DRAFT MINUTES

NFPA Technical Committee on Inspection, Testing, and Maintenance of Water-Based Systems (INM-AAA)
NFPA 25 First Draft Meeting (A2025)

October 3-5, 2023
8:00 am – 5:00 pm (MST)

Hybrid Meeting

1. **Call to order.** Brad Cronin, chair, called the meeting to order at 8:00 am on 10/3/23.
2. **Introductions.** Attendees introduced themselves and identified their affiliation. NFPA staff took attendance.
3. **Chair report.** Brad Cronin welcomed attendees and provided an overview of the meeting.
4. **Staff liaison report.** Chad Duffy provided an overview of the standards development process and the revision cycle schedule.
5. **Previous meeting minutes.** The minutes from September, 2021 were approved without revision.
6. **NFPA 25 First Draft.**
   a. **Review of Public Inputs.** The Technical Committee began to review the Public Inputs and developed First Revisions and Committee Inputs as necessary. These will be available in the First Draft Report at www.nfpa.org/25.
   b. **Task group report(s).** The following task groups provided their reports and recommendations.
      i. **Task Group 1**. TG Chair: Matt Osburn. Members: See table. The task group provided a report, and revisions were made. The task group was reconstituted to continue work for the second draft. See attached report.
      ii. **Task Group 2**. TG Chair: Jeff Van Ryan. Members: See table. The task group provided a report, and revisions were made. The task group was reconstituted to continue work for the second draft. See attached report.
      iii. **Task Group 3**. TG Chair: Jeff Hebenstreit. Members: See table. The task group provided a report, and revisions were made. The task group was reconstituted to continue work for the second draft. See attached report.
      iv. **Task Group 4**. TG Chair: Brandon Frakes. Members: See table. The task group provided a report, and revisions were made. The task group was reconstituted to continue work for the second draft. See attached report.

v. **Task Group 5**. TG Chair: Milosh Puchovsky. The task group provided a report, and revisions were made. The task group was reconstituted to continue work for the second draft. See attached report.

Task Group 1 – Chp. 1, 2, 3, 4, and Annes A as applicable, B, F, and I	**Task Group 2 – Chp. 5, 16, and Annex A as applicable, E, G, and H**	**Task Group 3 – Chp. 6, 7, 8 (except PI 33 and 190), 9, 10, 11, and Annex A as applicable, and C**	**Task Group 4 – Chp. 13, 14, 15 and Annex A as applicable, and D**	**Task Group 5 – Chp. 12, 8 (PIs 33 and 190) and Annex A as applicable**
Matt Osburn - Chair	Jeff Van Ryan - Chair	Jeff Hebenstreit - Chair	Brandon Frakes - Chair	Milosh Puchovsky - Chair
Terry Victor	Kerry Bell	Kerry Bell	Vincent Powers	Terry Victor
Top Myers	Terry Victor	Terry Victor	Bruce Campbell	Kerry Bell
Bob Caputo	Manny Silva	Bob Caputo	Scott Futrell	Gerard Back
David Baron	David Raborn	Matt Osburn	Bob Caputo	Brad Stilwell
Scott Bailey	Bob Caputo	John Campbell	Corey Certain	Chase Browning
Charles Ketner	Brandon Frakes	Brian Olsen	Shane Clary	Don Hopkins
Pete Larrimer	Jeff Hebenstreit	John Donner	Scott Bailey	Stephanie Thomas
Howard Clay	Matt Osburn	Pete Larrimer	Don Hopkins	Robert Kasiski
Kevin Hall	Piya Sawangpanich	Josh McDonald	Pete Larrimer	Jonathan Ingram
Josh McDonald	John Campbell	Kevin Hall		Dennis Sullivan
Kevin Kelly	David Baron	Vince Powers		Rick Jackson
Scott Futrell	Brian Matthews	Corey Certain		Natalie Whalen
Vincent Powers	Shane Clary	Damon Pietraz		
	Henrick Abrahamsen	Bruce Clark		
	Scott Bailey	Natalie Whalen		
	Pete Larrimer	Ryan Fick		
	Howard Clay			
	Josh McDonald			

	Kevin Hall			

c. **Presentation(s).** The committee heard presentations from the following individuals.

   i. **Vapor Corrosion Inhibitor.** Mark Hopkins. Presentation attached.

d. **New task groups.** The following task groups were appointed to work subsequent to the meeting:

   i. **Task Group 6**. TG Chair: Vincent Powers. Members: See table. Review all tables to ensure cross references and tasks align with the requirements for each chapter and annex.

   ii. **Task Group 7**. TG Chair: Kevin Hall. Members: See table . Review and coordinate C-value requirements between NFPA 13 and NFPA 25.

   iii. **Task Group 8**. TG Chair: Jason Webb. Members: See table. Review and recommend ITM requirements for frozen systems.

Task Group 6 - Tables	**Task Group 7 – C-values**	**Task Group 8 – Frozen Systems**
Vincent Powers - Chair	Kevin Hall - Chair	Jason Webb - Chair
Josh McDonald	Dave Fuller	Scott Futrell
Brian Olsen	Don Hopkins	Kevin Hall
Tammy Mayo	Chris Campion	Josh McDonald
Steve Rustenburg	Jason Webb	Bob Caputo
Larry Keeping	Josh McDonald	Brandon Frakes
Jeff Van Rhyn	Bob Caputo	Tammy Mayo
Michael Newell	Brandon Frakes	Terry Victor
	Tammy Mayo	
	Terry Victor	

7. **Meeting Recessed.** 10/3/23 at 6:00 pm.

Day 2:

8. **Call to order.** Brad Cronin, chair, called the meeting to order at 8:00 am on 10/4/23

9. **Attendance.** NFPA staff took attendance.

10. **Review of Public Inputs.** The Technical Committee continued to review the Public Inputs and developed First Revisions and Committee Inputs as necessary.

11. Meeting Recessed. 10/4/23 at 6:00 pm.

Day 3:

12. Call to order. Brad Cronin, chair, called the meeting to order at 8:00 am on 10/5/23

13. Attendance. NFPA staff took attendance.

14. Review of Public Inputs. The Technical Committee completed their review of the Public Inputs and developed First Revisions and Committee Inputs as necessary.

15. Other Business. No other business was brought up.

16. Future meetings. A meeting notification will be posted at www.nfpa.org/25next when the next meeting is scheduled.

17. Adjournment. The meeting was adjourned at 1:50 pm on 10/5/23.

Attendees

Committee Members:

X	**Cronin, Bradford**	Chair	Rhode Island Association of Fire Marshals
	Abrahamsen, Niels	Principal	International Water Mist Association
X	**Bell, Kerry**	Principal	UL Solutions
X	**Bellamy, Tracey**	Principal	The Home Depot
O	**Browning, Chase**	Principal	Medford Fire Department
X	**Campbell, John**	Principal	NFPA Industrial Fire Protection Section
X	**Certain, Corey**	Principal	Siemens
X	**Clarke, Bruce**	Principal	American International Group, Inc. (AIG)
X	**Clary, Shane**	Principal	Automatic Fire Alarm Association, Inc.
	Dagenais, David	Principal	NFPA Health Care Section
O	**Dawe, Nicholas**	Principal	International Fire Marshals Association
	Day, Richard	Principal	Michigan State Fire Marshal's Office
O	**Fick, Ryan**	Principal	Intel Corporation
	Frable, David	Principal	US General Services Administration
O	**Frakes, Brandon**	Principal	AXA XL/Global Asset Protection Services,
	Francis, Christina	Principal	Tesla
X	**Futrell, Scott**	Principal	KFI Engineers
	Garber, Greg	Principal	Pittsburg Tank & Tower Group
X	**Hopkins, Donald**	Principal	JENSEN HUGHES

X	**Keeping, Larry**	Principal	PLC Fire Safety Engineering
O	**Kelly, Kevin**	Principal	Fire Suppression Systems Association
	Ketner, Charles	Principal	United Assn. of Journeymen & Apprentices
	Koffel, William	Principal	Koffel Associates, Inc.
X	**Larrimer, Peter**	Principal	US Department of Veterans Affairs
O	**Matthews, Bryan**	Principal	Liberty Mutual Group
X	**McDonald, Joshua**	Principal	American Fire Sprinkler Association
	Munno, John	Principal	Edison Electric Institute
X	**Myers, Top**	Principal	Myers Risk Services, Inc.
O	**Newman, Scott**	Principal	Walgreens
X	**Olsen, Brian**	Principal	American Petroleum Institute
X	**Olsen, Erik**	Principal	Chubb Limited
X	**Osburn, Matthew**	Principal	Canadian Automatic Sprinkler Association
O	**Raborn, Charles**	Principal	Cape Coral Fire Department
	Ray, Richard	Principal	Illinois Fire Prevention Association
X	**Rustenburg, Steve**	Principal	National Association of Fire Equipment
O	**Saidi, John**	Principal	USDOE Stanford Site Office
O	**Sawangpanich, Piya**	Principal	P.S Grand Group Co., Ltd.
O	**Scott, Leslie**	Principal	Tank Industry Consultants
X	**Stanley, George**	Principal	National Fire Sprinkler Association
O	**Sullivan, Dennis**	Principal	Carrier/UTC
	Thomas, Stephanie	Principal	FM Global
	Webber, Cary	Principal	National Fire Sprinkler Association
X	**Whalen, Natalie**	Principal	Swiss Re America Holding Corporation
O	**Whitney, John**	Principal	Clarke Fire Protection Products, Inc.
O	**Pietraz, Damon**	Voting Alternate	Underwood Fire Equipment, Inc.
O	**Silva, Manuel**	Voting Alternate	Johnson Controls
	Arroyo, Gabriel	Alternate	American International Group, Inc (AIG)
X	**Bailey, Scott**	Alternate	Fire Suppression Systems Association
X	**Baron, David**	Alternate	Illinois Fire Prevention Association
	Brown, Patrick	Alternate	Tank Industry Consultants

	Campbell, Bruce	Alternate	Jensen Hughes
X	**Campion, Christopher**	Alternate	Automatic Fire Alarm Association, Inc.
	DiGirolomo, John	Alternate	NFPA Health Care Section
X	**Donner, John**	Alternate	Edison Electric Institute
X	**Dufault, Robert**	Alternate	Rhode Island Association of Fire Marshals
	Engelke, Faye	Alternate	Tesla
O	**Fleming, Russell**	Alternate	Northeast Fire Suppression Associates,
O	**Flynn, Joseph**	Alternate	Town of North Attleboro Fire Department
O	**Fuller, David**	Alternate	FM Global
X	**Hall, Kevin**	Alternate	American Fire Sprinkler Association
O	**Hamilton, Lee**	Alternate	Siemens Building Technologies
	Hampton, Tom	Alternate	Swiss Re America Holding Corporation
X	**Hebenstreit, Jeff**	Alternate	UL Solutions
X	**Hornyak, Kevin**	Alternate	Chubb Insurance Group
X	**Marburger, Wilton**	Alternate	Risk Suppression Partners
X	**Mayo, Tammy**	Alternate	The Home Depot
	Nygard, Jussi	Alternate	Carrier/UTC
X	**Powers, Vincent**	Alternate	National Fire Sprinkler Association
	Roeder, Todd	Alternate	US General Services Administration
	Schmidle, Timothy	Alternate	Liberty Mutual Group Prop
O	**Slocum, Drew**	Alternate	National Association of Fire Equipment
X	**Telford, Brandon**	Alternate	National Fire Sprinkler Association
	True, Franklin	Alternate	US Department of Veterans Affairs
X	**Van Rhyn, Jeffrey**	Alternate	United Assn. of Journeymen & Apprentices
	Whitney, John	Alternate	Clarke Fire Protection Products, Inc.
X	**Bilbo, Cecil**	Nonvoting Member	Academy of Fire Sprinkler Technology,
X	**Caputo, Robert**	Nonvoting Member	TC on Sprinkler System Installation
	Khanna, Rohit	Nonvoting Member	US Consumer Product Safety Commission
	Norton, Thomas	Nonvoting Member	Norel Service Company, Inc.
X	**Duffy, Chad**	Staff Liaison	National Fire Protection Association

Guests:

X Jack	Coffelt	ServiceTrade/Asurio
X Joe	Scibetta	BuildingReports
O Michael	Newell	Belvedere LLC
O Peter	Schwab	Wayne Automatic Fire Sprinkler
X Travis	Montembeault	Peerless Pump
X Timothy	Hennessey	Tesla
O Michael	Spaziani	FM Global
X Terry	Victor	Self
O Jason	Webb	Potter Electric Signal Company
O Tom	Harris	NFPA
O Patrick	Bakaj	NFPA
O Tom	Goss	NFPA
O Steve	Kaitharath	NFPA
X Russ	Leavitt	Telgen
X Chris	Caputo	Metro Fire
O Mark	Hopkins	TERPconsulting – Rep General air
X Kip	LoMotte	IFMA
O Grant	Lobdell	Dyne Fire Protection Labs
X Johnathan	Carl	Victaulic

“O” Participated by teleconference
Total number in attendance: 74

Section	PI	PAGE	DISPOSITION
1.1.2.1	182		MOTION TO RESOLVE
Proposed Text (PI)	1.1.2.1 The types of systems addressed by this standard include, but are not limited to, sprinkler, standpipe and hose, fixed water spray, private fire hydrants, water mist, and ~~foam~~ agent water.		
Committee Text (FR)			
Statement	NFPA 18 and 18A are not water-based system installation standards. Within 18 it references NFPA 13, NFPA 14, and NFPA 15 as acceptable system to utilize wetting agents. NFPA 11 is not referenced, and it is inappropriate to replace "agent" for "foam" one for one. NFPA 18 requires "wetting agents" to be tested annually. NFPA 25 does not need to address this. NFPA 18 already covers everything within its scope: 10.2 Inspection of Wetting Agent Concentrate. Annually, samples of wetting agent concentrate shall be sent to the manufacturer or qualified laboratory for quality condition testing.		

Section	PI	PAGE	DISPOSITION
1.1.3.1	117		MOTION TO CREATE A 1ST REVISION BASED ON..
Proposed Text (PI)	1.1.3.1* This standard does not require the inspector to verify the adequacy of the design ~~or installation~~ of the system.		
Committee Text (FR)	1.1.3.1* Unless specifically stated in this standard, the inspector is not required to verify the adequacy or accuracy of the design or installation		

	of the system based on the approved working plans and or as-built drawings.
Statement	Clarifies the roles and responsibilities of the inspector.

Section	PI	PAGE	DISPOSITION
New Definitions, 3.3.9, 3.3.15, 3.3.33, 3.3.34.1, 3.3.34.4, 3.3.34.5, 3.4, 3.4.1, 3.4.2	198		MOTION TO RESOLVE
Proposed Text (PI)	3.3.xx Agent Concentrate A fire suppression concentrate as received from either Wetting Agent manufacturer, Water Additive manufacture, or Foam manufacture. 3.3.yy Wetting Agent Concentrate A concentrated liquid received from a manufacturer that conforms to NFPA 18 - Wetting Agent [18,2022] 3.3.zz Water Additive concentrate A concentrated received from a manufacturer that conforms to NFPA 18A - Water Additives for Fire Control and Vapor Mitigation [18A, 2022] 3.3.9 Discharge Device. A device designed to discharge water or ~~foam~~agent-water solution in a predetermined, fixed, or adjustable pattern. Examples include, but are not limited to, sprinklers, spray nozzles, and hose nozzles. [11,2021] 3.3.15* Foam Concentrate.		

	A concentrated liquid ~~foaming agent~~ as received from the manufacturer that conforms to NFPA 11 – Low, Medium, and High Expansion Foam. [11, 2021] 3.3.33* Pressure Vacuum Vent. A venting device mounted on atmospheric ~~foam~~ agent concentrate storage vessels to allow for concentrate expansion and contraction and for tank breathing during concentrate discharge or filling. 3.3.34.1* Bladder Tank Proportioner. A system that is similar to a standard pressure proportioner, except the ~~foam~~ agent concentrate is contained inside a diaphragm bag that is contained inside a pressure vessel. 3.3.34.4* Standard Balanced Pressure Proportioner. A system that utilizes an ~~foam~~ agent concentrate pump where ~~foam~~ agent concentrate is drawn from an atmospheric storage tank, is pressurized by the pump, and passes back through a diaphragm balancing valve to the storage tank. 3.3.34.5* Standard Pressure Proportioner. A system that uses a pressure vessel containing ~~foam~~ agent concentrate where water is supplied to the proportioner, which directs an amount of the supply downward onto the contained concentrate, thereby pressurizing the tank. 3.4 Deluge ~~Foam~~Agent-Water Sprinkler and ~~Foam~~Agent-Water Spray Systems Definitions. 3.4.1 ~~Foam~~Agent-Water Spray System. An ~~foam~~agent-water sprinkler system designed to use nozzles rather than sprinklers. [11, 2021] [18,2022][18A,2022] 3.4.2 ~~Foam~~Agent-Water Sprinkler System. A piping network employing automatic sprinklers, nozzles or other discharge devices, connected to a source of ~~foam~~ agent concentrate and to a water supply. [11,2021][18,2022][18A,2022]

Committee Text (FR)	
Statement	Wrong extract from NFPA 11. NFPA 18 and 18A are not water-based system installation standards. Within 18 it references NFPA 13, NFPA 14, and NFPA 15 as acceptable system to utilize wetting agents. NFPA 11 is not referenced, and it is inappropriate to replace "agent" for "foam" one for one. NFPA 18 requires "wetting agents" to be tested annually. NFPA 25 does not need to address this. NFPA 18 already covers everything within its scope: 10.2 Inspection of Wetting Agent Concentrate. Annually, samples of wetting agent concentrate shall be sent to the manufacturer or qualified laboratory for quality condition testing.

Section	PI	PAGE	DISPOSITION
3.3.9	101		Motion -Create 1st Revision
Proposed Text (PI)	3.3.9* Discharge Device. A device designed to discharge water or foam-water solution in a predetermined, fixed, or adjustable pattern. A.3.3.9 Examples include, but are not limited to, sprinklers, spray nozzles, and hose nozzles. ~~[11,2021]~~		
Committee Text (FR)	3.3.9* Discharge Device. Devices designed to discharge water or foam-water solution in a predetermined, fixed, or adjustable pattern. A.3.3.9 Examples include, but are not limited to, sprinklers, spray nozzles, and hose nozzles. [11,2021]		

Statement	Update to proper NFPA extract and move examples to proper Annex note.

Section	PI	PAGE	DISPOSITION
3.3.10	40		MOTION -Create 1st Revision
Proposed Text (PI)	~~3.3.10 Double Check Valve Assembly (DCVA).~~ ~~This assembly consists of two internally loaded check valves, either spring-loaded or internally weighted, installed as a unit between two tightly closing resilient-seated shutoff valves as an assembly, and fittings with properly located resilient-seated test cocks.~~		
Committee Text (FR)			
Statement	Double Check Valve Assembly is not used in the body of the standard, and therefore removal of the definition is warranted.		

Section	PI	PAGE	DISPOSITION
3.3.16	102		Motion -Create 1st Revision
Proposed Text (PI)	3.3.16* [Foam] Discharge Device. A device designed to discharge water or foam-water solution in a predetermined, fixed, or adjustable pattern. A.3.3.16 Examples include, but are not limited to, sprinklers, spray nozzles, and hose nozzles. ~~[11, 2021]~~		
Committee Text (FR)	~~3.3.16* [Foam] Discharge Device.~~ ~~A device designed to discharge water or foam-water solution in a predetermined, fixed, or adjustable pattern.~~ ~~**A.3.3.16**~~		

	~~Examples include, but are not limited to, sprinklers, spray nozzles, and hose nozzles.~~ ~~[11, 2021]~~
Statement	The definition of 3.3.16 (Foam) Discharge Device is a duplicate definition similar to existing 3.3.9 Discharge Device. Committee recommends the deletion of definition 3.3.16 (Foam) Discharge Device

Section	PI	PAGE	DISPOSITION
3.3.23.2	103		MOTION TO RESOLVE
Proposed Text (PI)	3.3.23.2* Preplanned Impairment. A condition where a water-based fire protection system or a portion thereof is out of service due to work planned in advance~~, . such as~~ A.3.3.23.2 Examples could include revisions to the water supply or sprinkler system piping.		
Committee Text (FR)			
Statement	Existing language is needed to offer proper guidance to end user and service provider on the proper definition of Preplanned Impairment.		

Section	PI	PAGE	DISPOSITION
3.3.25	2		MOTION -Create 1st Revision
Proposed Text (PI)	3.3.25 Inspection. A visual examination of a system or portion thereof to verify that it appears to be in operating condition and is free of physical damage. ~~[820, 2020]~~ Add annex section A.3.3.25 The definition of Inspection does not preclude the need to have system components (i.e.: internal conditions of check valves) disassembled to perform the required inspection and should not be considered maintenance work.		

Committee Text (FR)	
Statement	Added Annex language adds clarity and guidance where tools or equipment are needed to perform an inspection or checks.

Section	PI	PAGE	DISPOSITION
3.3.47	41		MOTION -Create 1st Revision
Proposed Text (PI)	~~3.3.37 Reduced-Pressure Principle Backflow Prevention Assembly (RPBA).~~ ~~Two independently acting check valves together with a hydraulically operating, mechanically independent pressure differential relief valve located between the check valves, along with two resilient-seated shutoff valves, all as an assembly, and equipped with properly located test cocks.~~		
Committee Text (FR)			
Statement	Reduced Pressure Principle Backflow Preventer Assembly is not used in the body of the standard, and therefore removal of the definition is warranted.		

Section	PI	PAGE	DISPOSITION
3.3.41	153		MOTION -CREATE 1ST Revision
Proposed Text (PI)	~~3.3.41 Sprinkler.~~ ~~3.3.41.1* Control Mode Specific Application (CMSA) Sprinkler.~~ ~~A type of spray sprinkler that is capable of producing characteristic large water droplets and that is listed for its capability to provide fire control of specific high-challenge fire hazards. [13, 2022]~~ ~~3.3.41.2 Corrosion-Resistant Sprinkler.~~		

	~~A sprinkler fabricated with corrosion-resistant material, or with special coatings or platings, to be used in an atmosphere that would normally corrode sprinklers. [13, 2022]~~ ~~3.3.41.3 Dry Sprinkler.~~ ~~A sprinkler secured in an extension nipple that has a seal at the inlet end to prevent water from entering the nipple until the sprinkler operates. [13, 2022]~~ ~~3.3.41.4 Early Suppression Fast-Response (ESFR) Sprinkler.~~ ~~A type of fast-response sprinkler that has a thermal element with an RTI of 50 (meters-seconds)1⁄2 or less and is listed for its capability to provide fire suppression of specific high-challenge fire hazards. [13, 2022]~~ ~~3.3.41.5 Electrically Operated Sprinklers.~~ ~~A sprinkler that is equipped with an integral means of activation using electricity.~~ ~~3.3.41.6 Extended Coverage Sprinkler.~~ ~~A type of spray sprinkler with maximum coverage areas as specified in Sections 11.2 and 11.3 of NFPA 13. [13, 2022]~~ ~~3.3.41.7 Installation Orientation.~~ ~~The following sprinklers are defined according to orientation.~~ ~~3.3.41.7.1 Concealed Sprinkler.~~ ~~A recessed sprinkler with cover plate. [13, 2022]~~ ~~3.3.41.7.2 Flush Sprinkler.~~ ~~A sprinkler in which all or part of the body, including the shank thread, is mounted above the lower plane of the ceiling. [13, 2022]~~ ~~3.3.41.7.3 Pendent Sprinkler.~~ ~~A sprinkler designed to be installed in such a way that the water stream is directed downward against the deflector. [13, 2022]~~ ~~3.3.41.7.4 Recessed Sprinkler.~~

	~~A sprinkler in which all or part of the body, other than the shank thread, is mounted within a recessed housing. [13, 2022]~~ ~~3.3.41.7.5 Sidewall Sprinkler.~~ ~~A sprinkler having special deflectors that are designed to discharge most of the water away from the nearby wall in a pattern resembling one-quarter of a sphere, with a small portion of the discharge directed at the wall behind the sprinkler. [13, 2022]~~ ~~3.3.41.7.6 Upright Sprinkler.~~ ~~A sprinkler designed to be installed in such a way that the water spray is directed upwards against the deflector. [13, 2022]~~ ~~3.3.41.8 Nozzle.~~ ~~A device for use in applications requiring special water discharge patterns, directional spray, or other unusual discharge characteristics. [13, 2022]~~ ~~3.3.41.9 Old-Style/Conventional Sprinkler.~~ ~~A sprinkler that directs from 40 percent to 60 percent of the total water initially in a downward direction and that is designed to be installed with the deflector either upright or pendent. [13, 2022]~~ ~~3.3.41.10 Open Sprinkler.~~ ~~A sprinkler that does not have actuators or heat-responsive elements. [13, 2022]~~ ~~3.3.41.11 Ornamental/Decorative Sprinkler.~~ ~~A sprinkler that has been painted or plated by the manufacturer. [13, 2022]~~ ~~3.3.41.12 Quick-Response Early Suppression (QRES) Sprinkler.~~ ~~A type of quick-response sprinkler that has a thermal element with an RTI of 50 (meters-seconds)1⁄2 or less and is listed for its capability to provide fire suppression of specific fire hazards. [13, 2022]~~ ~~3.3.41.13 Quick-Response Extended Coverage Sprinkler.~~

~~A type of quick-response sprinkler that has a thermal element with an RTI of 50 (meters-seconds)1⁄2 or less and complies with the extended protection areas defined in Chapter 11 of NFPA 13. [13, 2022]~~

~~3.3.41.14 Quick-Response (QR) Sprinkler.~~

~~A type of spray sprinkler that has a thermal element with an RTI of 50 (meters-seconds)1⁄2 or less and is listed as a quick-response sprinkler for its intended use. [13, 2022]~~

~~3.3.41.15 Residential Sprinkler.~~

~~A type of fast-response sprinkler having a thermal element with an RTI of 50 (meters-seconds)1⁄2 or less that has been specifically investigated for its ability to enhance survivability in the room of fire origin and that is listed for use in the protection of dwelling units. [13, 2022]~~

~~3.3.41.16 Special Sprinkler.~~

~~A sprinkler that has been tested and listed as prescribed in Section 15.2 of NFPA 13. [13, 2022]~~

~~3.3.41.17 Spray Sprinkler.~~

~~A type of sprinkler listed for its capability to provide fire control for a wide range of fire hazards. [13, 2022]~~

~~3.3.41.18 Standard Spray Sprinkler.~~

~~A spray sprinkler with maximum coverage areas as specified in Sections 10.2 and 10.3 of NFPA 13. [13, 2022]~~

3.3.41 Sprinkler Definitions. [13, 2022]

3.3.41.1 Automatic Sprinkler.

A fire suppression or control device that operates automatically when its heat-activated element is heated to its thermal rating or above, allowing water to discharge over a specified area. [13, 2022]

3.3.41.2 General Sprinkler Characteristics.

The following are characteristics of a sprinkler that define its ability to control or extinguish a fire. (1) Thermal sensitivity. A measure of the rapidity with which the thermal element operates as installed in a

	specific sprinkler or sprinkler assembly. One measure of thermal sensitivity is the response time index (RTI) as measured under standardized test conditions. (a) Sprinklers defined as fast response have a thermal element with an RTI of 50 (meters-seconds)1⁄2 or less. (b) Sprinklers defined as standard response have a thermal element with an RTI of 80 (meters-seconds)1⁄2 or more. (2) Temperature rating. (3) K-factor (see Chapter 7). (4) Installation orientation (see 3.3.41.3). (5) Water distribution characteristics (i.e., application rate, wall wetting). (6) Special service conditions. [13, 2022] 3.3.41.3 Installation Orientation. The following sprinklers are defined according to orientation. [13, 2022] 3.3.41.3.1 Concealed Sprinkler. A recessed sprinkler with cover plate. [13, 2022] 3.3.41.3.2 Flush Sprinkler. A sprinkler in which all or part of the body, including the shank thread, is mounted above the lower plane of the ceiling. [13, 2022] 3.3.41.3.3 Pendent Sprinkler. A sprinkler designed to be installed in such a way that the water stream is directed downward against the deflector. [13, 2022] 3.3.41.3.4 Recessed Sprinkler. A sprinkler in which all or part of the body, other than the shank thread, is mounted within a recessed housing. [13, 2022] 3.3.41.3.5 Sidewall Sprinkler. A sprinkler having special deflectors that are designed to discharge most of the water away from the nearby wall in a pattern resembling one-quarter of a sphere, with a small portion of the discharge directed at the wall behind the sprinkler. [13, 2022] 3.3.41.3.6 Upright Sprinkler. A sprinkler designed to be installed in such a way that the water spray is directed upwards against the deflector. [13, 2022]

	3.3.41.4 Sprinkler Types. The following sprinklers are defined according to design and/or performance characteristics. [13, 2022] 3.3.41.4.1* Control Mode Density/Area (CMDA) Sprinkler. A type of spray sprinkler intended to provide fire control in storage applications using the design density/area criteria described in this standard. [13, 2022] 3.3.41.4.2* Control Mode Specific Application (CMSA) Sprinkler. A type of spray sprinkler that is capable of producing characteristic large water droplets and that is listed for its capability to provide fire control of specific high-challenge fire hazards. [13, 2022] 3.3.41.4.3 Corrosion-Resistant Sprinkler. A sprinkler fabricated with corrosion-resistant material, or with special coatings or platings, to be used in an atmosphere that would normally corrode sprinklers. [13, 2022] 3.3.41.4.4* Dry Sprinkler. A sprinkler secured in an extension nipple that has a seal at the inlet end to prevent water from entering the nipple until the sprinkler operates. [13, 2022] 3.3.41.4.5* Early Suppression Fast-Response (ESFR) Sprinkler. A type of fast-response sprinkler that has a thermal element with an RTI of 50 (meters-seconds)1⁄2 or less and is listed for its capability to provide fire suppression of specific high-challenge fire hazards. [13, 2022] 3.3.41.4.6 Electrically Operated Sprinkler. A sprinkler equipped with an integral means of activation using electricity. [13, 2022] 3.3.41.4.7 Extended Coverage Sprinkler. A type of spray sprinkler with maximum coverage areas as specified in Sections 11.2 and 11.3. [13, 2022]

	3.3.41.4.8 Institutional Sprinkler. A sprinkler specially designed for resistance to load-bearing purposes and with components not readily converted for use as weapons. [13, 2022] 3.3.41.4.9 Intermediate-Level Sprinkler/Rack Storage Sprinkler. A sprinkler equipped with integral shields to protect its operating elements from the discharge of sprinklers installed at higher elevations. [13, 2022] 3.3.41.4.10 Nozzle. A device for use in applications requiring special water discharge patterns, directional spray, or other unusual discharge characteristics. [13, 2022] 3.3.41.4.11 Old-Style/Conventional Sprinkler. A sprinkler that directs from 40 percent to 60 percent of the total water initially in a downward direction and that is designed to be installed with the deflector either upright or pendent. [13, 2022] 3.3.41.4.12 Open Sprinkler. A sprinkler that does not have actuators or heat-responsive elements. [13, 2022] 3.3.41.4.13 Ornamental/Decorative Sprinkler. A sprinkler that has been painted or plated by the manufacturer. [13, 2022] 3.3.41.4.14 Pilot Line Detector. A standard spray sprinkler or thermostatic fixed-temperature release device used as a detector to pneumatically or hydraulically release the main valve, controlling the flow of water into a fire protection system.[13, 2022] 3.3.41.4.15 Quick-Response Extended Coverage Sprinkler.

