**A.7.5.2.4.1]

The load due to the internal pressure can be accommodated with a weld that has a conservative weld throat thickness that can be calculated as follows:

[A.4.4.2.4.1]

$$\text{Weld throat thickness (in.)} = PD \times 0.000035$$

where:
P = rated system gauge pressure (psi)
D = outside diameter (OD) of fitting (in.)

[**13:**A.7.5.2.4.2]

For example: If you assume a pressure of 300 psi (21 bar) and the OD of the outlet fitting of 3 in. (75 mm), the result of the thickness calculation is 0.0315 in. (0.8 mm). When compared to the minimum throat thickness of 3/16 in. (5 mm), there is a factor of more than 5 times the calculated thickness value. [**13:**A.7.5.2.4.2]

NFPA 13

7.5.2.4 Welding Requirements.

7.5.2.4.1* Welds between pipe and welding outlet fittings shall be permitted to be attached by full penetration welds, partial penetration groove welds, or fillet welds.

7.5.2.4.2* The minimum throat thickness shall be not less than the thickness of the pipe, the thickness of the welding fitting, or 3/16 in. (5 mm), whichever is least.

A.7.5.2.4.1 Partial penetration welds on outlet fitting connections are considered adequate, since there is no significant load on the joint other than that caused by pressure internal to the pipe *(see Figure A.7.5.2.4.1)*.

A.7.5.2.4.2 The load due to the internal pressure can be accommodated with a weld that has a conservative weld throat thickness that can be calculated as follows:

[A.7.5.2.4.2]

$$\text{Weld throat thickness (in.)} = PD \times 0.000035$$

where:
P = rated system gauge pressure (psi)
D = outside diameter (OD) of fitting (in.)

For example, if you assume a gauge pressure of 300 psi (21 bar) and the OD of the outlet fitting of 3 in. (75 mm), the result of the thickness calculation is 0.0315 in. (0.8 mm). When compared to the minimum throat thickness of $\frac{3}{16}$ in. (5 mm), there is a factor of more than 5 times the calculated thickness value.

Proposal: Discuss with the committee.

5. 4.4.2.4.1 & 4.4.2.4.2 – conversion for 3/16 in? (4.5 or 5? I got 4.8…) (5mm in NFPA 13, 2019)

   Proposal: Change to "5mm" as in NFPA 13

6. IBC 905.4 Travel distance for eliminating outlet on side of horizontal exit – 130 ft for all buildings. Conflict with 14? We allow 200ft for sprinklered buildings.

   IBC 905.4
   On each side of the wall adjacent to the exit opening of a horizontal exit.
   Exception: Where floor areas adjacent to a horizontal exit are reachable from an interior exit stairway hose connection by a 30-foot (9144 mm) hose stream from a nozzle attached to 100 feet (30 480 mm) of hose, a hose connection shall not be required at the horizontal exit.

   Proposal: Conversation Item.

7. Can you eliminate the valve on both sides of a horizontal exit? (7.3.2.2.1)

> **7.3.2.2.1*** Where all floor areas are reachable from an exit stairway hose connection on the same side of a horizontal exit within the distances required by 7.3.2.2.1.1 or 7.3.2.2.1.2 as applicable, the hose connection on the other side of the horizontal exit shall be permitted to be omitted.

Proposal: Clarify committee intent for one side hose valve removal or both for horizontal exits at 7.3.2.2.1.

8. 7.3.2.7 and 7.3.2.9 : Clarification of two sections related to roof connections. This issue has always been confusing and taken together, these provisions are still not very clear. I am trying to sort a question about this issue for a client in Southern California at this time and have answered countless questions about the intent of the standard in the past.

> **7.3.2.7*** Hose connections shall be provided at the highest landing of stairways with stairway access to a roof.
>
> **7.3.2.8*** The hose connection required by 7.3.2.7 shall not be required where hose connections are installed in accordance with 7.3.2.1.1.
>
> **7.3.2.9** In stairways that do not access the roof, a hose connection shall be provided on the roof.
>
> **7.3.2.9.1** The hose connection required by 7.3.2.9 shall not be required where the roof slope is 4 in 12 or greater.
>
> **7.3.2.9.2** The hose connection required by 7.3.2.9 shall not be required where at least one hose connection in accordance with 7.3.2.7 is provided in the building.
>
> **7.3.2.9.2.1** Where there are no hose connections as provided by 7.3.2.9.2, a single hose connection shall be provided on the roof.

Proposal: Create a Committee Input/First Revision

9. Under 5.2.1.4.7, should it extract the subsection in 13? (8.2.6.6.3.1 Each dry pipe system shall have a dedicated air maintenance device. 2019 edition)

   NFPA 14:

   > **5.2.1.4.7** The automatic air supply to more than one dry pipe system shall be connected to enable individual maintenance of air pressure in each system. [**13:**8.2.6.6.3]

   NFPA 13:

   > **8.2.6.6.3** The automatic air supply to more than one dry pipe system shall be connected to enable individual maintenance of air pressure in each system.
   >
   > **8.2.6.6.3.1** Each dry pipe system shall have a dedicated air maintenance device.

   Proposal: Discuss with Committee

10. Max pressure at hose valve task group & survey (John Norman)

Collective Issues, New Discussion Items

1. Propose language for horizontal standpipes. Does the committee feel that an FDR or CI is appropriate to create a new section making exceptions for horizontal exits and scissor stairs.
    a. The standard defines any standpipe supplying two or more hose connections on a single floor as a Horizontal Standpipe, which triggers higher demand and calculation requirements.
    b. Should a new section, making an exception for risers serving two hose valves on opposite sides of horizontal exits be added to the standard.

2. Concerns regarding §7.9 and 7.9.2.
    a. Should the wording in A.7.9 be that the "subdivision of a system using a master pressure reducing valve SHOULD be considered a zone" (which it is based on the requirement for an FDC downstream of any such valve), as the current language says that is should NOT be considered as such.
    b. Enhance 7.9
    c. Does definition of zone require an enhancement (3.3.21)

3. Scissor Stairs:
    a. Form a Task Group for Scissor Stairs for 5-6 People of which 2-3 are fire department people. Interested in people who have been in such stairs.
    b. Usually used for upper floor ball rooms
    c. What different configurations have people seen

General Cleanup

1. Can NFPA 14 be re-organized like NFPA 13. Realign Chapters, start with water source, Task Group for reorganizing.

2. Can chapter 7 be broken up.

3. System types and system classes are mixed up in 5.1 doesn't clarify the types of systems
    d. System types are not defined, they should be in 3.3.20
    e. 5.1.2 (should we clarify what the types are, make 5.2 system types and 5.2.1 Automatic Dry, 5.2.2 Auxiliary Systems, 5.2.3 Semiautomatic Dry, ….)

4. Can FDC requirements be in the same chapter, as opposed to two (6.4 and 7.12)?

5. Should FDC inlet pressure requirements be approved by AHJ as we make wider allowance on pressures and listing expand on equipment (AHJ's generally don't want anything conflicting with the standard)

6. Should Water Supply Tests be based on seasonal adjustments. Should peak day demand be considered.

ATTACHMENT D

Public Input No. 30-NFPA 14-2019 [Global Input]

Consolidate all the rules for fire department connections into a single chapter or section.

Additional Proposed Changes

File Name	Description	Approved
FDCs.docx	Compiled FDC language	

Statement of Problem and Substantiation for Public Input

Consolidate all the rules for fire department connections into a single chapter or section. Currently there are rules for fire department connections spread throughout the document primarily in chapters 4, 6, 7 & 11. Attached is all the relevant language in regards to fire department connections except for buildings under construction and maritime systems. A task group should be formed during the pre first draft to rearrange this material.

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Submittal Date: Fri Dec 27 09:57:58 EST 2019
Committee:

4.8 Fire Department Connections. *(See Figure A.6.4.)*
4.8.1 Fire department connections shall be listed for a working pressure equal to or greater than the pressure requirement of the system demand.
4.8.2 Unless the requirements of 4.8.2.1 or 4.8.2.2 are met, the fire department connection(s) shall have at least two $2_{1}/_{2}$ in. (65 mm) connections using NH internal threaded swivel fitting(s) with 2.5-7.5 NH standard thread, as specified in NFPA 1963. *(See Sections 7.7 and 7.12 for design requirements.)*
4.8.2.1 Where local fire department connections do not conform to NFPA 1963, the AHJ shall be permitted to designate the connection to be used.
4.8.2.2 The use of threadless couplings shall be permitted where required by the AHJ and where listed for such use.
4.8.3 Fire department connections shall be equipped with approved plugs or caps, properly secured, and arranged for easy removal by fire departments.
4.8.4 Fire department connections shall be of an approved type.

6.3.6.1.1* Each water supply, other than the fire department connection, shall be provided with a listed indicating valve in an approved location.
6.3.6.1.2 Valves on fire department connections shall be in accordance with Sections 6.3 and 6.4.

6.4* Fire Department Connections.
6.4.1 Isolation valves shall not be permitted between the fire department connection and where the fire department connection piping connects to the system piping.
6.4.2 A listed check valve shall be installed in each fire department connection and shall be located in an accessible location. [**13**:16.12.6.1]
6.4.2.1 The check valve shall be installed as close as possible to the fire department connection inlets.
6.4.2.1.1 The check valve shall be located where it is not subjected to freezing conditions.
6.4.2.2 The requirements of 6.4.2 shall apply to manual dry systems.
6.4.3 The fire department connection shall be installed as follows:
(1) *Automatic wet and manual wet standpipe systems.* On the system side of the system control valve, check valve, or any pump, but on the supply side of any isolating valves required by 6.3.2
(2) *Automatic dry standpipe systems.* On the system side of the control valve and check valve and the supply side of the dry pipe valve
(3) *Semiautomatic dry standpipe systems.* On the system side of the deluge valve
(4) *Manual dry standpipe systems.* Directly connected to system

piping with a check valve in the piping as required by 6.4.2

6.4.3.1 Fire department connections shall not be connected on the suction side of fire pumps. [**13**:16.12.5.9]

6.4.4* In areas subject to freezing, an approved automatic drip valve that is arranged to allow drainage without causing water damage shall be installed at the low point in the piping between the check valve and the fire department connection.

6.4.5 Location and Identification.

6.4.5.1 Fire department connections shall be visible and recognizable from the street or nearest point of fire department apparatus accessibility or on the street side of buildings.

6.4.5.1.1 Fire department connections shall be located and arranged so that hose lines can be attached to the inlets without interference from nearby objects, including buildings, fences, posts, landscaping, vehicles, or other fire department connections.

6.4.5.2 Each fire department connection shall be designated by a sign, with letters at least 1 in. (25.4 mm) in height, that reads "STANDPIPE." For manual systems, the sign shall also indicate that the system is manual and that it is either wet or dry.

6.4.5.2.1 If automatic sprinklers are also supplied by the fire department connection, the sign or combination of signs shall indicate both designated services (e.g., "STANDPIPE AND AUTOSPKR" or "AUTOSPKR AND STANDPIPE").

6.4.5.2.2 A sign also shall indicate the pressure required at the inlets to deliver the standpipe system demand.

6.4.5.2.2.1 The pressure required sign shall not be required when the pressure required is 150 psi (10.3 bar) or less.

6.4.5.3 Where a fire department connection services multiple buildings, structures, or locations, a sign shall be provided indicating the buildings, structures, or locations served.

6.4.5.4* Fire department connections shall be located not more than 100 ft (30.5 m) from the nearest fire hydrant connected to an approved water supply.

6.4.5.4.1 The location of the fire department connection shall be permitted to exceed 100 ft (30.5 m) subject to the approval of the AHJ.

6.4.6 Fire department connections shall be located not less than 18 in. (457 mm) nor more than 48 in. (1219 mm) above the level of the adjoining ground, sidewalk, or grade surface.

6.4.7 Fire department connection piping shall be supported in accordance with Section 6.5.

A.6.4 See Figure A.6.4 for general arrangement.

A.6.4.4 In cases where water in the piping between the system side and the fire department connection check valve would be trapped, an auxiliary drain is required.

A.6.4.5.4 The system designer should contact the AHJ prior to establishing the location of the fire department connection. The location should be based on the requirements of the fire department.

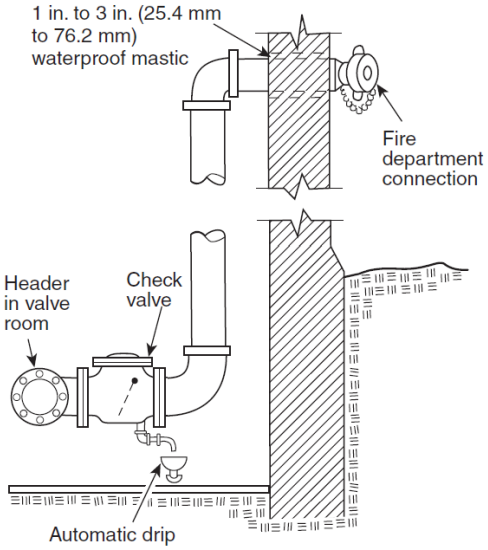


FIGURE A.6.4 Typical Fire Department Connection for Wet Standpipes.

7.2.4* Where more than two hose connections are used downstream of a pressure-regulating device, the following conditions shall apply:

(7) The fire department connection (s) shall be connected to the system side of the outlet isolation valve.

7.5* Interconnection of Standpipes.

A.7.5 Fire department connections feeding interconnected standpipes, including combined systems, should be arranged to supply all interconnected standpipes in a building or section of a building. See Figure A.7.1(a), Figure A.7.1(b), and Figure A.7.1(c). Interconnection should occur as close to the source of supply(ies) as possible.

Standpipe systems in separate buildings or structures fed by the same water supply are not required to be interconnected. For example, a building might have an automatic-wet standpipe system while an adjacent parking garage has an automaticdry standpipe system fed by the same fire pump and water main. These two standpipe systems are not required to be interconnected since they protect different structures.

7.7.1 Class I and Class III standpipe systems shall be designed so that the system demand can be supplied by each fire department

connection, which is provided in accordance with Section 7.12.

7.7.2* Where an automatic or semiautomatic water supply is required for a Class I, II, or III standpipe system by Section 5.4, the standpipe system shall be designed so that the system demand can be independently supplied by the attached water supply and each fire department connection provided on the system.

A.7.7.2 Hydraulic calculations should be provided to show that each fire department connection can adequately supply the standpipe demand.

7.7.4 When the system demand to be supplied by the fire department at the fire department connection is being determined, the local fire department shall be consulted regarding the water supply available from a fire department pumper.

7.8.1.2* Manual standpipe systems shall be designed to provide 100 psi (6.9 bar) at the outlet of the hydraulically most remote $2\frac{1}{2}$ in. (65 mm) hose connection valve with the calculations terminating at the fire department connection.

A.7.8.1.2 It is not the intent of this standard to provide an automatic water supply for manual standpipe systems. Manual standpipe systems are designed (sized) to provide 100 psi (6.9 bar) at the topmost hose connection using a fire department pumper as the source of flow and pressure.

7.8.1.2.1 The pressure required at the fire department connection for manual standpipes shall not exceed the working pressure of the system components of the standpipe system or sprinkler system when the system is a combined system.

7.9.3* For buildings with two or more zones in which any portion of the higher zones cannot be supplied by means of fire department pumpers through a fire department connection, an auxiliary means of supply in the form of high-level water storage with additional pumping equipment or other means acceptable to the AHJ shall be provided.

A.7.9.3 An auxiliary means can also be in the form of pumping through the fire department connection in series with the low- or mid-zone fire pump, as approved by the AHJ.

7.12* Fire Department Connections.

7.12.1 One or more fire department connections shall be provided for each zone of each Class I or Class III standpipe system.

7.12.1.1 The high zone fire department connection(s) shall not be required to be provided where 7.9.3 applies.

7.12.2 Number of Fire Department Connections.

7.12.2.1 A minimum of one fire department connection shall be required for any standpipe system.

7.12.2.2* Two fire department connections shall be provided for each zone, located on opposite corners of the buildings where the fire department apparatus access is provided or, where not possible, physically separated to the greatest extent possible for the following:

(1) High-rise buildings
(2) Buildings or multiple attached buildings exceeding 900 ft (274.3 m) perimeter distance.

7.12.2.3 Fire department connections shall be visible and recognizable from and located within 50 ft (15.2 m) of the street or nearest point of the fire department apparatus access.

7.12.3 Fire department connection sizes shall be based on the standpipe system demand and shall include one $2_{1}/_{2}$ in. (65 mm) inlet per every 250 gpm (946 L/min).

7.12.3.1 An approved large diameter hose connection of a size to accommodate the required flow shall be permitted.

7.12.3.2 The inlets required by 7.12.3 shall be permitted to be provided on multiple fire department connections.

7.12.3.3 The inlets required by 7.12.3 shall be permitted to be located in multiple locations as allowed by the AHJ.

A.7.12 See NFPA 13E.
The number of $2_{1}/_{2}$ in. (65 mm) inlets to supply the required water volume and pressure at the fire department connection is dependent on several variables, such as the performance of the water supply at the source, the distance from the source to the location of the inlets, the diameter of the hose used, the size of the fire department pumper, and the required water volume and pressure at the base of the standpipe riser(s).

A.7.12.2.2
For larger buildings, redundant fire department connections could be needed. Connections can be compromised by parked vehicles, damaged hose threads, debris in the intake piping, and other conditions such as falling debris from a fire above.

When a large campus-style facility is served by private fire service mains that feed the standpipe systems, and the campus covers a large area, additional fire department connections could be provided at strategic locations to enhance the fire department's ability to pump the system.

9.1.4 Where fire department pumpers cannot supply the required system demand through a fire department connection, an auxiliary water supply consisting of high-level water storage with additional pumping equipment or other means acceptable to the AHJ shall be provided.

11.2.2 Piping between the fire department connection and the check valve in the inlet pipe shall be flushed with a sufficient volume of water in order to remove any construction debris and trash accumulated in the piping prior to the completion of the system and prior to the installation of the fire department connection.

11.3.1 All hose connection and fire department connection threads shall be tested to verify their compatibility with threads used by the local fire department.

11.4.1* General. All new systems, including yard piping and fire department connection piping, shall be tested hydrostatically at not less than 200 psi (13.8 bar) or 50 psi (3.5 bar) in excess of the system working pressure, whichever is greater for 2 hours.

11.4.6 Fire Department Connection. Piping between the fire department connection and the check valve in the inlet pipe shall be tested hydrostatically in the same manner as the balance of the system.

11.4.7 Existing Systems

11.4.7.1 Where an existing standpipe system, including yard piping and fire department connection, is modified, the new piping shall be independently tested in accordance with 11.4.1.

11.5.2* For a manual standpipe, a fire department pumper, portable pump of a capacity to provide the required flow and pressure, or other approved means shall be used to verify the system design by pumping into the fire department connection.

11.5.2.1 Where allowed by the authority having jurisdiction, the test required by 11.5.2 shall be permitted to be waived.

Public Input No. 4-NFPA 14-2019 [Global Input]

NFPA 14 – 2022 Edition

Insert New Chapter:

14 Working Plans

14.1 Working Plan Symbols

14.1.1 Symbols used on working plans shall comply with the fire sprinkler symbols of NFPA 170 - 2018 Edition Chapter 7 including Tables 7.2, 7.5, 7.6.1.1, 7.6.1.2, 7.6.1.3, 7.6.1.4, 7.6.2, 7.6.3, 7.7, 7.8 and 7.9 for Sprinklers, fittings, piping, valves and fire sprinkler related devices and apparatuses as listed for fire sprinkler systems.