	A type of quick-response sprinkler that has a thermal element with an RTI of 50 (meter-seconds)1⁄2 or less and complies with the extended protection areas defined in Chapter 11. [13, 2022] 3.3.41.4.16* Quick-Response (QR) Sprinkler. A type of spray sprinkler that has a thermal element with an RTI of 50 (meter-seconds)1⁄2 or less and is listed as a quick-response sprinkler for its intended use. [13, 2022] 3.3.41.4.17 Residential Sprinkler. A type of fast-response sprinkler having a thermal element with an RTI of 50 (meters-seconds)1⁄2 or less that has been specifically investigated for its ability to enhance survivability in the room of fire origin and that is listed for use in the protection of dwelling units. [13, 2022] 3.3.41.4.18 Special Sprinkler. A sprinkler that has been tested and listed as prescribed in Section 15.2. [13, 2022] 3.3.41.4.19 Spray Sprinkler. A type of sprinkler listed for its capability to provide fire control for a wide range of fire hazards. [13, 2022] 3.3.41.4.20 Standard Spray Sprinkler. A spray sprinkler with maximum coverage areas as specified in Sections 10.2 and 10.3. [13, 2022]
Committee Text (FR)	~~3.3.41 Sprinkler.~~ ~~3.3.41.1* Control Mode Specific Application (CMSA) Sprinkler.~~ ~~A type of spray sprinkler that is capable of producing characteristic large water droplets and that is listed for its capability to provide fire control of specific high-challenge fire hazards. [13, 2022]~~ ~~3.3.41.2 Corrosion-Resistant Sprinkler.~~

	~~A sprinkler fabricated with corrosion-resistant material, or with special coatings or platings, to be used in an atmosphere that would normally corrode sprinklers. [13, 2022]~~ ~~3.3.41.3 Dry Sprinkler.~~ ~~A sprinkler secured in an extension nipple that has a seal at the inlet end to prevent water from entering the nipple until the sprinkler operates. [13, 2022]~~ ~~3.3.41.4 Early Suppression Fast-Response (ESFR) Sprinkler.~~ ~~A type of fast-response sprinkler that has a thermal element with an RTI of 50 (meters-seconds)1⁄2 or less and is listed for its capability to provide fire suppression of specific high-challenge fire hazards. [13, 2022]~~ ~~3.3.41.5 Electrically Operated Sprinklers.~~ ~~A sprinkler that is equipped with an integral means of activation using electricity.~~ ~~3.3.41.6 Extended Coverage Sprinkler.~~ ~~A type of spray sprinkler with maximum coverage areas as specified in Sections 11.2 and 11.3 of NFPA 13. [13, 2022]~~ ~~3.3.41.7 Installation Orientation.~~ ~~The following sprinklers are defined according to orientation.~~ ~~3.3.41.7.1 Concealed Sprinkler.~~ ~~A recessed sprinkler with cover plate. [13, 2022]~~ ~~3.3.41.7.2 Flush Sprinkler.~~ ~~A sprinkler in which all or part of the body, including the shank thread, is mounted above the lower plane of the ceiling. [13, 2022]~~ ~~3.3.41.7.3 Pendent Sprinkler.~~ ~~A sprinkler designed to be installed in such a way that the water stream is directed downward against the deflector. [13, 2022]~~ ~~3.3.41.7.4 Recessed Sprinkler.~~

	~~A sprinkler in which all or part of the body, other than the shank thread, is mounted within a recessed housing. [13, 2022]~~ ~~3.3.41.7.5 Sidewall Sprinkler.~~ ~~A sprinkler having special deflectors that are designed to discharge most of the water away from the nearby wall in a pattern resembling one-quarter of a sphere, with a small portion of the discharge directed at the wall behind the sprinkler. [13, 2022]~~ ~~3.3.41.7.6 Upright Sprinkler.~~ ~~A sprinkler designed to be installed in such a way that the water spray is directed upwards against the deflector. [13, 2022]~~ ~~3.3.41.8 Nozzle.~~ ~~A device for use in applications requiring special water discharge patterns, directional spray, or other unusual discharge characteristics. [13, 2022]~~ ~~3.3.41.9 Old-Style/Conventional Sprinkler.~~ ~~A sprinkler that directs from 40 percent to 60 percent of the total water initially in a downward direction and that is designed to be installed with the deflector either upright or pendent. [13, 2022]~~ ~~3.3.41.10 Open Sprinkler.~~ ~~A sprinkler that does not have actuators or heat-responsive elements. [13, 2022]~~ ~~3.3.41.11 Ornamental/Decorative Sprinkler.~~ ~~A sprinkler that has been painted or plated by the manufacturer. [13, 2022]~~ ~~3.3.41.12 Quick-Response Early Suppression (QRES) Sprinkler.~~ ~~A type of quick-response sprinkler that has a thermal element with an RTI of 50 (meters-seconds)1⁄2 or less and is listed for its capability to provide fire suppression of specific fire hazards. [13, 2022]~~ ~~3.3.41.13 Quick-Response Extended Coverage Sprinkler.~~

~~A type of quick-response sprinkler that has a thermal element with an RTI of 50 (meters-seconds)1⁄2 or less and complies with the extended protection areas defined in Chapter 11 of NFPA 13. [13, 2022]~~

~~3.3.41.14 Quick-Response (QR) Sprinkler.~~

~~A type of spray sprinkler that has a thermal element with an RTI of 50 (meters-seconds)1⁄2 or less and is listed as a quick-response sprinkler for its intended use. [13, 2022]~~

~~3.3.41.15 Residential Sprinkler.~~

~~A type of fast-response sprinkler having a thermal element with an RTI of 50 (meters-seconds)1⁄2 or less that has been specifically investigated for its ability to enhance survivability in the room of fire origin and that is listed for use in the protection of dwelling units. [13, 2022]~~

~~3.3.41.16 Special Sprinkler.~~

~~A sprinkler that has been tested and listed as prescribed in Section 15.2 of NFPA 13. [13, 2022]~~

~~3.3.41.17 Spray Sprinkler.~~

~~A type of sprinkler listed for its capability to provide fire control for a wide range of fire hazards. [13, 2022]~~

~~3.3.41.18 Standard Spray Sprinkler.~~

~~A spray sprinkler with maximum coverage areas as specified in Sections 10.2 and 10.3 of NFPA 13. [13, 2022]~~

3.3.41 Sprinkler Definitions. [13, 2022]

3.3.41.1 Automatic Sprinkler.

A fire suppression or control device that operates automatically when its heat-activated element is heated to its thermal rating or above, allowing water to discharge over a specified area. [13, 2022]

3.3.41.2 General Sprinkler Characteristics.

The following are characteristics of a sprinkler that define its ability to control or extinguish a fire. (1) Thermal sensitivity. A measure of the rapidity with which the thermal element operates as installed in a

	specific sprinkler or sprinkler assembly. One measure of thermal sensitivity is the response time index (RTI) as measured under standardized test conditions. (a) Sprinklers defined as fast response have a thermal element with an RTI of 50 (meters-seconds)1⁄2 or less. (b) Sprinklers defined as standard response have a thermal element with an RTI of 80 (meters-seconds)1⁄2 or more. (2) Temperature rating. (3) K-factor (see Chapter 7). (4) Installation orientation (see 3.3.41.3). (5) Water distribution characteristics (i.e., application rate, wall wetting). (6) Special service conditions. [13, 2022] 3.3.41.3 Installation Orientation. The following sprinklers are defined according to orientation. [13, 2022] 3.3.41.3.1 Concealed Sprinkler. A recessed sprinkler with cover plate. [13, 2022] 3.3.41.3.2 Flush Sprinkler. A sprinkler in which all or part of the body, including the shank thread, is mounted above the lower plane of the ceiling. [13, 2022] 3.3.41.3.3 Pendent Sprinkler. A sprinkler designed to be installed in such a way that the water stream is directed downward against the deflector. [13, 2022] 3.3.41.3.4 Recessed Sprinkler. A sprinkler in which all or part of the body, other than the shank thread, is mounted within a recessed housing. [13, 2022] 3.3.41.3.5 Sidewall Sprinkler. A sprinkler having special deflectors that are designed to discharge most of the water away from the nearby wall in a pattern resembling one-quarter of a sphere, with a small portion of the discharge directed at the wall behind the sprinkler. [13, 2022] 3.3.41.3.6 Upright Sprinkler. A sprinkler designed to be installed in such a way that the water spray is directed upwards against the deflector. [13, 2022]

	3.3.41.4 Sprinkler Types. The following sprinklers are defined according to design and/or performance characteristics. [13, 2022] 3.3.41.4.1* Control Mode Density/Area (CMDA) Sprinkler. A type of spray sprinkler intended to provide fire control in storage applications using the design density/area criteria described in this standard. [13, 2022] 3.3.41.4.2* Control Mode Specific Application (CMSA) Sprinkler. A type of spray sprinkler that is capable of producing characteristic large water droplets and that is listed for its capability to provide fire control of specific high-challenge fire hazards. [13, 2022] 3.3.41.4.3 Corrosion-Resistant Sprinkler. A sprinkler fabricated with corrosion-resistant material, or with special coatings or platings, to be used in an atmosphere that would normally corrode sprinklers. [13, 2022] 3.3.41.4.4* Dry Sprinkler. A sprinkler secured in an extension nipple that has a seal at the inlet end to prevent water from entering the nipple until the sprinkler operates. [13, 2022] 3.3.41.4.5* Early Suppression Fast-Response (ESFR) Sprinkler. A type of fast-response sprinkler that has a thermal element with an RTI of 50 (meters-seconds)1⁄2 or less and is listed for its capability to provide fire suppression of specific high-challenge fire hazards. [13, 2022] 3.3.41.4.6 Electrically Operated Sprinkler. A sprinkler equipped with an integral means of activation using electricity. [13, 2022] 3.3.41.4.7 Extended Coverage Sprinkler. A type of spray sprinkler with maximum coverage areas as specified in Sections 11.2 and 11.3. [13, 2022]

	3.3.41.4.8 Institutional Sprinkler. A sprinkler specially designed for resistance to load-bearing purposes and with components not readily converted for use as weapons. [13, 2022] 3.3.41.4.9 Intermediate-Level Sprinkler/Rack Storage Sprinkler. A sprinkler equipped with integral shields to protect its operating elements from the discharge of sprinklers installed at higher elevations. [13, 2022] 3.3.41.4.10 Nozzle. A device for use in applications requiring special water discharge patterns, directional spray, or other unusual discharge characteristics. [13, 2022] 3.3.41.4.11 Old-Style/Conventional Sprinkler. A sprinkler that directs from 40 percent to 60 percent of the total water initially in a downward direction and that is designed to be installed with the deflector either upright or pendent. [13, 2022] 3.3.41.4.12 Open Sprinkler. A sprinkler that does not have actuators or heat-responsive elements. [13, 2022] ~~**3.3.41.4.13 Ornamental/Decorative Sprinkler.**~~ ~~**A sprinkler that has been painted or plated by the manufacturer. [13, 2022]**~~ 3.3.41.4.14 Pilot Line Detector. A standard spray sprinkler or thermostatic fixed-temperature release device used as a detector to pneumatically or hydraulically release the main valve, controlling the flow of water into a fire protection system.[13, 2022] 3.3.41.4.15 Quick-Response Extended Coverage Sprinkler.

	A type of quick-response sprinkler that has a thermal element with an RTI of 50 (meter-seconds)1⁄2 or less and complies with the extended protection areas defined in Chapter 11. [13, 2022] 3.3.41.4.16* Quick-Response (QR) Sprinkler. A type of spray sprinkler that has a thermal element with an RTI of 50 (meter-seconds)1⁄2 or less and is listed as a quick-response sprinkler for its intended use. [13, 2022] 3.3.41.4.17 Residential Sprinkler. A type of fast-response sprinkler having a thermal element with an RTI of 50 (meters-seconds)1⁄2 or less that has been specifically investigated for its ability to enhance survivability in the room of fire origin and that is listed for use in the protection of dwelling units. [13, 2022] 3.3.41.4.18 Special Sprinkler. A sprinkler that has been tested and listed as prescribed in Section 15.2. [13, 2022] 3.3.41.4.19 Spray Sprinkler. A type of sprinkler listed for its capability to provide fire control for a wide range of fire hazards. [13, 2022] 3.3.41.4.20 Standard Spray Sprinkler. A spray sprinkler with maximum coverage areas as specified in Sections 10.2 and 10.3. [13, 2022]
Statement	The current definitions of sprinklers were not a complete list. The new definitions include the full list of sprinkler definitions that are used in NFPA 13 and NFPA 25. Definition of Ornamental and Decorative Sprinklers are not used in the body of the standard and therefore removed.

Section	PI	PAGE	DISPOSITION
3.3.41.11	42		Motion -Create 1st Revision

Proposed Text (PI)	~~3.3.41.11 Ornamental/Decorative Sprinkler.~~ ~~A sprinkler that has been painted or plated by the manufacturer. [13, 2022]~~
Committee Text (FR)	
Statement	Definition of Ornamental and Decorative Sprinklers are not used in the body of the standard and therefore removed. See action on PI #153

Section	PI	PAGE	DISPOSITION
3.3.48	93, 107		MOTION TO RESOLVE
Proposed Text (PI)	3.3.48* Valve Status Test. Flowing water to verify that valves for a portion of the system are not closed and confirming similar pressures to that prior to closing the control valve. A.3.3.48 Valve Status Test. The purpose of these tests is to provide a reasonable degree of certainty that the valve that was manipulated is in the fully open position. The pressures from a device upstream of the control valve should be completely opened, and the pressures should be compared to those expected. Examples include but are not limited to main drains, hydrants, valve status connections, fire pump tests, and waterflow tests.		
Committee Text (FR)			
Statement	The intent of the Valve Status Test is to verify the valve is not closed and that water is flowing. In addition, there a pressure gauges that are not located at each valve.		

Section	PI	PAGE	DISPOSITION

New Definitions	166		MOTION -Create a 1st Revision
Proposed Text (PI)	3.3.xx* Vapor Phase Corrosion Inhibitor (VCI) - a chemical compound (substance) that emits rust-inhibiting vapor to protect ferrous and non-ferrous metals against corrosion in an air-filled dry pipe or preaction sprinkler system. The inhibitor forms a thin protective layer through adsorption separating the pipe from the air or water and provides protection against corrosion. A.3.3.xxx VCIs are also referred to as vapor phase corrosion inhibitors, volatile corrosion inhibitors, and vapor phase inhibitors (VPI). All of these terms relate to a specific class of corrosion inhibitors. Other classifications include passivating (anodic), cathodic, organic, and precipitation inhibitors. VCIs are appropriate for atmospheric or gaseous corrosion. This is corrosion happening in the air-filled portion of the sprinkler system containing water vapor. Corrosion will occur when the relative humidity is greater than 60%. VCIs can also provide protection in partially aqueous environments (partially water-filled pipes) and aqueous environments (water-filled pipes). VCIs can inhibit anodic reactors, cathodic reactions, or both. VCIs protecting against both anodic and cathodic reactions provide the best level of protection for applications in sprinkler systems.		
Committee Text (FR)	**3.3.X* Vapor Corrosion Inhibitor (VCI)** A chemical compound (substance) that emits rust-inhibiting vapor to protect ferrous and non-ferrous metals against corrosion in an air-filled dry pipe or preaction sprinkler systems. **A.3.3.X** VCIs are also referred to as vapor phase corrosion inhibitors, volatile corrosion inhibitors, and vapor phase inhibitors (VPI). All of these terms relate to a specific class of corrosion inhibitors. The inhibitor forms a thin protective layer through adsorption separating the pipe from the air or water and provides protection against corrosion. Other classifications include passivating (anodic), cathodic, organic, and precipitation inhibitors. VCIs are appropriate for atmospheric or gaseous corrosion. This is corrosion happening in the air-filled portion of the sprinkler system containing water vapor. Corrosion will occur when the relative humidity is greater than 60%. VCIs can also provide protection in partially aqueous environments (partially water-filled pipes) and aqueous environments (water-filled pipes). VCIs can inhibit anodic reactors, cathodic reactions, or both. VCIs protecting against both anodic and cathodic reactions provide the best level of protection for applications in sprinkler systems.		

Statement	Extract definition from NFPA 13 Second Draft Revision #1065

Section	PI	PAGE	DISPOSITION
New Definition	152		MOTION -Create a 1st Revision
Proposed Text (PI)	3.3.12 Dwelling Unit One or more rooms arranged for the use of one or more individuals living together, as in a single housekeeping unit normally having cooking, living, sanitary, and sleeping facilities that include, but are not limited to, hotel rooms, dormitory rooms, apartments, condominiums, sleeping rooms in nursing homes, and similar living units.		
Committee Text (FR)	3.3.65 Dwelling Unit **(for sprinkler system installations)** One or more rooms arranged for the use of one or more individuals living together, as in a single housekeeping unit normally having cooking, living, sanitary, and sleeping facilities that include, but are not limited to, hotel rooms, dormitory rooms, apartments, condominiums, sleeping rooms in nursing homes, and similar living units.		
Statement	Extract definition from NFPA 13 -3.3.65		

Section	PI	PAGE	DISPOSITION
3.5.5.1	110		MOTION -CREATE 1ST REVISION BASED ON PI 110
Proposed Text (PI)	3.5.5.1* Master Pressure-~~Reducing~~ Regulating Valve. A pressure-reducing valve installed to regulate pressures in an entire fire protection system and/or standpipe system zone.		
Committee Text (FR)	**3.5.6 Pressure-Regulating Device.** A device designed for the purpose of reducing, regulating, controlling, or restricting water pressure. **[14,** 2024**]** **3.5.6.1 Pressure-Reducing Valve.**		

	A valve designed for the purpose of reducing the downstream water pressure under both flowing (residual) and nonflowing (static) conditions. **[14,** 2024**]** **3.5.6.1.1* Master Pressure-Reducing Valve.** A pilot-operated pressure-reducing valve installed to regulate pressures in an entire water-based fire protection system, multiple fire protection systems, or multiple zones. **A.3.5.6.1.1 Master Pressure-Reducing Valve.** Master pressure-reducing valves are typically found downstream of a fire pump's discharge supplying multiple zones or an entire fire protection system. A pressure-reducing valve supplying multiple devices on a single floor should not be considered a master pressure-reducing valve. **3.5.6.2 Pressure-Restricting Device.** A valve or device designed for the purpose of reducing the downstream water pressure under flowing (residual) conditions only. **[14,** 2024**]** **3.5.X Main Pressure Relief Valve.** A valve designed to relieve excess pressure that serves an entire fire protection system.
Statement	

Section	PI	PAGE	DISPOSITION
New Definition	137		MOTION -Create a 1st Revision
Proposed Text (PI)	System riser The aboveground horizontal or vertical pipe between the water supply and the mains (cross or feed) that contains a control valve (either directly or within its supply pipe), a pressure gauge, a drain, and a waterflow alarm device. [13,2022] A.3.x.x.x Each system is to have signage required by the installation standard and NFPA 25.		
Committee Text (FR)	System riser The aboveground horizontal or vertical pipe between the water supply and the mains (cross or feed) that contains a control valve (either		

	directly or within its supply pipe), a pressure gauge, a drain, and a waterflow alarm device. [13,2022] ~~**A.3.x.x.x Each system is to have signage required by the installation standard and NFPA 25.**~~
Statement	Extract definition from NFPA 13 -3.3.225. This term is used in NFPA 25 and appropriate to add a definition. Adds clarity to the requirements for NFPA 25.

Section	PI	PAGE	DISPOSITION
4.1.2	43		MOTION -Create a 1st Revision
Proposed Text (PI)	4.1.2 The property owner or designated representative shall ensure that water-filled piping that is subject to freezing is maintained at a minimum temperature of 40°F (4°C) unless an antifreeze solution complying with Chapter 5 is utilized.		
Committee Text (FR)			
Statement	Freeze Protection is only needed when the area is subject to freezing and areas can not be maintained at or above 40F (4C).		

Section	PI	PAGE	DISPOSITION
4.1.2.1	44		MOTION -Create 1st Revision
Proposed Text (PI)	4.1.2.1* All areas of the building containing water-filled piping that is subject to freezing and does not have another means of freeze protection shall be maintained at a minimum temperature of 40°F (4°C).		
Committee Text (FR)			

Statement	Freeze Protection is only needed when the area is subject to freezing and areas can not be maintained at or above 40F (4C).

Section	PI	PAGE	DISPOSITION
New 4.1.2.6 and A.4.1.2.6	172, 173		MOTION TO CREATE A 1ST REVISION
Proposed Text (PI)	4.1.2.6* Frozen Systems When adequate freeze protection has not been provided and a water-based fire protection system is found to be frozen, the following steps shall be taken to restore the system to service: (1) Impairment procedures required by Chapter 15 shall be implemented. (2) The system shall be completely thawed out. (3) A visual examination of all accessible pipe, fittings, and components shall be performed to determine if there is any breakage or deformities. (4) A visual examination of all accessible sprinklers shall be performed to determine if the operating element is still intact or if there is any evidence of stress at the seat. (4) Broken and deformed pipe, fittings, components, and sprinklers shall be replaced. (5) To ensure the entire system is intact perform a pressure test for metallic piping systems at 40 psi (3.2 bar) for 2 hours. For nonmetallic piping systems perform a pressure test at 10 psi (0.8 bar) for 2 hours. The system shall be permitted to lose up to 3 psi (0.2 bar) during the duration of the test. The source of air leaks shall be identified and repaired if the system loses more than 3 psi (0.2 bar) during this test.		

	(6) Perform a hydrostatic test of not less than 200 psi (13.8 bar) pressure for 2 hours, or at 50 psi (3.4 bar) in excess of the maximum pressure, where maximum pressure is in excess of 150 psi (10.3 bar). (7) Complete 15.7 Restoring Systems to Service procedures in Chapter 15. A.4.1.2.6 Frozen water-based fire protection systems are a frequent occurrence during freezing weather conditions, especially in those regions that are not considered cold climates. Once a frozen system or a partially frozen system is discovered, the system is considered impaired and impairment procedures need to be implemented immediately. Thawing out the system can involve either totally heating the building, including all blind and concealed spaces with water filled piping, or disassembling the pipes, taking them into a heated area, and using a heat source to thaw the pipes. It's necessary to make sure no potential ice plugs remain in the system. Depending on the length and severity of the freezing event, damage to the system can be extensive. Once the system is thawed out completely, checking for damage is the next step. Typical damage to a sprinkler system can include cracked or broken valves and fittings, split piping, damaged sprinklers, and damage to any other system component subjected to system water pressure. Access to as much of the system as possible for this examination is recommended, even if cutting open drywall ceilings and walls is necessary. Replace all damaged system parts and then perform an air test. The purpose of the air test is to help identify system parts that may not have appeared visibly damaged and replace them before performing a hydrostatic test. An odorant such as peppermint extract can be used to help find the general area of the air leak, and spraying fittings and joints with a soapy solution can help find the exact source of the air leak. Other methods of leak detection can also be used. Once the system is fully repaired and passes the air test, a hydrostatic test of the entire system is needed before restoring the system to service.

Committee Text (FR)	4.1.2.6* Frozen Systems When a water-based fire protection system is found to be frozen, the following steps shall be taken to restore the system to service: (1) Impairment procedures required by Chapter 15 shall be implemented. (2) The system shall be completely thawed out. (3) A visual examination of all accessible pipe, fittings, and components shall be performed to determine if there is any breakage or deformities. (4) A visual examination of all accessible sprinklers shall be performed to determine if the operating element is still intact or if there is any evidence of stress at the seat. (5) Broken and deformed pipe, fittings, components, and sprinklers shall be replaced. (6) To ensure the entire system is intact perform an air pressure test for metallic piping systems at 40 psi (3.2 bar) for 2 hours. The system shall be permitted to lose up to 3 psi (0.2 bar) during the duration of the test. The source of air leaks shall be identified and repaired if the system loses more than 3 psi (0.2 bar) during this test. (7) For nonmetallic piping systems perform an air pressure test in accordance with the manufacturer's instructions. (8) When appropriate whether conditions permit, perform a hydrostatic test of not less than 200 psi (13.8 bar) pressure for 2 hours, or at 50 psi (3.4 bar) in excess of the maximum pressure, where maximum pressure is in excess of 150 psi (10.3 bar). (9) Complete 15.7 Restoring Systems to Service procedures in Chapter 15. A.4.1.2.6 Frozen water-based fire protection systems are a frequent occurrence during freezing weather conditions, especially in those regions that are not considered cold climates. Once a frozen system or a partially

	frozen system is discovered, the system is considered impaired and impairment procedures need to be implemented immediately. Thawing out the system can involve either totally heating the building, including all blind and concealed spaces with water filled piping, or disassembling the pipes, taking them into a heated area, and using a heat source to thaw the pipes. It's necessary to make sure no potential ice plugs remain in the system. Depending on the length and severity of the freezing event, damage to the system can be extensive. Once the system is thawed out completely, checking for damage is the next step. Typical damage to a sprinkler system can include cracked or broken valves and fittings, split piping, damaged sprinklers, and damage to any other system component subjected to system water pressure. Access to as much of the system as possible for this examination is recommended, even if cutting open drywall ceilings and walls is necessary. Replace all damaged system parts and then perform an air test. The purpose of the air test is to help identify system parts that may not have appeared visibly damaged and replace them before performing a hydrostatic test. An odorant such as peppermint extract can be used to help find the general area of the air leak, and spraying fittings and joints with a soapy solution can help find the exact source of the air leak. Other methods of leak detection can also be used. Once the system is fully repaired and passes the air test, a hydrostatic test of the entire system is needed before restoring the system to service.
Statement	A procedure to put frozen systems back in service was added into the standard.

Section	PI	PAGE	DISPOSITION
4.1.4.3	15		MOTION -Create a 1st Revision
Proposed Text (PI)	4.1.4.3*		

	Where a nitrogen supply is used as part of the dry pipe or preaction system design in accordance with NFPA 13 to increase the C Value, it shall be maintained, repaired, or replaced with a nitrogen supply capable of maintaining design concentrations.
Committee Text (FR)	
Statement	Due to the increased C-value it's imperative to maintain the system as designed and installed.

Section	PI	PAGE	DISPOSITION
4.1.4.3	118		MOTION -Create a 1st Revision
Proposed Text (PI)	4.1.4.3* Where a nitrogen supply is used as part of the dry pipe or preaction system design to use a higher C-value in accordance with NFPA 13, it shall be maintained, repaired, or replaced with a nitrogen supply capable of maintaining design concentrations.		
Committee Text (FR)			
Statement	Due to the increased C-value it's imperative to maintain the system as designed and installed. See action on PI #15		

Section	PI	PAGE	DISPOSITION
New Section	165		MOTION -Create a 1st Revision
Proposed Text (PI)	4.1.4.3 * Where a vapor phase corrosion inhibitor is used as part of the dry pipe or preaction system design in accordance with NFPA 13, it shall be maintained, repaired, or replaced.		
Committee Text (FR)	4.1.4.4		

	Where a vapor ~~**phase**~~ corrosion inhibitor is used as part of the dry pipe or preaction system design **to use a higher C-value** in accordance with NFPA 13, it shall be maintained, repaired, or replaced.
Statement	Due to the increased C-value it's imperative to maintain the system as designed and installed. Removal of "phase" to correlate with action from NFPA 13 Second Draft #1065. Staff to renumber as appropriate (4.1.4.4)

Section	PI	PAGE	DISPOSITION
4.1.5.1.1	81		MOTION TO RESOLVE
Proposed Text (PI)	4.1.5.1.1* Upon discovery of any deficiency or any component and equipment under recall or replacement programs by the owner's maintenance personnel, designated representative, or contractor, the owner shall be notified in writing.		
Committee Text (FR)			
Statement	Existing language in 4.3 addresses the concerns raised by the proponent.		

Section	PI	PAGE	DISPOSITION
New	16		MOTION TO HOLD FOR COMMITTEE DISCUSSION
Proposed Text (PI)	4.1.5.1* Whenever impairments, critical deficiencies, or non-critical deficiencies are identified in water-based fire protection systems maintained in accordance with NFPA 25, both of the following shall apply: (1) Impairments or deficiencies shall be corrected or repaired in a timeframe approved by the AHJ.		

	(2) Until impairments or deficiencies are corrected or repaired, an approved impairment or deficiency program shall be implemented in accordance with 15.5 or 15.6. [1, 13.1.9] A.4.1.5.1 A generally accepted practice is for critical deficiencies to be corrected or repaired within 30 days, noncritical deficiencies should be corrected or repaired within 90 days, and impairments should be corrected as soon as practical. [1, A.13.1.9] [Renumber remaining sections]
Committee Text (FR)	
Statement	Task Group was split on how to reconcile this public input. Recommendation is to hold this Public Input for the Main Committee decision.

Section	PI	PAGE	DISPOSITION
New 4.1.8	121		MOTION TO CREATE A 1ST REVISION
Proposed Text (PI)	4.1.8 Storage. 4.1.8.1 The minimum clearance to storage as described in 4.1.8.1.1 through 4.1.8.1.6 shall be maintained below all sprinkler deflectors. 4.1.8.1.1 Unless greater distance are required by 4.1.8.1.2, 4.1.8.1.3, or 4.1.8.1.4, or lesser distances are permitted by 4.1.8.1.2.6, clearance between the deflector and the top of storage shall be 18 in. (457 mm) or greater. 4.1.8.1.2 Clearance between the deflector and the top of storage shall be 36 in. (914 mm) or greater for ESFR or CMSA sprinklers. 4.1.8.1.3 Where standards other than NFPA 13 specify greater distances to storage minimums they shall be followed.		

	4.1.8.1.4 Clearance from the top of storage to sprinkler deflectors shall be 36 in. (914 mm) or greater where rubber tires are stored. 4.1.8.1.5 In-rack sprinklers shall not be required to meet the obstruction criteria and clearance from storage requirements. 4.1.8.1.6 Clearance between the deflector and the top of storage shall be permitted to be less than 18 in. (457 mm) where shown to be permitted by the clearance rules of the installation standard. 4.1.8.2 Storage closer to the deflector than permitted by the clearance rules of the installation standard described in 4.1.8.1.1 through 4.1.8.1.4 shall be corrected. 4.1.8.3 Flue spaces in single, double, and multiple-row storage racks shall be maintained per NFPA 13.
Committee Text (FR)	
Statement	It's the owner's responsibility to ensure adequate clearance from sprinkler deflector and top of storage. PI 122 Would require an annual inspection from the floor and defer to these requirements in Chapter Four.

Section	PI	PAGE	DISPOSITION
4.1.8	127		MOTION TO CREATE A 1ST REVISION
Proposed Text (PI)	~~4.1.8 Control Valve Location.~~ ~~The location of control valves shall be identified at the system riser or other approved location(s).~~		
Committee Text (FR)	4.1.8 Control **(Shutoff)** Valve Location. The location of control **(shutoff)** valves shall be identified **at an approved location.** ~~the system riser or other approved location(s).~~ **A.4.1.8** The location of control valves should be identified on the approved shop drawings and be available upon request.		

Statement	New proposed language clarifies the requirement of this section, permitting the location of the control valves to be identified at a single location.

Section	PI	PAGE	DISPOSITION
4.1.9.1	119		MOTION TO RESOLVE
Proposed Text (PI)	4.1.9.1 A permanently marked metal or rigid plastic information sign shall be placed at ~~each system riser~~the first control valve after the private service main enters the facility.		
Committee Text (FR)			
Statement	Conflicts with current requirements found in NFPA 13. Proposed Language would only apply to a system supplied by a private service main.		

Section	PI	PAGE	DISPOSITION
4.1.10	26		MOTION TO CREATE A 1ST REVISION
Proposed Text (PI)	4.1.10* Antifreeze Information Sign. An antifreeze information sign shall be placed on the antifreeze system control valve indicating the manufacture type and brand of the antifreeze solution, ~~the concentration by volume of the antifreeze solution used~~minimum use temperature, the specific gravity and refractive index if available, and the volume of the antifreeze solution used in the system.		
Committee Text (FR)	4.1.10* Antifreeze Information Sign. A placard shall be placed on the antifreeze system main valve that indicates the manufacture type and brand of the antifreeze solution, the minimum use temperature of the antifreeze solution used, and the volume of the antifreeze solution used in the system.		

Statement	Adding minimum use temperature language aligns with language found in NFPA 13. Extract language from 8.6.1.5 NFPA 13.

Section	PI	PAGE	DISPOSITION
4.3	164		MOTION TO RESOLVE

Proposed Text (PI)

4.3 Reports/Records.

4.3.1*

~~Records~~ Reports shall be made for all inspections, tests, and maintenance of the system and its components.

4.3.~~1.1~~3*

Records shall be maintained by the property owner.

4.3.~~1~~3.~~2~~1*

Records shall be on a medium that will survive the required retention period and permitted to be stored and accessed electronically.

4.3.2

Records shall indicate the following:

1. The procedure/activity performed (e.g., inspection, test, or maintenance)
2. The organization that performed the activity
3. The required frequency of the activity
4. The results and date of the activity
5. The name and contact information of the qualified contractor or owner, including the qualified personnel performing the activity

4.3.3.2*

Records shall be made available to the authority having jurisdiction upon request.

4.3.4

	As-built system installation drawings, hydraulic calculations, original acceptance test records, and device manufacturer's data sheets shall be retained for the life of the system. 4.3.5 Inspection, testing, and maintenance records shall be retained for a minimum period of 1 year after the next inspection, test, or maintenance of that type required by the standard.
Committee Text (FR)	
Statement	Definition of Report could include written or verbal, where definition of Record requires to be written or documented.

Section	PI	PAGE	DISPOSITION
New 4.3.6	136		MOTION TO CREATE 1ST REVISION
Proposed Text (PI)	4.3.6 The documentation cabinet required by NFPA 13 shall contain system(s) records. A.4.3.6 The 2025 NFPA 13 requires a documentation cabinet		
Committee Text (FR)	4.3.6 The records shall be maintained in the documentation cabinet, where required. ~~A.4.3.6~~ ~~The 2025 NFPA 13 requires a documentation cabinet~~		

Statement	Provides a location to store required systems record(s) in a single location, as per the requirements of NFPA 13.

Section	PI	PAGE	DISPOSITION
New 4.4	112		MOTION TO CREATE 1ST REVISION BASED ON PI 136
Proposed Text (PI)	4.4 Documentation Cabinet The documentation cabinet shall be maintained for the lifetime of the system.		
Committee Text (FR)			
Statement	Provides a location to store required systems record(s) in a single location, as per the requirements of NFPA 13. See action on PI #136		

Section	PI	PAGE	DISPOSITION
New 4.6.6.3.1 and 4.6.6.3.2	171		MOTION TO RESOLVE
Proposed Text (PI)	**4.6.6.3.1** Automated testing arrangements that provide equivalent means of testing components and systems shall be permitted to be used to comply with the requirements of this standard. **4.6.6.3.2** Automated testing arrangements used in accordance with 4.6.6.3.1 shall be performed at at least the same frequency as required in this standard unless otherwise specified.		

Committee Text (FR)	
Statement	Existing language in 4.6.6.1 and 4.6.6.3 already addresses concern of automated inspection and testing. Equivalent methods is already covered in 4.1.3.1.

Section	PI	PAGE	DISPOSITION
	199		MOTION TO CREATE A 1ST REVISION BASED ON…
Proposed Text (PI)	Create new 4.7 Remote Inspection and Automated Testing (move subsequent sections down) Move all current 4.6.6 content to new 4.7		
Committee Text (FR)	**4.7* Automated Inspection and Testing.** **4.7.1** Automated inspection and testing procedures performed in accordance with the requirements in this standard shall be permitted to be used. **4.7.2*** Automated inspection equipment that meets the intent of a required visual inspection shall be permitted to replace the visual inspection. **4.7.3** Automated testing equipment shall produce the same action required by this standard to test a device. **4.7.4** The testing shall discharge water where required in this standard. **4.7.4.1** Automated testing equipment that does not discharge water for a test shall be permitted except as required in 4.6.6.4.2.		

	4.7.4.2* The discharge shall be visually observed at a minimum frequency of once every 3 years. **4.7.5** Where required in this standard, personnel shall observe the testing and intervene in the testing procedures when necessary to prevent injury or property damage. **4.7.6** Automated test devices and equipment shall be listed for the purpose of the test being conducted. **4.7.7*** Devices and equipment utilized to perform automated inspection and testing procedures that are not subjected to system pressure or are not integral to the operation of the system during a fire event shall not be required to be listed. **4.7.8** Failure of the testing equipment shall not impair the operation of the system unless indicated by a supervisory signal in accordance with NFPA 72. **4.7.9** Failure of a component or system to pass an automated test shall result in an audible and visual supervisory signal in accordance with NFPA 72 or other approved fire alarm code. **4.7.10** Failure of automated inspection and testing equipment shall result in a trouble signal in accordance with NFPA 72. **4.7.11** Failure of a component or system that impairs the system shall require that impairment procedures be followed. **4.7.12**

	The testing frequencies of this standard shall be maintained regardless of the functionality of the automated testing equipment. **4.7.13** A record of all inspections and testing shall be maintained in accordance with 4.3.2. **4.7.14** The results of automated inspections and testing shall be analyzed by qualified personnel. **4.8 Remote Inspections and Tests.** Remote inspections and tests shall be permitted to be performed in accordance with NFPA 915. **[Renumber remaining sections]**
Statement	4.6.6 was renumbered to new 4.7. A new section was added to address remote inspection and tests in accordance with NFPA 915.

Section	PI	PAGE	DISPOSITION
New 4.10	125		MOTION TO CREATE A 1ST REVISION
Proposed Text (PI)	**4.10 Test Equipment** 4.10.1 Gauges, transducers, and devices other than flow meters that are used for measurement during the test shall be calibrated at least annually to an accuracy level of ±1 percent. 4.10.2 Gauges, transducers, flow meters, and other test measurement devices shall be calibrated by an approved calibration facility.		

Committee Text (FR)	**4.7 Test Equipment.** **4.7.1*** Calibrated test equipment shall be provided to determine flow test pressures, rates of flow, and reference gauge calibration. **A.4.7.1** The accuracy of flow test pressures and rates of flow are essential for the comparison to the original design parameters to determine any degradation in the system capacity or water supply. **4.7.1.1** Calibrated gauges shall not be required when conducting hydrostatic testing. **4.7.2** Calibration equipment shall be calibrated within the last 12 months by an approved calibration facility. **4.7.3** Calibrated test equipment shall bear a label with the name of the approved calibration facility and the date of calibration. **4.7.4** Gauges, transducers, and devices other than flow meters that are used for measurement during the test shall be calibrated at least annually to an accuracy level of ±1 percent. **4.7.5** Flow meters shall be calibrated annually to an accuracy level of ±3 percent. [Renumber remaining sections] **Chapter 6 – Standpipe and Hose Systems** **6.3.1.1.2** Pressure gauges ~~maintained~~ calibrated in accordance with ~~8.3.3.5.2~~ 4.7 shall be provided for the test. **Chapter 8 – Fire Pumps**

	8.3.3.5 Test Equipment. Calibrated test equipment shall be provided to determine net pump pressures, rate of flow through the pump, and speed in accordance with 4.7. **A.8.3.3.5** When using a flow meter piped back to suction, the requirement for annual calibration applies to the sensing devices on the flow meter. When the test discharges water downstream of the flow meter, the flow discharge should be measured and used to calibrate the flow meter. ~~**8.3.3.5.1**~~ ~~Gauges, transducers, and other devices used for measurement during the test shall bear a label with the latest date of calibration.~~ ~~**8.3.3.5.2**~~ ~~Gauges, transducers, and devices other than flow meters that are used for measurement during the test shall be calibrated at least annually to an accuracy level of ±1 percent.~~ ~~**8.3.3.5.3***~~ ~~Flow meters shall be calibrated annually to an accuracy level of ±3 percent.~~ ~~**A.8.3.3.5.3**~~ ~~When using a flow meter piped back to suction, the requirement for annual calibration applies to the sensing devices on the flow meter. When the test discharges water downstream of the flow meter, the flow discharge should be measured and used to calibrate the flow meter.~~ **Chapter 13 – Common Components and Valves** **13.2.4.2*** Gauges shall be replaced every 5 years or tested every 5 years by comparison with a calibrated gauge in accordance with 4.7.
Statement	

Section	PI	PAGE	DISPOSITION
A.1.1.3.1	64		MOTION TO CREATE A 1ST REVISION
Proposed Text (PI)	A.1.1.3.1 While this standard does not require an inspector to evaluate the adequacy of a system, it does not prohibit the inspector or inspection organization from making recommendations to the owner of a system, related to the need for evaluations or modifications in the interest of fire and life safety. The requirement to evaluate the adequacy or accuracy of the design or installation of the system or the capability of the fire protection system to protect the building or its contents is not a part of the periodic inspection, testing, and maintenance requirements of this standard. Examples of items not covered by this standard include the evaluation of unsprinklered areas and the spacing of sprinklers. However, such evaluation is the responsibility of the property owner or designated representative as indicated in 4.1.6 and 4.1.7. An example of a hazard evaluation form can be found in Annex E.		
Committee Text (FR)	A.1.1.3.1 The requirement to evaluate the adequacy or accuracy of the design or installation of the system or the capability of the fire protection system to protect the building or its contents is not a part of the periodic inspection, testing, and maintenance requirements of this standard. **While this standard does not require an inspector to evaluate the adequacy or accuracy of a system, it does not prohibit the inspector or inspection organization from making recommendations or observations to the owner of a system, related to the need for evaluations or modifications in the interest of fire and life safety.** Recommendations and observations should not be a part of the inspection report. Examples of items not covered by this standard include the evaluation of unsprinklered areas and the spacing of sprinklers. However, such evaluation is the responsibility of the property owner or designated representative as indicated in 4.1.6 and 4.1.7. An example of a hazard evaluation form can be found in Annex E.		

Statement	Added language to further clarify recommended practice.

Section	PI	PAGE	DISPOSITION
A.3.3.8	63 and 80		MOTION TO CREATE 1ST REVISION BASED ON PI 63 MOTION TO RESOLVE PI 80
Proposed Text (PI)	[See Word Document 25-2023_A_3_3_8_PI_63_80_TG1]		
Committee Text (FR)	See Word Document 25-2023 A 3 3 8 PI 63 80 TG1 -Committee Input		
Statement	PI #63 Deficiency examples for wet barrel and dry barrel hydrants were separated so that examples aligned with the correct referenced sections. PI #80 Slowly leaking pipe would not have an immediate material effect on the water-based fire protection system to provide adequate flow and pressure. This example aligns more with the definition of a non-critical deficiency.		

Section	PI	PAGE	DISPOSITION
A.3.3.34.4	17		MOTION TO CREATE A 1ST REVISION
Proposed Text (PI)	[See Jpeg Document 25_A_3_3_34_4_PI_17_TG1]		
Committee Text (FR)			
Statement	The manual bypass valve should normally be closed.		

Section	PI	PAGE	DISPOSITION
A.4.6.6	149		MOTION TO RESOLVE
Proposed Text (PI)	A.4.6.6 Some devices, such as waterflow alarm devices, can be tested automatically. Some things to consider include the following: 1. Not all tests required by NFPA 25 are suitable for automatic testing. 2. Periodic visual inspection, including the use of video, should be performed. ~~2.~~3. Reference NFPA 915 for remote Inspection, Testing, and maintenance protocols		
Committee Text (FR)			
Statement	SEE ACTION ON PI 199		

Section	PI	PAGE	DISPOSITION
Annex A	194		MOTION TO RESOLVE
Proposed Text (PI)	Several sections impacted changing foam to agent. Some diagrams would be impacted as well.		
Committee Text (FR)			
Statement	SEE ACTION ON PI 182 AND PI 187		

Section	PI	PAGE	DISPOSITION
New part to B.1	28		MOTION TO RESOLVE

Proposed Text (PI)	01. Inspection of each individual system also inspection tag: Need to add common point for all fire system even in NFPA 101 or NFPA 25 and 72 for their respective system, you can add. Inspection shall be done as per system predefined frequency also inspection tag must be updated accordingly. As facing this issue while doing audit and inspecting the system and asking about inspection tag for each individual system, the ITM performer is saying show us NFPA reference for each system, for example Fire hose cabinet shall be inspected and ITM card must be updated, there is no clause found either in NFPA 14 nor NFPA 25. So this is an example only, while by your usual support it will be more safe and healthy for future. **02. Fire System Obstructed:** Need to add one common point that any fire system shall not be obstructed so it can be use easily and it can be accessible.
Committee Text (FR)	
Statement	Current Annex G already offers information on a Tagging System.

Section	PI	PAGE	DISPOSITION
Annex B	195		MOTION TO RESOLVE
Proposed Text (PI)	Several sections impacted changing foam to agent.		
Committee Text (FR)			
Statement	SEE ACTION ON PI 182 AND PI 187		

Section	PI	PAGE	DISPOSITION

Annex F	196		MOTION TO RESOLVE
Proposed Text (PI)	Several sections impacted changing foam to agent.		
Committee Text (FR)			
Statement	SEE ACTION ON PI 182 AND PI 187		

Section	PI	PAGE	DISPOSITION
2.2	131		MOTION TO RESOLVE
Proposed Text (PI)	Add NFPA 18 and NFPA 18A to list of referenced NFPA publications.		
Committee Text (FR)			
Statement	SEE ACTION ON PI 182 AND PI 187		

Section	PI	PAGE	DISPOSITION
A.4.1.2.6	173		MOTION TO CREATE 1ST REVISION
Proposed Text (PI)	A.4.1.2.6 Frozen water-based fire protection systems are a frequent occurrence during freezing weather conditions, especially in those regions that are not considered cold climates. Once a frozen system or a partially frozen system is discovered, the system is considered impaired and impairment procedures need to be implemented immediately. Thawing out the system can involve either totally heating the building, including all blind and concealed spaces with water filled piping, or disassembling the pipes, taking them into a heated area, and using a heat source to thaw the pipes. It's necessary to make sure no potential ice plugs remain in the system. Depending on the length and severity of the freezing event, damage to the system can be extensive. Once the system is		

	thawed out completely, checking for damage is the next step. Typical damage to a sprinkler system can include cracked or broken valves and fittings, split piping, damaged sprinklers, and damage to any other system component subjected to system water pressure. Access to as much of the system as possible for this examination is recommended, even if cutting open drywall ceilings and walls is necessary. Replace all damaged system parts and then perform an air test. The purpose of the air test is to help identify system parts that may not have appeared visibly damaged and replace them before performing a hydrostatic test. An odorant such as peppermint extract can be used to help find the general area of the air leak, and spraying fittings and joints with a soapy solution can help find the exact source of the air leak. Other methods of leak detection can also be used. Once the system is fully repaired and passes the air test, a hydrostatic test of the entire system is needed before restoring the system to service.
Committee Text (FR)	
Statement	SEE ACTION ON PI 172

Section	PI	PAGE	DISPOSITION
13.5			MOTION CREATE A 1ST REVISION (COMMITTEE INPUT)
Proposed Text (PI)	**13.5* Pressure-Regulating Devices and Relief Valves.** **A.13.5** It is important to test pressure-regulating devices at the maximum and minimum anticipated flow rates. Minimum flow can be from a sprinkler for		

	combined systems or flow from a 1½ in. (40 mm) hose connection on standpipe systems that do not supply sprinklers. This can require a sustained flow to demonstrate the continued performance of the pressure-regulating device at the minimum flow rate. **13.5.1 Inspection and Testing of Pressure-Reducing Valves.** Pressure-reducing valves shall be inspected and tested as described in 13.5.1.1 and 13.5.1.2. **13.5.1.1** All valves shall be inspected quarterly to verify that the valves are in the following condition: (1) In the open position (2) Not leaking (3) Maintaining downstream pressures in accordance with the design criteria (4) Handwheels installed and unbroken **13.5.1.2** Each control valve that is part of a pressure-reducing valve assembly shall be operated annually through its full range and returned to its normal position. **13.5.1.3** A partial flow test adequate to move the valve from its seat shall be conducted annually. **13.5.1.4** A full flow test shall be conducted on each valve at 5-year intervals and shall be compared to previous test results. **13.5.1.4.1**

Adjustments to the valve shall be made in accordance with the manufacturer's instructions.

13.5.2 Pressure-Reducing Hose Valves.

13.5.2.1

Pressure-reducing hose valves shall be inspected annually to verify the following:

(1) The handwheel is not broken or missing.
(2) The outlet hose threads are not damaged.
(3) No leaks are present.
(4) The hose adapter and the cap are not missing.

13.5.2.2*

Each pressure-reducing hose valve shall be operated annually through its full range and returned to its normal position.

A.13.5.2.2

A test cap should be used when exercising the pressure-reducing hose valve and have a pressure rating greater than or equal to the maximum anticipated pressure at the hose valve. This section does not require a full flow test.

13.5.2.3*

A flow test at maximum design flow rates shall be conducted on each device at 5-year intervals.

A.13.5.2.3

A bench test is an acceptable method to test pressure-reducing hose valves that cannot be tested on the system. To test in place, a gauge is connected on both the inlet side and the outlet side of the device, and flow readings are taken using a pitot tube or a

	flowmeter. Water is discharged through a roof manifold, if available, or through hose to the exterior of the building. Another acceptable method for systems having at least two risers is to take one standpipe out of service and use it as a drain by removing pressure-regulating devices and attaching hoses at the outlets near the ground floor level. When testing in this manner, a flowmeter should be used and a hose line utilized to connect the riser being tested and the drain riser. Readings are to be compared to the system's hydraulic demands at the test location. Field-adjustable valves are to be reset in accordance with manufacturer's instructions. Nonadjustable valves should be replaced. Extreme caution is necessary because of the high pressure involved when testing. **13.5.2.3.1** The results of the flow test shall be compared to previous test results. **13.5.2.3.2** Adjustments to the pressure-reducing hose valve shall be made in accordance with the manufacturer's instructions. **13.5.2.3.3** A tag shall be attached to the valve indicating the date of the test, the flow in gpm (lpm), the static and residual inlet pressures, and the residual outlet pressure recorded during the test. **13.5.3 Pressure-Reducing Hose Valve with Hose Rack Assembly .** **13.5.3.1** The hose rack assembly shall be inspected and tested in accordance with NFPA 1962. **13.5.3.2**

	The pressure-reducing hose valve shall be inspected and tested in accordance with 13.5.1 and 13.5.2 **13.5.4 Master Pressure-Reducing Valves.** **13.5.4.1** Master pressure-reducing valves shall be inspected weekly to verify that the valves are in the following condition: (1) *Normal downstream pressures are maintained. (2) Normal supply pressure is maintained. (3) Devices and associated trim components are free of physical damage and are not leaking. **A.13.5.4.1(1)** Pressures downstream of the master pressure-reducing valve should not exceed the maximum pressure rating of the system components. **13.5.4.2*** A partial flow test adequate to move the valve from its seat shall be conducted quarterly. **A.13.5.4.2** The partial flow test of the master pressure-reducing valve can be performed during the quarterly main drain test. (See 13.2.2.2) **13.5.4.3*** A flow test shall be conducted annually at maximum and minimum anticipated flow rates on each valve. **13.5.4.3.1** Where pressure-reducing valves are arranged in series, the downstream pressure-reducing valve shall be tested at both the discharge pressure from the upstream pressure-reducing valve and with the upstream pressure-reducing valve bypass open. [**14**, 12.6.5.1.1] **13.5.4.3.2**

	The results of the flow test shall be compared to previous test results. **13.5.4.4** When valve adjustments are necessary, they shall be made in accordance with the manufacturer's instructions. . **13.5.5 Relief Valves.** **MOVE EXISTING LANGUAGE 13.5.6.1 to 8.2.3 and modify tables 13.1.1.2 and table 8.1.1.1.2 accordingly.** **13.5.6.1 Circulation Relief Valves.** **13.5.6.1.1** Where installed, circulation relief valves shall be inspected on the same frequency as the no-flow (churn) test. **13.5.6.1.2** The inspection shall verify that water flows through the valve when the fire pump is operating at shutoff pressure (i.e., churn) to prevent the pump from overheating. **13.5.6.1.3** On completion of any fire pump test, the closure of the circulation relief valve shall be verified. **13.5.5.2 Main Pressure Relief Valve.** **13.5.5.2.1** Where installed downstream of a fire pumpthe main pressure relief valve shall be inspected during any fire pump test. 13.5.5.2.1.1 Where installed downstream of a master pressure-reducing valve, the main pressure relief valve shall be inspected quarterly **13.5.5.2.2** The inspection shall verify the following conditions: (1) Devices and associated trim components are free of physical damage and are not leaking

	(2) The pressure downstream of the relief valve fittings in the fire pump discharge piping does not exceed the pressure for which the system components are rated. **13.5.5.2.3** The pressure relief valve shall be verified annually to be correctly adjusted and set to relieve at the correct pressure and to close below that pressure setting. **13.5.6 Maintenance.** All damaged or missing components noted during the inspections shall be repaired or replaced in accordance with the manufacturer's instructions.
Committee Text (FR)	
Statement	

Section	PI	PAGE	DISPOSITION
Global Input	187		Motion to resolve PI 187
Proposed Text (PI)	With the exception of a few places throughout the entire document the work FOAM should be changed to Agent. Foam Concentrate change to Agent Concentrate and Foam Solution changed to Agent Solution. There are a few exceptions when Foam should remain Foam such as in the definitions Foam Concentrate should remial. Foam Discharge Devises should remain.		
Committee Text (FR)			
Statement	It is not appropriate to replace “foam” for “agent” in all instances within NFPA 25. Additionally, NFPA 18 and 18A are not installation standards but refer to NFPA 25 for the ITM of water-based fire protection systems.		