Statement of Problem and Substantiation for Public Input

Most Fire Sprinkler Shop, Submittal and installation drawings require a standpipe detail. These devices should be standardized by the NFPA edition for life safety symbols. As NFPA 170 continues to improve and be more relevant to the industry input from the NFPA 14 committee would be welcomed. The standardization for symbols will make the work of the designer, plan reviewer and AHJ easier for review and inspections. We ask the committee to consider adoption of 170.

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Public Input No. 44-NFPA 14-2019 [Global Input]

Create a task group to review Chapter 12.

Statement of Problem and Substantiation for Public Input

NFPA 241 has undergone some substantial changes. The standpipe requirements have been moved from chapter 7 to chapter 4 so many of the extract references will need to be updated. In addition, new requirements have been added and this committee will need to determine which ones are appropriate to be placed in NFPA 14.

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Submittal Date: Fri Dec 27 14:45:28 EST 2019
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Public Input No. 48-NFPA 14-2019 [Global Input]

Remove references to pressure restricting devices throughout the standard.

3.3.16.2

8.1.2 (8) (19)

Statement of Problem and Substantiation for Public Input

The standard defines a pressure restricting device but does not give any guidance on when, where or how to use this device. This language should be removed.

Submitter Information Verification

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Submittal Date: Mon Dec 30 08:31:49 EST 2019
Committee:

Public Input No. 64-NFPA 14-2020 [Section No. 1.2]

1.2 Purpose.

1.2.1

The purpose of this standard is to provide a reasonable degree of protection for life and property from fire through installation requirements for standpipes and hose systems based on sound engineering principles, test data, and field experience.

1.2.2 Standpipe and hose systems are specialized fire protection systems and shall require design and installation by qualified personnel.

1.2.2.1 System Designer

1.2.2.1.1 Plans and specifications shall be developed in accordance with this Code by persons who are experienced in the design, application, installation, and testing of the systems.

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

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

(1) Registration, licensing, or certification by a state or local authority

(2) Certification by an organization acceptable to the authority having jurisdiction

(3) Manufacturer's certification for the specific type and brand of system provided

1.2.2.1.4 The system designer shall be identified on the system design documents.

1.2.2.1.5 System design trainees shall be under the supervision of a qualified system designer.

1.2.2.1.6 The system designer shall provide evidence of their qualifications and/or certifications when required by the authority having jurisdiction.

1.2.2.2 System Installer.

1.2.2.2.1 Installation personnel shall be qualified in the installation, inspection, and testing of the systems.

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

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

(1) Registration, licensing, or certification by a state or local authority

(2) Certification by an organization acceptable to the authority having jurisdiction

(3) Manufacturer's certification for the specific type and brand of system provided

1.2.2.2.4 System installation trainees shall be under the supervision of a qualified system installer.

1.2.2.2.5 The system installer shall provide evidence of their qualifications and/or certifications when requested by the authority having jurisdiction.

1.2.3

Nothing in this standard is intended to restrict new technologies or alternate arrangements, provided that the level of safety prescribed by the standard is not lowered.

Additional Proposed Changes

File Name	Description	Approved

NFPA_14_PI_-_UA_Submitted.docx

Statement of Problem and Substantiation for Public Input

Adding qualified personnel and creating a level of qualification recognized by the local authority, a national recognized program and/or certification such as PE, NICET, or Federally approved apprenticeship will produce a reasonable degree of protection of protection of life and property. NFPA 14 does a great job of making sure the components are listed and approved, seems only rational to ensure those designing and installing meet similar guidelines. This also provides guidance for the qualifications for designers and installers of these life safety systems to provide a reasonable degree of protection for life and property from fire through standardization of the requirements for designers and installers. The intent is to ensure that these personnel have been trained to provide these services as it relates to these specialized systems

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 65-NFPA 14-2020 [New Section after 3.3]	

Submitter Information Verification

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Committee: SPI-AAA

1.2.2 Standpipe and hose systems are specialized fire protection systems and shall require design and installation by qualified personnel.

1.2.2.1 System Designer

1.2.2.1.1 Plans and specifications shall be developed in accordance with this Code by persons who are experienced in the design, application, installation, and testing of the systems.

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

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

(1) Registration, licensing, or certification by a state or local authority

(2) Certification by an organization acceptable to the authority having jurisdiction

(3) Manufacturer's certification for the specific type and brand of system provided

1.2.2.1.4 The system designer shall be identified on the system design documents.

1.2.2.1.5 System design trainees shall be under the supervision of a qualified system designer.

1.2.2.1.6 The system designer shall provide evidence of their qualifications and/or certifications when required by the authority having jurisdiction.

1.2.2.2 System Installer.

1.2.2.2.1 Installation personnel shall be qualified in the installation, inspection, and testing of the systems.

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

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

(1) Registration, licensing, or certification by a state or local authority

(2) Certification by an organization acceptable to the authority having jurisdiction

(3) Manufacturer's certification for the specific type and brand of system provided

1.2.2.2.4 System installation trainees shall be under the supervision of a qualified system installer.

1.2.2.2.5 The system installer shall provide evidence of their qualifications and/or certifications when requested by the authority having jurisdiction.

Public Input No. 56-NFPA 14-2020 [Section No. 2.3.3]

2.3.3 ASTM Publications.

ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959.

ASTM A53/A53M, *Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless*, ~~2012~~ 2018 .

ASTM A135/A135M, *Standard Specification for Electric-Resistance–Welded Steel Pipe*, ~~2009, reapproved 2014~~ 2019 .

ASTM A234/A234M, *Standard Specification for Piping Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and High Temperature Service*, ~~2016~~ 2019 .

ASTM A795/A795M, *Standard Specification for Black and Hot-Dipped Zinc-Coated (Galvanized) Welded and Seamless Steel Pipe for Fire Protection Use*, 2013.

ASTM B32, *Standard Specifications for Solder Metal*, 2008 (2014).

ASTM B43, *Standard Specification for Seamless Red Brass Pipe, Standard Sizes*, 2015.

ASTM B75/B75M, *Standard Specification for Seamless Copper Tube*, ~~2011~~ 2019 .

ASTM B88, *Standard Specification for Seamless Copper Water Tube*, 2016.

ASTM B251, *Standard Specification for General Requirements for Wrought Seamless Copper and Copper-Alloy Tube*, ~~2010~~ 2017 .

ASTM B446, *Standard Specification for Nickel-Chromium-Molybdenum-Columbium Alloy (UNS N06625), Nickel-Chromium-Molybdenum-Silicon Alloy (UNS N06219), and Nickel-Chromium-Molybdenum-Tungsten Alloy (UNS N06650) Rod and Bar*, ~~2003 (2014)~~ 2019 .

ASTM F437, *Standard Specification for Threaded Chlorinated Poly(Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 80*, 2015.

ASTM F438, *Standard Specification for Socket-Type Chlorinated Poly(Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 40*, ~~2015~~ 2017 .

ASTM F439, *Standard Specification for Chlorinated Poly(Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 80*, ~~2013~~ 2019 .

ASTM F442/F442M, *Standard Specification for Chlorinated Poly(Vinyl Chloride) (CPVC) Plastic Pipe (SDR–PR)*, ~~2013e1~~ 2019 .

ASTM F2164, *Standard Practice for Field Leak Testing of Polyethylene (PE) and Crosslinked Polyethylene (PEX) Pressure Piping Systems Using Hydrostatic Pressure*, ~~2013~~ 2018 .

ASTM F2620, *Standard Practice for Heat Fusion Joining of Polyethylene Pipe and Fittings*, ~~2013~~ 2019 .

Statement of Problem and Substantiation for Public Input

date updates

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Committee:	SPI-AAA

Public Input No. 65-NFPA 14-2020 [New Section after 3.3]

Qualified Personnel

A competent and capable person that has met the requirements and training for a given field acceptable to the authority having jurisdiction..

Statement of Problem and Substantiation for Public Input

Adding a definition of qualified personnel and creating a level of qualification recognized by the local authority, a national recognized program and/or certification such as PE, NICET, or Federally approved apprenticeship will produce a reasonable degree of protection of protection of life and property

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 64-NFPA 14-2020 [Section No. 1.2]	Defining qualified personnel

Submitter Information Verification

Submitter Full Name: Kenneth Schneider
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Submittal Date: Thu Jan 09 16:14:11 EST 2020
Committee: SPI-AAA

Public Input No. 47-NFPA 14-2019 [New Section after 3.3.12]

3.3.13

Multistage Multiport Pump . A single-driver pump with multiple impellers operating in series where the discharge from each impeller, except the last impeller, is the suction for the next impeller, and dischage ports are provided after multiple impellers. [**20** : 3.3.49.11]

Statement of Problem and Substantiation for Public Input

Add this definition as this type of pump is becoming the preferred method to create multiple zones.

Submitter Information Verification

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Submittal Date: Fri Dec 27 15:45:56 EST 2019
Committee: SPI-AAA

Public Input No. 58-NFPA 14-2020 [Section No. 3.3.21]

3.3.21– Vertical Standpipe System Zone.

A vertical subdivision of a standpipe system limited or determined by the pressure limitations of the system components. In a high-rise building, the water supply to the standpipe system zone is from the fire department pumper(s) fire pump(s) and/or water storage tank(s).

Statement of Problem and Substantiation for Public Input

The definition uses the term “vertical” and it would be helpful to clarify that a zone is vertical in the definition title.

The remaining new text in the definition uses a partial line from the 2019 edition of NFPA 20, a new definition in Section 3.3.78 (Vertical Fire Protection Zone) that states, “A vertical zone within a high-rise building that is supplied from a fire pump(s) and/or water storage tank(s).” This can be

In the current (first revision) cycle, the NFPA 20 technical committee (TC) made some further revisions that the NFPA 14 TC may want to consider if going forward with this PI.

NFPA 20 FR 8:
3.3.78* Vertical Fire Protection Zone. A vertical zone within a high-rise building that is supplied from a The portion of a vertical fire protection system of standpipes with hose valves, sprinkler systems with sprinkler system connections, or combination standpipe sprinkler systems that are supplied by a fire pump(s) or a water storage tank(s) and the static pressure difference between levels is only a function of the elevation difference.

A.3.3.78 Express risers between the water supply and the standpipe and sprinkler systems are not included in the vertical fire protection zone definition because express risers do not have hose valves or sprinkler system connections and have different pressure restrictions than the portion of the fire protection system that have hose valves and / or connections for sprinkler systems.

Multiple vertical fire protection zones can be supplies from the same tank(s) or fire pump(s) through the use of master pressure reducing valves. Typically a vertical fire protection zone can be isolated without affecting other vertical fire protection zones.

A fire protection zone may have multiple water sources serving the zone.

Submitter Information Verification

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Committee: SPI-AAA

Public Input No. 49-NFPA 14-2019 [Section No. 3.3.24]

3.3.24 System Working Pressure.

The maximum anticipated static (nonflowing) or flowing pressure applied to standpipe system components exclusive of surge pressures and exclusive of pressure from the fire department connection .

Statement of Problem and Substantiation for Public Input

The definition of working pressure for standpipes differs from that of the other fire protection documents. If the committee rejects this they should probably add language in the definition that the working pressure is inclusive of the fire department connection.

Submitter Information Verification

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Submittal Date: Mon Dec 30 08:39:07 EST 2019
Committee: SPI-AAA

Public Input No. 20-NFPA 14-2019 [Section No. 4.6.1]

4.6.1 Closets ~~and Cabinets~~ , Cabinets & Chases .

4.6.1.1

Closets, cabinets and ~~cabinets used~~ chases used to contain fire hose shall be of a size to allow the installation of the necessary equipment at hose stations and designed so they do not interfere with the prompt use of the hose connection, the hose, and other equipment at the time of fire.

4.6.1.1.1

~~Within the cabinet~~ Within a hose cabinet , the hose connections shall be located so that there are at least 2 in. (50 mm) between any part of the cabinet, other than the door and the handle of the valve when the valve is in any position ranging from fully open to fully closed.

4.6.1.1.2

The cabinet shall be used for fire equipment only, and each cabinet shall be conspicuously identified.

4.6.1.2

Where a “break glass”–type protective cover for a latching device is provided, the device provided to break the glass panel shall be attached in the immediate area of the break glass panel and shall be arranged so that the device cannot be used to break other glass panels in the cabinet door.

4.6.1.2.1

All glazing shall be either tempered safety glass or plastic glazing in accordance with ANSI Z97.1, *Safety Glazing Materials Used in Buildings — Safety Performance Specifications and Methods of Test*.

4.6.1.3

Where a fire-resistive assembly is penetrated by a cabinet, the fire resistance of the assembly shall be maintained as required by the local building code.

4.6.1.4

Hose cabinets shall be marked to indicate the contents.

4.6.1.5

Concealed spaces or chases shall be permitted for installation of hose connections.

4.6.1.5.1

Access panels for access to hose connections in concelaed spaces shall meet the following requirements:

a) Access panels shall have the appropriate fire resistant rating as required by the local building code and this standard

b) The handle, latch or locking mechanism for the panel shall be acceptable to the AHJ.

c) The access panel shall be labeled to indicate the components inside.

d) The access panel shall be sized to allow access to the hose connection and appurtanences.

Statement of Problem and Substantiation for Public Input

The use of a chase/ concealed space with an access panel for a hose connection is a common

method of installation. As long as the panel meets the fire resistance ratings, accessibility of the valve and is appropriately labeled, this should be allowed.

Submitter Information Verification

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Submittal Date: Thu Dec 26 11:14:03 EST 2019
Committee: SPI-AAA

Public Input No. 50-NFPA 14-2019 [Section No. 4.6.1.4]

4.6.1.4

~~Hose cabinets shall~~ Cabinets, closets and chases containg fire hose connections shall be marked to indicate the contents.

Statement of Problem and Substantiation for Public Input

Added chases and closets to cabinets.

Submitter Information Verification

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Submittal Date: Mon Dec 30 08:48:43 EST 2019
Committee: SPI-AAA

Public Input No. 27-NFPA 14-2019 [New Section after 4.7.1]

4.7.1.1
The friction loss for hose valves shall be part of the listing.

Statement of Problem and Substantiation for Public Input

The labs should be evaluating fire hose valves for equivalent length/ friction loss. Currently, control valves, check valves, dry valves, riser manifolds and other fire protection components have published equivalent length values as part of the listing. The same should hold true for such an important device such as a hose valve.

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Submittal Date: Thu Dec 26 13:45:42 EST 2019
Committee: SPI-AAA

Public Input No. 55-NFPA 14-2019 [Section No. 4.7.4]

4.7.4

This section should be removed so all threads in hose cabintes and standpipes will be the same standard threads. All fire departments should use NHS threads on fire hose so all departments can easily connect to any outlet or any hose with ease and not be concerned with adapters.

" Where local fire department hose threads do not conform to NFPA 1963, the AHJ shall designate the hose threads that shall be used."

Statement of Problem and Substantiation for Public Input

Firefighters should not be worried about using adapters when making connections to standpipes or hoses. the AHJ should not have the ability to change threads from the NHS standard.

Submitter Information Verification

Submitter Full Name: Kevin Brailey
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State:
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Submittal Date: Mon Dec 30 21:08:14 EST 2019
Committee: SPI-AAA

Public Input No. 40-NFPA 14-2019 [Section No. 4.7.5]

4.7.5 *

Hose connections shall be located so that there is at ~~least 3 in~~ least 2 in . (~~76.2 mm~~ 50 mm) clearance between any adjacent object and the handle of the valve when the valve is in any position ranging from fully open to fully closed.

Statement of Problem and Substantiation for Public Input

It makes no sense to allow only a 2" clearance in a hose cabinet but require a 3 inch clearance for hose connections everywhere else. (Currently section 4.6.1.1.1. allows) .

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Submittal Date: Fri Dec 27 13:56:06 EST 2019
Committee: SPI-AAA

Public Input No. 7-NFPA 14-2019 [Section No. 4.8.1]

4.8.1

Fire department connections shall be listed for a working pressure equal to or greater than the pressure requirement of the system demand *or the available water pressure supplied by the utility, whichever is greater* .

Statement of Problem and Substantiation for Public Input

It could be possible that the water pressure supplied by the local utility could be greater than the pressure required by the system demand. Therefore, the fire department connection should be listed for the greater of the two pressures.

Submitter Information Verification

Submitter Full Name: Leonard Price
Organization: WV State Fire Marshal
Street Address:
City:
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Submittal Date: Tue Sep 10 16:13:38 EDT 2019
Committee: SPI-AAA

Public Input No. 51-NFPA 14-2019 [Section No. 4.9]

~~**4.9** – Pressure-Regulating Devices.~~

~~Pressure-regulating devices shall be listed.~~

Statement of Problem and Substantiation for Public Input

This section is redundant. Section 4.1.2 already requires these devices to be listed.

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Street Address:
City:
State:
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Submittal Date: Mon Dec 30 08:52:22 EST 2019
Committee: SPI-AAA

Public Input No. 57-NFPA 14-2020 [New Section after 5.2]

5.2.4 Manual Dry Standpipes

5.2.4.1 The system shall be maintained with supervisory air or nitrogen at a minimum pressure of 7psi and no more than 20 psi.

Statement of Problem and Substantiation for Public Input

The fire service is skeptical of the successful operation of these types of systems. NYC Local Law 64 and Boston FD TCM3-51725 were implemented in response to serious difficulties encountered by the FDNY when fire standpipes at construction and demolition sites were damaged, rendering the standpipes unsuitable for fire department use. The law requires that all fire standpipes in vacant buildings, buildings undergoing demolition, and required permanent or temporary standpipes in buildings under construction be equipped with a system to pressurize the standpipe at all times, which then would sense the pressure loss if a portion of the standpipe was damaged or completely removed. Further, as the same risks exist while the building is in use this change should be applied to those building as well.

The use of an alarm for supervisory air in manual dry standpipes will address the concerns expressed by the fire service at a minimal cost impact.

Submitter Information Verification

Submitter Full Name: Raymond Fremont
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State:
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Submittal Date: Tue Jan 07 17:08:23 EST 2020
Committee: SPI-AAA

Public Input No. 52-NFPA 14-2019 [Section No. 5.2.1.3.2.1]

5.2.1.3.2.1

Valve rooms shall be lighted and heated ~~.[13: 8.2.5.2.1]~~ where subject to freezing.

Statement of Problem and Substantiation for Public Input

There should not be a requirement for a heater when there is not a chance for freezing temperatures.

Submitter Information Verification

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City:
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Zip:
Submittal Date: Mon Dec 30 08:56:36 EST 2019
Committee: SPI-AAA

Public Input No. 16-NFPA 14-2019 [New Section after 5.6.5]

Health Care Facility

The alarm zone shall be permitted to coincide with the permitted area for smoke compartments [*5000* : 19.3.4.3.3.2].

Statement of Problem and Substantiation for Public Input

I have the following case:
The Hospital as high rise building 80 m height and will be evacuated in a phased manner, utilizing smoke compartments and horizontal exits, before occupants are directed down the building to the level of exit discharge.

Therefore, evacuation of occupants will primarily be from the affected smoke compartment horizontally.

As Evacuation Sequence propose requirement, the following services shall be coordinated with the smoke compartments:
— Fire alarm systems zone
— Sprinkler system zone (flow switch will activated fire alarm notification as private mode and voice evacuation through fire alarm control panel), etc.

As the above explain the sprinkler zone shall be coordinated with the smoke compartments zone.

The health care facility classified as Ordinary hazard in NFPA 13.

The NFPA 5000 Sec. 19.3.7.1.3 The size of each smoke compartment required by 19.3.7.1.1 and 19.3.7.1.2 shall be limited to an area not exceeding 22,500 ft2 (2100 m2) for health care.

The NFPA 13 Sec. 8.2.1 The maximum floor area on any one floor to be protected by sprinklers supplied by any one sprinkler system riser or combined system riser shall be as follows:
(2) Ordinary hazard — 52,000 ft2 (4830 m2)

There conflict between the smoke compartment zone limited to 2100 m. sq and sprinkler system protection area limitations — 52,000 ft2 (4830 m2).