Section	PI	PAGE	DISPOSITION
Global Input	3		Motion to resolve PI 3
Proposed Text (PI)	Move the following summary reference tables to the annex: (1) Table 5.1.1.2 Summary of Sprinkler System Inspection, Testing, and Maintenance (2) Table 6.1.1.2 Summary of Standpipe and Hose Systems Inspection, Testing, and Maintenance (3) Table 7.1.1.2 Summary of Private Fire Service Main Inspection, Testing, and Maintenance (4) Table 8.1.1.2 Summary of Fire Pump Inspection, Testing, and Maintenance (5) Table 9.1.1.2 Summary of Water Storage Tank Inspection, Testing, and Maintenance (6) Table 9.5.1.1 Summary of Automatic Tank Fill Valve Inspection and Testing (7) Table 10.1.1.2 Summary of Water Spray Fixed System Inspection, Testing, and Maintenance (8) Table 11.1.1.2 Summary of Low-, Medium-, and High-Expansion Foam and Foam-		

	Water Sprinkler System Inspection, Testing, and Maintenance (9) Table 12.1.1.2 Summary of Water Mist System Inspection, Testing, and Maintenance (10) Table 13.1.1.2 Summary of Valves, Valve Components, and Trim Inspection, Testing, and Maintenance
Committee Text (FR)	
Statement	It is useful to retain the tables in the body of the standard in the beginning of the chapters for ease of use.

Section	PI	PAGE	DISPOSITION
5.1.1.2	47		Create a first revision based on PI 47
Proposed Text (PI)	[See Word Document 25-2023_5_1_1_2_PI_47_TG2]		
Committee Text (FR)	[See Word Document 25-2023_5_1_1_2_PI_47_TG2]		
Statement	Primarily editorial in nature and consistent with the other chapter 13 references.		

Section	PI	PAGE	DISPOSITION
5.2.1.1.5	133		Create a first revision based on PI 133
Proposed Text (PI)	Escutcheons and coverplates for recessed, flush, and concealed sprinklers shall be replaced with their listed escutcheon or coverplate if found missing, damaged, or corroded during the inspection.		
Committee Text (FR)	Any escutcheon or coverplate for recessed, flush, and concealed sprinklers that show signs of any of the following shall be replaced with their listed escutcheon or coverplate: (1) Missing (2) Physical damage (3) Corrosion detrimental to sprinkler performance (4) Loading detrimental to sprinkler performance		

	(5) Paint, other than that applied by the sprinkler manufacturer, detrimental to sprinkler performance 5.2.1.1.5.1 Where the listed escutcheon or coverplate from a listed assembly is required to be replaced in accordance with 5.2.1.1.5 ~~missing~~ and is no longer commercially available, the sprinkler shall be replaced.
Statement	Modifications to this section align with section 5.2.1.1.1. It is necessary to inspect the escutcheon and coverplates for listed assemblies.

Section	PI	PAGE	DISPOSITION
New A.5.2.1.1.6	48		Create a first revision based on PI 48
Proposed Text (PI)	5.2.1.1.6* Escutcheons for pendent sprinklers that are not recessed, flush, or concealed shall not be required to be replaced if found missing during the inspection. A.5.2.1.1.6 Flat and adjustable escutcheons which are also know as beauty rings, trim plates, or extension skirts that are for the aesthetics of non-recessed and non-concealed sprinklers and do not affect the response or spray pattern are not required to be listed when the sprinkler is installed properly per its listing.		
Committee Text (FR)	5.2.1.1.6* Escutcheons for pendent sprinklers that are not recessed, flush, or concealed shall not be required to be replaced if found missing during the inspection. A.5.2.1.1.6		

	Flat and adjustable escutcheons which are also known as beauty rings, trim plates, or extension skirts that are for the aesthetics of non-recessed or~~and~~ non-concealed sprinklers and do not affect the response or spray pattern are not required to be listed when the sprinkler is installed properly per its listing.
Statement	The additional annex information helps to clarify the reason as to why these types of escutcheons are not required to be replaced.

Section	PI	PAGE	DISPOSITION
5.2.1.1.7	82		Move to resolve PI 82
Proposed Text (PI)	~~5.2.1.1.7 Sprinkler Guards.~~ 5.2.1.1.7.1 Where installed, a sprinkler guard shall be inspected from the floor level annually. 5.2.1.1.7.2 A damaged sprinkler guard shall be replaced with a guard listed for the sprinkler.		
Committee Text (FR)			
Statement	The heading aids the user in locating the requirements for sprinkler guards and does not create conflict with the manual of style.		

Section	PI	PAGE	DISPOSITION
New 5.2.1.1.8	83		Move to resolve PI 83
Proposed Text (PI)	5.2.1.1.8		

	Any sprinkler that has been installed and subsequently is recalled or designated for replacement shall be identified, documented, and replaced.
Committee Text (FR)	
Statement	The requirements for recalled sprinklers are already addressed in Chapter 4. It is unreasonable for an inspector to identify every recalled sprinkler on an inspection from the floor level.

Section	PI	PAGE	DISPOSITION
5.2.1.4	84		Move to resolve PI 84
Proposed Text (PI)	5.2.1.4 The supply of spare sprinklers shall be inspected annually for the following: (1) The correct number and type of sprinklers as required by 5.4.1.6 (2) A sprinkler wrench for each type of sprinkler as required by 5.4.1.6.5 (3) The list of spare sprinklers as required by 5.4.1.6.6 ~~(3)~~(4) Recalled or replacement required sprinklers		
Committee Text (FR)			
Statement	This section identifies what is required to be included in the spare sprinkler box and is not intended to identify what should not be included. Chapter 4 contains the requirements for what to do when recalled sprinklers are discovered.		

Section	PI	PAGE	DISPOSITION
5.4.1.1	85		Move to resolve PI 85
Proposed Text (PI)	5.4.1.1 Replacement Sprinklers. Sprinklers with any of the following qualifications shall be replaced: (1) Sprinklers manufactured prior to 1920. (2) Sprinklers showing signs described in 5.2.1.1.1. (3) Sprinklers with unsatisfactory performance when tested in accordance with 5.3.1. (4) *Sprinklers affected by a fire as determined by the AHJ. ~~(4)~~(5) Sprinklers that are recalled or replacement required sprinklers.		
Committee Text (FR)			
Statement	The requirements for recalled sprinklers are already addressed in Chapter 4. It is unreasonable for an inspector to identify every recalled sprinkler on an inspection from the floor level.		

Section	PI	PAGE	DISPOSITION
5.2.1.2, 5.2.1.3	122		Create a first revision based on PI 122 (Contingent based on the actions for PI 121)
Proposed Text (PI)	Sections 5.2.1.2, 5.2.1.3 5.2.1.2* Sprinklers clearance to storage shall be inspected from the floor annually. ~~The minimum clearance to storage as described in 5.2.1.2.1 through 5.2.1.2.6 shall be maintained below all sprinkler deflectors.~~Sprinkler clearance to storage shall be inspected from the floor annually.		

	~~5.2.1.2.1*~~ ~~Unless greater distances are required by 5.2.1.2.3, 5.2.1.2.2, or 5.2.1.2.4, or lesser distances are permitted by 5.2.1.2.6, clearance between the deflector and the top of storage shall be 18 in. (457 mm) or greater.~~ ~~5.2.1.2.2*~~ ~~Clearance between the deflector and the top of storage shall be 36 in. (914 mm) or greater for ESFR and CMSA sprinklers.~~ ~~5.2.1.2.3~~ ~~Where standards other than NFPA 13 specify greater clearance to storage minimums, they shall be followed.~~ ~~5.2.1.2.4~~ ~~Clearance from the top of storage to sprinkler deflectors shall be 36 in. (914 mm) or greater where rubber tires are stored.~~ ~~5.2.1.2.5~~ ~~In-rack sprinklers shall not be required to meet the obstruction criteria and clearance from storage requirements.~~ ~~5.2.1.2.6*~~ ~~Clearance between the deflector and the top of storage shall be permitted to be less than 18 in. (457 mm) where shown to be permitted by the installation standard.~~ ~~5.2.1.3*~~ ~~Storage closer to the sprinkler deflector than permitted by the clearance rules of the installation standard described in 5.2.1.2.1 through 5.2.1.2.4 shall be corrected.~~
Committee Text (FR)	Sections 5.2.1.2, 5.2.1.3 5.2.1.2~~*~~

	Sprinklers clearance to storage shall be inspected from the floor annually. ~~The minimum clearance to storage as described in 5.2.1.2.1 through 5.2.1.2.6 shall be maintained below all sprinkler deflectors.~~Sprinkler clearance to storage shall be inspected from the floor annually. ~~5.2.1.2.1*~~ ~~Unless greater distances are required by 5.2.1.2.3, 5.2.1.2.2, or 5.2.1.2.4, or lesser distances are permitted by 5.2.1.2.6, clearance between the deflector and the top of storage shall be 18 in. (457 mm) or greater.~~ ~~5.2.1.2.2*~~ ~~Clearance between the deflector and the top of storage shall be 36 in. (914 mm) or greater for ESFR and CMSA sprinklers.~~ ~~5.2.1.2.3~~ ~~Where standards other than NFPA 13 specify greater clearance to storage minimums, they shall be followed.~~ ~~5.2.1.2.4~~ ~~Clearance from the top of storage to sprinkler deflectors shall be 36 in. (914 mm) or greater where rubber tires are stored.~~ ~~5.2.1.2.5~~ ~~In-rack sprinklers shall not be required to meet the obstruction criteria and clearance from storage requirements.~~ ~~5.2.1.2.6*~~ ~~Clearance between the deflector and the top of storage shall be permitted to be less than 18 in. (457 mm) where shown to be permitted by the installation standard.~~ ~~5.2.1.3*~~ ~~Storage closer to the sprinkler deflector than permitted by the clearance rules of the installation standard described in 5.2.1.2.1 through 5.2.1.2.4 shall be corrected.~~

Statement	The current requirements did not contain a frequency and the requirements to maintain storage has been relocated to Chapter 4.

New 5.2.8.1, 5.2.8.2	134		Create a first revision based on PI 134
Proposed Text (PI)	5.2.8.1 Such general information shall be provided with a permanently marked weatherproof metal or rigid plastic sign, secured with corrosion-resistant wire, chain, or other acceptable means.[13,2022] 5.2.8.2 Such signs shall be placed at each system control riser, antifreeze loop, and auxiliary system control valve. [13,2022]		
Committee Text (FR)	5.2.8.1 Such general information shall be provided with a permanently marked weatherproof metal or rigid plastic sign, secured with corrosion-resistant wire, chain, or other acceptable means. [13, 29.6.1.12~~2022~~] 5.2.8.2 Such signs shall be placed at each system control riser~~., antifreeze loop, and auxiliary system control valve.~~ [13, 29.6.1.22~~2022~~]		
Statement	Added text clarifies where the general information sign is to be installed and to identify how it should be mounted. This will also keep consistency within the standard with other sign requirements for information and mounting locations as well as align with the requirements in NFPA 13.		

Section	PI	PAGE	DISPOSITION
A.5.2.8	135		Create a first revision based on PI's 135 & 141
Proposed Text (PI)	A.5.2.8 The sign referenced in 5.2.8 should satisfy the requirements of 4.1.9 and 5.2.7. See Figure A.5.2.8. Figure A.5.2.8 Sprinkler System General Information. [13:Figure A.29.6]		

SPRINKLER SYSTEM — GENERAL INFORMATION

for

_____

_____

_____

Pipe schedule system ❑ Yes ❑ No
High-piled storage ❑ Yes ❑ No
Rack storage: ❑ Yes ❑ No
Commodity class: _____
Max. storage height _____ ft m
Aisle width (min.) _____ ft m
Encapsulation ❑ Yes ❑ No
Solid shelving: ❑ Yes ❑ No
Flammable/ combustible liquids: ❑ Yes ❑ No
Other storage: ❑ Yes ❑ No
_____
Hazardous materials: ❑ Yes ❑ No
Idle pallets: ❑ Yes ❑ No
Antifreeze systems ❑ Yes ❑ No
Location: _____
Dry or aux systems ❑ Yes ❑ No
Location: _____

Date: _____
Flow test data:
Static: _____ psi b
Resid: _____ psi b
Flow: _____ gpm
Pitot: _____ psi b
Date: _____
Location: _____
_____
Location of aux/low point drain
_____
_____
_____
Dry pipe/double interlock preac test results
_____
Original main drain test res
Static: _____ psi b
Residual: _____ psi b
Venting valve location: _____

Where injection systems are used to treat MIC or corrosion:
Type of chemical: _____ Concentration: _____ For proper
_____

Name of contractor or designer: _____
Address: _____
Phone: _____

The sign should include the following information:

(1) Name and location of the facility protected

(2) Occupancy classification

	(3) Commodity classification (4) Presence of high-piled and/or rack storage (5) Maximum height of storage planned (6) Aisle width planned (7) Encapsulation of pallet loads (8) Presence of solid shelving (9) Flow test data (10) Presence of flammable/combustible liquids (11) Presence of hazardous materials (12) Presence of other special storage (13) Location of venting valve (14) Location of auxiliary drains and low point drains on dry pipe and preaction systems (15) Original results of main drain flow test (16) Original results of dry pipe and double interlock preaction valve test (17) Name of installing contractor or designer (18) Indication of presence and location of antifreeze or other auxiliary systems (19) Where injection systems are installed to treat MIC or corrosion, the type of chemical, concentration of the chemical, and where information can be found as to the proper disposal of the chemical (20) Indication of presence of nitrogen where used to allow for increased C value in dry or preaction systems [13,2022]
Committee Text (FR)	A.5.2.8 The sign referenced in 5.2.8 should satisfy the requirements of 4.1.9 and 5.2.7. See Figure A.5.2.8.

	Figure A.5.2.8 Sprinkler System General Information. The GENERAL information sign should be secured to the riser with durable wire, chain, or equivalent. *(See* Figure A.5.2.~~5~~8.*) When the general information sign is missing it can be difficult to locate the appropriate information that is required to be on the sign. Engaging the building owner could aid in locating this information as they may be able to locate previous owners or the installing contractor. If the information is not accessible, then the system may have to be evaluated in accordance with Chapter 30 of NFPA 13 to determine the required information.* [13:Figure A.29.6]

SPRINKLER SYSTEM — GENERAL INFORMATION

for

_____

_____

_____

Pipe schedule system ❑ Yes ❑ No
High-piled storage ❑ Yes ❑ No
Rack storage: ❑ Yes ❑ No
Commodity class: _____
Max. storage height _____ ft m
Aisle width (min.) _____ ft m
Encapsulation ❑ Yes ❑ No
Solid shelving: ❑ Yes ❑ No
Flammable/ combustible liquids: ❑ Yes ❑ No
Other storage: ❑ Yes ❑ No
_____
Hazardous materials: ❑ Yes ❑ No
Idle pallets: ❑ Yes ❑ No
Antifreeze systems ❑ Yes ❑ No
Location: _____
Dry or aux systems ❑ Yes ❑ No
Location: _____

Date: _____
Flow test data:
Static: _____ psi b
Resid: _____ psi b
Flow: _____ gpm
Pitot: _____ psi b
Date: _____
Location: _____
_____
Location of aux/low point drain
_____
_____
_____
Dry pipe/double interlock preac test results
_____
Original main drain test res
Static: _____ psi b
Residual: _____ psi b
Venting valve location: _____

Where injection systems are used to treat MIC or corrosion:
Type of chemical: _____ Concentration: _____ For proper
_____

Name of contractor or designer: _____
Address: _____
Phone: _____

The sign should include the following information:

(1) Name and location of the facility protected

(2) Edition of NFPA 13

	(3) Occupancy classification (4) Commodity classification (5) Presence of high-piled and/or rack storage (6) Maximum height of storage planned (7) Aisle width planned (8) Encapsulation of pallet loads (9) Presence of solid shelving (10) Flow test data (11) Presence of flammable/combustible liquids (12) Presence of hazardous materials (13) Presence of other special storage (14) Location of venting valve (15) Location of auxiliary drains and low point drains on dry pipe and preaction systems (16) Original results of main drain flow test (17) Original results of dry pipe and double interlock preaction valve test (18) Name of installing contractor or designer (19) Indication of presence and location of antifreeze or other auxiliary systems (20) Where injection systems are installed to treat MIC or corrosion, the type of chemical, concentration of the chemical, and where information can be found as to the proper disposal of the chemical (21) Indication of presence of nitrogen where used to allow for increased C value in dry or preaction systems ~~[13,2022]~~

Statement	Added annex text to clarify what information should be included on the general information sign. Where signs are missing, this language provides guidance on the steps that can be taken to recreate the required information.

Section	PI	PAGE	DISPOSITION
A.5.2.8	141		Create a first revision based on PI's 135 & 141
Proposed Text (PI)	A.5.2.8 The sign referenced in 5.2.8 should satisfy the requirements of 4.1.9 and 5.2.7. See Figure A.5.2.8. The GENERAL information sign should be secured to the riser with durable wire, chain, or equivalent. *(See* Figure A.5.2.5.*) When the general information sign is missing it can be difficult to locate the appropriate information that is required to be on the sign. Engaging the building owner could aid in locating this information as they may be able to locate previous owners or the installing contractor. If the information is not accessible, then the system may have to be evaluated in accordance with Chapter 30 of NFPA 13 to determine the required information.* Figure A.5.2.8 Sprinkler System General Information. [13:Figure A.29.6]		

SPRINKLER SYSTEM — GENERAL INFORMATION

for

_____

_____

_____

Pipe schedule system ❑ Yes ❑ No
High-piled storage ❑ Yes ❑ No
Rack storage: ❑ Yes ❑ No
Commodity class: _____
Max. storage height _____ ft m
Aisle width (min.) _____ ft m
Encapsulation ❑ Yes ❑ No
Solid shelving: ❑ Yes ❑ No
Flammable/ combustible liquids: ❑ Yes ❑ No
Other storage: ❑ Yes ❑ No
_____
Hazardous materials: ❑ Yes ❑ No
Idle pallets: ❑ Yes ❑ No
Antifreeze systems ❑ Yes ❑ No
Location: _____
Dry or aux systems ❑ Yes ❑ No
Location: _____

Date: _____
Flow test data:
Static: _____ psi b
Resid: _____ psi b
Flow: _____ gpm
Pitot: _____ psi b
Date: _____
Location: _____
_____
Location of aux/low point drain
_____
_____
_____
Dry pipe/double interlock preac test results
_____
Original main drain test res
Static: _____ psi b
Residual: _____ psi b
Venting valve location: _____

Where injection systems are used to treat MIC or corrosion:
Type of chemical: _____ Concentration: _____ For proper
_____

Name of contractor or designer: _____
Address: _____
Phone: _____

Committee Text (FR)	

Statement	See action and statement on PI 135

Section	PI	PAGE	DISPOSITION
5.3.1.1.1.4	150		Move to resolve PI's 150 & 186
Proposed Text (PI)	5.3.1.1.1.4* Where sprinklers have been ~~manufactured in 1920 and later and have been~~ installed for 75 years, ~~one of the following shall occur:~~ ~~1. The sprinklers shall be replaced.~~ ~~Representative samples of the sprinklers shall be tested and then retested every 5 years.~~they shall be replaced.		
Committee Text (FR)			
Statement	Testing data does not support the need to support replacing these sprinklers. Data from testing laboratories show that approximately 95% of these sprinklers operate normally.		

Section	PI	PAGE	DISPOSITION
5.3.1.1.1.4	186		Move to resolve PI's 150 & 186
Proposed Text (PI)	5.3.1.1.1.4* Where sprinklers have been ~~manufactured in 1920 and later and have been~~ installed for 75 years, ~~one of~~ the ~~following shall occur:~~ ~~The~~ sprinklers shall be replaced. ~~(1) Representative samples of the sprinklers shall be tested and then retested every 5 years.~~		

Committee Text (FR)	
Statement	See action and statement on PI 150

Section	PI	PAGE	DISPOSITION
New 5.3.1.1.1.6	132		Create a first revision based on PI 132
Proposed Text (PI)	5.3.1.1.1.6 Concealed sprinklers that fail sample testing shall have plates and sprinklers replaced.		
Committee Text (FR)	5.3.1.1.1.6 Concealed sprinklers that fail sample testing shall have coverplates and sprinklers replaced.		
Statement	Any sprinkler that is required to be replaced should be replaced as a listed assembly.		

Section	PI	PAGE	DISPOSITION
New after 5.3.1.1.1	151		Create a first revision based on PI 151
Proposed Text (PI)	Sprinklers in Dwelling Units Where sprinklers have been installed for 25 years in dwelling units, one of the following shall occur: (1) The sprinklers shall be replaced with fast response sprinklers. (2) Representative samples of the sprinklers shall be tested and the thermal sensitivity shall be such that the RTI does not exceed 65 (meters-seconds)1⁄2.		
Committee Text (FR)			

	(New section) 5.4.1.1.1 Sprinklers in Dwelling Units Where standard response sprinklers have been installed for 25 years in dwelling units, ~~one of the following shall occur:~~ ~~The~~ the sprinklers shall be replaced with fast response sprinklers. ~~Representative samples of the sprinklers shall be tested and the thermal sensitivity shall be such that the RTI does not exceed 65 (meters-seconds)1/2.~~ (1)
Statement	Dwelling units should be protected by sprinklers of a fast response element.

Section	PI	PAGE	DISPOSITION
5.3.4	143		Create a first revision based on PI 143
Proposed Text (PI)	5.3.4* Antifreeze Systems. Annually, toward the beginning of the heating season prior to the onset of freezing conditions, the antifreeze solution shall be tested using the following procedure: (1) The antifreeze information sign required by 4.1.10, installation records, maintenance records, information from the owner, chemical tests, or other reliable sources of information shall be used to determine the type of antifreeze in the system and whether implementing 5.3.4(1)(a) or 5.3.4(1)(b) is necessary: (a) If the antifreeze is a type that is no longer permitted, the system shall be drained ~~completely~~ and refilled with a listed solution or an acceptable solution in accordance with 5.3.4.4. (b) If the type of antifreeze cannot be reliably determined, the system shall be drained ~~completely~~ and refilled with a listed solution or an acceptable solution in accordance with 5.3.4.4.		

	(2) If the antifreeze is not replaced in accordance with 5.3.4(1)(a) or 5.3.4(1)(b), test samples shall be taken at the top and the bottom of each system as follows: (a) If the most remote portion of the system is not near the top or the bottom of the system, an additional sample shall be taken at the most remote portion. (b) If the connection to the water supply piping is not near the top or the bottom of the system, an additional sample shall be taken at the connection to the water supply. (3) The specific gravity of each solution shall be checked using a hydrometer with a suitable scale or a refractometer having a scale calibrated for the antifreeze solution. (4) If any of the samples exhibit values outside of the allowable range, the system shall be drained completely and refilled with a listed solution or an acceptable solution in accordance with 5.3.4.4. (5) If a concentration greater than that permitted by 5.3.4.4 was necessary to keep the fluid from freezing, alternative methods for preventing the pipe from freezing shall be employed.
Committee Text (FR)	5.3.4* Antifreeze Systems. Annually, toward the beginning of the heating season prior to the onset of freezing conditions, the antifreeze solution shall be tested using the following procedure: (1) The antifreeze information sign required by 4.1.10, installation records, maintenance records, information from the owner, chemical tests, or other reliable sources of information shall be used to determine the type of antifreeze in the system and whether implementing 5.3.4(1)(a) ~~or 5.3.4(1)(b)~~ is necessary: (a) If the antifreeze is a type that is no longer permitted~~,~~ or the type of antifreeze cannot be reliably determined, the system shall be drained ~~completely~~ and refilled with a listed solution ~~or an acceptable solution~~ in accordance

	with 5.3.4.4.1 or an acceptable solution in accordance with 5.3.4.4.3. ~~(b) If the type of antifreeze cannot be reliably determined, the system shall be drained completely and refilled with a listed solution or an acceptable solution in accordance with 5.3.4.4.~~ (2) If the antifreeze is not replaced in accordance with 5.3.4(1)(a) or 5.3.4(1)(b), test samples shall be taken at the top and the bottom of each system as follows: (a) If the most remote portion of the system is not near the top or the bottom of the system, an additional sample shall be taken at the most remote portion. (b) If the connection to the water supply piping is not near the top or the bottom of the system, an additional sample shall be taken at the connection to the water supply. (3) The specific gravity of each solution shall be checked using a hydrometer with a suitable scale or a refractometer having a scale calibrated for the antifreeze solution. (4) If any of the samples exhibit values outside of the allowable range, the system shall be drained ~~completely~~ and refilled with a listed solution or an acceptable solution in accordance with 5.3.4.4. (5) If a concentration greater than that permitted by 5.3.4.4 was necessary to keep the fluid from freezing, alternative methods for preventing the pipe from freezing shall be employed. 5.3.4.2.1 If the results indicate an incorrect freeze point anywhere in the system, the system shall be drained ~~completely~~ and refilled with a listed solution ~~or an acceptable solution~~ in accordance with 5.3.4.4.1 or an acceptable solution in accordance with 5.3.4.4.3.
Statement	It is unreasonable and nearly impossible to drain every drop of solution from an existing system. Parens (A) and (B) were condensed for clarity

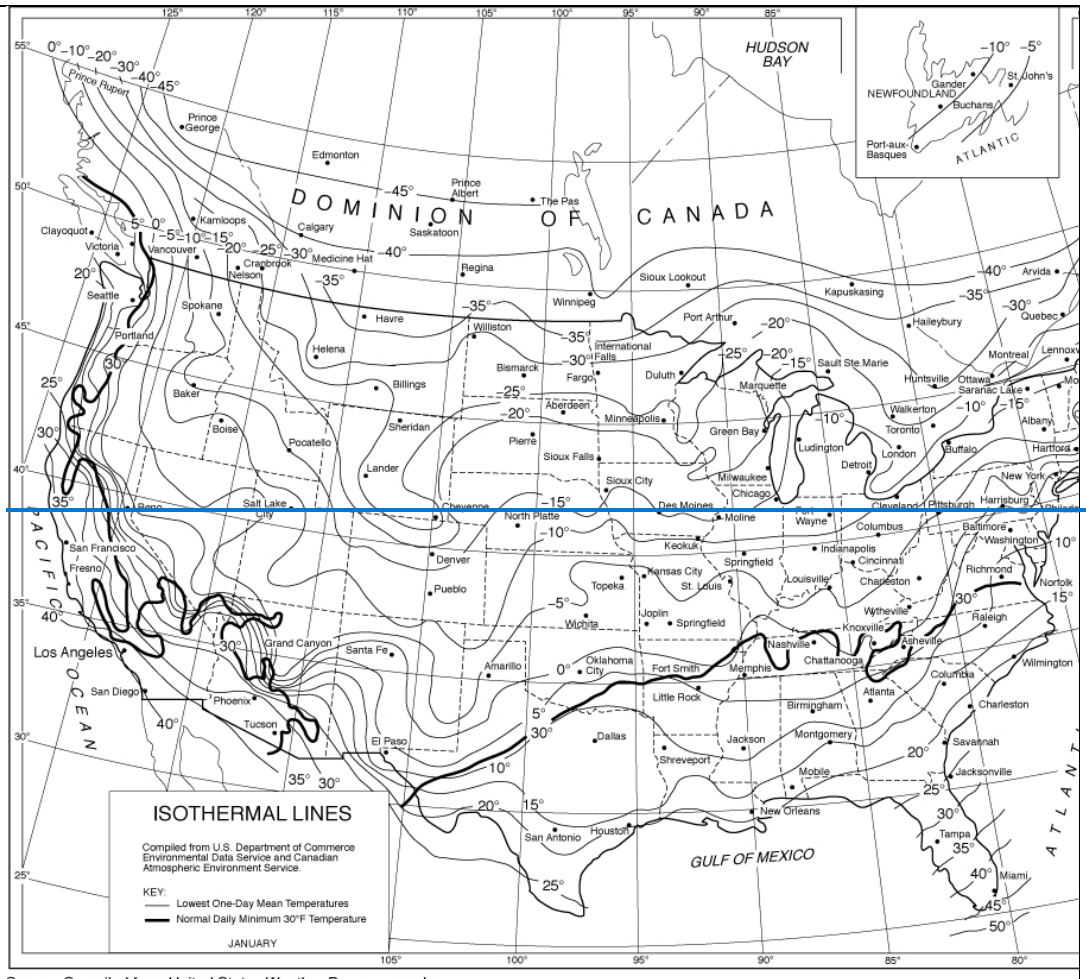
	and more specific references were provided noting the requirements for listed antifreeze or approved solutions for ESFR systems.