Conclusion, I Suggest to add the the following statement to integrate the requirements indicted in NFPA 5000 Sec. 19.3.4.3.3.2 and NFPA 101 Sec. 18.3.4.3.3.2 to be come mandatory and clear requirements as (SHALL) to reduce the number of patients that will be transferred in the event of a fire case happening and facilitate the task of the staff for easy transport by less number of patients:

"the sprinkler zone shall be coordinated with the smoke compartments zone"

Submitter Information Verification

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Submittal Date: Fri Nov 29 17:49:26 EST 2019

Committee: SPI-AAA

Public Input No. 66-NFPA 14-2020 [Chapter 6]

Chapter 6 Installation Requirements

6.1 System Installer.

6.1.1 Installation personnel shall be qualified in the installation and testing of the systems.

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

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

(1) Registration, licensing, or certification by a state or local authority

(2) Certification by an organization acceptable to the authority having jurisdiction

(3) Manufacturer's certification for the specific type and brand of system provided

6.1.4 System installation trainees shall be under the supervision of a qualified system installer.

6.1.5 The system installer shall provide evidence of their qualifications and/or certifications when requested by the authority having jurisdiction.

6.1* Location and Protection of Piping.

6.1.1 Location of Dry Standpipes.

Dry standpipes shall be monitored in accordance with *NFPA 72* with supervisory air pressure.

6.1.2 Protection of Aboveground Piping.

6.1.2.1*

Standpipe system piping shall be protected from mechanical damage and fire damage in accordance with this section.

6.1.2.2*

Standpipe systems shall be protected in accordance with Table 6.1.2.2.

Table 6.1.2.2 Protection of Aboveground Piping

		High-Rise Buildings					Non-Ri Build
Construction Type	Sprinkler Protection	Standpipe	Horizontal[a]	Branchline	Standpipe	Horizontal[a]	Branc
I	AS[b]	✓	N/A	N/A	✓	N/A	N/
I	NS[c]	✓	✓	✓	✓	N/A	N/
II	AS	✓	N/A	N/A	✓	N/A	N/
II	NS	✓	✓	✓	✓	N/A	N/
III, IV, & V	AS/NS	✓	✓	✓	✓	N/A	N/

Notes:

[a]Refers to either a horizontal standpipe or the horizontal portion of any standpipe such as a feed main.

[b]AS = fully sprinklered building in accordance with NFPA 13

[c]NS = nonsprinklered or partially sprinklered building

6.1.2.2.1

Protection shall consist of one of the following methods:

(1) Enclosure in a fire-rated exit stairway

(2) Enclosure in fire-rated construction with such rating equal to that of the enclosed fire rated exit stairway

(3) Listed fire wrap or other insulating material applied directly to the pipe with such rating equal to that of the enclosed fire-rated exit stairway

6.1.2.2.2

Where exit stairways are not required to be enclosed in fire-rated construction, standpipe systems shall not be required to be protected.

6.1.2.2.3

Class II standpipe systems are not required to be protected.

6.1.2.2.4

Where additional standpipes are needed to meet travel distance requirements in non-high-rise buildings, protection of piping is not required.

6.1.2.2.5

Piping subject to mechanical damage shall be protected by steel posts, concrete barriers, or other approved means.

6.1.2.3

Where standpipe system piping that is normally filled with water passes through an area subject to freezing temperatures, it shall be protected to maintain the temperature of the water in the piping between 40°F and 120°F (4°C and 48.9°C).

6.1.2.3.1

Antifreeze solutions shall not be used to protect standpipe system piping from freezing.

6.1.2.3.2

Listed heat tracing shall be permitted to be used for protection from freezing.

6.1.2.3.2.1

Heat tracing shall be installed and insulated in accordance with the manufacturer's specifications.

6.1.2.3.2.2*

Where heat tracing is utilized, it shall be specifically listed for use on fire suppression systems.

6.1.2.3.2.3

Where heat tracing systems are used, they shall be supervised by one of the following methods:

(1) Central station, proprietary, or remote station signaling service

(2) Local signaling service that will cause a signal at a constantly attended location

6.1.2.3.3

Water-filled piping shall be permitted to be installed in areas where the temperature is less than 40°F (4°C) when heat loss calculations performed by a professional engineer verify that the system will not freeze.

6.1.2.4

Where corrosive conditions exist or piping is exposed to the weather, corrosion-resistant types of pipe, tube, fittings, and hangers or protective corrosion-resistive coatings shall be used.

6.1.2.5

Where standpipe systems are required to be protected against damage from earthquakes, standpipe systems shall be protected in accordance with NFPA 13.

6.1.3

Horizontal piping for all dry standpipe systems and semiautomatic standpipes shall be pitched to drain at least ¼ in. per 10 ft (2 mm/m).

6.1.4

In refrigerated areas, the pipe shall be pitched to drain at least ½ in. per 10 ft (4 mm/m).

6.2 Underground Piping.

Underground piping shall be in accordance with NFPA 24.

6.3 Gate Valves and Check Valves.

6.3.1 Connection to Water Supply.

6.3.1.1

Connections to each automatic water supply shall be provided with an approved indicating-type valve and check valve located close to the supply.

6.3.1.1.1

The approved indicating-type valve and check valve shall be permitted to be located within the building.

6.3.1.2

Valves in 6.3.1.1 shall not be required for automatic and semiautomatic standpipe systems supplied by fire pumps.

6.3.1.3

Backflow preventers shall be acceptable devices to meet the requirements of 6.3.1.1.

6.3.1.4

Valves in 6.3.1.1 shall not be required on manual dry standpipe systems.

6.3.1.4.1

The valves required by 6.3.2 shall be provided where there is more than one standpipe on a system.

6.3.1.5*

An approved indicating-type valve and approved check valve shall be provided in the water supply for a manual wet standpipe system.

6.3.2

Valves shall be provided on all standpipes, including manual dry standpipes and horizontal standpipes, to allow isolation of a standpipe without interrupting the supply to other standpipes from the same source of supply.

6.3.3

Listed indicating-type valves shall be provided at the standpipe for controlling branch lines where the distance to the remote hose connection exceeds 40 ft (12 m) measured along the pipe.

6.3.4

Where wafer-type valve discs are used, they shall be installed so that they do not interfere with the operation of other system components.

6.3.5* Control Valves and Check Valves on Combined (Standpipe/Sprinkler) Systems.

6.3.5.1

Each connection from a standpipe that is part of a combined system to a sprinkler system shall have an individual control valve and check valve.

6.3.5.2

A listed pressure-regulating device that prevents backflow shall be considered a check valve, and an additional check valve shall not be required.

6.3.6 Valves on Connections to Water Supplies.

6.3.6.1 General.

6.3.6.1.1*

Each water supply, other than the fire department connection, shall be provided with a listed indicating valve in an approved location.

6.3.6.1.2

Valves on fire department connections shall be in accordance with Sections 6.3 and 6.4.

6.3.6.1.2.1

All valves shall be plainly marked to indicate the service that they control.

6.3.6.1.2.2

The indicating valve shall be installed where it is readily accessible in case of fire and not subject to damage.

6.3.6.1.2.3

Wall post indicator valves shall be permitted where approved by the AHJ.

6.3.6.1.3

Where a post-indicator valve cannot be used, an underground valve with an approved roadway box, complete with T-wrench, shall be permitted.

6.3.6.1.3.1

The location of the T-wrench shall be acceptable to the AHJ.

6.3.6.1.3.2

The valve locations, directions for their opening, and services that they control shall be plainly marked on the buildings served.

6.3.7 Valve Supervision.

6.3.7.1

System water supply valves, isolation control valves, and other valves in feed mains shall be supervised in an approved manner in the open position by one of the following methods:

(1) A central station, proprietary, or remote station signaling service

(2) A local signaling service that initiates an audible signal at a constantly attended location

(3) Locking of valves in the open position

(4) Sealing of valves and an approved weekly recorded inspection where valves are located within fenced enclosures under the control of the owner

6.3.7.2

Underground gate valves with roadway boxes shall not be required to be supervised.

6.3.7.3

The bypass valves required in 7.2.4(4) shall be supervised in the closed position.

6.3.7.3.1

Supervision of these valves shall be in accordance with 6.3.7.1(1) or 6.3.7.1(2).

6.3.8 Signs for Room Identification, Valves, and Hose Connections.

6.3.8.1

All main and sectional system control valves, including water supply control valves, shall have a sign indicating the portion of the system that is controlled by the valve.

6.3.8.2

All control, drain, and test connection valves shall be provided with signs indicating their purpose.

6.3.8.3

Where sprinkler system piping supplied by a combined system is supplied by more than one standpipe (“loop” or “dual feed” design), a sign shall be located at each dual or multiple feed connection to the combination system standpipe to indicate that in order to isolate the sprinkler system served by the control valve, an additional control valve or valves at other standpipes shall be shut off.

6.3.8.3.1

The sign also shall identify the location of the additional control valves.

6.3.8.4

Where a main or sectional system control valve is located in a closed room or concealed space, the location of the valve shall be indicated by a sign in an approved location on the outside of the door or near the opening to the concealed space.

6.3.8.5*

Where hose connections are not located in exit stairways, signs shall be provided in accordance with NFPA 170 to identify the location of the hose connection in an approved manner.

6.3.8.5.1

Valve cabinets, where provided, shall be marked to indicate the contents.

6.3.8.5.2

Letters shall be red with a white background and shall be 2½ in. (65 mm) in height.

6.4* Fire Department Connections.

6.4.1

Isolation valves shall not be permitted between the fire department connection and where the fire department connection piping connects to the system piping.

6.4.2

A listed check valve shall be installed in each fire department connection and shall be located in an accessible location. [**13:**16.12.6.1]

6.4.2.1

The check valve shall be installed as close as possible to the fire department connection inlets.

6.4.2.1.1

The check valve shall be located where it is not subjected to freezing conditions.

6.4.2.2

The requirements of 6.4.2 shall apply to manual dry systems.

6.4.3

The fire department connection shall be installed as follows:

(1) *Automatic wet and manual wet standpipe systems.* On the system side of the system control valve, check valve, or any pump, but on the supply side of any isolating valves required by 6.3.2

(2) *Automatic dry standpipe systems.* On the system side of the control valve and check valve and the supply side of the dry pipe valve

(3) *Semiautomatic dry standpipe systems.* On the system side of the deluge valve

(4) *Manual dry standpipe systems.* Directly connected to system piping with a check valve in the piping as required by 6.4.2

6.4.3.1

Fire department connections shall not be connected on the suction side of fire pumps. [**13:**16.12.5.9]

6.4.4*

In areas subject to freezing, an approved automatic drip valve that is arranged to allow drainage without causing water damage shall be installed at the low point in the piping between the check valve and the fire department connection.

6.4.5 Location and Identification.

6.4.5.1

Fire department connections shall be visible and recognizable from the street or nearest point of fire department apparatus accessibility or on the street side of buildings.

6.4.5.1.1

Fire department connections shall be located and arranged so that hose lines can be attached to the inlets without interference from nearby objects, including buildings, fences, posts, landscaping, vehicles, or other fire department connections.

6.4.5.2

Each fire department connection shall be designated by a sign, with letters at least 1 in. (25.4 mm) in height, that reads “STANDPIPE.” For manual systems, the sign shall also indicate that the system is manual and that it is either wet or dry.

6.4.5.2.1

If automatic sprinklers are also supplied by the fire department connection, the sign or combination of signs shall indicate both designated services (e.g., “STANDPIPE AND AUTOSPKR” or “AUTOSPKR AND STANDPIPE”).

6.4.5.2.2

A sign also shall indicate the pressure required at the inlets to deliver the standpipe system demand.

6.4.5.2.2.1

The pressure required sign shall not be required when the pressure required is 150 psi (10.3 bar) or less.

6.4.5.3

Where a fire department connection services multiple buildings, structures, or locations, a sign shall be provided indicating the buildings, structures, or locations served.

6.4.5.4*

Fire department connections shall be located not more than 100 ft (30.5 m) from the nearest fire hydrant connected to an approved water supply.

6.4.5.4.1

The location of the fire department connection shall be permitted to exceed 100 ft (30.5 m) subject to the approval of the AHJ.

6.4.6

Fire department connections shall be located not less than 18 in. (457 mm) nor more than 48 in. (1219 mm) above the level of the adjoining ground, sidewalk, or grade surface.

6.4.7

Fire department connection piping shall be supported in accordance with Section 6.5.

6.5 Support of Piping.

Support of system piping shall be in accordance with NFPA 13.

6.6 Installation of Signs.

Signs shall be secured to a device or the building wall with corrosion-resistant chains or fasteners.

6.7 Signs for Water Supply Pumps.

Where a fire pump is provided, a sign shall be located in the vicinity of the pump indicating the minimum pressure and flow required at the pump discharge flange to meet the system demand.

6.8* Hydraulic Design Information Sign.

6.8.1

The installing contractor shall provide a sign identifying the basis of the system design.

6.8.2

The sign shall be located at the water supply control valve for automatic or semiautomatic standpipe systems and at an approved location for manual systems.

6.8.3

The sign shall indicate the following:

(1) Location of the two hydraulically most remote hose connections

(2) Design flow rate for the connections identified in 6.8.3(1)

(3) Design residual inlet and outlet pressures for the connections identified in 6.8.3(1)

(4) Design static pressure and the design system demand (i.e., flow and residual pressure) at the system control valve, or at the pump discharge flange where a pump is installed, and at each fire department connection

Statement of Problem and Substantiation for Public Input

This provides guidance for the qualifications for installers of these life safety systems to provide a reasonable degree of protection for life and property from fire through standardization of the requirements for designers and installers. The intent is to ensure that these personnel have been trained to provide these services as it relates to these specialized systems.

Submitter Information Verification

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Submittal Date: Thu Jan 09 16:30:27 EST 2020
Committee: SPI-AAA

Public Input No. 53-NFPA 14-2019 [Section No. 6.1.2.2.4]

6.1.2.2.4

Where additional standpipes are needed to meet travel distance requirements ~~in non-high-rise buildings~~ , protection of piping is not required.

Statement of Problem and Substantiation for Public Input

This section is in conflict with the annex language of A.7.3.2.11. This annex section recommends a 1 hour enclosure but it is not a requirement.

Submitter Information Verification

Submitter Full Name: Peter Schwab
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Street Address:
City:
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Submittal Date: Mon Dec 30 09:11:52 EST 2019
Committee: SPI-AAA

Public Input No. 54-NFPA 14-2019 [Section No. 6.1.2.3 [Excluding any Sub-Sections]]

Where standpipe system piping that is normally filled with water passes through an area subject to freezing temperatures, it shall be ~~protected to maintain the temperature of the water in the piping between 40°F and 120°F (4°C and 48.9°C).~~ protected from freezing.

Statement of Problem and Substantiation for Public Input

NFPA 13 and 13R have evolved to put more of a focus on keeping the pipe from freezing as opposed to the minimum 40 degree temperature. NFPA 14 should modify this language to be similar.

Submitter Information Verification

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Submittal Date: Mon Dec 30 09:18:10 EST 2019
Committee: SPI-AAA

Public Input No. 60-NFPA 14-2020 [Section No. 6.3.3]

6.3.3

Listed indicating-type valves shall be provided at the standpipe for controlling branch lines where the distance to the remote hose connection exceeds ~~40 ft~~ 100ft (~~12 m~~ 30m) measured along the pipe.

Statement of Problem and Substantiation for Public Input

In the 2016 Second Revision 40 ft. was agreed to based on an arbitrary figure. This is still to restrictive.

Submitter Information Verification

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Submittal Date: Wed Jan 08 19:37:35 EST 2020
Committee: SPI-AAA

Public Input No. 8-NFPA 14-2019 [New Section after 6.3.8]

Identification of Set Pressure on Pressure relief valves

Relief valves shall be permanetly identified at to what pressure it is set to upon installation.

Statement of Problem and Substantiation for Public Input

Changes in building piping that could increase the pressure needed, or changes in firefighting equipment that would hinder effective firefighting operations. knowing pressure regulators would need to be adjusted.

Submitter Information Verification

Submitter Full Name: Ronald Williams
Organization:
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City:
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Zip:
Submittal Date: Mon Sep 23 14:11:45 EDT 2019
Committee: SPI-AAA

Public Input No. 31-NFPA 14-2019 [Section No. 6.4.3]

6.4.3

The fire department connection shall be installed as follows:

(1) *Automatic wet and manual wet standpipe systems.* On the system side of the system control valve, check valve, or any pump, but on the supply side of any isolating valves required by 6.3.2

(2) *Automatic dry standpipe systems.* On the system side of the control valve and check valve and the supply side of the dry pipe valve

(3) *Semiautomatic dry standpipe systems.* On the system side of the deluge valve

(4) *Manual dry standpipe systems.* Directly connected to system piping with a check valve in the piping as required by 6.4.2

6.4.3.1 *

The requirements of 6.4.3 shall not apply where the fire department connection is connected to the underground piping.

6.4.3.2

Fire department connections shall not be connected on the suction side of fire pumps. [**13:**16.12.5.9]

A.6.4.3.1

Figure A.6.4.3.1 illustrates a fire department connection connected to the underground piping.

Additional Proposed Changes

File Name	Description	Approved
A.6.4.3.1_FDC_connection_to_Underground.docx	FDC connected to underground	

Statement of Problem and Substantiation for Public Input

The location of the FDC should not have to conform to section 6.4.3 when connected to the underground piping.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 30-NFPA 14-2019 [Global Input]	

Submitter Information Verification

Submitter Full Name: Peter Schwab
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City:
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Submittal Date:	Fri Dec 27 10:29:08 EST 2019
Committee:	SPI-AAA

Rename as A.6.4.3.1

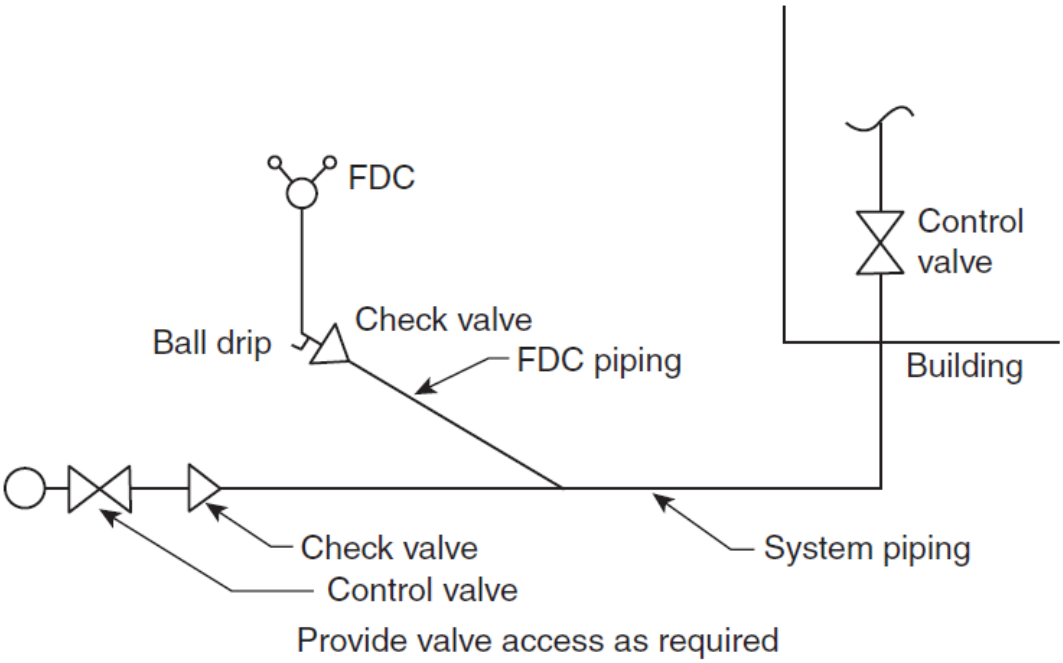


FIGURE A.16.12.5.5(a) Fire Department Connection to Underground Piping for a Single System.