Section	PI	PAGE	DISPOSITION
5.3.4	52		Motion to resolve on PI 52
Proposed Text (PI)	5.3.4* Antifreeze Systems. Annually, toward the beginning of the heating season prior to the onset of freezing conditions, the antifreeze solution shall be tested using the following procedure: (1) The antifreeze information sign required by 4.1.10, installation records, maintenance records, information from the owner, chemical tests, or other reliable sources of information shall be used to determine the type of antifreeze in the system and whether implementing 5.3.4(1)(a) or 5.3.4(1)(b) is necessary: (a) If the antifreeze is a type that is no longer permitted, the system shall be drained completely and refilled with a listed solution or an acceptable solution in accordance with 5.3.4.4. (b) If the type of antifreeze cannot be reliably determined, the system shall be drained completely and refilled with a listed solution or an acceptable solution in accordance with 5.3.4.4. (2) If the antifreeze is not replaced in accordance with 5.3.4(1)(a) or 5.3.4(1)(b), test samples shall be taken at the top and the bottom of each system as follows: (a) If the most remote portion of the system is not near the top or the bottom of the system, an additional sample shall be taken at the most remote portion. (b) If the connection to the water supply piping is not near the top or the bottom of the system, an additional sample shall be taken at the connection to the water supply.		

	(3) The specific gravity of each solution shall be checked using a hydrometer with a suitable scale or a refractometer having a scale calibrated for the antifreeze solution. (4) If any of the samples exhibit values outside of the allowable range, the system shall be drained completely, flushed, and refilled with a listed solution or an acceptable solution in accordance with 5.3.4.4. (5) If a concentration greater than that permitted by 5.3.4.4 was necessary to keep the fluid from freezing, alternative methods for preventing the pipe from freezing shall be employed.
Committee Text (FR)	
Statement	The antifreeze manufacturer's recommendations state to see the installation section for instructions on flushing, but no flushing procedures are outlined in the manufacturer's installation instructions for flushing systems. Also it is unclear on if flushing a system is required for all cases.

Section	PI	PAGE	DISPOSITION
A.5.3.4	99		Create a first revision based on PI 99
Proposed Text (PI)	A.5.3.4 Sampling from the top and bottom of the system helps to determine if the solution has settled. Antifreeze solutions are heavier than water. If the antifreeze compound is separating from the water due to poor mixing, it will exhibit a higher concentration in the lower portion of the system than in the upper portion. If the concentration is acceptable near the top, but too low near the water connection, it might mean the system is becoming diluted near the water supply. If the concentration is either too high or too low in both the samples, it might mean the wrong concentration was added to the system. Two or three times during the freezing season, test samples can be drawn from Valve B as shown in Figure 8.6.3.1 of NFPA 13, especially if the		

	water portion of the system has been drained for maintenance or repairs. A small hydrometer can be used so that a small sample is sufficient. Where water appears at Valve B, or where the sample indicates that the solution has become weakened, the entire system should be emptied and refilled with acceptable solution as previously described. ~~See Figure A.5.3.4 for expected minimum air temperatures in 48 of the United States and parts of Canada where the lowest one-day mean temperature can be used as one method of determining the minimum reasonable air temperature. In situations where the piping containing the antifreeze solution is protected in some way from exposure to the outside air, higher minimum temperatures can be anticipated.~~ Where systems are drained in order to be refilled, it is not typically necessary to drain drops. Most systems with drops have insufficient volume to cause a problem, even if slightly higher concentration solutions collect in the drops. For drops in excess of 36 in. (915 mm), consideration should be given to draining drops if there is evidence that unacceptably high concentrations of antifreeze have collected in these long drops. ~~When emptying and refilling antifreeze solutions, every attempt should be made to recycle the old solution with the antifreeze manufacturer rather than discard it.~~ ~~Figure A.5.3.4 Isothermal Lines — Lowest One-Day Mean Temperature (°F).~~



Source: Compiled from United States Weather Bureau records.
For SI units, °C = ⅝ (°F −32); 1 mi = 1.609 km.

The internal temperature and duration of exposure that water-filled piping could be subjected to, under freezing conditions, in an unconditioned space should be carefully considered and approved by the AHJ.

Dependable sources of information on historic temperatures include the following:

(1) National Oceanic and Atmospheric Administration — National Climatic Data Center

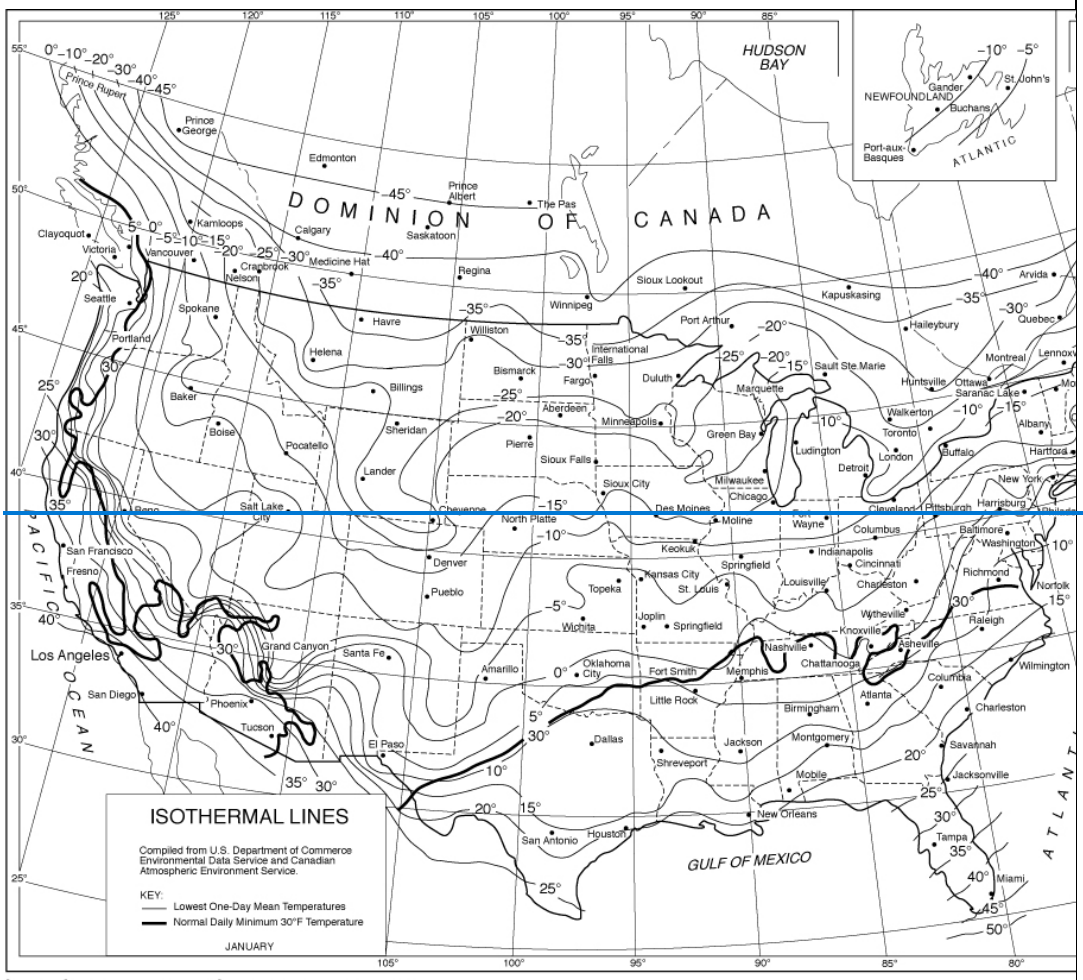
(2) National Weather Service

(3) Plant Hardiness Zone Maps (See Oregon State University)

(4) American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE)

	(5) Other approved sources [**13**, A.16.4.1.1.1]
Committee Text (FR)	A.5.3.4 Sampling from the top and bottom of the system helps to determine if the solution has settled. Antifreeze solutions are heavier than water. If the antifreeze compound is separating from the water due to poor mixing, it will exhibit a higher concentration in the lower portion of the system than in the upper portion. If the concentration is acceptable near the top, but too low near the water connection, it might mean the system is becoming diluted near the water supply. If the concentration is either too high or too low in both the samples, it might mean the wrong concentration was added to the system. Two or three times during the freezing season, test samples can be drawn from Valve B as shown in Figure 8.6.3.1 of NFPA 13, especially if the water portion of the system has been drained for maintenance or repairs. A small hydrometer can be used so that a small sample is sufficient. Where water appears at Valve B, or where the sample indicates that the solution has become weakened, the entire system should be emptied and refilled with acceptable solution as previously described. ~~See Figure A.5.3.4 for expected minimum air temperatures in 48 of the United States and parts of Canada where the lowest one-day mean temperature can be used as one method of determining the minimum reasonable air temperature. In situations where the piping containing the antifreeze solution is protected in some way from exposure to the outside air, higher minimum temperatures can be anticipated.~~ Where systems are drained in order to be refilled, it is not typically necessary to drain drops. Most systems with drops have insufficient volume to cause a problem, even if slightly higher concentration solutions collect in the drops. For drops in excess of 36 in. (915 mm), consideration should be given to draining drops if there is evidence that unacceptably high concentrations of antifreeze have collected in these long drops. ~~When emptying and refilling antifreeze solutions, every attempt should be made to recycle the old solution with the antifreeze manufacturer rather than discard it.~~

~~Figure A.5.3.4 Isothermal Lines — Lowest One-Day Mean Temperature (°F).~~



Source: Compiled from United States Weather Bureau records.
For SI units, °C = ⅝ (°F −32); 1 mi = 1.609 km.

The internal temperature and duration of exposure that water-filled piping could be subjected to, under freezing conditions, in an unconditioned space should be carefully considered and approved by the AHJ.

Dependable sources of information on historic temperatures include the following:

(1) National Oceanic and Atmospheric Administration — National Climatic Data Center

(2) National Weather Service

(3) Plant Hardiness Zone Maps (See Oregon State University)

	(4) American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) (5) Other approved sources [**13**, A.16.4.1.1.1]
Statement	It is no longer appropriate to recycle non-listed antifreeze and this added language correlates with NFPA 13 and NFPA 24.

Section	PI	PAGE	DISPOSITION
5.3.4.4.1	144		Create a first revision based on PI 144
Proposed Text (PI)	5.3.4.4.1* Where used to replace nonlisted factory premixed antifreeze solutions, listed antifreeze solutions shall be permitted to be used outside their ~~listing limitations~~system volume and hydraulic calculation requirements, provided the temperature range limitations are not exceeded. All other requirements of the listed antifreeze shall be adhered to.		
Committee Text (FR)	5.3.4.4.1* Where acceptable to the AHJ, ~~Where used to replace non~~listed ~~factory premixed~~ antifreeze solutions used to replace~~,~~ nonlisted antifreeze solutions shall be permitted to be used outside their ~~listing limitations~~system volume and hydraulic calculation requirements, provided the temperature range limitations are not exceeded. 5.3.4.4.1.1 All other requirements of the listed antifreeze shall be adhered to.		
Statement	This language more specifically identifies the installation requirements for how an antifreeze solution can be used outside of their listing requirements.		

Section	PI	PAGE	DISPOSITION
5.3.4.4.2	145		Create a first revision based on PI 145
Proposed Text (PI)	5.3.4.4.2* An existing nonlisted antifreeze solution that tests within it's specifications shall be permitted to remain in an existing system, provided the antifreeze solution is known to be factory premixed and the concentration of the ~~factory premixed antifreeze~~ solution is limited to 30 percent propylene glycol by volume or 38 percent glycerine by volume.		
Committee Text (FR)	5.3.4.4.2* An existing nonlisted antifreeze solution that tests within it~~'~~s specified concentration ~~specifications~~ shall be permitted to remain in an existing system, provided the concentration of premixed antifreeze ~~solution is known to be factory premixed and the concentration of the factory premixed antifreeze~~ solution is limited to 30 percent propylene glycol by volume or 38 percent glycerine by volume.		
Statement	This language helps clarify of the allowances for legacy antifreeze to remain in service.		

Section	PI	PAGE	DISPOSITION
5.3.4.4.3	146		Create a first revision based on PI 146
Proposed Text (PI)	5.3.4.4.3 ~~Premixed~~ Nonlisted factory premixed antifreeze solutions of propylene glycol exceeding 30 percent concentration by volume shall be permitted for use with ESFR sprinklers, provided the ESFR sprinklers are listed for such use in a specific application.		

Committee Text (FR)	5.3.4.4.3 ~~Premixed~~ Nonlisted ~~factory~~ premixed antifreeze solutions of propylene glycol exceeding 30 percent concentration by volume shall be permitted for use with ESFR sprinklers, provided the ESFR sprinklers are listed for such use in a specific application.
Statement	This language clarifies where legacy antifreeze solutions can remain in service.

Section	PI	PAGE	DISPOSITION
New 5.4.1.3.2.1	104		Create a first revision based on PI 104
Proposed Text (PI)	5.4.1.3.2.1 Where the requirements of 5.4.1.3.2 can not be met a sprinkler with the next closest larger orifice shall be allowed for replacement.		
Committee Text (FR)	**5.4.1.3.2*** Where replacing residential sprinklers manufactured prior to 2003 that are no longer available from the manufacturer and are installed using a design density less than 0.05 gpm/ft^2(204 mm/min), a residential sprinkler with an equivalent K-factor (± 5 percent or next larger k-factor) shall be permitted to be used provided the currently listed coverage area for the replacement sprinkler is not exceeded.		
Statement	There are some existing k-factor sprinklers for which a replacement cannot be procured. A sprinkler with a slightly larger k-factor will allow the space to be protected with a slightly larger flow when a sprinkler first activates.		

Section	PI	PAGE	DISPOSITION

5.4.1.6.1	138		Move to resolve PI 138
Proposed Text (PI)	5.4.1.6.1 The sprinklers shall correspond proportionally to the types and temperature ratings of the sprinklers in the property.		
Committee Text (FR)			
Statement	The spare sprinkler cabinet already requires a legend with a number of sprinklers required in the cabinet, it would be in conflict with NFPA 13 as only one sprinkler of each type is required to be provided in the spare sprinkler cabinet.		

Section	PI	PAGE	DISPOSITION
5.4.1.6.5	113		Create a first revision based on PI 113
Proposed Text (PI)	5.4.1.6.5* One sprinkler wrench as specified by the sprinkler manufacturer shall be provided in the cabinet for each type of sprinkler installed to be used for the ~~removal and~~ installation of sprinklers in the system.		
Committee Text (FR)	A.5.4.1.6.5 One sprinkler wrench design can be appropriate for many types of sprinklers, and multiple wrenches of the same design should not be required. The sprinkler wrench as specified by the manufacturer should not be required for the removal of sprinklers, but could be beneficial for the removal of concealed or other special sprinklers.		
Statement	Since sprinklers that are being removed will not be reused, it is not necessary to require an approved wrench from the manufacturer to facilitate the removal of the sprinkler.		

Section	PI	PAGE	DISPOSITION
5.4.1.6.5.1	114		Create a first revision based on PI 114
Proposed Text (PI)	5.4.1.6.5.1 The sprinkler wrench shall be permitted to be maintained on the premises so that any sprinklers that have operated or been damaged in any way can be promptly replaced.		
Committee Text (FR)	5.4.1.6.5* One sprinkler wrench as specified by the sprinkler manufacturer shall be provided ~~in the cabinet~~ and maintained on the premises with the spare sprinklers for each type of sprinkler installed to be used for the removal and installation of sprinklers in the system.		
Statement	Alternative language meets the submitters intent and aligns with the requirement to have spare sprinkler provided on the premises.		

Section	PI	PAGE	DISPOSITION
5.4.1.6.6.1	139		Create a first revision based on PI's 139, 155, 157, & 158
Proposed Text (PI)	5.4.1.6.6.1* The list shall include the following: (1) Sprinkler identification number (SIN) if equipped; or the manufacturer, model, orifice, deflector type, thermal sensitivity, and pressure rating (2) General description ~~(2)~~(3) Quantity of each type contained in the building ~~(3)~~(4) Quantity of each type to be contained in the cabinet (5) Issue or revision date of the list		

	~~(4)~~(6) Manufacturers sprinkler wrench model for each sprinkler type
Committee Text (FR)	[Extract NFPA 13 16.2.7.7.1 and A.16.2.7.7.1] [Extract Figure A.16.2.7.7.1]
Statement	This aligns the spare sprinkler list with the requirements in NFPA 13 and NFPA 13R for the next editions.

Section	PI	PAGE	DISPOSITION
5.4.1.6.6.1	155		Create a first revision based on PI's 139, 155, 157, & 158
Proposed Text (PI)	5.4.1.6.6.1* The list shall include the following: (1) Sprinkler identification number (SIN) if equipped; or the manufacturer, model, orifice, deflector type, thermal sensitivity, and pressure rating (2) General description ~~(2)~~(3) Quantity of each type installed in the property (4) Quantity of each type to be contained in the cabinet ~~(3)~~(5) Manufacturer's sprinkler wrench model number for each sprinkler type ~~(4)~~(6) Issue or revision date of the list		
Committee Text (FR)			
Statement	See the action and statement for PI 139		

<table>
<tr><td>Section</td><td>PI</td><td>PAGE</td><td>DISPOSITION</td></tr>
<tr><td>A.5.4.1.6.6.1</td><td>157</td><td></td><td>Create a first revision based on PI’s 139, 155, 157, & 158</td></tr>
<tr><td>Proposed Text (PI)</td><td colspan="3">A.5.4.1.6.6.1

The minimum information in the list contained in the spare sprinkler cabinet should be marked with the ~~following~~sprinkler identification described in 5.4.1.6.6.1:

~~General~~ a general description of the sprinkler, including upright, pendent, residential, ESFR, and so forth; the quantity of each type of sprinkler installed in the property;

the ~~Quantity~~ quantity of each type sprinkler~~s~~ that is to be maintained in the spare sprinkler cabinet; and sprinkler wrench type

An example of the list is shown in Figure A.5.4.1.6.6.1.

Figure A.5.4.1.6.6.1 Sample List. [13:Figure A.16.2.7.7.1]

Sprinklers Contained in this Cabinet
<table><tr><th>Sprinkler Identification, SIN</th><th>General Description</th><th>Temperature Rating, °F</th><th>Sprinkler Quantity Maintained</th></tr><tr><td>TY9128</td><td>Extended Coverage, K-25, upright</td><td>165</td><td>6</td></tr><tr><td>VK494</td><td>Residential concealed pendent</td><td>155</td><td>6</td></tr></table>Issued: 8/31/19 Revised:</td></tr>
<tr><td>Committee Text (FR)</td><td colspan="3"></td></tr>
<tr><td>Statement</td><td colspan="3">See the action and statement for PI 139</td></tr>
</table>

<table>
<tr><td>Section</td><td>PI</td><td>PAGE</td><td>DISPOSITION</td></tr>
<tr><td>A.5.4.1.6.6.1</td><td>158</td><td></td><td>Create a first revision based on PI’s 139, 155, 157, & 158</td></tr>
<tr><td>Proposed Text (PI)</td><td colspan="3">[Modify the Figure by adding a new column that states “Sprinkler Quantity in the Property,” and a new column that states “Sprinkler Wrench Type.”]

A.5.4.1.6.6.1

The minimum information in the list contained in the spare sprinkler cabinet should be marked with the following:

(1) General description of the sprinkler, including upright, pendent, residential, ESFR, and so forth

(2) Quantity of sprinklers to be maintained in the spare sprinkler cabinet

An example of the list is shown in Figure A.5.4.1.6.6.1.

Figure A.5.4.1.6.6.1 Sample List. [13:Figure A.16.2.7.7.1]

Sprinklers Contained in this Cabinet
<table><tr><th>Sprinkler Identification, SIN</th><th>General Description</th><th>Temperature Rating, °F</th><th>Sprinkler Quantity Maintained</th></tr><tr><td>TY9128</td><td>Extended Coverage, K-25, upright</td><td>165</td><td>6</td></tr><tr><td>VK494</td><td>Residential concealed pendent</td><td>155</td><td>6</td></tr></table>Issued: 8/31/19 Revised:</td></tr>
</table>

Committee Text (FR)	
Statement	See the action and statement for PI 139

Section	PI	PAGE	DISPOSITION
5.4.2.2	58		Create a first revision based on PI 58
Proposed Text (PI)	5.4.2.2 Refrigerated spaces or other areas within the building interior where temperatures are subject to freezing and maintained at or below 40°F (4°C) shall not be permitted to be left wet.		
Committee Text (FR)	5.4.2.2 Refrigerated spaces or other areas within the building interior that are subject to freezing ~~where temperatures are subject to freezing and maintained at or below 40°F (4°C)~~ shall not be permitted to be left wet.		
Statement	NFPA 13 allows for piping to be below 40 degrees in refrigerated spaces if it is not subject to freezing. Coolers may be maintained between 33-40 degrees and it may not be considered a deficiency or an impairment in these areas.		

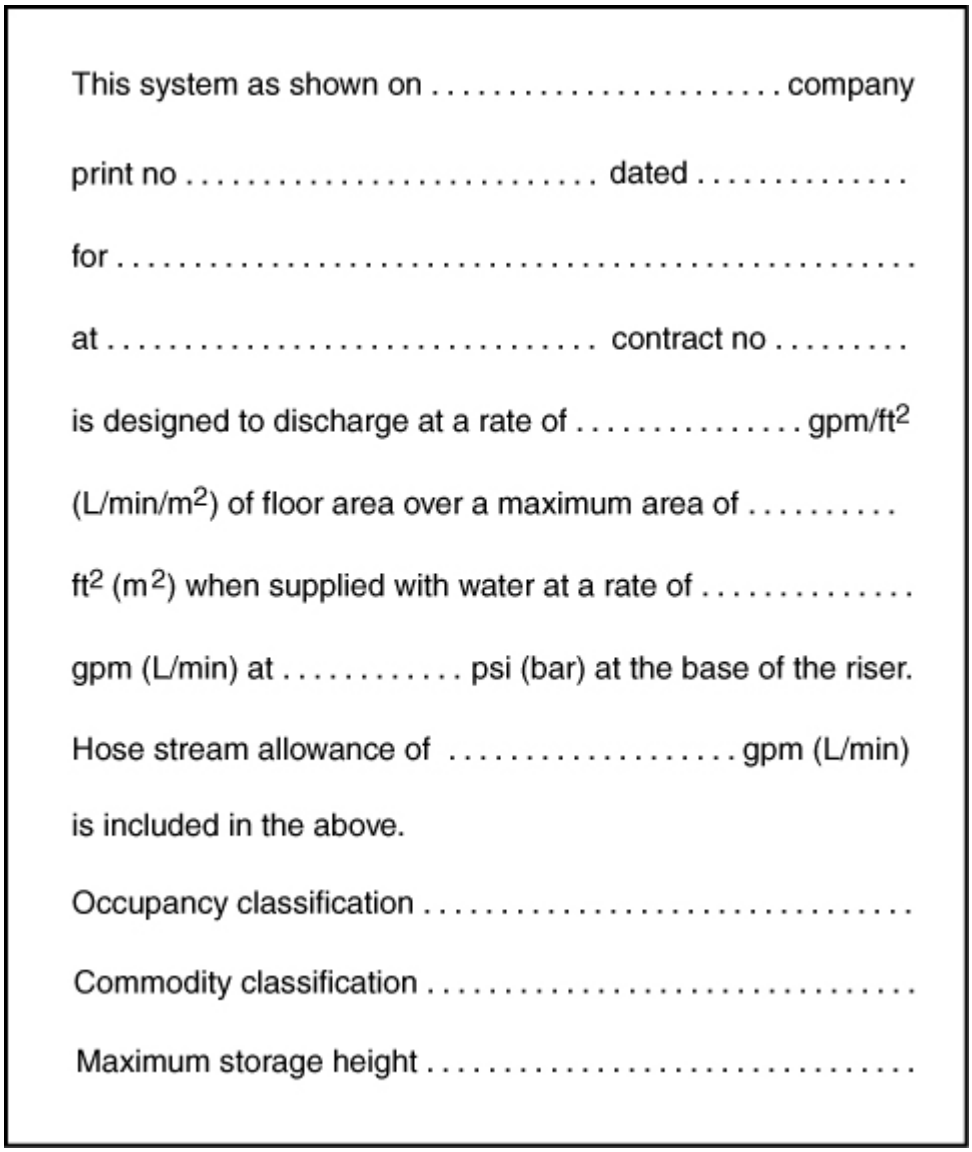
Section	PI	PAGE	DISPOSITION
New 5.4.5	154		Create a first revision based on PI 154
Proposed Text (PI)	**5.4.5 Inactive Sprinkler System Components** 5.4.5.1 Where all or part of an inactive sprinkler system is abandoned in place, components including sprinklers, hose valves and hoses, and alarm devices shall be removed. [13, 2022]		

	5.4.5.2 Control valves abandoned in place shall have the operating mechanisms removed. [13, 2022] 5.4.5.3 Sprinkler system piping and/or valves abandoned in place shall be uniquely identified to differentiate them from active system piping and valves. [13, 2022]
Committee Text (FR)	**~~5.4.5~~4.1.12 Inactive ~~Sprinkler~~ Water-based Fire Protection System Components** ~~5.4.5.1~~ 4.1.12.1 Where all or part of an inactive ~~sprinkler~~water-based fire protection system is abandoned in place, components including sprinklers, hose valves and hoses, and alarm devices shall be removed. ~~[13, 2022]~~ ~~5.4.5.2~~ 4.1.12.2 Control valves abandoned in place shall have the operating mechanisms removed. ~~[13, 2022]~~ ~~5.4.5.3~~ 4.1.12.3 ~~Sprinkler s~~System piping and/or valves abandoned in place shall be uniquely identified to differentiate them from active system piping and valves. ~~[13, 2022]~~
Statement	This new language provides the needed guidance so inspectors don't confuse these abandoned components with ones they should be inspecting. Marking abandoned piping will hopefully eliminate mistakes when modifying a system. This new language applies to all systems and is preferred in Chapter 4.