Public Input No. 61-NFPA 14-2020 [Section No. 6.4.3]

6.4.3

The fire department connection shall be installed as follows:

(1) *Automatic wet and manual wet standpipe* ~~*systems*~~ *system* . On the system side of the system control valve, check valve, or any pump, but on the supply side of any isolating valves required by 6.3.2

(2) *Automatic dry standpipe systems.* On the system side of the control valve and check valve and the supply side of the dry pipe valve

(3) *Semiautomatic dry standpipe systems.* On the system side of the deluge valve

(4) *Manual dry standpipe systems.* Directly connected to system piping with a check valve in the piping as required by 6.4.2

(5) For Multiple systems (header). On the system side of the standpipe system contol valve, check valve, or any pump, but on the supply side of any isolating valves required by 6. 3.2

6. 4.3.1

Fire department connections shall not be connected on the suction side of fire pumps. [**13:**16.12.5.9]

Statement of Problem and Substantiation for Public Input

This is not like NFPA #13 were the FDC can be connected to the end of a header serving multiple systems.
The FDC on the Standpipe riser must be on the system side of the main control valve.
This is to clarify this requirement

Submitter Information Verification

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Submittal Date: Wed Jan 08 19:44:22 EST 2020
Committee: SPI-AAA

Public Input No. 5-NFPA 14-2019 [Section No. 6.4.5.1]

6.4.5.1

Fire department connections shall be visible and recognizable from the street or nearest point of fire department apparatus accessibility or on the street side of buildings. Fire department connections shall be identified by signage not less than 216 square inches in area with the letters "FDC" not less than six inches tall printed in a color contrasting with the background and acceptable to the AHJ. The sign shall be secured above the FDC no lower than four feet and no higher than six feet from ground level. Signs identifying the fire department connection shall be secured and maintained in a manner consistent with control, drain, and test valves and consistent with Section 6.6.

6.4.5.1.1

Fire department connections shall be located and arranged so that hose lines can be attached to the inlets without interference from nearby objects, including buildings, fences, posts, landscaping, vehicles, or other fire department connections.

Statement of Problem and Substantiation for Public Input

Identification of FDCs with signage helps firefighting personnel more quickly locate the FDC, especially as a structure ages and the connection is obscured by landscaping, additions, advertising, bicycle racks, charging stations and the like. Signage also sends the message to the building's occupants that the space around the FDC shall be unobstructed and identifies it as a critical area for building safety. While the current edition of the standard provides direction on the installation of signage (Sections 4.8, 4.10, 6.3.8.2, 6.6), there is no language specifically saying that FDC signage is a requirement. As cities become denser it becomes more difficult for fire personnel to identify FDCs from a distance, and occupants often view the FDC as an unsightly impediment to their decor or facades. Aesthetics aside, rapid identification of the FDC and maintenance of the clear space around the connection in order to facilitate rapid connection is becoming an operational (i.e. life safety) issue. Precious time will be saved in these larger occupancies if language is included mandating FDC signage.

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Public Input No. 67-NFPA 14-2020 [Chapter 7]

Chapter 7 Design

7.1 . System Designer

7.1.1 Plans and specifications shall be developed in accordance with this Code by persons who are experienced in the design, application, installation, and testing of the systems.

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

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

(1) Registration, licensing, or certification by a state or local authority

(2) Certification by an organization acceptable to the authority having jurisdiction

(3) Manufacturer's certification for the specific type and brand of system provided

7.1.4 The system designer shall be identified on the system design documents.

7.1.5 System design trainees shall be under the supervision of a qualified system designer.

7.1.6 The system designer shall provide evidence of their qualifications and/or certifications when required by the authority having jurisdiction.

7.1* General.

The design of the standpipe system is governed by building height, area per floor occupancy classification, egress system design, required flow rate and residual pressure, and the distance of the hose connection from the source(s) of the water supply.

7.1.1*

When pressure-regulating devices are used, they shall be approved for installation within the maximum and minimum anticipated flow conditions.

7.2* Pressure Limitation.

7.2.1

The maximum pressure at any point in the system at any time shall not exceed 400 psi (28 bar).

7.2.2

Express mains supplying higher standpipe zones shall be permitted to be designed with pressures in excess of 400 psi (28 bar) in accordance with their materials listings or as approved by the AHJ.

7.2.2.1

Where express mains supply higher standpipe zones, there shall be no hose valves on any portion of the system where the pressure exceeds 400 psi (28 bar).

7.2.3* Maximum Pressure at Hose Connections.

7.2.3.1

Where the residual pressure at a 1½ in. (40 mm) hose connection available for trained personnel use exceeds 100 psi (6.9 bar), a listed pressure-regulating device shall be provided to limit residual pressure at the flow required by Section 7.10 to 100 psi (6.9 bar).

7.2.3.1.1

Paragraph 7.2.3.1 shall not apply to the 1½ in. (40 mm) outlet on a 2½ in. × 1½ in. (65 mm × 40 mm) reducer as allowed by 5.3.3.2 and 7.3.4.1.

7.2.3.1.2

Paragraph 7.2.3.1 shall not apply to the 1½ in. (40 mm) hose connection when there is no hose required.

7.2.3.1.3

Where the static pressure at a 1½ in. (40 mm) hose connection exceeds 175 psi (12.1 bar), a listed pressure-regulating device shall be provided to limit static and residual pressures at the hose connection to no more than 175 psi (12.1 bar).

7.2.3.2*

Where the static pressure at a 2½ in. (65 mm) hose connection exceeds 175 psi (12.1 bar), a listed pressure-regulating device shall be provided to limit static and residual pressures at the hose connection to no more than 175 psi (12.1 bar).

7.2.3.2.1

Where a listed pressure regulating device is not manufactured, the AHJ shall be permitted to approve a nonlisted device.

7.2.3.3

The pressure on the inlet side of the pressure-regulating device shall not exceed the rated working pressure of the device.

7.2.4*

Where more than two hose connections are used downstream of a pressure-regulating device, the following conditions shall apply:

(1) In systems with multiple zones, pressure-regulating device(s) shall be permitted to be used in lieu of providing separate pumps to control pressure in the lower zone(s) as long as the devices comply with all requirements in 7.2.4.

(2) A method to isolate the pressure-regulating device(s) shall be provided for maintenance and repair.

(3) To provide redundancy, pressure-regulating devices shall be arranged in series so that the failure of any single device does not allow pressure in excess of 175 psi (12.1 bar) to any of the multiple hose connections downstream.

(4) An equally sized bypass around the pressure-regulating device(s), with a normally closed control valve, shall be installed.

(5) Pressure-regulating device(s) shall be installed not more than 7 ft 6 in. (2.31 m) above the floor.

(6) The pressure-regulating device shall be provided with inlet and outlet pressure gauges.

(7) The fire department connection(s) shall be connected to the system side of the outlet isolation valve.

(8) The pressure-regulating device shall be provided with a pressure relief valve in accordance with the manufacturer's recommendations.

(9) Remote monitoring and supervision for detecting high pressure failure of the pressure-regulating device shall be provided in accordance with *NFPA 72*.

7.3 Locations of Hose Connections.

7.3.1* General.

7.3.1.1

Hose connections and hose stations shall be unobstructed and shall be located not less than 3 ft (0.9 m) or more than 5 ft (1.5 m) above the floor.

7.3.1.1.1

This dimension shall be measured from the floor to the center of the hose valve.

7.3.1.2

The hose connection shall not be obstructed by any closed or open stairwell door(s) or other objects on the landing.

7.3.2* Class I Systems.

Where required to be provided, hose connections shall be located in accordance with 7.3.2.

7.3.2.1

Hose connections shall be provided at each main floor landing of required exit stairs.

7.3.2.1.1*

Where required by the AHJ or local fire department, hose connections shall be permitted to be installed at the highest intermediate floor landings between floor levels in required exit stairs.

7.3.2.2*

Hose connections shall be provided on each side of the wall adjacent to the exit openings of horizontal exits.

7.3.2.2.1*

Where all floor areas are reachable from an exit stairway hose connection on the same side of a horizontal exit within the distances required by 7.3.2.2.1.1 or 7.3.2.2.1.2 as applicable, the hose connection on the other side of the horizontal exit shall be permitted to be omitted.

7.3.2.2.1.1

The travel distance in 7.3.2.2.1 shall be 200 ft (61 m) for sprinklered buildings.

7.3.2.2.1.2

The travel distance in 7.3.2.2.1 shall be 130 ft (39.7 m) for nonsprinklered buildings.

7.3.2.3

Hose connections shall be provided in each exit passageway in other than covered mall buildings.

7.3.2.3.1

The hose connections required in 7.3.2.3 shall be located in the exit passageway at each entrance to the building.

7.3.2.4

Nonrequired stairs connecting two adjacent floors shall not require hose connections.

7.3.2.5*

A single hose connection shall be permitted to be installed in the open corridor between open stairs that are not greater than 75 ft (23 m) apart.

7.3.2.6

Hose connections shall be provided in covered mall buildings, at the entrance to each exit passageway or exit corridor, and at the interior side of public entrances from the exterior to the mall.

7.3.2.7*

Hose connections shall be provided at the highest landing of stairways with stairway access to a roof.

7.3.2.8*

The hose connection required by 7.3.2.7 shall not be required where hose connections are installed in accordance with 7.3.2.1.1.

7.3.2.9

In stairways that do not access the roof, a hose connection shall be provided on the roof.

7.3.2.9.1

The hose connection required by 7.3.2.9 shall not be required where the roof slope is 4 in 12 or greater.

7.3.2.9.2

The hose connection required by 7.3.2.9 shall not be required where at least one hose connection in accordance with 7.3.2.7 is provided in the building.

7.3.2.9.2.1

Where there are no hose connections as provided by 7.3.2.9.2, a single hose connection shall be provided on the roof.

7.3.2.10*

Additional hose connections shall be provided in unsprinklered buildings where the distance from connections required by 7.3.2.1 through 7.3.2.3 to the most remote portion or story exceeds 150 ft (45.7 m).

7.3.2.11*

Additional hose connections shall be provided in buildings sprinklered in accordance with NFPA 13 or NFPA 13R where the distance from connections required by 7.3.2.1 through 7.3.2.3 to the most remote portion or story exceeds 200 ft (61 m).

7.3.2.11.1

The distance in 7.3.2.10 and 7.3.2.11 shall be measured from the hose connection.

7.3.2.11.2

The location of additional hose connections shall be approved by the AHJ.

7.3.2.11.3

The distance in 7.3.2.10 and 7.3.2.11 shall not apply to the roof if the roof is not intended for occupancy.

7.3.2.11.4

Where allowed by the AHJ, the hose connections required by 7.3.2.11 shall be permitted to be omitted.

7.3.2.12

In open parking garages, the distances in 7.3.2.10 and 7.3.2.11 shall be reduced to 130 ft (39.7 m) when manual dry standpipes are installed.

7.3.3* Class II Systems.

7.3.3.1

Class II systems shall be provided with 1½ in. (40 mm) hose stations so that all portions of each floor level of the building are within 130 ft (39.7 m) of a hose connection provided with 1½ in. (40 mm) hose or within 120 ft (36.6 m) of a hose connection provided with less than 1½ in. (40 mm) hose.

7.3.3.2

Distances shall be measured along a path of travel originating at the hose connection.

7.3.4 Class III Systems.

Class III systems shall be provided with hose connections as required for both Class I and Class II systems.

7.3.4.1

Where a building is protected throughout by an approved automatic sprinkler system in accordance with NFPA 13 or NFPA 13R, Class II hose stations for use by trained personnel shall not be required provided that each Class I hose connection is 2½ in. (65 mm) and is equipped with a 2½ in. × 1½ in. (65 mm × 40 mm) reducer and a cap attached with a chain.

7.3.4.1.1

The travel distance limitation of 7.3.3.1 shall not apply to Class III systems.

7.3.4.1.2

For Class III systems installed without hose, the flow, pressure, and duration requirements shall be as specified for Class I systems in buildings protected throughout by an approved automatic sprinkler system.

7.4 Number of Standpipes.

Separate standpipes shall be provided in each required exit stairway.

7.5* Interconnection of Standpipes.

7.5.1

Where two or more standpipes are installed in the same building or section of building, they shall be interconnected.

7.5.1.1

Standpipes shall be permitted to not be interconnected where acceptable to the AHJ.

7.5.2

Where standpipes are supplied by tanks located at the top of the building or zone, the standpipes shall be interconnected at the top.

7.5.3

Where wet standpipes are interconnected at the top and bottom, check valves shall be installed at the base of each standpipe to prevent circulation.

7.5.4

Dry standpipes shall have only a single level of interconnection.

7.6 Minimum Sizes for Standpipes and Branch Lines, Class I and Class III Standpipes.

7.6.1

Standpipes shall be at least 4 in. (100 mm) in size.

7.6.2

Standpipes that are part of a combined system in a building that is partially sprinklered shall be at least 6 in. (150 mm) in size.

7.6.3

Where the building is protected throughout by an approved automatic sprinkler system in accordance with NFPA 13 or NFPA 13R, the minimum combined standpipe size shall be 4 in. (100 mm) for systems hydraulically designed in accordance with 7.8.1.

7.6.4

Branch lines shall be sized based on the hydraulic criteria established in Sections 7.8 and 7.10 but not sized smaller than 2½ in. (65 mm).

7.7 System Design and Sizing of Pipe for Delivery of System Demand.

7.7.1

Class I and Class III standpipe systems shall be designed so that the system demand can be supplied by each fire department connection, which is provided in accordance with Section 7.12.

7.7.2*

Where an automatic or semiautomatic water supply is required for a Class I, II, or III standpipe system by Section 5.4, the standpipe system shall be designed so that the system demand can be independently supplied by the attached water supply and each fire department connection provided on the system.

7.7.3

Where a manual system is permitted by Section 5.4 and an attached water supply is provided to supply an automatic sprinkler system or to maintain water in a wet system, the attached water supply shall not be required to satisfy the standpipe system demand.

7.7.4

When the system demand to be supplied by the fire department at the fire department connection is being determined, the local fire department shall be consulted regarding the water supply available from a fire department pumper.

7.8* Minimum and Maximum Pressure Limits.

7.8.1 Minimum Design Pressure for Hydraulically Designed Systems.

Hydraulically designed standpipe systems shall be designed to provide the waterflow rate required by Section 7.10 at a minimum residual pressure of 100 psi (6.9 bar) at the hydraulically most remote 2½ in. (65 mm) hose connection and 65 psi (4.5 bar) at the outlet of the hydraulically most remote 1½ in. (40 mm) hose connection.

7.8.1.1

The pressure loss through the hose valve shall be determined using the valve manufacturer's most up-to-date friction loss data.

7.8.1.1.1

The values in Table 8.3.1.3 shall be permitted to be used for non-pressure-reducing valves when the valve manufacturer's most up-to-date friction loss data is unavailable.

7.8.1.2*

Manual standpipe systems shall be designed to provide 100 psi (6.9 bar) at the outlet of the hydraulically most remote 2½ in. (65 mm) hose connection valve with the calculations terminating at the fire department connection.

7.8.1.2.1

The pressure required at the fire department connection for manual standpipes shall not exceed the working pressure of the system components of the standpipe system or sprinkler system when the system is a combined system.

7.9* Standpipe System Zones.

7.9.1

Except as permitted by 7.2.4, each standpipe system zone shall be provided with a separate pump or a separate discharge outlet from a multiple-stage, multiple-port fire pump.

7.9.1.1

The use of pumps arranged in series to meet the requirements of 7.9.1 shall be permitted.

7.9.1.2

Pumps that are arranged in series shall be permitted to be, but are not required to be, located on the same level.

7.9.2*

Each zone above the low zone shall have two or more separate and direct supply pipes sized to automatically and independently supply the flow and pressure requirements of Sections 7.8 and 7.10.

7.9.2.1

Standpipes from the lower zone shall be permitted to be used to meet the requirements of 7.9.2.

7.9.3*

For buildings with two or more zones in which any portion of the higher zones cannot be supplied by means of fire department pumpers through a fire department connection, an auxiliary means of supply in the form of high-level water storage with additional pumping equipment or other means acceptable to the AHJ shall be provided.

7.10 Flow Rates.

7.10.1 Class I and Class III Systems.

7.10.1.1* Flow Rate.

7.10.1.1.1

For Class I and Class III systems, the minimum flow rate for the hydraulically most remote standpipe shall be 500 gpm (1893 L/min), through the two most remote 2½ in. (65 mm) hose connections, and the calculation procedure shall be in accordance with 7.10.1.2.

7.10.1.1.2*

Where a horizontal standpipe on a Class I or Class III system supplies three or more hose connections on any floor, the minimum flow rate for the hydraulically most demanding horizontal standpipe shall be 750 gpm (2840 L/min), and the calculation procedure shall be in accordance with 7.10.1.2.2.

7.10.1.1.3

The minimum flow rate for additional standpipes shall be 250 gpm (946 L/min) per standpipe for buildings with floor areas that do not exceed 80,000 ft^2 (7432 m^2) per floor.

7.10.1.1.3.1

For buildings that exceed 80,000 ft^2 (7432 m^2) per floor, the minimum flow rate for additional standpipes shall be 500 gpm (1893 L/min) for the second standpipe and 250 gpm (946 L/min) for the third standpipe if the additional flow is required for an unsprinklered building.

7.10.1.1.4

Flow rates for combined systems shall be in accordance with 7.10.1.3.

7.10.1.1.5

The maximum flow rate shall be 1000 gpm (3785 L/min) for buildings that are sprinklered throughout, in accordance with NFPA 13, and 1250 gpm (4731 L/min) for buildings that are not sprinklered throughout, in accordance with NFPA 13.

7.10.1.1.6*

Where lateral piping serves a single hose connection, the minimum flow rate for the system shall be determined as if the hose connection is being served from a separate standpipe.

7.10.1.2* Hydraulic Calculation Requirements.

7.10.1.2.1

Hydraulic calculations and pipe sizes for each standpipe shall be based on providing 250 gpm (946 L/min) at the two hydraulically most remote hose connections on the standpipe and at the connection point of each of the other standpipes at the minimum residual pressure required by Section 7.8.

7.10.1.2.1.1*

Where a standpipe system has risers that terminate at different floor levels, separate hydraulic calculations shall be performed for the standpipes that exist on each level.

7.10.1.2.1.2

In each case, flow shall be added only for standpipes that exist on the floor level of the calculations.

7.10.1.2.2

Where a horizontal standpipe on a Class I and Class III system supplies three or more hose connections on any floor, hydraulic calculations and pipe sizes for each standpipe shall be based on providing 250 gpm (946 L/min) at the three hydraulically most remote hose connections on the standpipe and at the connection point of each of the other standpipes at the minimum residual pressure required by Section 7.8.

7.10.1.2.3*

Common supply piping shall be calculated and sized to provide the required flow rate for all standpipes connected to such supply piping, with the total not to exceed the maximum flow demand in 7.10.1.1.5.

7.10.1.2.3.1*

Common supply piping for separate standpipe systems shall be calculated to provide flow for the most demanding system.

7.10.1.2.4

Flows from additional standpipes as required by 7.10.1.1 shall not be required to be balanced to the higher pressure at the point of connection.

7.10.1.3 Combined Systems.

7.10.1.3.1

For a building protected throughout by an approved automatic sprinkler system, the system demand established by Section 7.7 and 7.10.1 also shall be permitted to serve the sprinkler system.

7.10.1.3.1.1

In a building protected in accordance with NFPA 13 or NFPA 13R, the water supply for the combined sprinkler and automatic standpipe system shall be based on the sprinkler system demand (including any hose stream demand) or the standpipe demand, whichever is greater.

7.10.1.3.1.2

A separate sprinkler demand shall not be required.

7.10.1.3.2

For a combined system in a building equipped with partial automatic sprinkler protection, the flow rate required by 7.10.1 shall be increased by an amount equal to the hydraulically calculated sprinkler demand or 150 gpm (568 L/min) for light hazard occupancies, or by 500 gpm (1893 L/min) for ordinary hazard occupancies, whichever is less.

7.10.2 Class II Systems.

7.10.2.1 Minimum Flow Rate.

7.10.2.1.1

For Class II systems, the minimum flow rate for the hydraulically most remote hose connection shall be 100 gpm (379 L/min).

7.10.2.1.2

Additional flow shall not be required where more than one hose connection is provided.

7.10.2.2 Hydraulic Calculation Requirements.

7.10.2.2.1

Hydraulic calculations and pipe sizes for each standpipe shall be based on providing 100 gpm (379 L/min) at the hydraulically most remote hose connection on the standpipe at the minimum residual pressure required by Section 7.8.

7.10.2.2.2

Common supply piping serving multiple standpipes shall be calculated and sized to provide 100 gpm (379 L/min).

7.10.3 Maximum Flow Rates for Individual Connections.

7.10.3.1

The maximum flow required from a 2½ in. (65 mm) hose connection shall be 250 gpm (946 L/min).

7.10.3.2

The maximum flow required from a 1½ in. (40 mm) hose connection shall be 100 gpm (379 L/min).

7.10.4 Sprinkler System Hose Demand.

Sprinkler system hose demand in fully sprinklered buildings shall not be required to be added to standpipe calculations.

7.11* Drains and Test Riser.

7.11.1

A permanently installed drain riser shall be provided adjacent to each standpipe equipped with pressure-regulating devices to facilitate tests of each device. The drain shall be sized large enough to handle the full flow required from the largest pressure-regulating device but shall not be less than the following:

(1) The size of the discharge outlet of the pressure-regulating device for devices that are greater than 2½ in. (65 mm) in size

(2) 3 in. (80 mm) to facilitate testing of 2½ in. (65 mm) pressure-regulating devices

(3) 2 in. (50 mm) to facilitate testing of 1½ in. (40 mm) pressure-regulating devices

7.11.1.1

The drain riser shall be equipped with connections that are of the same size as the discharge outlets of the pressure-regulating devices to be tested with internal threaded swivel fittings having NHS threads, as specified in NFPA 1963, with plugs.

7.11.1.1.1

The drain riser connections shall be located on at least every other floor.

7.11.1.2

Each drain riser shall terminate with a full-size elbow to grade or receptor that will receive the full flow from the drain riser.

7.11.1.3

Where drain risers are interconnected and run to a common discharge point, the common piping shall be sized for the combined flow.

7.11.1.4

Where local fire department hose threads do not conform to NFPA 1963, the fire department shall designate the hose threads to be used.

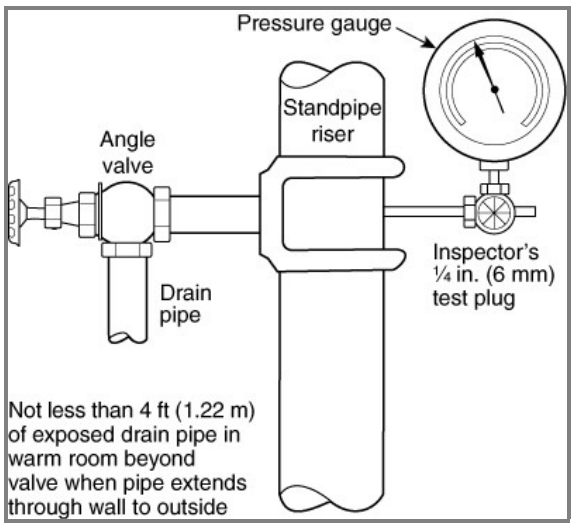
7.11.2 Drains.

All standpipe systems shall be equipped with drain connections in accordance with this section.

7.11.2.1

A main drain shall be provided on the standpipe system in accordance with Figure 7.11.2.1.

Figure 7.11.2.1 Drain Connection for System Riser.



7.11.2.1.1

The main drain connection shall be sized in accordance with Table 7.11.2.1.1.

Table 7.11.2.1.1 Sizing for Standpipe Riser Drains

Standpipe Riser Size	Size of Drain Connection
Up to 2 in. (50 mm)	¾ in. (20 mm) or larger
2½ in. (65 mm), 3 in. (80 mm), or 3½ in. (90 mm)	1¼ in. (32 mm) or larger
4 in. (100 mm) or larger	2 in. (50 mm) or larger

7.11.2.1.2

The main drain connection shall discharge at a location that permits the valve to be fully opened without causing water damage.

7.11.2.1.3

A main drain connection shall not be required on manual wet and manual dry standpipe systems.

7.11.2.2

A drain connection shall be provided on the standpipe side of each standpipe isolation valve.

7.11.2.2.1*

Where acceptable to the AHJ, the lowest hose connection shall be permitted to be used as the standpipe drain.

7.11.2.2.2

The drain connection shall be sized in accordance with Table 7.11.2.2.2.

Table 7.11.2.2.2 Sizing for Standpipe Drains

Standpipe Size	Size of Drain Connection
Up to 2 in. (50 mm)	¾ in. (20 mm) or larger
2½ in. (65 mm), 3 in. (80 mm), or 3½ in. (90 mm)	1¼ in. (32 mm) or larger
4 in. (100 mm) or larger	2 in. (50 mm) or larger

7.11.2.2.3

The standpipe drain connection shall discharge at a location that permits the valve to be fully opened without causing water damage.

7.11.2.2.3.1

Where allowed by 7.11.2.2.1, the standpipe drain shall not be required to be piped to a drain location.

7.11.2.3

Portions of the standpipe system that are trapped such that they cannot be drained through the main drain connection or a standpipe drain connection or a standpipe drain connection shall have an auxiliary method of draining in accordance with one of the following:

(1) An auxiliary drain in accordance with NFPA 13

(2) An auxiliary drain connection in accordance with Table 7.11.2.2.2

(3) A hose connection at a low point that has been approved for use with a hose to drain water out of the trapped portion of the system to a location that will not cause water damage

7.12* Fire Department Connections.

7.12.1

One or more fire department connections shall be provided for each zone of each Class I or Class III standpipe system.

7.12.1.1

The high zone fire department connection(s) shall not be required to be provided where 7.9.3 applies.

7.12.2 Number of Fire Department Connections.

7.12.2.1

A minimum of one fire department connection shall be required for any standpipe system.

7.12.2.2*

Two fire department connections shall be provided for each zone, located either on opposite corners of the buildings where fire department apparatus access is provided or, where not possible, physically separated to the greatest extent possible for the following:

(1) High-rise buildings

(2) Buildings or multiple attached buildings exceeding 900 ft (274.3 m) perimeter distance

7.12.2.3

Fire department connections shall be visible and recognizable from and located within 50 ft (15.2 m) of the street or nearest point of fire department apparatus access.

7.12.3

Fire department connection sizes shall be based on the standpipe system demand and shall include one 2½ in. (65 mm) inlet per every 250 gpm (946 L/min).

7.12.3.1

An approved large diameter hose connection of a size to accommodate the required flow shall be permitted.

7.12.3.2

The inlets required by 7.12.3 shall be permitted to be provided on multiple fire department connections.

7.12.3.3

The inlets required by 7.12.3 shall be permitted to be located in multiple locations as allowed by the AHJ.

Statement of Problem and Substantiation for Public Input

This provides guidance for the qualifications for designers of these life safety systems to provide a reasonable degree of protection for life and property from fire through standardization of the requirements for designers and installers. The intent is to ensure that these personnel have been trained to provide these services as it relates to these specialized systems.

Submitter Information Verification

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Submittal Date: Thu Jan 09 16:36:44 EST 2020
Committee: SPI-AAA

Public Input No. 41-NFPA 14-2019 [Section No. 7.2.4]

7.2.4 *

Where more than two hose connections are used downstream of a pressure-regulating device, the following conditions shall apply:

(1) In systems with multiple zones, pressure-regulating device(s) shall be permitted to be used in lieu of providing separate pumps to control pressure in the lower zone(s) as long as the devices comply with all requirements in 7.2.4.

(2) A method to isolate the pressure-regulating device(s) shall be provided for maintenance and repair.

(3) To provide redundancy, pressure-regulating devices shall be arranged in series so that the failure of any single device does not allow pressure in excess of 175 psi (12.1 bar) to any of the multiple hose connections downstream.

(4) The 2nd device in series shall be a pilot operated pressure regulating device.

(5) An equally sized bypass around the pressure-regulating device(s), with a normally closed control valve, shall be installed.

(6) Pressure-regulating device(s) shall be installed not more than 7 ft 6 in. (2.31 m) above the floor.

(7) The pressure-regulating device shall be provided with inlet and outlet pressure gauges.

(8) The fire department connection(s) shall be connected to the system side of the outlet isolation valve.

(9) The pressure-regulating device shall be provided with a pressure relief valve in accordance with the manufacturer's recommendations.

(10) Remote monitoring and supervision for detecting high pressure failure of the pressure-regulating device shall be provided in accordance with *NFPA 72*.

Statement of Problem and Substantiation for Public Input

The 2nd device in the series needs to be a pilot operated device. Spring loaded devices are not as fast acting and may not capture pressure surges and spikes that get past the first device. Good practice would be to require both devices to be pilot operated since the main goal is to prevent any chance of seeing pressures above 175 downstream of the arrangement.

Submitter Information Verification

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Submittal Date: Fri Dec 27 14:11:42 EST 2019
Committee: SPI-AAA

Public Input No. 38-NFPA 14-2019 [Section No. 7.3.2.2]

7.3.2.2 *

Hose connections shall be provided on each side of ~~the wall adjacent to the exit openings of~~ horizontal exits.

7.3.2.2.1 *

Where all floor areas are reachable from an exit stairway hose connection on the same side of a horizontal exit within the distances required by 7.3.2.2.1.1 or 7.3.2.2.1.2 as applicable, the hose connection on the other side of the horizontal exit shall be permitted to be omitted.

7.3.2.2.1.1

The travel distance in 7.3.2.2.1 shall be 200 ft (61 m) for sprinklered buildings.

7.3.2.2.1.2

The travel distance in 7.3.2.2.1 shall be 130 ft (39.7 m) for nonsprinklered buildings.

Statement of Problem and Substantiation for Public Input

The language as currently written can be confusing and misleading.

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Submittal Date: Fri Dec 27 13:31:10 EST 2019
Committee: SPI-AAA

Public Input No. 39-NFPA 14-2019 [Section No. 7.3.2.2]

7.3.2.2 *

Hose connections shall be provided on each side of the wall adjacent to the exit openings of horizontal exits.

7.3.2.2.1 *

Where all floor areas are reachable from an exit stairway hose connection on the same side of a horizontal exit within the distances required by 7.3.2.2.1.1 or 7.3.2.2.1.2 as applicable, the hose connection on the other side of the horizontal exit shall be permitted to be omitted.

7.3.2.2.1.1

The travel distance in 7.3.2.2.1 shall be 200 ft (61 m) for sprinklered buildings.

7.3.2.2.1.2

The travel distance in 7.3.2.2.1 shall be 130 ft (39.7 m) for nonsprinklered buildings.

7.3.2.2.2 _

The hose connection (s) shall be located within 10 ft (3.0 m) and be visible from the horizontal exit.

Statement of Problem and Substantiation for Public Input

There is no guidance as to how close or far away the hose valve needs to be to in relation to the horizontal exit. 10 feet is a random number but is a good stating place.

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Submittal Date: Fri Dec 27 13:36:10 EST 2019
Committee: SPI-AAA

Public Input No. 36-NFPA 14-2019 [Section No. 7.3.2.11]

7.3.2.11 *

~~Additional~~ Where required by the AHJ, additional hose connections shall be provided in buildings sprinklered in accordance with NFPA 13 or NFPA 13R where the distance from connections required by 7.3.2.1 through 7.3.2.3 to the most remote portion or story exceeds 200 ft (61 m).

7.3.2.11.1

The distance in 7.3.2.10 and 7.3.2.11 shall be measured from the hose connection.

7.3.2.11.2

The location of additional hose connections shall be approved by the AHJ.

7.3.2.11.3

The distance in 7.3.2.10 and 7.3.2.11 shall not apply to the roof if the roof is not intended for occupancy.

~~**7.3.2.11.4** –~~

~~Where allowed by the AHJ, the hose connections required by 7.3.2.11 shall be permitted to be omitted.~~

Statement of Problem and Substantiation for Public Input

This PI changes the mandatory requirement for additional hose valves in a sprinklered building to only be required at the discretion of the AHJ. Currently the annex language for A.7.3.2.11 makes a good argument for not making the requirement mandatory as the additional hose connections are not required to be enclosed in a rated corridor or enclosure. Adding additional hose connections without appropriate staging areas should be considered by the responding authority. Proper planning as to these locations is required.

Submitter Information Verification

Submitter Full Name: Peter Schwab
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Submittal Date: Fri Dec 27 13:11:45 EST 2019
Committee: SPI-AAA

Public Input No. 35-NFPA 14-2019 [Section No. 7.3.2.11.1]

7.3.2.11.1

The distance in 7.3.2.10 and 7.3.2.11 shall be measured from the hose connection along the path of travel .

Statement of Problem and Substantiation for Public Input

This PI adds the language "along the path of travel" to indicate that the 200'-0" distance does not contemplate a hose stream at the final 30 feet of the 200 foot distance.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 34-NFPA 14-2019 [Section No. 7.3.3.2]	Class II Hose spray

Submitter Information Verification

Submitter Full Name: Peter Schwab
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State:
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Submittal Date: Fri Dec 27 13:05:38 EST 2019
Committee: SPI-AAA

Public Input No. 34-NFPA 14-2019 [Section No. 7.3.3.2]

7.3.3.2

Distances shall be measured along a path of travel originating at the hose connection and shall include the unobstructed stream from the nozzle .

Statement of Problem and Substantiation for Public Input

The current language allows the distance to be measured without regard to the stream from the nozzle. Along the path of travel could mean that the last 30 feet could be around a corner. Class II systems should be looked at differently then a Class I system since there is a hose contemplated in the definition of a Class II.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 35-NFPA 14-2019 [Section No. 7.3.2.11.1]	
Public Input No. 37-NFPA 14-2019 [Section No. A.7.3.3]	

Submitter Information Verification

Submitter Full Name: Peter Schwab
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Submittal Date: Fri Dec 27 12:56:43 EST 2019
Committee: SPI-AAA

Public Input No. 62-NFPA 14-2020 [New Section after 7.6]

7.7 Minimum Size Standpipe and Branch Lines, Class II Standpipes

7.7.1 Standpipes ans Branchlines are to be sized based on the hydraulic criteria established in Sections 7.8 and 7.10

Statement of Problem and Substantiation for Public Input

there is no information provided for the minimum pipe size for a class II Standpipe system
AHJ's are requiring the minimum size as stated for a Class I or III system

This is not the intent and the new section clarifies this requirment

Submitter Information Verification

Submitter Full Name: James Dockrill
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Submittal Date: Wed Jan 08 19:57:59 EST 2020
Committee: SPI-AAA

Public Input No. 59-NFPA 14-2020 [Section No. 7.9]

7.9*– Vertical Standpipe System Zones.

7.9.1

Except as permitted by 7.2.4, each vertical standpipe system zone shall be provided with a separate pump or a separate discharge outlet from a multiple-stage, multiple-port fire pump.

7.9.1.1

The use of pumps arranged in series to meet the requirements of 7.9.1 shall be permitted.

7.9.1.2

Pumps that are arranged in series shall be permitted to be, but are not required to be, located on the same level.

7.9.2*

Each zone above the low zone shall have two or more separate and direct supply pipes sized to automatically and independently supply the flow and pressure requirements of Sections 7.8 and 7.10.

7.9.2.1

Standpipes from the lower zone shall be permitted to be used to meet the requirements of 7.9.2.

7.9.3*

For buildings with two or more zones in which any portion of the higher zones cannot be supplied by means of fire department pumpers through a fire department connection, an auxiliary means of supply in the form of high-level water storage with additional pumping equipment or other means acceptable to the AHJ shall be provided.

Statement of Problem and Substantiation for Public Input

High rise building construction is regulated by several codes and standards. The term “zone” is described in many ways from the International Building Code (IBC), NFPA 13, NFPA 14, and NFPA 20. This public input starts to attempt to improve or correlate the terminology of what a vertical zone is across all the codes and standards.

The PI adds “vertical” to the Section title 7.9 and in Section 7.9.1. It adds clarity as a zone by tying it to the term "vertical" in the definition in Section 3.3.21. Other sections may need to be correlated.

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Submittal Date: Wed Jan 08 12:36:08 EST 2020
Committee: SPI-AAA

Public Input No. 10-NFPA 14-2019 [Section No. 7.9.3]

7.9.3*

~~For buildings with two or more zones in which any portion of the higher zones cannot be supplied by means of fire department pumpers through a fire department connection, an auxiliary means of supply in the form of high-level water storage with additional pumping equipment or other means acceptable to the AHJ shall be provided~~ .

Statement of Problem and Substantiation for Public Input

Section 7-9.3 contains information that is essentially conveying the same information as is also contained in Chapter 9 Water Supply, section 9.1.4. The same information, worded slightly differently, should not be included in two different locations. Chapter 9 appears to be a more appropriate location to include this information.

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Submittal Date: Thu Oct 10 09:53:49 EDT 2019
Committee: SPI-AAA

Public Input No. 32-NFPA 14-2019 [Section No. 7.10.1.2.3]

7.10.1.2.3 *

Common supply piping shall be calculated and sized to provide the required flow rate for all standpipes ~~connected~~ located within the building connected to such supply piping, with the total not to exceed the maximum flow demand in 7.10.1.1.5.

7.10.1.2.3.1 *

Common supply piping for separate standpipe systems shall be calculated to provide flow for the most demanding system.

Statement of Problem and Substantiation for Public Input

There are situations where the common supply piping is utilized to provide a water supply (whether automatic or manual), for multiple buildings. Sometimes these buildings are physically connected but per the local building code they are considered separate buildings. This concept is illustrated in Figure A.7.10.1.2.3.1 and this input codifies the language in the body of the standard.

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Submittal Date: Fri Dec 27 10:48:09 EST 2019
Committee: SPI-AAA

Public Input No. 18-NFPA 14-2019 [Section No. 7.12.2.2]

7.12.2.2*

~~Two~~ A minimum of two locations for fire department connections shall be provided for each zone, located either on opposite corners of the buildings where fire department apparatus access is provided or, where not possible, physically separated to the greatest extent possible for the following:

(1) High-rise buildings

(2) Buildings or multiple attached buildings exceeding 900 ft (274.3 m) perimeter distance

Each location for fire department connections shall have the total amount of inlets required by 7.12.3 for each zone.