Section	PI	PAGE	DISPOSITION

A.5.2.5	140		Create a first revision based on PI 140
Proposed Text (PI)	A.5.2.5 The hydraulic design information sign should be secured to the riser with durable wire, chain, or equivalent. *(See Figure A.5.2.5.)* When the hydraulic design information sign is missing it can be difficult to locate the appropriate information that is required to be on the sign. Engaging the building owner could aid in locating this information as they may be able to locate previous owners or the installing contractor. If the information is not accessible, then the system may have to be evaluated in accordance with Chapter 30 of NFPA 13 to determine the required information. Figure A.5.2.5 Sample Hydraulic Design Information Sign. [13:Figure A.29.4]		

	This system as shown on . . . . . company print no . . . . . dated . . . . . . for . . . . . . at . . . . . contract no . . . . . . is designed to discharge at a rate of . . . . . gpm/ft^2 (L/min/m^2) of floor area over a maximum area of . . . . . . ft^2 (m^2) when supplied with water at a rate of . . . . . . gpm (L/min) at . . . . . psi (bar) at the base of the riser. Hose stream allowance of . . . . . gpm (L/min) is included in the above. Occupancy classification . . . . . . Commodity classification . . . . . . Maximum storage height . . . . .
Committee Text (FR)	A.5.2.5 The hydraulic design information sign should be secured to the riser with durable wire, chain, or equivalent. *(See Figure A.5.2.5.)* When the hydraulic design information sign is missing it can be difficult to locate the appropriate information that is required to be on the sign. Engaging the building owner could aid in locating this information as they may be able to locate previous owners or the installing contractor. If the information is not accessible, then the system may have to be evaluated in accordance with Chapter 30 of NFPA 13 to determine the required information.

	Figure A.5.2.5 Sample Hydraulic Design Information Sign. [13:Figure A.29.4] 
Statement	This may assist the owner and contractor with some of the possible steps that can be taken to replace the hydraulic design information sign with the appropriate information.

Section	PI	PAGE	DISPOSITION
A.5.3.1.1.2	120		Create a first revision based on PI 120

Proposed Text (PI)	A.5.3.1.1.2 Examples of these environments are paper mills, packing houses, tanneries, alkali plants, organic fertilizer plants, foundries, forge shops, fumigation areas, pickle and vinegar works, stables, storage battery rooms, electroplating rooms, galvanizing rooms, steam rooms of all descriptions including moist vapor dry kilns, salt storage rooms, locomotive sheds or houses, ~~driveways~~pool equipment rooms, ~~areas exposed to outside weather,~~ areas around bleaching equipment in flour mills, ~~and~~ portions of any area where corrosive vapors prevail, outdoor installation with a corrosive environment.
Committee Text (FR)	A.5.3.1.1.2 Examples of these environments are paper mills, packing houses, tanneries, alkali plants, organic fertilizer plants, foundries, forge shops, fumigation areas, pickle and vinegar works, stables, storage battery rooms, electroplating rooms, galvanizing rooms, steam rooms of all descriptions including moist vapor dry kilns, salt storage rooms, locomotive sheds or houses, ~~driveways~~pool equipment rooms, ~~areas exposed to outside weather,~~ areas around bleaching equipment in flour mills, ~~and~~ portions of any area where corrosive vapors prevail, outdoor installation with a corrosive environment.
Statement	The committee agrees that driveways and outdoor areas do not necessarily make the environment corrosive. However, exposure to the environment, pool equipment rooms, and areas located near the ocean are notorious for corrosion.

Section	PI	PAGE	DISPOSITION
6.1.1.2	111		FR
Proposed Text (PI)	[See Word Document 25-2023_6_1_1_2_PI_111_TG3]		
Committee Text (FR)	As written in word document		
Statement	This establishes requirements in Table 6.1.1.2 that correlate with the requirements in Chapter 13. [NOTE: TG suggest verifying the definitions coordinate with NFPA 25 TG1.]		

Section	PI	PAGE	DISPOSITION
6.2.3.1	60		See PI 100
Proposed Text (PI)	6.2.3.1 Hose connections shall be inspected annually for the following conditions: (1) Valve cap(s) missing or damaged (2) Fire hose connection damaged (3) Valve handles missing or damaged (4) Cap gaskets missing or deteriorated (5) Valve leaking (6) Visible and physical obstructions to hose connections (7) Pressure restricting device missing		

	~~(8) Manual, semiautomatic, or dry standpipe valve does not operate smoothly~~ ~~(9)~~(8) Valve threads damaged
Committee Text (FR)	
Statement	

Section	PI	PAGE	DISPOSITION
6.2.3.1	100		FR based on PI 100 and PI 60
Proposed Text (PI)	6.2.3.1 Hose connections shall be inspected ~~annually~~ quarterly for the following conditions: - please clarify or bring hose connections and hose valves (12.6.1.1 into the same frequency as they are very similar and hose connections cover hose valves, (1) Valve cap(s) missing or damaged (2) Fire hose connection damaged (3) Valve handles missing or damaged (4) Cap gaskets missing or deteriorated (5) Valve leaking (6) Visible and physical obstructions to hose connections (7) Pressure restricting device missing (8) Manual, semiautomatic, or dry standpipe valve does not operate smoothly (9) Valve threads damaged		

Committee Text (FR)	~~6.2.3.1~~ ~~Hose connections shall be inspected annually for the following conditions:~~ ~~(1) Valve cap(s) missing or damaged~~ ~~(2) Fire hose connection damaged~~ ~~(3) Valve handles missing or damaged~~ ~~(4) Cap gaskets missing or deteriorated~~ ~~(5) Valve leaking~~ ~~(6) Visible and physical obstructions to hose connections~~ ~~(7) Pressure restricting device missing~~ ~~(8) Manual, semiautomatic, or dry standpipe valve does not operate smoothly~~ ~~(9) Valve threads damaged~~ **[NOTE: Revise Table 6.1.1.2 for Hose Connections to reference chapter 13 instead of chapter 6.2.3 and delete frequency.]** **13.6 Hose Valves and Hose Connections.** **13.6.1 Inspection.** **13.6.1.1** Hose valves shall be inspected annually~~quarterly~~ to verify that the valves are in the following condition: (1) Hose caps are in place and not damaged. (2) Hose threads are not damaged. (3) Valve handles are present and not damaged. (4) Gaskets are not damaged or showing signs of deterioration. (5) No leaks are present. (6) Valves are not obstructed or otherwise not capable of normal operation. **13.6.1.2**

	Hose valves shall be inspected to ensure that hose caps are in place and not damaged. **13.6.1.3** Hose threads shall be inspected for damage. **13.6.1.4** Valve handles shall be present and not damaged. **13.6.1.5** Gaskets shall be inspected for damage or deterioration. **13.6.1.6** Hose valves shall be inspected for leaks. **13.6.1.7** Hose valves shall be inspected to ensure no obstructions are present. **13.6.1.8*** Hose valves shall be inspected to ensure that restricting devices are present, where required. **13.6.1.9** Where approved by the authority having jurisdiction, existing hose valve restricting devices shall be permitted to be removed and shall not be recorded as a deficiency. A.13.6.1.8 NFPA 1 and NFPA 14 permit the removal of restricting devices in existing systems.
Statement	Delete section 6.2.3.1 since this section is redundant. Hose valves and their connections are covered in Chapter 13.6. Modifying 13.6.1.8 is a clarification to indicate “where required” since not all hose valves utilize restricting devices. Add annex language to clarify the removal of restricting devices based on installation and fire code requirements. Annual inspection of hose valves and hose connections is more appropriate annually rather than quarterly due to the secondary function of standpipes and there is no evidence that quarterly inspection is needed.

Section	PI	PAGE	DISPOSITION
7.3.1.2	188		Resolve
Proposed Text (PI)	7.3.1.2 Where underground piping supplies individual fire sprinkler, standpipe, water spray, or ~~foam~~agent-water sprinkler systems and there are no means to conduct full flow tests, tests generating the maximum available flows shall be permitted.		
Committee Text (FR)	N/A		
Statement	Wetting agents and additives covered by NFPA 18 and 18A are not currently within the scope of NFPA 25 and not within the scope of the NFPA 25 Technical Committee.		

Section	PI	PAGE	DISPOSITION
7.3.3	191		FR based on PI 191
Proposed Text (PI)	7.3.3 Monitor Nozzles. 7.3.3.1 Monitor nozzles ~~that are mounted on hydrants~~ shall be tested ~~as specified in 7.3.2~~annually to ensure proper functioning. 7.3.3.2 ~~All m~~Monitor nozzles shall be oscillated and moved throughout their full range ~~annually~~ to ensure proper operability.		
Committee Text (FR)	7.3.3 Monitor Nozzles. 7.3.3.1 Monitor nozzles ~~that are mounted on hydrants~~ shall be tested ~~as specified in 7.3.2~~annually to ensure full function~~ing~~.		

	7.3.3.2 ~~All m~~Monitor nozzles shall be oscillated and moved throughout their full range ~~annually~~ to ensure full operation~~proper operability~~.
Statement	The revised text now applies to all monitor nozzles, whether or not they are mounted on a hydrant.

Section	PI	PAGE	DISPOSITION
8.1.1.2.14	184		Resolve
Proposed Text (PI)	~~8.1.1.2.14~~ ~~Back pressure on the engine turbos shall be measured annually.~~		
Committee Text (FR)	N/A		
Statement	The back pressure measurement on engine turbos is important of an indicator of possible troubles. Data has not been presented that justifies the decrease or removal of this testing annually. [NOTE: Several items in Table 8.1.1.2 that are currently identified as maintenance should be considered to be moved to testing.]		

Section	PI	PAGE	DISPOSITION
8.3.1.2.1	1		Resolve
Proposed Text (PI)	8.3.1.2.1 Except as permitted in 8.3.1.2.2 and 8.3.1.2.3, a weekly test frequency shall be required for the following electric fire pumps: (1) Fire pumps that serve fire protection systems in buildings that are beyond the pumping capacity of the fire department		

	(2) Fire pumps with limited service controllers (3) Vertical turbine fire pumps that do not take suction from a water storage tank supplied from a public waterworks. (4) Fire pumps taking suction from ground level tanks or a water source that does not provide sufficient pressure to be of material value without the pump
Committee Text (FR)	
Statement	This concept is already required in parenthesis (4).

Section	PI	PAGE	DISPOSITION
8.3.2.1.2	25		FR
Proposed Text (PI)	8.3.2.1.2 For fire pump installations that were installed under a standard (1993 and earlier editions of NFPA 20) that did not prohibit a design that required operation of a pressure relief valve to keep the discharge pressure below the rating of the system components, the pressure relief valve and circulation relief valve shall be permitted to operate as designed during a no-flow test. 8.3.2.1.2.1* The pressure readings on the discharge and suction gauges shall be recorded, and a pressure difference that is greater than 95 percent of the rated pump pressure shall be investigated and corrected. 8.3.2.1.2.2* The discharge temperature of the water shall be monitored and the pump shut down if necessary to prevent exposing the pump and/or driver to excessive temperatures.		

Committee Text (FR)	As written.
Statement	For the 1993 and earlier editions of NFPA 20, the main relief could be tied back into the suction. For these installations, the circulation relief may need to operate to cool the pump.

Section	PI	PAGE	DISPOSITION
8.3.7.1.1.1	123		FR based on PI 123
Proposed Text (PI)	8.3.7.1.1.1 The interpretation of the gross flow test performance relative to acceptably meeting the demands of all connected fire protection systems shall be the basis for determining acceptable performance of the ~~pump assembly and~~ connected water supply.		
Committee Text (FR)	8.3.7.1.1.1*- The interpretation of the gross flow test performance relative to acceptably meeting the demands of all connected fire protection systems shall be the basis for determining acceptable performance of the pump assembly and connected water supply. A.8.3.7.1.1.1 The gross performance of the fire pump is not necessarily an indication of a deficient pump and could be a result of a degraded or obstructed water supply. Where the gross performance of the fire pump does not meet the demand of the fire protection systems downstream, the water supply should be evaluated.		
Statement	The added Annex material provides clarification for analyzing pump test results.		

Section	PI	PAGE	DISPOSITION
8.3.7.2.3	159		Resolve

Proposed Text (PI)	8.3.7.2.3 The fire pump test results shall be considered acceptable if all of the following conditions are satisfied: (1) Fire pump meets the flow and pressure requirements of the most demanding system(s) supplied by the fire pump based on owner-provided system design information (2) *Fire pump supplies 100 percent of rated flow (3) *Net pressure at each flow point is at least 95 percent of one of the following: 1. Original manufacturer's pump curve ***- In few cases Suction pressure is varying/impacting due to water supply/storage from manufacturer facility arrangement to actual site installation, pump net pressure is lesser than 95% of manufacturer facility, since the testing facility/locations are different the results are also differs and some cases exceeding the allowance provided.*** 2. Original unadjusted field test curve ***- Shall we compare the test result (conducted at Rated RPM) with unadjusted field test curve? Please clarify more on unadjusted field test, unadjusted of which test parameter and the comparable test result should satisfy what? On one hand test conducted with rated speed and on the other hand commissioning test result conducted with unadjusted to rated RPM. how good the comparison is?*** 3. Test curve generated from the fire pump nameplate ***- If the fire pump does not have 0% and 150% rated flow and pressure details on the nameplate, is it acceptable to compare only rated flow and pressure with test parameters?*** (4) Requirements of 8.1.5 are met

Committee Text (FR)	None
Statement	There are no proposed changes to this section, only questions. The submitter is encouraged to propose language for consideration at the Second Draft Meeting.

Section	PI	PAGE	DISPOSITION
9.2.6	27		Create Committee Input

Proposed Text (PI)

9.2.6 Tests During Interior Inspection.

Where a drained interior inspection of a steel tank is required by 9.2.5.4, the following tests shall be conducted:

(1) NACE RP0288-2004 Inspection of Linings on Steel and Concrete shall be used when initial coating applications or coating repair is being performed.

(2) Evaluation of tank coatings shall be made in accordance with ~~the adhesion test of~~ ASTM ~~D3359~~D610-08, *Standard* *Practice for Evaluating Degree of Rusting on Painted steel Surfaces. " "This practice provides a standardized means for quantifying the amount and distribution of visible surface rust."* ~~*Test Methods for Rating Adhesion by Tape Test*, generally referred to as the "cross-hatch test."~~

~~(1)~~(3) Evaluation of tank coatings shall be made in accordance with ASTM D714-02 Standard Test Method for Evaluating Degree of Blistering of Paints. "This test method employs photographic reference standards to evaluate the degree of blistering that may develop when paint systems are subjected to conditions which will cause blistering."

~~(2) Dry film thickness measurements shall be taken at random locations to determine the overall coating thickness.~~

~~(3) Nondestructive ultrasonic readings shall be taken to evaluate the wall thickness where there is evidence of pitting or corrosion.~~

(4) Interior surfaces shall be spot wet-sponge tested to detect pinholes, cracks, or other compromises in the coating. Special

	attention shall be given to sharp edges such as ladder rungs, nuts, and bolts. (5) Destructive testing shall not be performed on in-service lining unless failure analysis is required b the owner. Refer to NACE PP0288-2004 Inspection of Linings on Steel and Concrete Section 3.3 for further information. ~~(4)~~(6) Nondestructive ultrasonic readings shall be taken to evaluate the wall thickness where there is evidence of pitting or corrosion. ~~(5)~~(7) Tank bottoms shall be tested for metal loss and/or rust on the underside by use of ultrasonic testing where there is evidence of pitting or corrosion. Removal, visual inspection, and replacement of random floor coupons shall be an acceptable alternative to ultrasonic testing. ~~(6)~~(8) Tanks with flat bottoms shall be vacuum-box tested at bottom seams in accordance with test procedures found in NFPA 22.
Committee Text (FR)	Committee Input text as written.
Statement	The proposed language does not meet the manual of style. A Task Group will be created to draft language in line with the manual of style for review by the committee with the intention of creating a Public Comment or Second Revision.

Section	PI	PAGE	DISPOSITION
10.1.1.2	156		FR
Proposed Text (PI)	[See Word Document 25-2023_10_1_1_2_PI_156_TG3]		
Committee Text (FR)	As written		

Statement	This revision aligns the requirements in Table 10.1.1.2 with the requirements in 10.4.2.

Section	PI	PAGE	DISPOSITION
11.1.1.2	183		FR
Proposed Text (PI)	[See Word Document 25-2023_11_1_1_2_PI_183_TG3]		
Committee Text (FR)	As written		
Statement	This revision corrects the section reference in the table. This is editorial.		

Section	PI	PAGE	DISPOSITION
Chapter 11	189		Resolve
Proposed Text (PI)	This action looks to change the term “foam” to “agent” throughout Chapter 11.		
Committee Text (FR)	N/A		
Statement	Wetting agents and additives covered by NFPA 18 and 18A are not currently within the scope of NFPA 25 and not within the scope of the NFPA 25 Technical Committee.		

Section	PI	PAGE	DISPOSITION
A.7.3.1.	71		FR
Proposed Text (PI)	A.7.3.1 Full flow tests of underground piping can be accomplished by several methods including, but not limited to, flow through yard hydrants, fire department connections once the check valve has been removed, main drain connections, and hose connections. The flow test and		

	measurements should be conducted in accordance with A.5.2.2.2 of NFPA 13 and NFPA 291 to try and reach the full connected system demand flow for analysis of degradation. Full flow tests of underground piping can also be accomplished during a five-year standpipe flow test or an annual fire pump flow test. A separate analysis should be performed in conjunction with these tests to determine if there's a deterioration of the available water flow and pressure from the water supply. Additional test gauges might be needed and placed at appropriate locations on the underground piping to perform the separate analysis.
Committee Text (FR)	As written.
Statement	This corrects the reference from NFPA 13 and emphasizes that a full flow test would mean meeting maximum system demand for comparison for determining deterioration.

Section	PI	PAGE	DISPOSITION
13.1.1.2	87, 169		Create First Revision
Proposed Text (PI)	[See Word Document 25-2023_13_1_1_2_PI_87_169_TG4]		
Committee Text (FR)	Copy text/First Draft Revision – follow-up w/ C.D.		
Statement	Align with the requirements of NFPA 13 and 72.		

Section	PI	PAGE	DISPOSITION
13.2.2.3	97		Resolve
Proposed Text (PI)	13.2.2.3 When there is a 10 percent reduction in full flow pressure or 3 second increase in rebound time when compared to the original acceptance test or previously performed tests, the cause of the reduction shall be identified and corrected if necessary.		
Committee Text (FR)			
Statement	No data to support justification of “3 second increase in rebound time” and no other requirement to measure time in other documents or standards.		

Section	PI	PAGE	DISPOSITION
13.2.3.2.3	62		Resolve
Proposed Text (PI)	13.2.3.2.3 ~~Activation~~ Audible alarm of the electrical waterflow alarm device shall occur within ~~90~~ 100 seconds of waterflow after flow begins at the alarm-initiating device when flow equal to ~~that~~ or greater than that from a single sprinkler of the smallest orifice size or smaller installed in the system occurs.		
Committee Text (FR)			
Statement	Testing audible alarms is a requirement of NFPA 72. Switches are required to activate within 90 seconds.		

Section	PI	PAGE	DISPOSITION
13.2.3.6	147, 148		Create two (2) First Revisions
Proposed Text (PI)	13.2.3.6* Testing waterflow alarm devices on dry pipe, preaction, or deluge systems shall be accomplished by using any of the following methods: (1) Opening the bypass connection~~.~~ (2) Opening the inspector's test connection ~~(1)~~(3) Using the automated test equipment in accordance with 4.6.6 A.13.2.3.6 ~~Opening the inspector's test connection can cause the system to trip accidentally.~~When conducting more frequent testing of waterflow alarms, using the bypass or automated test equipment can be used to		

	avoid tripping of the valve. When conducting the annual trip test and 3-year full flow testing, using the inspectors test connection could be a means to test the waterflow alarm.
Committee Text (FR)	13.2.3.6* Testing waterflow alarm devices on dry pipe, preaction, or deluge systems shall be accomplished by using any of the following methods: (1)Opening the bypass connection (2)Opening the inspector's test connection (3)Using the automated test equipment in accordance with 4.6.6 A.13.2.3.6 When conducting more frequent testing of waterflow alarms, bypass or automated test equipment might be used to avoid tripping of the valve. When conducting the annual trip test and 3-year full flow testing, using the inspectors test connection could be a means to test the waterflow alarm.
Statement	All methods to test were not captured in the existing text. Annex helped clarify the acceptable testing methods.

Section	PI	PAGE	DISPOSITION
13.2.3.7	126		Create First Revision
Proposed Text (PI)	~~13.2.3.7 Waterflow Alarm Device Status.~~ ~~13.2.3.7.1~~ ~~During testing and maintenance, vane-type waterflow alarm devices shall remain in service unless impairment procedures are followed in accordance with *NFPA 72* or the adopted fire code.~~ ~~13.2.3.7.1.1*~~		

	~~Disabling vane-type waterflow alarm devices by preventing movement of the vane or stem shall be prohibited.~~ ~~13.2.3.7.1.2*~~ ~~Interruption of the signal sent by the vane-type waterflow alarm device is permitted in accordance with 13.2.3.7.1.3 and 13.2.3.7.1.4.~~ ~~13.2.3.7.1.3~~ ~~Interruption of the waterflow alarm circuit shall be accomplished using a device listed for the purpose.~~ ~~13.2.3.7.1.4~~ ~~Interruption of the waterflow alarm circuit shall result in an audible and visual trouble signal in accordance with *NFPA 72* or the adopted fire code, or other approved indication at the switch signal in accordance with *NFPA 72* or the adopted fire alarm code, or other approved indication at the switch.~~
Committee Text (FR)	Delete 13.2.3.7.1.2, 13.2.3.7.1.3 and 13.2.3.7.1.4 and associated Annex.
Statement	Deleted text was confusing. NFPA 72 adequately addresses disconnecting the alarm/flow switch circuit. Certain States require a certified alarm technician to perform functions in the fire alarm control unit (FACU).

Section	PI	PAGE	DISPOSITION
13.2.4.2	22, 23, 24		Create First Revision
Proposed Text (PI)	13.2.4.2*		

	Gauges shall be replaced ~~every~~ 5 years after the date of installation or tested ~~every 5 years~~ by comparison with a calibrated gauge every 5 years. A.13.2.4.2 The gauge is permitted to have an accuracy level of ±3 percent of the maximum (i.e., full-scale) gauge reading. For example, a gauge having 200 psi (13.8 bar) maximum range installed on a system with 60 psi (4.1 bar) normal pressure can be permitted if the gauge reads from 54 psi to 66 psi (3.7 to 4.5 bar). Gauges located on riser manifolds can be replaced with new gauges or compared to a calibrated gauge from the same three-way test outlet. Where multiple system risers are supplied by a common water supply source with gauges located at the same elevation, are not divided by a check valve, and the gauges for all systems read ±3 percent of the other(s), only one gauge shall be required to be tested to determine if a replacement is required. The date of manufacture marked gauges does not limit when they can be used. These devices have unlimited shelf life. Where gauges are replaced in lieu of tested, the 5-year replacement interval begins on the date of installation. To aid in compliance and enforcement, an adhesive label that allows recording of date of installation and recording of the date to test or replace should be installed on sprinkler gauges (See Figure A.13.2.4.2 for an example of a typical sprinkler gauge record label).
Committee Text (FR)	13.2.4.2* Gauges shall be replaced 5 years after the date of installation or tested by comparison with a calibrated gauge every 5 years. A.13.2.4.2 The gauge is permitted to have an accuracy level of ±3 percent of the maximum (i.e., full-scale) gauge reading. For example, a gauge having 200 psi (13.8 bar) maximum range installed on a system with 60 psi (4.1 bar) normal pressure can be permitted if the gauge reads from 54 psi to 66 psi (3.7 to 4.5 bar). Gauges located on riser manifolds can be replaced with new gauges or compared to a calibrated gauge from the same three-way test outlet. Where multiple system risers are supplied by a common water supply source with gauges located at the

	same elevation, are not divided by a check valve, and the gauges for all systems read ±3 percent of the other(s), only one gauge shall be required to be tested to determine if a replacement is required. The date of manufacture marked gauges does not limit when they can be used. These devices have unlimited shelf life. Where gauges are replaced in lieu of tested, the 5-year replacement interval begins on the date of installation. One way to aid in compliance and enforcement, an adhesive label that allows recording of date of installation or comparison to a calibrated gauge to record the date on the gauge (See Figure A.13.2.4.2 for an example of a typical sprinkler gauge record label).
Statement	This language clarifies the requirement to replace or compare installed gauges to a calibrated gauge.

Section	PI	PAGE	DISPOSITION
13.2.4.3	124		Create First Revision
Proposed Text (PI)	13.2.4.3 Gauges with pressure readings not accurate to within 3 percent ~~of the full scale~~ shall be recalibrated or replaced.		
Committee Text (FR)	13.2.4.3 Gauges with pressure readings not accurate to within 3 percent as compared to the calibrated gauge shall be recalibrated or replaced.		
Statement	The new text clarifies gauge pressure readings should be within 3 percent of the actual pressure determined by a calibrated gauge.		

Section	PI	PAGE	DISPOSITION

13.3.3.4	106		Create First Revision
Proposed Text (PI)	13.3.3.4 A valve status test shall be conducted any time ~~the~~ a control valve is closed and reopened ~~at system riser~~.		
Committee Text (FR)	13.3.3.4 A valve status test shall be conducted any time a control valve is closed and reopened.		
Statement	Closed valves remain an issue for system failures. This test will ensure control valves are open.		

Section	PI	PAGE	DISPOSITION
13.4.3.1.2.1	94		Create First Revision
Proposed Text (PI)	~~13.4.3.1.2.1~~ ~~Internal inspection of valves that can be reset without removal of a faceplate shall be permitted to be conducted every 5 years.~~		
Committee Text (FR)			
Statement	Corrosion problem does not go away because the valve is externally reset.		