Statement of Problem and Substantiation for Public Input

High rise buildings and large perimeter buildings should have remote fire department connection locations that are INDEPENDENTLY REDUNDANT, such that if one location is out of service for any reason, the full standpipe system demand can be served by the other location. As currently written, noting "two fire department connections" and in conjunction with allowances in 7.12.3.2 and 7.12.3.3 which allow total quantity of inlets to be split between both multiple connections and multiple locations, it is conceivable that as currently worded: given the example of a 1000 gpm standpipe demand in a high rise building, at one location 1/2 the demand could be provided and at the second location, the other half could be provided, and you would not have ability to supply full system demand through the fire department connection if one location is out of service. This is not a concern for buildings that only require a minimum of one fire department connection. Also, changed to "A minimum of two locations" rather than just "two locations" to allow fire department to require additional locations when they deem necessary.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 19-NFPA 14-2019 [Sections 7.12.3.2, 7.12.3.3]	

Submitter Information Verification

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Committee: SPI-AAA

Public Input No. 19-NFPA 14-2019 [Sections 7.12.3.2, 7.12.3.3]

Sections 7.12.3.2, 7.12.3.3

7.12.3.2

The inlets required by 7.12.3 shall be permitted to be provided on multiple adjacent fire department connections at a single location such that the total quantity of inlets from all fire department connections for a zone at a single location equals or exceeds the quantity of inlets required by 7 .12.3.

7.12.3.3

~~The~~ For buildings that require only a single location for fire department connections, the inlets required by 7.12.3 shall be permitted to be located in multiple locations ~~as allowed by~~ , such that the total quantity of inlets from all fire department connections for a zone at all locations equals or exceeds the quantity of inlets required by 7.12.3, when allowed by the AHJ.

Statement of Problem and Substantiation for Public Input

Existing wording is confusing as does not clearly state that where either multiple locations or multiple connections are used, that the quantity of inlets required applies to each location or connection, or can be split between locations and connections (as I believe is the intent). Also, in conjunction with PI 18, clarified that splitting the inlets among multiple locations only applies for building types that would otherwise only require a single location. Lastly, revised wording in 7.12.3 from "as allowed by AHJ" to "when allowed by AHJ". "As allowed" implies it is a determined fact that AHJ accepts the design concept. I believe the intent is that the AHJ to approve at their discretion.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 18-NFPA 14-2019 [Section No. 7.12.2.2]	

Submitter Information Verification

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Submittal Date: Tue Dec 03 15:05:26 EST 2019
Committee: SPI-AAA

Public Input No. 28-NFPA 14-2019 [Section No. 8.3.1.3]

8.3.1.3

Table 8.3.1.3 shall be used to determine the equivalent length of pipe for fittings and devices unless the manufacturer's published data indicate that other factors are more accurate.

Table 8.3.1.3 Equivalent Pipe Length Chart

	Fittings and Valves Expressed in Equivalent Feet of Pipe													
Fittings and Valves	3/4 in.	1 in.	1 1/4 in.	1 1/2 in.	2 in.	2 1/2 in.	3 in.	3 1/2 in.	4 in.	5 in.	6 in.	8 in.	10 in.	1
45 degree elbow	1	1	1	2	2	3	3	3	4	5	7	9	11	1
90 degree standard elbow	2	2	3	4	5	6	7	8	10	12	14	18	22	2
90 degree long-turn elbow	1	2	2	2	3	4	5	5	6	8	9	13	16	1
Tee or cross (flow turned 90 degrees)	3	5	6	8	10	12	15	17	20	25	30	35	50	6
Butterfly valve	—	—	—	—	6	7	10	—	12	9	10	12	19	2
Gate valve	—	—	—	—	1	1	1	1	2	2	3	4	5	6
Swing check*	—	5	7	9	11	14	16	19	22	27	32	45	55	6
~~Globe (straight) hose valve — — — 46 — 70 — — — — — — — — Angle or hose valve — — — 20 — 31 — — — — — — — —~~														

For SI units, 1 in. = 25.4 mm.

*Due to the variations in design of swing check valves, the pipe equivalents indicated in this table are considered to be average.

Statement of Problem and Substantiation for Public Input

Delete the equivalent lengths for hose valves. These numbers should be provided as part of the listing of the hose valve. If this is not deleted, then these values need to be re-evaluated. A straight pattern hose valve has double the equivalent length of an angled valve? I do not have any confidence in these numbers because of this.

Submitter Information Verification

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Submittal Date: Thu Dec 26 13:52:51 EST 2019
Committee: SPI-AAA

Public Input No. 11-NFPA 14-2019 [Section No. 9.1.4]

9.1.4

Where fire department pumpers cannot supply the required system demand through a fire department connection to any zone or portion of a zone , an auxiliary water supply ~~consisting of high-level water storage with additional pumping equipment or~~ complying with 9.1.4.1 through 9.1.4.3 or other means acceptable to the AHJ shall be provided for such zone(s) .

9.1.4.1 Fire Pump Backup. Fire pumps serving zones that are partially or wholly beyond the pumping capability of the fire department apparatus shall be provided with one of the following:

(1) A fully indpendent and uatomatic backup fire pump unit(s) arranged so that all zones can be maintained in full service with any one pump out of service.

(2) An auxiliary means that is capable of providing the full fire protection demand that is acceptable to the authority having jurisdiction. [**20** :5.6.2|

9.1.4.2 Water Supply Tanks. Water tanks serving zones that are partially or wholly beyond the pumping capability of the fire department apparatus and where such tanks will have less than 100% of the required system demand stored with any tank or tank compartment out of service shall comply with NFPA 20 requirements for water supply tanks for Very Tall Buildings.

9.1.4.3 The auxiliary water supply shall meet the 30-minute minimum water supply requirements of Section 9.2.

Statement of Problem and Substantiation for Public Input

Section 9.1.4 as currently written can be read to require a high level water storage tank with fire pumps for zones beyond fire department pumping capacity even where the building may be pumping from bottom of the building without the use of an high level tank or where the building is utilizing gravity tanks without fire pumps. NFPA 20 provides detailed requirements for water supply (tanks and pumps) for very tall buildings which are defined as buildings with zones or portions of zones beyond the fire department pumping capacity, which is exactly what section 9.1.4 is addressing, therefore the requirements of 9.1.4 should be consistent with NFPA 20 requirements for very tall buildings. The rewording adequately the different tank and pump designs that may be encountered rather than the current wording which would appear to assume only the combination of fire pumps supplied by tanks. A zone beyond fire department pumping capacity may be a tank only (gravity tank), pumps only (connected to municipal water supply pumping from the bottom of the building), or a high or low level water storage tank with fire pumps. Separating the fire pump and water supply tank requirements allows each requirement to be applied only when encountered in the design. A further modification to NFPA 20 requirements on water supply tanks for very tall buildings is introduced into this proposal indicating that it is only required to follow NFPA 20 very tall buildings water supply tank requirements if there is less than 100% of the required water supply available with any single tank or compartment out of service. This is because NFPA 20 allows that 50% can be out of service at a time, but this is not acceptable where fire department cannot provide auxiliary supply thus the very tall building requirements to refill the tank(s) at demand rate. NFPA 20 appears further assumes that all designs will only put in 100% of the water supply split into two tanks. However, other options exist to have 100% water supply even with one tank out of service, such as providing 150% of the water supply (50% in three tanks). In such a situation, there would be no need for the refill requirements at system demand to meet the 100% water supply.

Submitter Information Verification

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Submittal Date:	Thu Oct 10 12:48:24 EDT 2019
Committee:	SPI-AAA

Public Input No. 13-NFPA 14-2019 [Section No. 9.1.4.1]

9.1.4.1

The auxiliary water supply shall meet the 45 -miunte 30-minute minimum water supply requirements of Section 9.2.

Statement of Problem and Substantiation for Public Input

The 45 minutes of Auxiliary water would allow a greater amount of water for the suppression activity based on the square footage of the building. The code should be a graduated code based on the square footage of the building the auxiliary water supply is being utilized for.

Submitter Information Verification

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Submittal Date: Tue Nov 19 12:35:45 EST 2019
Committee: SPI-AAA

Public Input No. 42-NFPA 14-2019 [Section No. 10.1]

10.1 * Water Supply Evaluation.

The water flow rate and pressure of a public water supply shall be determined from waterflow test data or other approved method.

A. 10.1 ~~.1~~

Daily and seasonal flow and pressure fluctuation data ~~shall~~ should be provided by the water purveyor, and the fire protection design ~~must~~ should account for both high and low variations.

~~**10.1.1.1** –~~

~~Where these data are~~

Where this data is not available, design

~~shall~~

should be based on the available water flow data.

Statement of Problem and Substantiation for Public Input

Is this a practical requirement? How long does a contractor need to try and track down fluctuation data from the water purveyor? Is the water purveyor that sophisticated in their monitoring to even be able to provide this information? There are a few larger purveyors that do but this is the exception, not the normal. How critical is a fluctuation in the water supply to a standpipe system? These systems are designed in the hundreds of gallons. How many reported instances are there of failure of standpipe systems due to pressure fluctuations? All standpipe systems are required to have a fire department connection connected to the system that is capable of providing the system demand so that is always available if the water supply has fluctuated. In fact, how many recorded instances are there of fire departments utilizing the 1000 or 1250 GPM demands from a standpipe in other than the acceptance test?
This is good annex language and should be moved there.

Submitter Information Verification

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Submittal Date: Fri Dec 27 14:31:12 EST 2019
Committee: SPI-AAA

Public Input No. 45-NFPA 14-2019 [Section No. 11.1.3]

11.1.3

The installing contractor shall complete and sign the appropriate contractor's material and test certificate ~~(s)~~ as shown in Figure 11.1.3(a) ~~and Figure 11 . 1.3(b).~~

Figure 11.1.3(a) Sample Contractor's Material and Test Certificate for Aboveground Piping.



CONTRACTOR'S MATERIAL AND TEST CERTIFICATE FOR ABOVEGROUND PIPING

Standpipe System NFPA 14

PROCEDURE

Upon completion of work, inspection and tests shall be made by the contractor's representative and witnessed by an owner's representative. All defects shall be corrected and the system left in service before the contractor's personnel finally leave the job.

A certificate shall be filled out and signed by both representatives. Copies shall be prepared for approving authorities, owners, and contractor. It is understood that the owner's representative's signature in no way prejudices any claim against the contractor for faulty material, poor workmanship, or failure to comply with the approving authority's requirements or local ordinances.

Property name | Date

Property address

Plans
- Accepted by approving authorities (names)
- Address
- Installation conforms to accepted plans? ❑ Yes ❑ No
- Equipment used is approved or listed? ❑ Yes ❑ No
- If no, explain deviations.

Type of System
- ❑ Automatic dry
- ❑ Automatic wet
- ❑ Semiautomatic dry
- ❑ Manual dry
- ❑ Manual wet
- ❑ Combination standpipe/sprinkler
- If other, explain.

Water Supply Data Used for Design and As Shown on Plans
- Fire pump data
- Manufacturer ____ Model ____
- Type: ❑ Electric ❑ Diesel ❑ Other (explain) ____
- Rated, gpm ____ Rated, psi ____ Shutoff, psi ____

Water Supply Source Capacity, Gallons
- ❑ Public waterworks system ____ (gal) ❑ Storage tank ____ (gal) ❑ Gravity tank ____ (gal) ❑ Open reservoir ____ (gal)
- ❑ Other (explain)

If Public Waterworks System:
- Static, psi ____ Residual, psi ____ Flow, gpm ____

Have Copies of the Following Been Provided to the Owner or Owner's Representative?
- ❑ System components instructions ❑ Care and maintenance of system ❑ NFPA 25
- ❑ Copy of accepted plans ❑ Hydraulic data/calculations

Supplies Building(s)
- Main waterflow shutoff location ____
- Number of standpipe risers ____
- Do all standpipe risers have base of riser shutoff valves? ❑ Yes ❑ No

Valve Supervision
- ❑ Locked open ❑ Sealed and tagged ❑ Tamperproof switch ❑ Other
- If other, explain.

Pipe and Fittings
- Type of pipe ____
- Type of fittings ____

Hose Threads
- Hose threads have been verified for compliance with local fire department ❑ Yes ❑ No

Backflow Preventor
- ❑ Double check assembly ❑ Reduced-pressure device Size ____ Make and model ____

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CONTROL VALVE DEVICE

Type	Size	Make	Model

- Time to trip through remote hose valve ____ Min ____ Sec Water pressure ____ Air pressure ____
- Time water reached remote hose valve outlet ____ Min ____ Sec Trip point air pressure ____ psi
- Alarm operated properly? ❑ Yes ❑ No If no, explain.

- Time water reached remote hose valve outlet ____ Min ____ Sec
- Hydraulic activation ❑ Yes
- Electric activation ❑ Yes
- Pneumatic activation ❑ Yes
- Make and model of activation device
- Each activation device tested? ❑ Yes ❑ No If no, explain.

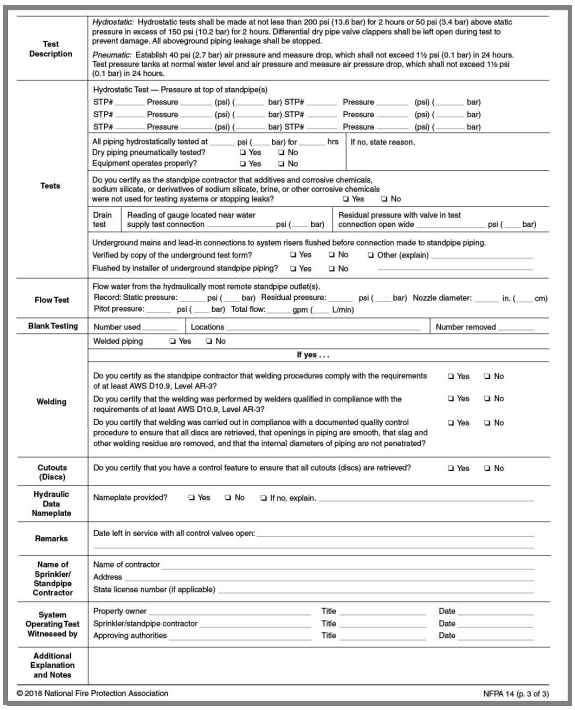
- Each activation device operated properly? ❑ Yes ❑ No If no, explain.

PRESSURE-REGULATING DEVICE

Location & Floor	Model	Nonflowing (psi) Inlet	Nonflowing (psi) Outlet	Flowing (psi) Inlet	Flowing (psi) Outlet	gpm

- All hose valves on system operated properly? ❑ Yes ❑ No If no, explain.

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Test Description	*Hydrostatic:* Hydrostatic tests shall be made at not less than 200 psi (13.6 bar) for 2 hours or 50 psi (3.4 bar) above static pressure in excess of 150 psi (10.2 bar) for 2 hours. Differential dry pipe valve clappers shall be left open during test to prevent damage. All aboveground piping leakage shall be stopped. *Pneumatic:* Establish 40 psi (2.7 bar) air pressure and measure drop, which shall not exceed 1½ psi (0.1 bar) in 24 hours. Test pressure tanks at normal water level and air pressure and measure air pressure drop, which shall not exceed 1½ psi (0.1 bar) in 24 hours.
Tests	Hydrostatic Test — Pressure at top of standpipe(s) STP# _____ Pressure _____ (psi) (_____ bar) STP# _____ Pressure _____ (psi) (_____ bar) STP# _____ Pressure _____ (psi) (_____ bar) STP# _____ Pressure _____ (psi) (_____ bar) STP# _____ Pressure _____ (psi) (_____ bar) STP# _____ Pressure _____ (psi) (_____ bar) All piping hydrostatically tested at _____ psi (_____ bar) for _____ hrs — If no, state reason. Dry piping pneumatically tested? ❑ Yes ❑ No Equipment operates properly? ❑ Yes ❑ No Do you certify as the standpipe contractor that additives and corrosive chemicals, sodium silicate, or derivatives of sodium silicate, brine, or other corrosive chemicals were not used for testing systems or stopping leaks? ❑ Yes ❑ No Drain test — Reading of gauge located near water supply test connection _____ psi (____ bar) — Residual pressure with valve in test connection open wide _____ psi (____ bar) Underground mains and lead-in connections to system risers flushed before connection made to standpipe piping. Verified by copy of the underground test form? ❑ Yes ❑ No ❑ Other (explain) _____ Flushed by installer of underground standpipe piping? ❑ Yes ❑ No _____
Flow Test	Flow water from the hydraulically most remote standpipe outlet(s). Record: Static pressure: _____ psi (____ bar) Residual pressure: _____ psi (____ bar) Nozzle diameter: _____ in. (____ cm) Pitot pressure: _____ psi (____ bar) Total flow: _____ gpm (_____ L/min)
Blank Testing	Number used _____ Locations _____ Number removed _____
Welding	Welded piping ❑ Yes ❑ No **If yes . . .** Do you certify as the standpipe contractor that welding procedures comply with the requirements of at least AWS D10.9, Level AR-3? ❑ Yes ❑ No Do you certify that the welding was performed by welders qualified in compliance with the requirements of at least AWS D10.9, Level AR-3? ❑ Yes ❑ No Do you certify that welding was carried out in compliance with a documented quality control procedure to ensure that all discs are retrieved, that openings in piping are smooth, that slag and other welding residue are removed, and that the internal diameters of piping are not penetrated? ❑ Yes ❑ No
Cutouts (Discs)	Do you certify that you have a control feature to ensure that all cutouts (discs) are retrieved? ❑ Yes ❑ No
Hydraulic Data Nameplate	Nameplate provided? ❑ Yes ❑ No ❑ If no, explain. _____
Remarks	Date left in service with all control valves open: _____
Name of Sprinkler/ Standpipe Contractor	Name of contractor _____ Address _____ State license number (if applicable) _____
System Operating Test Witnessed by	Property owner _____ Title _____ Date _____ Sprinkler/standpipe contractor _____ Title _____ Date _____ Approving authorities _____ Title _____ Date _____
Additional Explanation and Notes	

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~~Figure 11.1.3(b) Sample of Contractor's Material and Test Certificate for Underground Piping. [24:Figure 10.10.1]~~



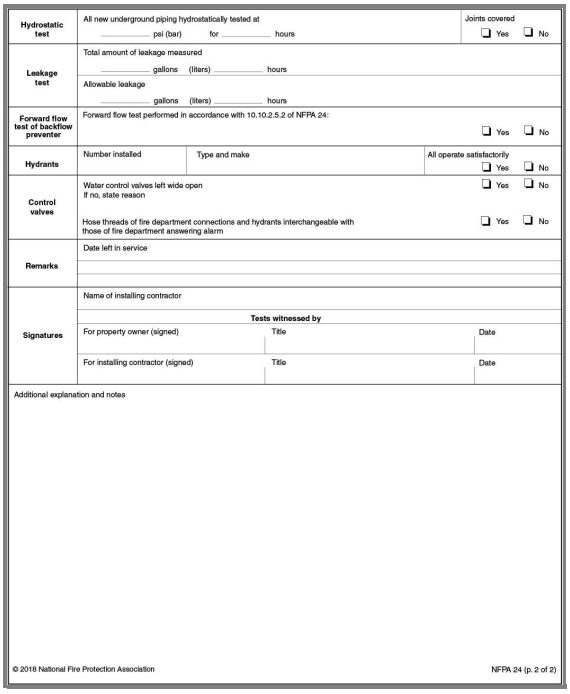
Contractor's Material and Test Certificate for Underground Piping

PROCEDURE
Upon completion of work, inspection and tests shall be made by the contractor's representative and witnessed by an owner's representative. All defects shall be corrected and system left in service before contractor's personnel finally leave the job.

A certificate shall be filled out and signed by both representatives. Copies shall be prepared for approving authorities, owners, and contractor. It is understood the owner's representative's signature in no way prejudices any claim against contractor for faulty material, poor workmanship, or failure to comply with approving authority's requirements or local ordinances.