Section	PI	PAGE	DISPOSITION
13.4.3.1.2.1	128		Resolve

Proposed Text (PI)	13.4.3.1.2.1 Internal inspection of valves that can be reset without removal of a faceplate shall be permitted to be conducted every ~~5~~ 3 years.
Committee Text (FR)	
Statement	See PI 94

Section	PI	PAGE	DISPOSITION
13.4.3.3.2.1	96		Create First Revision
Proposed Text (PI)	~~13.4.3.3.2.1~~ ~~Interior cleaning and parts replacement or repair shall be permitted every 5 years for valves that can be reset without removal of a faceplate.~~		
Committee Text (FR)			
Statement	See PI 94		

Section	PI	PAGE	DISPOSITION
13.4.4.1.2.1	95		Create First Revision
Proposed Text (PI)	~~13.4.4.1.2.1~~ ~~Internal inspection of valves that can be reset without removal of a faceplate shall be permitted to be conducted every 5 years.~~		
Committee Text (FR)			

Statement	See PI 94

Section	PI	PAGE	DISPOSITION
13.4.4.1.2.1	129		Resolve
Proposed Text (PI)	13.4.4.1.2.1 Internal inspection of valves that can be reset without removal of a faceplate shall be permitted to be conducted every ~~5~~ 3 years.		
Committee Text (FR)			
Statement	See PI 94		

Section	PI	PAGE	DISPOSITION
13.4.4.2.7.4	192		Resolve
Proposed Text (PI)	13.4.4.2.7.4 Where the hydraulically most remote nozzle or sprinkler is inaccessible, nozzles or sprinklers in other than ~~foam~~agent-water sprinkler systems shall be permitted to be inspected visually without taking a pressure reading on the most remote nozzle or sprinkler.		
Committee Text (FR)			
Statement	NFPA 18 and 18A are not water-based system installation standards. Within 18 it references NFPA 13, NFPA 14, and NFPA 15 as acceptable system to utilize wetting agents. NFPA 11 is not referenced, and it is inappropriate to replace "agent" for "foam" one for one. NFPA 18 requires "wetting agents" to be tested annually. NFPA 25 does not need to address this.		

	NFPA 18 already covers everything within its scope: 10.2 Inspection of Wetting Agent Concentrate. Annually, samples of wetting agent concentrate shall be sent to the manufacturer or qualified laboratory for quality condition testing.

Section	PI	PAGE	DISPOSITION
New 13.4.4.2.14	31		Create First Revision
Proposed Text (PI)	Solenoid Supervisory Switch. Supervisory switches monitoring the position of coil shall be tested quarterly. [Renumber subsequent sections]		
Committee Text (FR)	Solenoid Supervisory Switch. Supervisory switches monitoring the position of coil shall be tested quarterly.		
Statement	NFPA 13 requires solenoid supervisory switch monitoring and aligns with the preaction system low air switch requirement.		

Section	PI	PAGE	DISPOSITION
New 13.4.5.1.3.1	109		Resolve
Proposed Text (PI)	13.4.5.1.3.1 Internal inspection of valves that can be reset without removal of a faceplate shall be permitted to be conducted every 5 years.		
Committee Text (FR)			

Statement	See PI 94

Section	PI	PAGE	DISPOSITION
New 13.4.5.1.3.1	130		Resolve
Proposed Text (PI)	13.4.5.1.3.1 Internal inspection of mechanical dry pipe valves that can be reset without removal of faceplate shall be permitted to be conducted every 3 years.		
Committee Text (FR)			
Statement	See PI 94		

Section	PI	PAGE	DISPOSITION
13.4.5.2.6	86		Create First Revision
Proposed Text (PI)	13.4.5.2.6 Low and high air pressure alarms, if provided, shall be tested annually in accordance with the manufacturer's instructions.		
Committee Text (FR)	13.4.5.2.6 Low and high air pressure alarms, if provided, shall be tested annually in accordance with the manufacturer's instructions.		
Statement	Aligns with NFPA 13 and 72 requirements.		

Section	PI	PAGE	DISPOSITION
New 13.8.5.2	163		Resolve
Proposed Text (PI)	13.8.5.2 Where the length of the piping from the fire department connection to the fire department check valve is less than 48" and can be visually inspected, the 5-year hydrostatic test shall not be required.		
Committee Text (FR)			
Statement	The purpose of the 5 year hydrostatic test is to ensure structural integrity of the material which cannot be verified via visual inspection.		

Section	PI	PAGE	DISPOSITION
13.10.2	167		Create First Revision
Proposed Text (PI)	13.10.2 Inspection. Air compressors and nitrogen generators dedicated to water-based fire protection systems shall be inspected monthly to verify the following: 1. Air compressor or nitrogen generator is free of physical damage. 2. Power wiring to the air compressor is intact and free of physical damage. 3. Piping from the air compressor or nitrogen generator to the fire protection system is intact and free of physical damage. 4. The means of anchoring the air compressor or nitrogen generator to the structure or to the system piping is secure, tight, and free of physical damage.		

	5. Air compressors requiring oil have the required amount of oil in the oil reservoir. ~~5.~~6. Vapor phase corrosion inhibitor equipment is intact and free of physical damage.
Committee Text (FR)	13.10.2 Inspection. Air compressors and nitrogen generators dedicated to water-based fire protection systems shall be inspected monthly to verify the following: 1. Air compressor or nitrogen generator is free of physical damage. 2. Power wiring to the air compressor is intact and free of physical damage. 3. Piping from the air compressor or nitrogen generator to the fire protection system is intact and free of physical damage. 4. The means of anchoring the air compressor or nitrogen generator to the structure or to the system piping is secure, tight, and free of physical damage. 5. Air compressors requiring oil have the required amount of oil in the oil reservoir. 6. Vapor corrosion inhibitor equipment is intact and free of physical damage.
Statement	Aligns with new NFPA 13 allowance for Vapor Corrosion Inhibitor equipment.

Section	PI	PAGE	DISPOSITION
New 13.10.4.3	168		Create First Revision
Proposed Text (PI)	**13.10.4.3** Vapor phase corrosion inhibitors shall be maintained in accordance with the manufacturer's instructions.		

Committee Text (FR)	**13.10.4.3** Vapor corrosion inhibitors shall be maintained in accordance with the manufacturer's instructions.
Statement	Aligns with new NFPA 13 allowance for Vapor Corrosion Inhibitor equipment.

Section	PI	PAGE	DISPOSITION
New 14.2.1.1.1	66		Resolve
Proposed Text (PI)	**14.2.1.1.1** Internal examination shall be performed at the following minimum five point: (1) System valve or water control valve, where provided (2) Cross main – most remote end of remote cross main (3) Branch line near the most remote line at connection to cross main (4) Branch line near the most remote line at end of branch line ~~(1)~~(5) Branch line piping directly connected to the most remote low point drain		
Committee Text (FR)			
Statement	Internal examination at these points are required per 14.3. The internal assessment can be performed by various other means.		

Section	PI	PAGE	DISPOSITION
New 14.2.1.6	142		Create First Revision

Proposed Text (PI)	14.2.1.6* Antifreeze loops connected to a wet pipe sprinkler system shall not be required to comply with Section 14.2 A.14.2.1.6 Antifreeze loops connected to a wet pipe sprinkler system should not require an internal assessment because other portions of the system (cross main and branch line) can be used to meet the requirements of Section 14.2. Standalone antifreeze systems should be drained to conduct the internal assessment and the solution placed back into the system without replacing the antifreeze solution provided it meets the requirements outlined in Section 5.3.4.
Committee Text (FR)	14.2.1.6* Antifreeze systems not exceeding 40 gal. connected to a wet pipe sprinkler system shall not be required to comply with Section 14.2 A.14.2.1.6 Antifreeze systems connected to a wet pipe sprinkler system should not require an internal assessment because other portions of the system (cross main and branch line) can be used to meet the requirements of Section 14.2. Standalone antifreeze systems should be drained to conduct the internal assessment and the solution placed back into the system without replacing the antifreeze solution provided it meets the requirements outlined in Section 5.3.4.
Statement	Draining the antifreeze can take extensive time and resources as well as there is the possibility of spillage and contamination of the solution.

Section	PI	PAGE	DISPOSITION
14.3.1	67		Resolve
Proposed Text (PI)	14.3.1* An obstruction investigation shall be conducted for system or yard main piping wherever any of the following conditions exist: (1) Defective intake for fire pumps taking suction from open bodies of water (2) Discharge of obstructive material during routine water tests (3) Foreign materials in fire pumps, dry pipe valves, or check valves (4) Foreign material in water during drain tests or plugging of inspector's test connection(s) (5) Unknown materials heard in the system piping during draining, refilling, or otherwise flowing water through the system (6) Plugged sprinklers (7) Foreign organic or inorganic material with the potential to obstruct pipe or sprinklers found in the pipe (8) Failure to flush yard piping or surrounding public mains following new installations or repairs (9) Record of broken public mains in the vicinity (10) Abnormally frequent false tripping of a dry pipe valve(s) (11) System returned to service after an extended shutdown (i.e., greater than 1 year)		

	(12) Reason to believe that the sprinkler system contains sodium silicate or highly corrosive fluxes in copper systems (13) System supplied with raw water via the fire department connection (14) Leakage caused by internal corrosion (15) *A 25 percent ~~increase~~ change or a 5-second ~~increase~~ change for portions of systems protecting dwelling units in the total water delivery time for dry pipe systems and double interlock preaction systems, with normal air pressure on the system and starting at the time of fully opened inspection test connection, when compared to the original system acceptance test (16) *Failure to maintain a nitrogen supply, except in instances of preplanned impairments, installed in accordance with NFPA 13 when a Hazen-Williams *C* value of 120 is used for dry and preaction systems.
Committee Text (FR)	
Statement	Decrease in water transit time should not be an indicator warranting an obstruction investigation.

Section	PI	PAGE	DISPOSITION
14.3.1	92		Resolve
Proposed Text (PI)	14.3.1* An obstruction investigation shall be conducted for system or yard main piping wherever any of the following conditions exist: (1) Defective intake for fire pumps taking suction from open bodies of water		

	(2) Discharge of obstructive material during routine water tests (3) Foreign materials in fire pumps, dry pipe valves, or check valves (4) Foreign material in water during drain tests or plugging of inspector's test connection(s) (5) Unknown materials heard in the system piping during draining, refilling, or otherwise flowing water through the system (6) Plugged sprinklers (7) Foreign organic or inorganic material with the potential to obstruct pipe or sprinklers found in the pipe (8) Failure to flush yard piping or surrounding public mains following new installations or repairs (9) Record of broken public mains in the vicinity (10) Abnormally frequent false tripping of a dry pipe valve(s) (11) System returned to service after an extended shutdown (i.e., greater than 1 year) (12) Reason to believe that the sprinkler system contains sodium silicate or highly corrosive fluxes in copper systems (13) System supplied with raw water via the fire department connection (14) Leakage caused by internal corrosion (15) *A 25 percent increase or a 5-second increase for portions of systems protecting dwelling units in the total water delivery time for dry pipe systems and double interlock preaction systems, with normal air pressure on the system and starting at the time of fully opened inspection test connection, when compared to the original system acceptance test (16) *Failure to maintain a nitrogen supply, except in instances of preplanned impairments, installed in accordance with NFPA 13 when a Hazen-Williams *C* value of 120 is used for dry and preaction systems.

	~~(16)~~(17) Ice is observed in dry pipe or preaction sprinkler system piping.
Committee Text (FR)	
Statement	NFPA 25 is a minimum standard. It is not uncommon to find small quantities of ice in a dry pipe and preaction systems which should not create a requirement for an obstruction investigation.

Section	PI	PAGE	DISPOSITION
14.3.1	115		Create First Revision
Proposed Text (PI)	14.3.1* An obstruction investigation shall be conducted for system or yard main piping wherever any of the following conditions exist: (1) Defective intake for fire pumps taking suction from open bodies of water (2) Discharge of obstructive material during routine water tests (3) Foreign materials in fire pumps, dry pipe valves, or check valves (4) Foreign material in water during drain tests or plugging of inspector's test connection(s) (5) Unknown materials heard in the system piping during draining, refilling, or otherwise flowing water through the system (6) Plugged sprinklers (7) Foreign organic or inorganic material with the potential to obstruct pipe or sprinklers found in the pipe (8) Failure to flush yard piping or surrounding public mains following new installations or repairs (9) Record of broken public mains in the vicinity		

	(10) Abnormally frequent false tripping of a dry pipe valve(s) (11) System returned to service after an extended shutdown (i.e., greater than 1 year) (12) Reason to believe that the sprinkler system contains sodium silicate or highly corrosive fluxes in copper systems (13) System supplied with raw water via the fire department connection ~~(14)~~ Leakage caused by internal corrosion ~~(15)~~(14) *A 25 percent increase or a 5-second increase for portions of systems protecting dwelling units in the total water delivery time for dry pipe systems and double interlock preaction systems, with normal air pressure on the system and starting at the time of fully opened inspection test connection, when compared to the original system acceptance test ~~(16)~~(15) *Failure to maintain a nitrogen supply, except in instances of preplanned impairments, installed in accordance with NFPA 13 when a Hazen-Williams *C* value of 120 is used for dry and preaction systems.
Committee Text (FR)	14.3.1* An obstruction investigation shall be conducted for system or yard main piping wherever any of the following conditions exist: 1. Defective intake for fire pumps taking suction from open bodies of water 2. Discharge of obstructive material during routine water tests 3. Foreign materials in fire pumps, dry pipe valves, or check valves 4. Foreign material in water during drain tests or plugging of inspector's test connection(s) 5. Unknown materials heard in the system piping during draining, refilling, or otherwise flowing water through the system 6. Plugged sprinklers

	7. Foreign organic or inorganic material with the potential to obstruct pipe or sprinklers found in the pipe 8. Failure to flush yard piping or surrounding public mains following new installations or repairs 9. Record of broken public mains in the vicinity 10. Abnormally frequent false tripping of a dry pipe valve(s) 11. System returned to service after an extended shutdown (i.e., greater than 1 year) 12. Reason to believe that the sprinkler system contains sodium silicate or highly corrosive fluxes in copper systems 13. System supplied with raw water via the fire department connection 14. Pinhole leaks or leakage caused by internal corrosion 15. *A 25 percent increase or a 5-second increase for portions of systems protecting dwelling units in the total water delivery time for dry pipe systems and double interlock preaction systems, with normal air pressure on the system and starting at the time of fully opened inspection test connection, when compared to the original system acceptance test 16. *Failure to maintain a nitrogen supply, except in instances of preplanned impairments, installed in accordance with NFPA 13 when a Hazen-Williams *C* value of 120 is used for dry and preaction systems.
Statement	Pinhole leaks are an early indicator of internal corrosion and should indicate a requirement for an internal investigation.

Section	PI	PAGE	DISPOSITION
14.3.1	116		Create First Revision
Proposed Text (PI)	14.3.1*		

	An obstruction investigation shall be conducted for system or yard main piping wherever any of the following conditions exist: (1) Defective intake for fire pumps taking suction from open bodies of water (2) Discharge of obstructive material during routine water tests (3) Foreign materials in fire pumps, dry pipe valves, or check valves (4) Foreign material in water during drain tests or plugging of inspector's test connection(s) (5) Unknown materials heard in the system piping during draining, refilling, or otherwise flowing water through the system (6) Plugged sprinklers (7) Foreign organic or inorganic material with the potential to obstruct pipe or sprinklers found in the pipe (8) Failure to flush yard piping or surrounding public mains following new installations or repairs (9) Record of broken public mains in the vicinity (10) Abnormally frequent false tripping of a dry pipe valve(s) (11) System returned to service after an extended shutdown (i.e., greater than 1 year) (12) Reason to believe that the sprinkler system contains sodium silicate or highly corrosive fluxes in copper systems (13) System supplied with raw water via the fire department connection (14) Leakage caused by internal corrosion (15) *A 25 percent increase or a 5-second increase for portions of systems protecting dwelling units in the total water delivery time for dry pipe systems and double interlock preaction systems, with normal air pressure on the system and

	starting at the time of fully opened inspection test connection, when compared to the original system acceptance test ~~(16) *Failure to maintain a nitrogen supply, except in instances of preplanned impairments, installed in accordance with NFPA 13 when a Hazen-Williams *C* value of 120 is used for dry and preaction systems.~~
Committee Text (FR)	14.3.1* An obstruction investigation shall be conducted for system or yard main piping wherever any of the following conditions exist: 1. Defective intake for fire pumps taking suction from open bodies of water 2. Discharge of obstructive material during routine water tests 3. Foreign materials in fire pumps, dry pipe valves, or check valves 4. Foreign material in water during drain tests or plugging of inspector's test connection(s) 5. Unknown materials heard in the system piping during draining, refilling, or otherwise flowing water through the system 6. Plugged sprinklers 7. Foreign organic or inorganic material with the potential to obstruct pipe or sprinklers found in the pipe 8. Failure to flush yard piping or surrounding public mains following new installations or repairs 9. Record of broken public mains in the vicinity 10. Abnormally frequent false tripping of a dry pipe valve(s) 11. System returned to service after an extended shutdown (i.e., greater than 1 year) 12. Reason to believe that the sprinkler system contains sodium silicate or highly corrosive fluxes in copper systems 13. System supplied with raw water via the fire department connection 14. Leakage caused by internal corrosion 15. *A 25 percent increase or a 5-second increase for portions of systems protecting dwelling units in the total water delivery time for dry pipe systems and double interlock

	preaction systems, with normal air pressure on the system and starting at the time of fully opened inspection test connection, when compared to the original system acceptance test 16. Where the original system design included a nitrogen supply, in accordance with NFPA 13 utilizing Hazen-Williams c-value 120 and the nitrogen supply has been permanently removed or disabled.
Statement	Revised language clarified the condition where the removal of a nitrogen supply would require an obstruction investigation.

Section	PI	PAGE	DISPOSITION
14.4	14		Resolve
Proposed Text (PI)	14.4 Ice Obstruction. Dry pipe or preaction sprinkler system piping that protects or passes through refrigerated spaces maintained at temperatures below 32°F (0°C) shall be inspected internally on an annual basis for ice obstructions at the point where the piping enters the refrigerated area. **14.4.1** Where a listed dry air compressor or a listed nitrogen generator are used, the ice obstruction investigation shall be permitted to be performed every 3 years. 14.4.~~1~~ 2 Alternative nondestructive examinations shall be permitted. 14.4.~~2~~ 3 All penetrations into the refrigerated spaces shall be inspected and, if an ice obstruction is found, additional pipe shall be examined to ensure that no additional ice obstructions or ice blockages exist.			

Committee Text (FR)	
Statement	Listed dry air compressor or Listed nitrogen generator does not necessarily justify extending the inspection period.

Section	PI	PAGE	DISPOSITION
14.4	88		Create First Revision
Proposed Text (PI)	14.4.1 Dry pipe or preaction sprinkler system piping that protects or passes through refrigerated spaces maintained at temperatures below 32°F (0°C) shall be inspected internally on an annual basis for ice obstructions at the point where the piping enters the refrigerated area.		
Committee Text (FR)	14.4.1 Dry pipe or preaction sprinkler system piping that protects or passes through refrigerated spaces maintained at temperatures below 32°F (0°C) shall be inspected internally on an annual basis for ice obstructions at the point where the piping enters the refrigerated area.		
Statement	Editorial – manner of style		

Section	PI	PAGE	DISPOSITION
14.4.1	89		Create First Revision
Proposed Text (PI)	14.4.~~1~~ 2 Alternative nondestructive examinations shall be permitted.		
Committee Text (FR)	14.4.2 Alternative nondestructive examinations shall be permitted.		

Statement	Editorial – manner of style

Section	PI	PAGE	DISPOSITION
14.4.2	90		Create First Revision
Proposed Text (PI)	14.4.~~2~~ 3 All penetrations into the refrigerated spaces shall be inspected and, if an ice obstruction is found, additional pipe shall be examined to ensure that no additional ice obstructions or ice blockages exist.		
Committee Text (FR)	14.4.3 All penetrations into the refrigerated spaces shall be inspected and, if an ice obstruction is found, additional pipe shall be examined to ensure that no additional ice obstructions or ice blockages exist.		
Statement	Editorial – manner of style		

Section	PI	PAGE	DISPOSITION
14.4.3	91		Resolve
Proposed Text (PI)	14.4.3 An obstruction investigation shall be conduted when ice is observed in dry pipe or preaction sprinkler system piping.		
Committee Text (FR)			
Statement	This would be a redundant requirement… reference section 14.4.2. Committee suggestion as Annex language.		

Section	PI	PAGE	DISPOSITION
15.4.2	193		Resolve
Proposed Text (PI)	15.4.2 The impaired equipment shall include, but shall not be limited to, the following: (1) Sprinkler systems (2) Standpipe systems (3) Fire hose systems (4) Underground fire service mains (5) Fire pumps (6) Water storage tanks (7) Water spray fixed systems (8) ~~Foam~~Agent-water sprinkler systems (9) Water mist systems (10) Fire service control valves (11) Water supply		
Committee Text (FR)			
Statement	NFPA 18 and 18A are not water-based system installation standards. Within 18 it references NFPA 13, NFPA 14, and NFPA 15 as acceptable system to utilize wetting agents. NFPA 11 is not referenced, and it is inappropriate to replace "agent" for "foam" one for one. NFPA 18 requires "wetting agents" to be tested annually. NFPA 25 does not need to address this. NFPA 18 already covers everything within its scope: 10.2 Inspection of Wetting		

	Agent Concentrate. Annually, samples of wetting agent concentrate shall be sent to the manufacturer or qualified laboratory for quality condition testing.

Section	PI	PAGE	DISPOSITION
A.13.2.2	98		Resolve
Proposed Text (PI)	A.13.2.2 Assessing the status of a water supply is a critical component of the inspection, testing, and maintenance process. One common method for conducting this assessment is a main drain test. Main drains are installed on system risers for one principal reason: to drain water from the overhead piping after the system is shut off. This allows the contractor or plant maintenance department to perform work on the system or to replace nozzles after a fire or other incident involving system operation. Data collected from the suction gauges during a fire pump flow test, that tests the water supply, would satisfy the requirements for a main drain test. These drains also are used to determine whether there is a major reduction in water flow to the system, such as could be caused by a major obstruction, a dropped gate, a valve that is almost fully closed, or a check valve clapper stuck to the valve seat. A satisfactory main drain test (i.e., one that reflects the results of previous tests) does not necessarily indicate an unobstructed passage, nor does it prove that all valves in the upstream flow of water are fully opened. However, these tests provide a reasonable level of confidence that the water supply has not been compromised. The main drain test is conducted in the following manner: (1) Record the pressure indicated by the supply water gauge. (2) Close the alarm control valve on alarm valves. (3) Fully open the main drain valve.		

	(4) After the flow has stabilized, record the residual (i.e., flowing) pressure indicated by the water supply gauge. (5) Close the main drain valve slowly. ~~(5)~~(6) Record the rebound pressure and time.
Committee Text (FR)	
Statement	See PI 97

Section	PI	PAGE	DISPOSITION
A.14.3.1(15)	68		Resolve
Proposed Text (PI)	A.14.3.1(15) When the original system acceptance test results are not available, the following water delivery times should be used to determine when an obstruction investigation is warranted: (1) Portions of systems protecting dwelling units: 20 seconds or greater (2) Ordinary hazard: 63 seconds or greater with a test manifold simulating two open sprinklers (3) Extra hazard: 56 seconds or greater with a test manifold simulating four open sprinklers (4) High-piled storage: 50 seconds or greater with a test manifold simulating four open sprinklers (5) All other hazards with a test connection equal to a single sprinkler: 75 seconds or greater A decrease in water delivery time may depict a decrease in system volume due to obstructions, corrosion, or partial freezing. The water delivery time should be relatively stable over time.		

Committee Text (FR)	
Statement	See PI 67

Section	PI	PAGE	DISPOSITION
D.5.1	19		Create First Revision
Proposed Text (PI)	[See Word D ocument 25-2023_Annex_D_D_5_1_PI_19_TG4]		
Committee Text (FR)	See Word Doc. Table D.5.1 and spreadsheet with calculations.		
Statement	Committee modified values to obtain flow rates of 10 ft/sec. for steel pipe.		

Section	PI	PAGE	DISPOSITION
12.2.1.1.1	34		Resolve – Passed – Done in Terra
Proposed Text (PI)	12.2.1.1.1 Any water mist nozzle that shows signs of any of the following shall be replaced: (1) Leakage (2) Corrosion (3) Physical damage, including coating with dirt, grime, grease, or any combination of the contaminants (4) Loss of fluid in the glass bulb heat responsive element ~~(5) *Loading~~ ~~(6)~~(5) Painting, unless painted by the water mist nozzle manufacturer		
Committee Text (FR)			
Statement	Loading is a commonly used term within the industry to describe the collection of dirt, grease, grime and other contaminants on a sprinkler or water discharge nozzle. Physical damage is not considered loading and they should not be grouped together.		

Section	PI	PAGE	DISPOSITION
12.2.1.1.1	None		Create First Revision – Create FR – Done in Terra
Proposed Text (PI)			
Committee Text (FR)	12.2.1.1.1 * Any water mist nozzle that shows signs of any of the following shall be replaced: (1) Leakage (2) Corrosion detrimental to nozzle performance (3) Physical damage (4) Loss of fluid in the glass bulb heat responsive element (5) *Loading detrimental to nozzle performance (6) Painting, other than that applied by the nozzle manufacturer detrimental to nozzle performance. ~~unless painted by the water mist nozzle manufacturer~~ **A.12.2.1.1.1** See A.5.2.1.1.1.		
Statement	These revisions provide consistency with sprinkler requirements in Chapter 5.		

Section	PI	PAGE	DISPOSITION
12.2.1.1.4	35		Resolve – Passed – Done in Terra
Proposed Text (PI)	12.2.1.1.4 ~~Water mist nozzles installed in concealed spaces such as above suspended ceilings shall not require inspection.~~		
Committee Text (FR)			
Statement	Concealed spaces are often inaccessible for inspection from the floor and could require damaging the building environment to access the nozzle. These provisions are consistent with the requirements for sprinklers in Chapter 5 (See Section 5.2.1.1.3).		

Section	PI	PAGE	DISPOSITION
12.2.1.1.5	36		~~Create First Revision~~ – Resolve – Done in Terra
Proposed Text (PI)	12.2.1.1.5 ~~Water mist nozzles installed in areas that are inaccessible for safety considerations due to process operations shall be inspected during each scheduled shutdown.~~		
Committee Text (FR)	12.2.1.1.5* Water mist nozzles installed in areas that cannot be accessed because of ~~are inaccessible for~~ safety considerations due to process operations shall be inspected annually during ~~each~~ scheduled shutdown~~.~~ A.12.2.1.1.5. Shutdowns not performed in a timely manner to allow annual inspection can be addressed via a performance-based compliance program per Section 4.7.		
Statement	~~Coordination needs to be established were there is safety risk to personnel performing inspections within the facility or equipment during shutdowns annually. Shutdowns not in a timely manner to allow annual inspection can be addressed via performance-based compliance program per Section 4.7.~~ The current section aligns with Chapter 4 and other Chapters and needs to be retained. This aligns with the standard's commitment to inspector safety.		

Section	PI	PAGE	DISPOSITION
12.2.1.1.7	45		Create a First Revision – Create FR – Done in Terra
Proposed Text (PI)	12.2.1.1.7 Open nozzles, including their strainer shall be removed, inspected, and cleaned after the discharge of water from installed nozzles. ~~during the flushing procedure for the mainline strainer.~~		
Committee Text (FR)	12.2.1.1.7 Open nozzles, including their strainers, shall be removed, inspected, and cleaned after the discharge of water from installed nozzles. ~~during the flushing procedure for the mainline strainer.~~		
Statement	The inspection and cleaning of nozzles and strainers is required after any water flow through the system and is not limited to occurrences of system flushing. A water mist nozzle has a higher risk of obstructive material clogging the orifices.		

Section	PI	PAGE	DISPOSITION
12.2.2.1	49, 53		Create a First Revision – Create FR – Done in Terra
Proposed Text (PI)	[PI-49] 12.2.2.1 Mainline strainers and filters shall be ~~flushed until clear~~ inspected and cleaned after each operation or flow test. [PI-53] 12.2.2.1 ~~Mainline~~ System strainers and filters located downstream of the main system control valve shall be flushed until clear after each operation or flow test.		
Committee Text (FR)	~~12.2.2.1~~ ~~Mainline strainers and filters shall be flushed until clear after each operation or flow test.~~		
Statement	This is a testing requirement covered by 12.3.3.		