Property name	Date
Property address	
Plans	Accepted by approving authorities (names) Address Installation conforms to accepted plans ❑ Yes ❑ No Equipment used is approved ❑ Yes ❑ No If no, state deviations
Instructions	Has person in charge of fire equipment been instructed as to location of control valves and care and maintenance of this new equipment? ❑ Yes ❑ No If no, explain Have copies of appropriate instructions and care and maintenance charts been provided to the owner or owner's representative? ❑ Yes ❑ No If no, explain
Location	Supplies buildings
Underground pipes and joints	Pipe types and class — Type joint Pipe conforms to _____ standard ❑ Yes ❑ No Fittings conform to _____ standard ❑ Yes ❑ No If no, explain Joints needing anchorage clamped, strapped, or blocked in accordance with _____ standard ❑ Yes ❑ No If no, explain
Test description	Flushing: Flow the required rate until water is verified to be clear of debris at outlets such as hydrants and blow-offs. Flush at one of the flow rates as specified in 10.10.2.1.3 of NFPA 24. Hydrostatic: All piping and attached appurtenances subjected to system working pressure shall be hydrostatically tested at 200 psi (13.8 bar) or 50 psi (3.4 bar) in excess of the system working pressure, whichever is greater, and shall maintain that pressure ±5 psi (0.34 bar) for 2 hours. Hydrostatic Testing Allowance: Where additional water is added to the system to maintain the test pressures required by 10.10.2.2.1 of NFPA 24, the amount of water shall be measured and shall not exceed the limits of the following equation (for metric equation, see 10.10.2.2.6 of NFPA 24): $L = \frac{SD\sqrt{P}}{148{,}000}$ L = testing allowance (makeup water), in gallons per hour (lpm) S = length of pipe tested, in feet (m) D = nominal diameter of the pipe, in inches (mm) P = average test pressure during the hydrostatic test, in pounds per square inch (gauge) (bar)
Flushing tests	New underground piping flushed according to _____ standard by (company) ❑ Yes ❑ No If no, explain How flushing flow was obtained: ❑ Public water ❑ Tank or reservoir ❑ Fire pump — Through what type opening: ❑ Hydrant butt ❑ Open pipe Lead-ins flushed according to _____ standard by (company) ❑ Yes ❑ No If no, explain How flushing flow was obtained: ❑ Public water ❑ Tank or reservoir ❑ Fire pump — Through what type opening: ❑ Y connection to flange and spigot ❑ Open pipe

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Hydrostatic test	All new underground piping hydrostatically tested at _____ psi (bar) for _____ hours	Joints covered ❑ Yes ❑ No
Leakage test	Total amount of leakage measured _____ gallons (liters) _____ hours Allowable leakage _____ gallons (liters) _____ hours	
Forward flow test of backflow preventer	Forward flow test performed in accordance with 10.10.2.5.2 of NFPA 24:	❑ Yes ❑ No
Hydrants	Number installed / Type and make	All operate satisfactorily ❑ Yes ❑ No
Control valves	Water control valves left wide open If no, state reason	❑ Yes ❑ No
	Hose threads of fire department connections and hydrants interchangeable with those of fire department answering alarm	❑ Yes ❑ No
Remarks	Date left in service	
Signatures	Name of installing contractor	
	Tests witnessed by	
	For property owner (signed) / Title / Date	
	For installing contractor (signed) / Title / Date	

Additional explanation and notes

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Statement of Problem and Substantiation for Public Input

Remove the underground test certificate from this document. Underground falls under the purview of NFPA 24 and it is inappropriate to provide this test certificate in the body of NFPA 14. Section 6.2 is all the guidance that is required.

Submitter Information Verification

Submitter Full Name: Peter Schwab
Organization: Wayne Automatic Fire Sprinkler
Street Address:
City:
State:
Zip:
Submittal Date: Fri Dec 27 15:00:23 EST 2019
Committee: SPI-AAA

Public Input No. 63-NFPA 14-2020 [Section No. 11.1.3]

11.1.3

The installing contractor shall complete and sign the appropriate contractor's material and test certificate(s) as shown in Figure 11.1.3(a) and Figure 11.1.3(b).

Figure 11.1.3(a) Sample Contractor's Material and Test Certificate for Aboveground Piping.

On page #3 of the test certificate, Under " **Tests** "

Add new line under "Dry piping pneumatically tested? yes no"

Dry section of FDC Hydrostaticlly tested? yes no



CONTRACTOR'S MATERIAL AND TEST CERTIFICATE FOR ABOVEGROUND PIPING

Standpipe System NFPA 14

PROCEDURE

Upon completion of work, inspection and tests shall be made by the contractor's representative and witnessed by an owner's representative. All defects shall be corrected and the system left in service before the contractor's personnel finally leave the job.

A certificate shall be filled out and signed by both representatives. Copies shall be prepared for approving authorities, owners, and contractor. It is understood that the owner's representative's signature in no way prejudices any claim against the contractor for faulty material, poor workmanship, or failure to comply with the approving authority's requirements or local ordinances.

Property name | Date

Property address

Plans
- Accepted by approving authorities (names)
- Address
- Installation conforms to accepted plans? ❑ Yes ❑ No
- Equipment used is approved or listed? ❑ Yes ❑ No
- If no, explain deviations.

Type of System
- ❑ Automatic dry
- ❑ Automatic wet
- ❑ Semiautomatic dry
- ❑ Manual dry
- ❑ Manual wet
- ❑ Combination standpipe/sprinkler
- If other, explain.

Water Supply Data Used for Design and As Shown on Plans
- Fire pump data
- Manufacturer ____ Model ____
- Type: ❑ Electric ❑ Diesel ❑ Other (explain) ____
- Rated, gpm ____ Rated, psi ____ Shutoff, psi ____

Water Supply Source Capacity, Gallons
- ❑ Public waterworks system ____ (gal) ❑ Storage tank ____ (gal) ❑ Gravity tank ____ (gal) ❑ Open reservoir ____ (gal)
- ❑ Other (explain)

If Public Waterworks System:
- Static, psi ____ Residual, psi ____ Flow, gpm ____

Have Copies of the Following Been Provided to the Owner or Owner's Representative?
- ❑ System components instructions ❑ Care and maintenance of system ❑ NFPA 25
- ❑ Copy of accepted plans ❑ Hydraulic data/calculations

Supplies Building(s)
- Main waterflow shutoff location
- Number of standpipe risers
- Do all standpipe risers have base of riser shutoff valves? ❑ Yes ❑ No

Valve Supervision
- ❑ Locked open ❑ Sealed and tagged ❑ Tamperproof switch ❑ Other
- If other, explain.

Pipe and Fittings
- Type of pipe
- Type of fittings

Hose Threads
- Hose threads have been verified for compliance with local fire department ❑ Yes ❑ No

Backflow Preventor
- ❑ Double check assembly
- ❑ Reduced-pressure device
- Size ____ Make and model ____

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CONTROL VALVE DEVICE

Type	Size	Make	Model

- Time to trip through remote hose valve ____ Min ____ Sec Water pressure ____ Air pressure ____
- Time water reached remote hose valve outlet ____ Min ____ Sec Trip point air pressure ____ psi
- Alarm operated properly? ❑ Yes ❑ No If no, explain.

- Time water reached remote hose valve outlet ____ Min ____ Sec
- Hydraulic activation ❑ Yes
- Electric activation ❑ Yes
- Pneumatic activation ❑ Yes
- Make and model of activation device
- Each activation device tested? ❑ Yes ❑ No If no, explain.

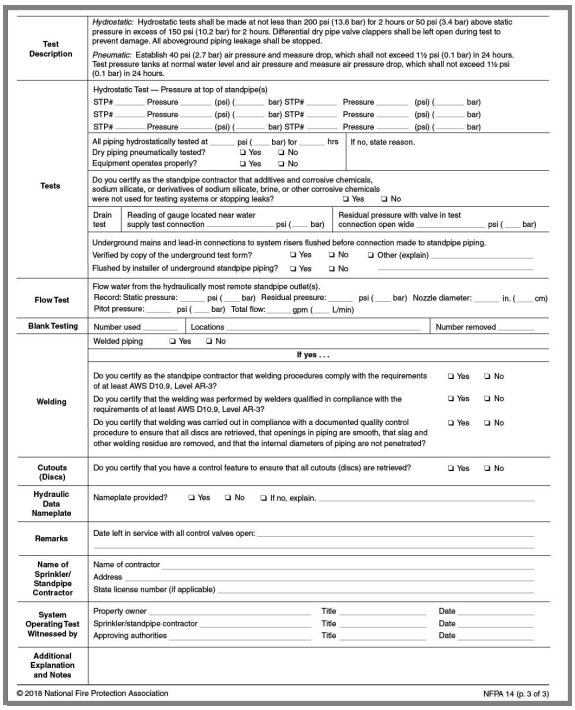
- Each activation device operated properly? ❑ Yes ❑ No If no, explain.

PRESSURE-REGULATING DEVICE

Location & Floor	Model	Nonflowing (psi) Inlet	Nonflowing (psi) Outlet	Flowing (psi) Inlet	Flowing (psi) Outlet	gpm

- All hose valves on system operated properly? ❑ Yes ❑ No If no, explain.

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Test Description	*Hydrostatic:* Hydrostatic tests shall be made at not less than 200 psi (13.6 bar) for 2 hours or 50 psi (3.4 bar) above static pressure in excess of 150 psi (10.2 bar) for 2 hours. Differential dry pipe valve clappers shall be left open during test to prevent damage. All aboveground piping leakage shall be stopped. *Pneumatic:* Establish 40 psi (2.7 bar) air pressure and measure drop, which shall not exceed 1½ psi (0.1 bar) in 24 hours. Test pressure tanks at normal water level and air pressure and measure air pressure drop, which shall not exceed 1½ psi (0.1 bar) in 24 hours.
Tests	Hydrostatic Test — Pressure at top of standpipe(s) STP# _____ Pressure _____ (psi) (_____ bar) STP# _____ Pressure _____ (psi) (_____ bar) STP# _____ Pressure _____ (psi) (_____ bar) STP# _____ Pressure _____ (psi) (_____ bar) STP# _____ Pressure _____ (psi) (_____ bar) STP# _____ Pressure _____ (psi) (_____ bar) All piping hydrostatically tested at _____ psi (_____ bar) for _____ hrs — If no, state reason. Dry piping pneumatically tested? ❑ Yes ❑ No Equipment operates properly? ❑ Yes ❑ No Do you certify as the standpipe contractor that additives and corrosive chemicals, sodium silicate, or derivatives of sodium silicate, brine, or other corrosive chemicals were not used for testing systems or stopping leaks? ❑ Yes ❑ No Drain test — Reading of gauge located near water supply test connection _____ psi (____ bar) — Residual pressure with valve in test connection open wide _____ psi (____ bar) Underground mains and lead-in connections to system risers flushed before connection made to standpipe piping. Verified by copy of the underground test form? ❑ Yes ❑ No ❑ Other (explain) _____ Flushed by installer of underground standpipe piping? ❑ Yes ❑ No _____
Flow Test	Flow water from the hydraulically most remote standpipe outlet(s). Record: Static pressure: _____ psi (____ bar) Residual pressure: _____ psi (____ bar) Nozzle diameter: _____ in. (____ cm) Pitot pressure: _____ psi (____ bar) Total flow: _____ gpm (_____ L/min)
Blank Testing	Number used _____ Locations _____ Number removed _____
Welding	Welded piping ❑ Yes ❑ No **If yes . . .** Do you certify as the standpipe contractor that welding procedures comply with the requirements of at least AWS D10.9, Level AR-3? ❑ Yes ❑ No Do you certify that the welding was performed by welders qualified in compliance with the requirements of at least AWS D10.9, Level AR-3? ❑ Yes ❑ No Do you certify that welding was carried out in compliance with a documented quality control procedure to ensure that all discs are retrieved, that openings in piping are smooth, that slag and other welding residue are removed, and that the internal diameters of piping are not penetrated? ❑ Yes ❑ No
Cutouts (Discs)	Do you certify that you have a control feature to ensure that all cutouts (discs) are retrieved? ❑ Yes ❑ No
Hydraulic Data Nameplate	Nameplate provided? ❑ Yes ❑ No ❑ If no, explain. _____
Remarks	Date left in service with all control valves open: _____
Name of Sprinkler/ Standpipe Contractor	Name of contractor _____ Address _____ State license number (if applicable) _____
System Operating Test Witnessed by	Property owner _____ Title _____ Date _____ Sprinkler/standpipe contractor _____ Title _____ Date _____ Approving authorities _____ Title _____ Date _____
Additional Explanation and Notes	

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Figure 11.1.3(b) Sample of Contractor's Material and Test Certificate for Underground Piping. [24:Figure 10.10.1]



Contractor's Material and Test Certificate for Underground Piping

PROCEDURE

Upon completion of work, inspection and tests shall be made by the contractor's representative and witnessed by an owner's representative. All defects shall be corrected and system left in service before contractor's personnel finally leave the job.

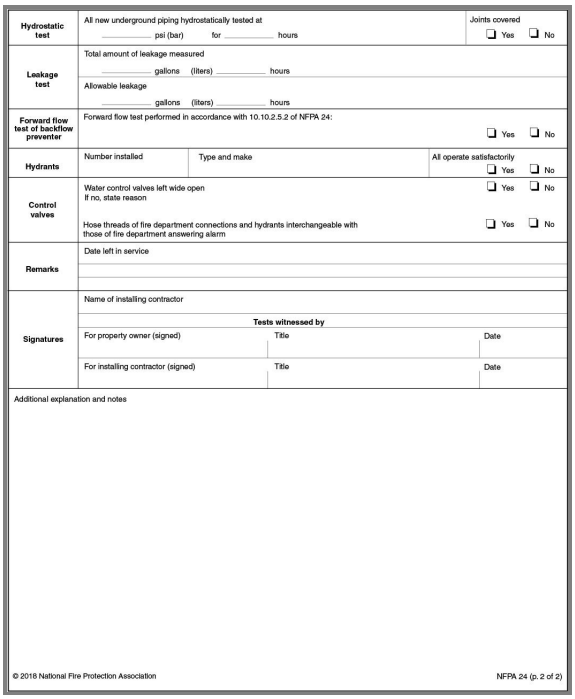
A certificate shall be filled out and signed by both representatives. Copies shall be prepared for approving authorities, owners, and contractor. It is understood the owner's representative's signature in no way prejudices any claim against contractor for faulty material, poor workmanship, or failure to comply with approving authority's requirements or local ordinances.

Property name _____ Date _____

Property address _____

Plans	Accepted by approving authorities (names) Address Installation conforms to accepted plans ❑ Yes ❑ No Equipment used is approved ❑ Yes ❑ No If no, state deviations
Instructions	Has person in charge of fire equipment been instructed as to location of control valves and care and maintenance of this new equipment? ❑ Yes ❑ No If no, explain Have copies of appropriate instructions and care and maintenance charts been provided to the owner or owner's representative? ❑ Yes ❑ No If no, explain
Location	Supplies buildings
Underground pipes and joints	Pipe types and class — Type joint Pipe conforms to _____ standard ❑ Yes ❑ No Fittings conform to _____ standard ❑ Yes ❑ No If no, explain Joints needing anchorage clamped, strapped, or blocked in accordance with _____ standard ❑ Yes ❑ No If no, explain
Test description	Flushing: Flow the required rate until water is verified to be clear of debris at outlets such as hydrants and blow-offs. Flush at one of the flow rates as specified in 10.10.2.1.3 of NFPA 24. Hydrostatic: All piping and attached appurtenances subjected to system working pressure shall be hydrostatically tested at 200 psi (13.8 bar) or 50 psi (3.4 bar) in excess of the system working pressure, whichever is greater, and shall maintain that pressure ±5 psi (0.34 bar) for 2 hours. Hydrostatic Testing Allowance: Where additional water is added to the system to maintain the test pressures required by 10.10.2.2.1 of NFPA 24, the amount of water shall be measured and shall not exceed the limits of the following equation (for metric equation, see 10.10.2.2.6 of NFPA 24): $L = \frac{SD\sqrt{P}}{148{,}000}$ L = testing allowance (makeup water), in gallons per hour (lpm) S = length of pipe tested, in feet (m) D = nominal diameter of the pipe, in inches (mm) P = average test pressure during the hydrostatic test, in pounds per square inch (gauge) (bar)
Flushing tests	New underground piping flushed according to _____ standard by (company) ❑ Yes ❑ No If no, explain How flushing flow was obtained: ❑ Public water ❑ Tank or reservoir ❑ Fire pump — Through what type opening: ❑ Hydrant butt ❑ Open pipe Lead-ins flushed according to _____ standard by (company) ❑ Yes ❑ No If no, explain How flushing flow was obtained: ❑ Public water ❑ Tank or reservoir ❑ Fire pump — Through what type opening: ❑ Y connection to flange and spigot ❑ Open pipe

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Hydrostatic test	All new underground piping hydrostatically tested at _____ psi (bar) for _____ hours	Joints covered ❑ Yes ❑ No
Leakage test	Total amount of leakage measured _____ gallons (liters) _____ hours Allowable leakage _____ gallons (liters) _____ hours	
Forward flow test of backflow preventer	Forward flow test performed in accordance with 10.10.2.5.2 of NFPA 24:	❑ Yes ❑ No
Hydrants	Number installed / Type and make	All operate satisfactorily ❑ Yes ❑ No
Control valves	Water control valves left wide open If no, state reason	❑ Yes ❑ No
	Hose threads of fire department connections and hydrants interchangeable with those of fire department answering alarm	❑ Yes ❑ No
Remarks	Date left in service	
Signatures	Name of installing contractor **Tests witnessed by** For property owner (signed) / Title / Date For installing contractor (signed) / Title / Date	
Additional explanation and notes		

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Statement of Problem and Substantiation for Public Input

there has been countless issues with the dry section of the FDC not being tested. This does not matter the length of this dry pipe, all piping must be tested
This is another step to ensure this pipe is properly tested

Submitter Information Verification

Submitter Full Name: James Dockrill
Organization: J&S Fire Sprinkler Design & Co
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jan 08 20:16:52 EST 2020
Committee: SPI-AAA

Public Input No. 46-NFPA 14-2019 [Section No. 11.5.6.3]

11.5.6.3

Main drain flow tests are not required for manual systems ~~that do~~ that are not ~~have a permanently attached water supply~~ part of a combination system .

Statement of Problem and Substantiation for Public Input

There is no value for recording gauge pressures for a manual standpipe system, specifically a manual wet system. The water supply could be a very small diameter connection connected to the potable water system. The pressure degradation/ fluctuation is irrelevant to the functionality of the system unless the water has been shut off. If there is a sprinkler system connected to the standpipe system, then this test has value.

Submitter Information Verification

Submitter Full Name: Peter Schwab
Organization: Wayne Automatic Fire Sprinkler
Street Address:
City:
State:
Zip:
Submittal Date: Fri Dec 27 15:37:37 EST 2019
Committee: SPI-AAA

Public Input No. 22-NFPA 14-2019 [Section No. 13.4.1.2]

~~13.4.1.2~~ –

~~Where nonmetallic pipe and fittings are used, no portion of the pipe shall extend above the surface of the water, unless otherwise protected from fire exposure.~~

Statement of Problem and Substantiation for Public Input

Delete this section as it is in conflict with 13.2.1.2. Many AHJ's will not be able to utilize section 13.2.1.2 since 13.4.1.2 requires that the piping be installed below the surface of the water.
Installing nonmetallic piping above the surface of the water should be allowed at the discretion of the AHJ. This section would prohibit CPVC piping from being installed above the surface of the water. However, CPVC can be installed exposed aboveground inside a building?
There is a possibility that the nonmetallic piping could be compromised during a fire event. However, the benefit of using nonmetallic piping to alleviate corrosion could be a decision that the AHJ may want to make even if there is the chance that the piping could be damaged.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 23-NFPA 14-2019 [Section No. 13.4.1.4]	
Public Input No. 24-NFPA 14-2019 [New Section after 13.4.1.5.5]	

Submitter Information Verification

Submitter Full Name: Peter Schwab
Organization: Wayne Automatic Fire Sprinkler
Street Address:
City:
State:
Zip:
Submittal Date: Thu Dec 26 13:08:15 EST 2019
Committee: SPI-AAA

Public Input No. 23-NFPA 14-2019 [Section No. 13.4.1.4]

~~13.4.1.4~~ –

~~Where installed beneath the water surface, nonmetallic piping shall be installed in such a manner that maintenance of the piping system can be accomplished.~~

Statement of Problem and Substantiation for Public Input

This section offers no guidance in how to install piping in such a manner that the maintenance of the piping can be accomplished.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 22-NFPA 14-2019 [Section No. 13.4.1.2]	
Public Input No. 24-NFPA 14-2019 [New Section after 13.4.1.5.5]	

Submitter Information Verification

Submitter Full Name: Peter Schwab
Organization: Wayne Automatic Fire Sprinkler
Street Address:
City:
State:
Zip:
Submittal Date: Thu Dec 26 13:18:03 EST 2019
Committee: SPI-AAA

Public Input No. 24-NFPA 14-2019 [New Section after 13.4.1.5.5]

13.4.1.5.5.1

The piping shall be permitted to be installed exposed without protection from fire exposure where acceptable to the AHJ.

Statement of Problem and Substantiation for Public Input

This input works with 2 other inputs in regards to using nonmetallic piping.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 23-NFPA 14-2019 [Section No. 13.4.1.4]	
Public Input No. 22-NFPA 14-2019 [Section No. 13.4.1.2]	

Submitter Information Verification

Submitter Full Name: Peter Schwab
Organization: Wayne Automatic Fire Sprinkler
Street Address:
City:
State:
Zip:
Submittal Date: Thu Dec 26 13:22:18 EST 2019
Committee: SPI-AAA

Public Input No. 25-NFPA 14-2019 [New Section after 13.4.2.3.4]

13.4.2.3.4.1

The sign in 13.4.2.3.4 shall not be required when the pressure required is 150 psi (10.3 bar) or less.

Statement of Problem and Substantiation for Public Input

This sign should only be required when the pressure required exceeds 150 PSI. This language is also found in section 6.4.5.2.2.1.

Submitter Information Verification

Submitter Full Name: Peter Schwab
Organization: Wayne Automatic Fire Sprinkler
Street Address:
City:
State:
Zip:
Submittal Date: Thu Dec 26 13:29:56 EST 2019
Committee: SPI-AAA

Public Input No. 26-NFPA 14-2019 [Section No. 13.4.3.3]

13.4.3.3

Piers, docks, or similar structures shall be analyzed ~~to~~ by a structural engineer to determine if the pier, dock or similar structure can support the calculated load of the standpipe system, prior to installation.

Statement of Problem and Substantiation for Public Input

This requirement should not be the responsibility of the standpipe installation company.

Submitter Information Verification

Submitter Full Name: Peter Schwab
Organization: Wayne Automatic Fire Sprinkler
Street Address:
City:
State:
Zip:
Submittal Date: Thu Dec 26 13:37:32 EST 2019
Committee: SPI-AAA

Public Input No. 12-NFPA 14-2019 [Chapter 14]

Chapter 14 System Inspection, Testing, and Maintenance

14.1 General.

A standpipe system installed in accordance with this standard shall be properly inspected, tested, and maintained by the property owner or an authorized representative in accordance with NFPA 25 to provide at least the same level of performance and protection as originally designed.

Additional Proposed Changes

File Name	Description	Approved
Issued_TIA_14-19-1_Final.pdf	Issued TIA 14-19-1	

Statement of Problem and Substantiation for Public Input

NOTE: This public input originates from Tentative Interim Amendment No. 19-1 (Log 1437) issued by the Standards Council on July 17, 2019 and per the NFPA Regs., needs to be reconsidered by the Technical Committee for the next edition of the Document.

Substantiation: During development of the 2019 edition, a new chapter 13 was added to govern installation of Maritime Standpipe and Hose Systems. While the new chapter and related text was added to become a new Chapter 13, rather than relocating the previous (2016 edition) Chapter 13 on Inspection, Testing and Maintenance, that language was simply renumbered as a new Section 13.10 in the new chapter. That was not the committee's intent. Unfortunately, this oversight was not identified during preparation of the first draft or second draft reports. This TIA works to correct that oversight and reestablish the separate chapter that needs to deal with inspection, testing and maintenance.

This qualifies for the emergency nature provision of the NFPA Regulations, Section 5.4 (a) The NFPA Standard contains an error or an omission that was over-looked during a regular revision process.

Emergency Nature: The NFPA Standard contains an error or an omission that was overlooked during the regular revision process. As currently written, it could be implied that the ITM provisions only apply to Maritime Standpipe and Hose Systems. NFPA 14 has required some level of ITM for all standpipe systems dating back at least 30 years. In recent editions of the standard, ITM criteria has always been captured in a separate chapter. This TIA simply reestablishes that separate chapter.

Submitter Information Verification

Submitter Full Name: TC ON FIM-AAA
Organization: NFPA
Street Address:
City:
State:
Zip:
Submittal Date: Thu Oct 24 10:46:36 EDT 2019
Committee: SPI-AAA

Tentative Interim Amendment

NFPA® 14

Standard for the Installation of Standpipe and Hose Systems

2019 Edition

Reference: 13.10, and Chapter 14(new)
TIA 19-1
(TIA Log #1437)

Pursuant to Section 5 of the NFPA *Regulations Governing the Development of NFPA Standards*, the National Fire Protection Association has issued the following Tentative Interim Amendment to NFPA 14, *Standard for the Installation of Standpipe and Hose Systems*, 2019 edition. The TIA was processed by the Technical Committee on Standpipes, and was issued by the Standards Council on July 17, 2019, with an effective date of August 6, 2019.

A Tentative Interim Amendment is tentative because it has not been processed through the entire standards development procedures. It is interim because it is effective only between editions of the standard. A TIA automatically becomes a public input of the proponent for the next edition of the standard; as such, it then is subject to all of the procedures of the standards development process.

1. Delete section 13.10 as follows:

~~**13.10 System Inspection, Testing, and Maintenance.** A standpipe system installed in accordance with this chapter shall be properly inspected, tested, and maintained by the property owner or an authorized representative in accordance with NFPA 25 to provide at least the same level of performance and protection as originally designed.~~

2. Add a new Chapter 14 to read as follows:

Chapter 14 System Inspection, Testing, and Maintenance

14.1 General. A standpipe system installed in accordance with this standard shall be properly inspected, tested, and maintained by the property owner or an authorized representative in accordance with NFPA 25 to provide at least the same level of performance and protection as originally designed.

Issue Date: July 17, 2019

Effective Date: August 6, 2019

(Note: For further information on NFPA Codes and Standards, please see www.nfpa.org/docinfo**)**

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NATIONAL FIRE PROTECTION ASSOCIATION

Public Input No. 68-NFPA 14-2020 [Chapter 14]

Chapter 14 System Inspection, Testing, and Maintenance

14.1 General.

A standpipe system installed in accordance with this standard shall be properly inspected, tested, and maintained by the property owner or an authorized representative in accordance with NFPA 25 to provide at least the same level of performance and protection as originally designed.

14.2 System Inspectors.

14.2.1 Inspection personnel shall be qualified in the installation, inspection, testing and maintenance of the systems.

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

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

(1) Registration, licensing, or certification by a state or local authority

(2) Certification by an organization acceptable to the authority having jurisdiction

(3) Manufacturer's certification for the specific type and brand of system provided

14.2.4 System inspection trainees shall be under the supervision of a qualified system inspector.

14.2.5 The system inspectors shall provide evidence of their qualifications and/or certifications when requested by the authority having jurisdiction.

Statement of Problem and Substantiation for Public Input

This provides guidance for the qualifications for inspectors of these life safety systems to provide a reasonable degree of protection for life and property from fire through standardization of the requirements for designers and installers. The intent is to ensure that these personnel have been trained to provide these services as it relates to these specialized systems.

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Public Input No. 21-NFPA 14-2019 [Section No. A.5.6]

A.5.6

Audible alarms are normally located on the outside of the building. Approved electric gong bells, horns, or sirens located inside the building or both inside and outside are sometimes advisable.

Waterflow alarms may be installed on manual wet standpipe systems at the discretion of the owner. These alarms can be utilized to detect non-firefighting use or leakage of water.

Statement of Problem and Substantiation for Public Input

In the last revision cycle, manual wet standpipes were added to the exception to provide a waterflow alarm on standpipes. This new annex language indicates that an owner may want to install a waterflow detection device to notify if there is some unauthorized or unanticipated water flow on the standpipe system.

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Public Input No. 37-NFPA 14-2019 [Section No. A.7.3.3]

A.7.3.3 .2

Hose stations should be so arranged as to allow discharge to be directed from the nozzle into all portions of important enclosures such as closets and similar enclosures.

Statement of Problem and Substantiation for Public Input

If PI #34 is accepted then this would be a more appropriate section for the annex language.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 34-NFPA 14-2019 [Section No. 7.3.3.2]	Stream Obstruction

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Public Input No. 29-NFPA 14-2019 [Section No. A.7.8]

A.7.8

~~Where determining the pressure at the remote hose connection, the pressure loss in the hose valve should be considered.~~

It is very important that fire departments choose an appropriate nozzle type for their standpipe fire-fighting operations. Constant pressure- (automatic-) type spray nozzles (*see NFPA 1964*) should not be used for standpipe operations because many of these types require a minimum of 100 psi (6.9 bar) of pressure at the nozzle inlet to produce a reasonably effective fire stream. In standpipe operations, hose friction loss could prevent the delivery of 100 psi (6.9 bar) or 75 psi (5.2 bar) to the nozzle. Additionally, the use of spray-type nozzles does not allow for the passage of debris and sediment found in standpipe systems, which will lead to significant reduction or complete cessation of flow from the nozzle. The use of smooth bore nozzles allows the passing of debris and sediment.

In high-rise standpipe systems with pressure-reducing hose valves, the fire department has little or no control over hose valve outlet pressure. The use of gate valves and in-line pressure gauges is needed to allow for the fire department to maintain positive control of the hose connection and the flow pressure on operating hand lines.

The minimum flow and pressure design of standpipe hose connections are based on 2½ in. (65 mm) hose lines and smooth boor nozzles. Any other combination of hose or nozzles should be flow tested and verified to operate at the minimum design characteristics for hose connections. Many fire departments use combination (fog and straight stream) nozzles requiring 100 psi (6.9 bar) residual pressure at the nozzle inlet with 1½ in., 1¾ in., or 2 in. (40 mm, 44 mm, or 50 mm) hose in lengths of 150 ft (45.7 m). Additionally, it should be considered that with current longer travel distances and the practice of hooking up on the floor below, hose line lengths of 200 ft (61 m) and longer should be anticipated. This increases the impact of friction loss with the use of hose lines smaller than 2½ in. (65 mm).

Some departments use 50 ft (15.2 m) of 2½ in. (65 mm) hose to a gated wye, supplying two 100 ft (30.5 m) lengths of 1½ in. to 2 in. (40 mm to 50 mm) hose with combination nozzles, requiring 120 psi to 149 psi (8.3 bar to 10.3 bar) at the valve outlet. The use of gated wyes can also exceed the design flow rate for an individual standpipe hose connection and should also be flow tested to determine the needed pressure and flow to operate safely.

See Table A.7.8 for possible combinations of hose and nozzles found in use. It should be noted that the friction loss in fire hose can vary greatly from manufacturer to manufacturer. Flow testing should be conducted by the fire department in order to determine the flow and pressure requirements of the hose/nozzle combination of choice. See also NFPA 1901.

Table A.7.8 Hose Stream Friction Losses Summary

Calculation No.	Hose/Nozzle	Outlet Pressure			
		Flow			
		psi	bar	gpm	L/min
1	150 ft (45 m) of 2 1/2 in. (65 mm) hose with an 1 1/8 in. (28 mm) smooth bore nozzle	75	5.2		
		250			946
2	150 ft (45 m) of 2 in. (50 mm) hose with 2 1/2 in. couplings with an 1 1/16 in. (28 mm) smooth bore nozzle	94	6.5		
		240			908
3*	150 ft (45 m) of 2 in. (50 mm) hose with 1 1/2 in. couplings with a 1 in. (25 mm) smooth bore nozzle	108	7.4		
		210			795

4*	150 ft (45 m) of 1 3/4 in. (44 mm) hose with a 7/8 in. (28 mm) smooth bore nozzle	118	8.1	
-				
	165		625	
5*	150 ft (45 m) of 1 3/4 in. (44 mm) hose with a 15/16 in. (28 mm) smooth bore nozzle	135	9.3	
-				
	185		700	
6*	150 ft (45 m) of 1 1/2 in. (40 mm) hose with a 150 gpm @ 75 psi (568 L/min @ 5.2 bar) combination fog nozzle	161	11.1	
-				
	150	568		
7*	150 ft (45 m) of 1 1/2 in. (40 mm)	186	12.8	
-				
	150	568		

Note: For a discussion of use by the fire department of fire department connections, see NFPA 13E.

*Require operation pressures above the minimum required hose connection residual pressure.

Statement of Problem and Substantiation for Public Input

The requirement to include the friction loss of a hose valve is required by the body of the standard. This annex language is inappropriate.

Submitter Information Verification

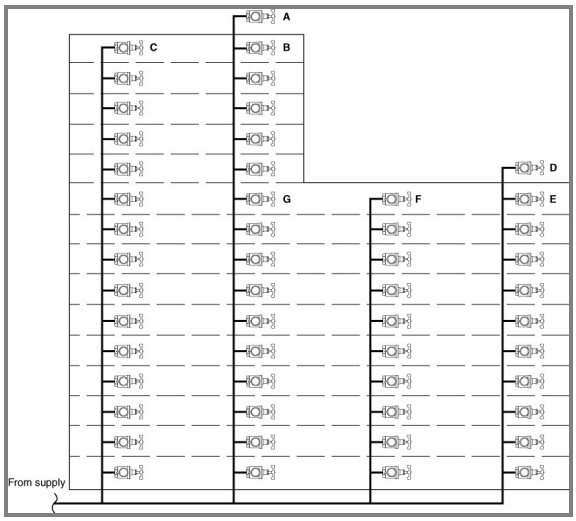
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Public Input No. 33-NFPA 14-2019 [Section No. A.7.10.1.2.1.1]

A.7.10.1.2.1.1

For example, consider the standpipe system shown in Figure A.7.10.1.2.1.1 with two risers that terminate at the 15th floor and roof and two risers that terminate at the 10th floor ~~of~~ and lower roof of this fully sprinklered high-rise building. In this case, two separate hydraulic calculations need to be performed. The first would verify that the system can deliver 100 psi (6.9 bar) to the top of the risers on ~~the 15th floor with~~ the upper roof with a total of 750 gpm (2840 L/min) flowing [250 gpm (946 L/min) each at points A, B, and C Add]. The flow and pressure will be available at the location of hose connection C. Only the gallonage for hose connection C needs to be added at the connection to the supply piping. The second calculation would need to prove that the system can deliver 100 psi (6.9 bar) to ~~the 10th floor with~~ the lower roof with a total of 1000 gpm (3785 L/min) flowing [250 gpm (946 L/min) each at points D, E, F Add , and G Add]. Note that since the building is sprinklered, there is no flow required from the fourth riser in this second calculation.

Figure A.7.10.1.2.1.1 Standpipe System with Risers Terminating at Different Floor Levels.



Additional Proposed Changes

File Name	Description	Approved
Hydraulic_Calc_Figure_A.7.10.1.2.1.pdf	Revised Figure A.7.10.1.2.1.1	

Statement of Problem and Substantiation for Public Input

This PI modifies the language and the Figure to clarify where the additional standpipe flow needs to be added.

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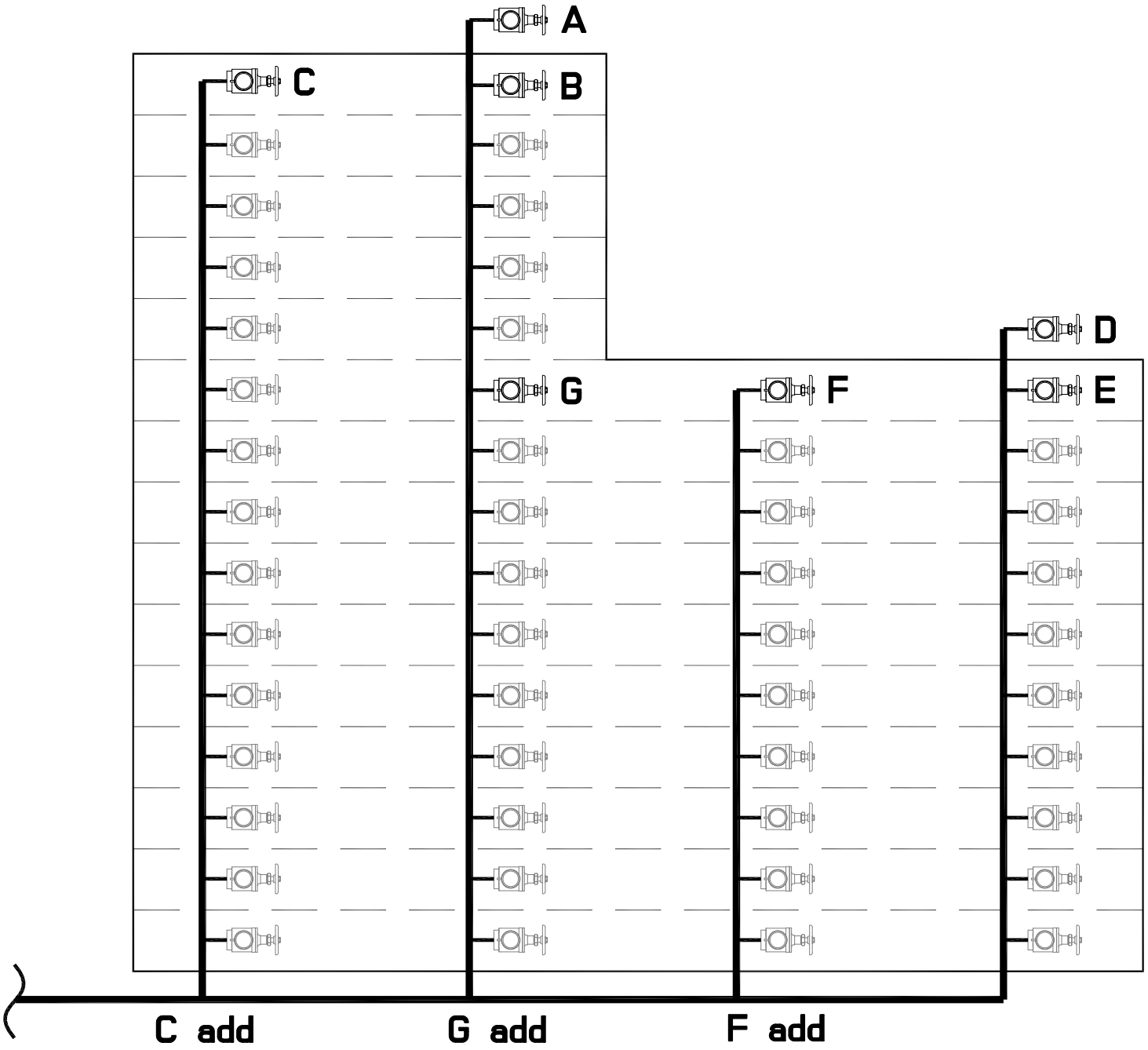


Figure A.7.10.1.2.1.1 Standpipe System with Risers Terminating at Different Floor Levels