Section	PI	PAGE	DISPOSITION
12.3.2.1	61		~~Create First Revision~~ Create FR using the submitters proposed text in PI 61 – Done in Terra
Proposed Text (PI)	12.3.2.1 Water mist nozzles installed to protect spray areas and mixing rooms in resin application areas without protective coverings shall be capable to operate and protect the hazard with an overspray residue in the event of a fire.		
Committee Text (FR)	12.3.2.1 Protective Coverings. 12.3.2.1.1 Water mist nozzles installed to protect spray areas and mixing rooms in resin application areas with ~~without~~ protective coverings shall continue to be ~~capable~~ protected against ~~to operate and protect the hazard with an~~ overspray residue so that they will operate in the event of a fire. 12.3.2.1.2* Water Mist nozzles installed as described in 12.3.2.1.1 shall be protected using cellophane bags having a thickness of 0.003 in. (0.076 mm) or less or thin paper bags. 12.3.2.1.3 Coverings shall be replaced periodically so that heavy deposits of residue do not accumulate. A.12.3.2.1.2 See A.5.4.1.10.1.		
Statement	~~Provides consistent provision with Chapter 5 regarding protective coverings of sprinkler and nozzles.~~ This provides clarification as to the types of application areas.		

Section	PI	PAGE	DISPOSITION
12.3.3	55		Create a First Revision – Create FR – Done in Terra
Proposed Text (PI)	12.3.3 Strainers and Filters. ~~Mainline~~ Systems strainers (basket or screen) located downstream of the system control valve shall be flushed until clear after each operation or flow test.		
Committee Text (FR)	12.3.3 Strainers and Filters. ~~Mainline~~ System strainers (basket or screen) shall be flushed until clear after each operation or flow test.		
Statement	System strainers are to be flushed after each operation regardless of location. The use of the term system strainers is consistent with NFPA 750.		

Section	PI	PAGE	DISPOSITION
12.3.16	37		Create First Revision Create FR including changes form actions on PI37 and 50 – Done in Terra
Proposed Text (PI)	12.3.16 Water Mist System. Water mist systems shall be operated annually including a complete system discharge in accordance with the manufacturer's instructions.		
Committee Text (FR)	12.3.16 Water Mist System with Open Nozzles. Water mist systems shall be operated annually in accordance with section 12.3.16.1 through 12.3.16.8 and the manufacturer's instructions.		
Statement	The title was revised to clarify the section is applicable to open nozzle systems. The subsections include conditions for when water flow is not possible.		

Section	PI	PAGE	DISPOSITION
12.3.16.2.1	50		Create First Revision
Proposed Text (PI)	12.3.16.2.1 Where the nature of the protected property is such that water cannot be discharged into the occupancy or onto the hazard, an operational test shall be conducted from a test connection ~~with an orifice~~ to validate a flow equivalent to ~~the friction loss for~~ or greater than the flow produced from the total number of nozzles.		
Committee Text (FR)	12.3.16.2.1 Where the nature of the protected property is such that water cannot be discharged into the occupancy or onto the hazard, an operational test shall be conducted from a test connection with an orifice that is designed to simulate the flow rate equivalent to or greater than the flow produced from the total number of nozzles within the protected space. ~~to validate a flow equivalent to the friction loss for or greater than the flow produced from the total number of nozzles.~~		
Statement	This clarifies how to conduct the test and provides an alternate method of discharging water in the scenario where normal discharge would damage equipment.		

Section	PI	PAGE	DISPOSITION
12.4.1.8	51		Resolve – Passed – Done in Terra
Proposed Text (PI)	12.4.1.8 ~~Annually, a w~~Water mist systems with open nozzles shall be ~~flushed~~operated annually, including a complete system discharge in accordance with the manufacturer' instructions.		
Committee Text (FR)			
Statement	Flushing is a Maintenance task that is covered within section 12.4. The proposed text is applicable to testing which is covered under 12.3.16.		

Section	PI	PAGE	DISPOSITION
8.3.5.8	33, 190		Create First Revision – Create FR – Done in Terra
Proposed Text (PI)	8.3.5.8 ~~Annual~~ Activation Test for Water Mist Positive Displacement Pumping Units. 8.3.5.8.1 Annually, and after every system modification, an automatic activation test for systems with automatic nozzles shall be conducted using a test connection that simulates the smallest system nozzle in the hydraulically most remote area discharged at system maintenance pressure/standby pressure. 8.3.5.8.2 The pumping unit shall achieve the system design discharge pressure within the time specified in the listing but not greater than 60 seconds after the start of flow from the smallest nozzle.		
Committee Text (FR)	8.3.5.8 ~~Annual~~ Activation Test for Water Mist Positive Displacement Pumping Units. 8.3.5.8.1 Annually and after every system modification, an automatic pump activation test for systems with automatic nozzles shall be conducted using one of the following methods: 1) A test connection that simulates the smallest system nozzle in the hydraulically most remote area discharged at system maintenance pressure/standby pressure. 2) * ~~a~~A test orifice in the pump header that is designed to simulate the flow rate discharged from the smallest nozzle K-factor in the most hydraulically remote area. A.8.3.5.8.1(2) The intent of this test is to verify the timely operation of the pumping unit to achieve the system design pressure when the smallest nozzle in the hydraulically most remote area is activated. It is not the intent of		

	this section to require the orifice to be located in the most remote location of the system. The test orifice at the pump test header is designed by the system manufacturer to simulate the flow rate from the smallest nozzle ~~k~~K-factor in the most hydraulically remote area. The orifice is to account for friction loss and elevation. ~~Annually, an automatic activation test for systems with automatic nozzles shall be conducted using a test connection that simulates the smallest system nozzle in the hydraulically most remote area discharged at system maintenance pressure/standby pressure.~~ 8.3.5.8.2 The pumping unit shall achieve the system design discharge pressure within the time specified in the listing but not greater than 60 seconds after the start of flow from the smallest nozzle.
Statement	The changes describe options for how the pumping unit can be evaluated to demonstrate that it can achieve the system design pressure.

New Technology?

VAPOR Pipe Shield

- Fully Pneumatic & Mechanical
- No Electrical Connections
- Easy To Install & Maintain
- Efficient & Effective
- Minimal Air Flow Loss
- Environmentally Safe
- Patented & UL Listed
- LOW COST…

GENERAL AIR PRODUCTS

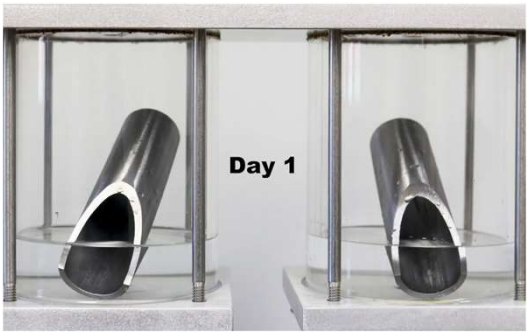
Courtesy of Ray Fremont, Jr., General Air Products

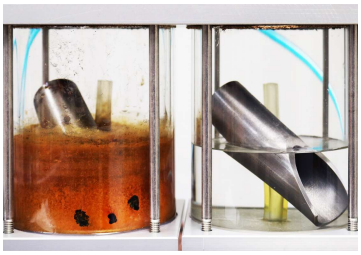
TERPconsulting fire + life safety

1

Vapor Corrosion Inhibitor

How can corrosion control in dry-pipe & preaction sprinkler systems be simplified?





GENERAL AIR PRODUCTS

2 Years Later…

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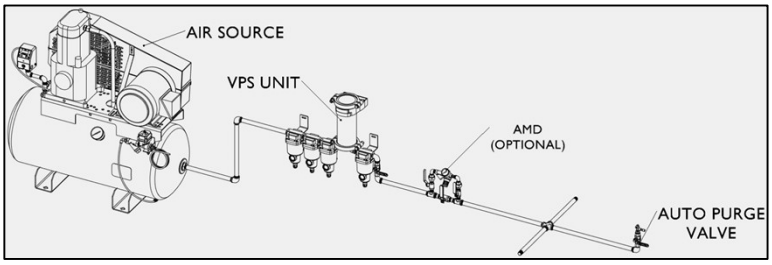
2

Vapor Corrosion Inhibitor

Vapor Pipe Shield™ – How Does it Work?



Vapor Pipe Shield is a delivery device for VPCI Corrosion Inhibitor connected to Dry & Pre-Action systems between the air compressor & the dry pipe valve or air maintenance device.

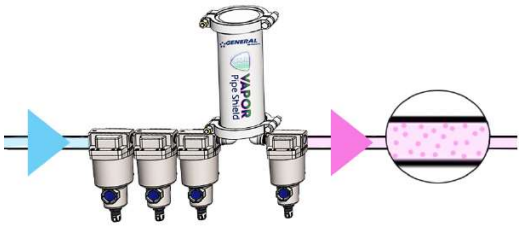
Courtesy of Ray Fremont, Jr., General Air Products

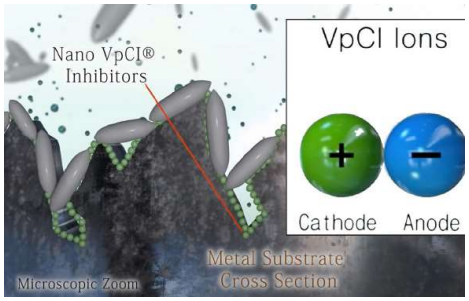
TERPconsulting fire + life safety

3

Vapor Phase Corrosion Inhibitor

Vapor Pipe Shield™ – How Does it Work?





VpCI Molecules attach to the metal pipe. They form a ONE MOLECULE LAYER or shield that acts as a barrier between the metal pipe surface and the corrosive environment inside the pipe.

Courtesy of Ray Fremont, Jr., General Air Products

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4

Vapor Phase Corrosion Inhibitor

TOXSERVICES
TOXICOLOGY RISK ASSESSMENT CONSULTING

TOXICOLOGICAL RISK ASSESSMENT REPORT
DOCUMENT STATUS
REVISED DRAFT FOR CLIENT (v.3)

REPORT TITLE Vapor Pipe Shield Formulation for Sprinkler Systems: ANSI/CAN/UL 2901 Human Health and Environmental Risk Assessment

PRODUCT NAME Vapor Pipe Shield

PREPARED BY ToxServices LLC
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Contains Confidential Business Information — General Air Products

ToxServices assessed risks of adverse localized and systemic human health effects and environmental impacts from General Air Products' Vapor Pipe Shield formulation when used in dry pipe or preaction fire sprinkler systems in order to assess compliance of this formulation with the Section 17 (Toxicity) requirements of ANSI/CAN/UL Standard 2901 (Antifreeze Solutions for Use in Fire Sprinkler Systems) (UL 2019). The powdered Vapor Pipe Shield formulation generates a vapor that permeates dry pipe sprinkler system components. ToxServices evaluated three of the four exposure scenarios required under Section 17 of ANSI/CAN/UL 2901 as part of the risk assessment of the Vapor Pipe Shield formulation vapor:

- Exposure Scenario 1: Release into potable water (*not assessed by ToxServices due to physical form of product*);
- Exposure Scenario 2: Release into an occupied space during sprinkler discharge;
- Exposure Scenario 3: Release into an occupied space during commissioning phase of the system and operation of a relief valve; and
- Exposure Scenario 4: Release into the natural environment.

Although ANSI/CAN/UL Standard 2901 requires assessment of antifreeze release into potable water (through a backflow device), Exposure Scenario 1 is not relevant for a vapor-phase corrosion inhibiter used in dry pipe or preaction sprinkler systems.

5

Understanding How Leak Rates Effect Your Air Supply Equipment

Sample Dry System at Commissioning (New System):

- Largest Riser: 2000 gallons
- Number of Risers: 4
- System Pressure: 40 psi
- Total System Capacity: 5000 gallons
- Total System Volume: 2487.2 cubic feet @ pressure

New System Allowable Leak Rate: 1.5 psi per day
System Volume Loss: 0.047 CFM (0.151 CFM w/ purge or N2 monitoring)

Minimal Air Flow Loss with Vapor Pipe Shield




Correctly Sized Membrane Nitrogen Generator	Correctly Sized PSA Nitrogen Generator	Correctly Sized Dry Air Generator	Correctly Sized Fire Protection Air Compressor With Vapor Pipe Shield
0.6 CFM	0.88 CFM	21 CFM	19 CFM

Courtesy of Ray Fremont, Jr., General Air Products

6

NFPA 13 Changes

- SR-1065 – Adds new Definition 3.3.242 and A.3.3.242

Second Revision No. 1065-NFPA 13-2023 [New Section after 3.3.241]

3.3.242* Vapor Corrosion Inhibitor (VCI).

A chemical compound (substance) that emits rust-inhibiting vapor to protect ferrous and non-ferrous metals against corrosion in an air-filled dry pipe or preaction sprinkler systems. (AUT-SSI)

A.3.3.242 Vapor Corrosion Inhibitor (VCI).

VCIs are also referred to as vapor phase corrosion inhibitors, volatile corrosion inhibitors, and vapor phase inhibitors (VPI). All of these terms relate to a specific class of corrosion inhibitors. The inhibitor forms a thin protective layer through adsorption separating the pipe from the air or water and provides protection against corrosion. Other classifications include passivating (anodic), cathodic, organic, and precipitation inhibitors. VCIs are appropriate for atmospheric or gaseous corrosion. This is corrosion happening in the air-filled portion of the sprinkler system containing water vapor. Corrosion will occur when the relative humidity is greater than 60%. VCIs can also provide protection in partially aqueous environments (partially water-filled pipes) and aqueous environments (water-filled pipes). VCIs can inhibit anodic reactors, cathodic reactions, or both. VCIs protecting against both anodic and cathodic reactions provide the best level of protection for applications in sprinkler systems. (AUT-SSI)

7

NFPA 13 Changes

- SR-1101 – Adds new A.5.1.4.3

Second Revision No. 1101-NFPA 13-2023 [Section No. 5.1.4.3]

5.1.4.3* Inhibitors.

A.5.1.4.3

Vapor corrosion inhibitors entering a sprinkler system as vapor in the air supply are not part of the water supply. Requirements for air supply are applicable to vapor corrosion inhibitors.

5.1.4.3.1

Where used, listed bacterial inhibitors and/or corrosion inhibitors shall be compatible with system components.

5.1.4.3.2

Where used together, listed bacterial inhibitors and corrosion inhibitors shall be compatible with each other.

8

NFPA 13 Changes

- SR-1062 – Adds new 8.2.11

Second Revision No. 1062-NFPA 13-2023 [New Section after 8.2]

8.2.11 Vapor Corrosion Inhibitor.

8.2.11.1

The vapor corrosion inhibitor shall be from a listed assembly permanently installed in accordance with the manufacturer's instructions.

8.2.11.2

The vapor corrosion inhibitor equipment shall be maintained in accordance with Chapter 32 and manufacturer's instructions.

8.2.11.3

A means of verifying vapor concentration shall be provided for each system.

9

NFPA 13 Changes

- SR-1052 – Adds new 16.4.5.(7)
- Relocated from 5.1.4.2.2 as part of FR-1079

Second Revision No. 1052-NFPA 13-2023 [Section No. 16.4.2.5]

16.4.2.5

Where conditions are found or are known to exist that contribute to unusual corrosive properties, the owner(s) shall notify the sprinkler system installer, and a plan shall be developed to treat the system using at least one of the following methods:

(1) Install system piping that is corrosion resistant.

(2) Treat water that enters the system using a listed corrosion inhibitor.

(3) Implement an approved plan for monitoring the interior conditions of the pipe at established intervals and locations.

(4) Install approved corrosion monitoring stations and monitor at established intervals.

(5) Fill dry-pipe or preaction systems with at least 98 percent pure nitrogen in lieu of air to mitigate against corrosion.

(6) Use a listed nitrogen generator that is sized and installed in accordance with the manufacturer's instructions.

(7) Use a listed vapor corrosion inhibitor delivery system sized and installed in accordance with the manufacturer's instructions.

10

NFPA 13 Changes

- SR-1170 – Adds new 28.3.4.8.1(16)
- Modifies Table 23.4.8.1

Second Revision No. 1170-NFPA 13-2023 [Section No. 28.3.4.8.1]

Pipe friction loss shall be calculated in accordance with the Hazen–Williams formula with *C* values from Table 28.3.4.8.1, as follows:

(1) Pipe, fittings, flexible sprinkler hose fittings, and devices such as valves, meters, flow switches ~~in pipes 2 in. (50 mm) or less in size,~~ and strainers shall be included, and elevation changes that affect the sprinkler discharge shall be calculated.

(2) Tie-in drain piping shall not be included in the hydraulic calculations.

(3) Losses for a tee or a cross shall be calculated where flow direction change occurs based on the equivalent pipe length of the piping segment in which the fitting is included.

(4) The tee at the top of a riser nipple shall be included in the branch line, the tee at the base of a riser nipple shall be included in the riser nipple, and the tee or cross at a cross main–feed main junction shall be included in the cross main.

(5) Losses for straight-through flow in a tee or cross shall not be included.

(6) The loss of reducing elbows based on the equivalent length value of the smallest outlet shall be calculated.

(7) The equivalent length value for the standard elbow on any abrupt 90-degree turn, such as the screw-type pattern, shall be used.

(8) The equivalent length value for a fitting with a bushing shall be the same as for a similarly sized and configured reducing fitting.

(9) The equivalent length value for the long-turn elbow on any sweeping 90-degree turn, such as a flanged, welded, or mechanical joint-elbow type, shall be used. *(See Table 28.3.3.1.1.)*

(10) Losses shall be permitted to be excluded for tapered reducers.

(11) Losses shall be permitted to be excluded for a fitting with or without a bushing, directly connected to a sprinkler, except as required in 28.3.3.1.2 and 28.3.3.4.

(12) Losses for flexible sprinkler hose fittings shall be based upon the number of bends referenced in the listing for the hose length.

(13) Losses through a pressure-reducing valve shall be included based on the normal inlet pressure condition, and pressure loss data from the manufacturer's literature shall be used.

(14) In new systems, an increased *C* value of 120 shall be permitted where nitrogen is provided in accordance with 8.2.10.

(15) In new systems, an increased *C* value of 120 shall be permitted where vacuum pressure is provided in accordance with Section 8.11

(16) In new systems, an increased *C* value of 120 shall be permitted where a vapor corrosion inhibitor is provided in accordance with Section 8.11

11

NFPA 13 Changes

- SR-1170 – Adds new 28.3.4.8.1(16)
- Modifies Table 23.4.8.1

Second Revision No. 1170-NFPA 13-2023 [Section No. 28.3.4.8.1]

Table 28.3.4.8.1 Hazen–Williams *C* Values

Pipe or Tube	*C* Value[*a]
Unlined cast or ductile iron	100
Black steel (dry systems including preaction)	100
Black steel (wet systems including deluge)	120
Black steel (dry system including preaction) using nitrogen[†b]	120
Black steel (dry system including preaction) using vacuum pressure[c]	120
Black steel (dry system including preaction) using a vapor corrosion inhibitor[d]	120
Galvanized steel (dry systems including preaction)	100
Galvanized steel (wet systems including deluge)	120
Galvanized steel (dry systems including preaction) using vacuum pressure[c]	120
Galvanized steel (dry systems including preaction) using a vapor corrosion inhibitor[d]	120
Plastic all (listed)	150
Cement-lined cast- or ductile iron	140
Copper tube, brass or stainless steel	150
Asbestos cement	140
Concrete	140

[*a] The authority having jurisdiction is permitted to allow other *C* values.

[†b] Nitrogen supply shall be installed in accordance with 8.2.10.

[c] Vacuum pressure shall be installed in accordance with Section 8.11

[d] Vapor corrosion inhibitor shall be installed in accordance with Section 8.11

12

NFPA 25 Public Inputs

- PI-166 – Adds new definition

Public Input No. 166-NFPA 25-2023 [New Section after 3.3.49]

3.3.xx*

Vapor Phase Corrosion Inhibitor (VCI) - a chemical compound (substance) that emits rust-inhibiting vapor to protect ferrous and non-ferrous metals against corrosion in an air-filled dry pipe or preaction sprinkler system. The inhibitor forms a thin protective layer through adsorption separating the pipe from the air or water and provides protection against corrosion.

A.3.3.xxx

VCIs are also referred to as vapor phase corrosion inhibitors, volatile corrosion inhibitors, and vapor phase inhibitors (VPI). All of these terms relate to a specific class of corrosion inhibitors. Other classifications include passivating (anodic), cathodic, organic, and precipitation inhibitors. VCIs are appropriate for atmospheric or gaseous corrosion. This is corrosion happening in the air-filled portion of the sprinkler system containing water vapor. Corrosion will occur when the relative humidity is greater than 60%. VCIs can also provide protection in partially aqueous environments (partially water-filled pipes) and aqueous environments (water-filled pipes). VCIs can inhibit anodic reactors, cathodic reactions, or both. VCIs protecting against both anodic and cathodic reactions provide the best level of protection for applications in sprinkler systems.

13

NFPA 25 Public Inputs

- PI-165 – Adds new section 4.1.4.3

Public Input No. 165-NFPA 25-2023 [New Section after 4.1.4]

4.1.4.3 * .

Where a vapor phase corrosion inhibitor is used as part of the dry pipe or preaction system design in accordance with NFPA 13 , it shall be maintained, repaired, or replaced.

14

NFPA 25 Public Inputs

- PI-169 – Modifies Table 13.1.1.2

Public Input No. 169-NFPA 25-2023 [Section No. 13.1.1.2]

Table 13.1.1.2 shall be used to determine the minimum required frequencies for inspection, testing, and maintenance.

Table 13.1.1.2 Summary of Valves, Valve Components, and Trim Inspection, Testing, and Maintenance

Item	Frequency	Reference
Inspection		
Alarm valves	-	-
Exterior	Quarterly	13.4.1.1
Interior	5 years	13.4.1.2
Strainers, filters, orifices	5 years	13.4.1.2
Backflow prevention assemblies	-	-
Reduced pressure	Weekly	13.7.1
Reduced-pressure detectors	Weekly	13.7.1
Interior	5 years	13.7.1.3
Check valves	-	-
Interior	5 years	13.4.2.1
Control valves	-	-
All valves except locked or supervised	Weekly	13.3.2.1
Locked or supervised	Monthly	13.3.2.1.1
Electrically supervised	Quarterly	13.3.2.1.2
Dry pipe valves/ quick-opening devices	-	-
Enclosure (during cold weather)	—	Chapter 4
Exterior	Monthly	13.4.5.1.2
Interior	Annually	13.4.5.1.3
Strainers, filters, orifices	5 years	13.4.5.1.4
Low temperature alarm	Annually	Chapter 4
Deluge valves	-	-
Enclosure (during cold weather)	Daily/weekly	Chapter 4
Exterior	Monthly	13.4.4.1.1
Interior	Annually/5 years	13.4.4.1.2
Strainers, filters, orifices	5 years	13.4.4.1.3
Fire department connections	Quarterly	13.8.1
Gauges	Monthly/quarterly	13.2.4
Hose valves	Quarterly	13.6.1
Preaction valves	-	-
Enclosure (during cold weather)	—	Chapter 4
Exterior	Monthly	13.4.3.1.1
Interior	Annually/5 years	13.4.3.1.2
Strainers, filters, orifices	5 years	13.4.3.1.3
Pressure-regulating and relief valves	-	-
Master pressure regulating	Weekly	13.5.4.1
Sprinkler system pressure reducing	Quarterly	13.5.1.1
Item	Frequency	Reference

15

NFPA 25 Public Inputs

- PI-169 – Modifies Table 13.1.1.2

Public Input No. 169-NFPA 25-2023 [Section No. 13.1.1.2]

Item	Frequency	Reference
Hose connection pressure regulating	Annually	13.5.2.1
Hose rack pressure regulating	Annually	13.5.3.1
Fire pump circulation relief	With no flow test	13.5.6.1
Fire pump main pressure-relief	With fire pump test	13.5.6.2
Valve supervisory signal initiating device	Quarterly	13.3.2.1.3
Supervisory signal devices (except valve supervisory switches)	Quarterly	13.2.5.1
Air compressors and nitrogen generators	Monthly	13.10.2
Vapor phase corrosion inhibitor	Monthly	13.10.2
Waterflow alarms	Quarterly	13.2.3
Testing		
Backflow prevention assemblies	Annually	13.7.2
Control valves	-	-
Operation and position	Annually	13.3.3.1
Valve status test	After the control valve closed and reopened	13.3.3.4
Supervisory	Semiannually	13.3.3.5
Deluge valves	-	-
Trip test	Annually/3 years	13.4.4.2.3
Dry pipe valves/ quick-opening devices	-	-
Air leakage	3 years	13.4.5.2.9
Priming water	Quarterly	13.4.5.2.1
Low air pressure alarm	Annually	13.4.5.2.6
Quick-opening devices	Quarterly	13.4.5.2.4
Trip test	Annually	13.4.5.2.2
Full-flow trip test	3 years	13.4.5.2.2.2
Gauges	5 years	13.2.4.2
Main drains	Annually/quarterly	13.2.2
Preaction valves	-	-
Priming water	Quarterly	13.4.3.2.1
Low air pressure alarms	Quarterly	13.4.3.2.11
Trip test	Annually/3 years	13.4.3.2.2 and 13.4.3.2.3
Air leakage	3 years	13.4.3.2.6
Low temperature alarm	Annually	13.4.3.2.12
Pressure-regulating and relief valves	-	-
Master pressure regulating	Quarterly/annually	13.5.4.2 and 13.5.4.3
Sprinkler systems pressure reducing	Annually/5 years	13.5.1.3 and 13.5.1.2
Hose connection pressure regulating	Annually/5 years	13.5.2.3 and 13.5.2.2
Hose rack pressure regulating	Annually/5 years	13.5.3.3 and 13.5.3.2
Item	Frequency	Reference

16

NFPA 25 Public Inputs

- PI-169 – Modifies Table 13.1.1.2

Public Input No. 169-NFPA 25-2023 [Section No. 13.1.1.2]

Item	Frequency	Reference
Fire pump circulation relief	With churn test	13.5.6.1.2
Fire pump pressure relief valves	With fire pump test	13.5.6.2.3
Air compressors and nitrogen generators	Annually	13.10.3
Hose valves	Annually/3 years	13.6.2
Waterflow alarms	Semiannually	13.2.3
Supervisory signal devices (except valve supervisory switches)	Annually	13.2.5.2
Maintenance		
Alarm valves	Per manufacturer	13.4.1.3
Backflow prevention assemblies	Per manufacturer	13.7.3
Check valves	Per manufacturer	13.4.2.2
Control valves (outside screw and yoke)	Annually	13.3.4
Deluge valves	Annually/5 years	13.4.4.3
Dry pipe valves/ quick-opening devices	Annually	13.4.5.3
Hose valves	As needed	13.6.3
Preaction valves	Annually/5 years	13.4.3.3
Air compressors and nitrogen generators	Per manufacturer	13.10.4
Vapor phase corrosion inhibitor	Per manufacturer	13.10.4.3

17

NFPA 25 Public Inputs

- PI-168 – Adds new section 13.10.4

Public Input No. 168-NFPA 25-2023 [Section No. 13.10.4]

13.10.4 Maintenance.

13.10.4.1

Air compressors or nitrogen generators dedicated to water-based fire protection systems shall be maintained in accordance with the manufacturer's instructions.

13.10.4.2

Compressors requiring oil shall have the oil replaced on an annual basis unless the manufacturer's instructions require more frequent replacement.

13.10.4.3

Vapor phase corrosion inhibitors shall be maintained in accordance with the manufacturer's instructions.

18

NFPA 25 Public Inputs

- PI-167 – Adds new section 13.10.2(6)

Public Input No. 167-NFPA 25-2023 [Section No. 13.10.2]

13.10.2 Inspection.

Air compressors and nitrogen generators dedicated to water-based fire protection systems shall be inspected monthly to verify the following:

(1) Air compressor or nitrogen generator is free of physical damage.

(2) Power wiring to the air compressor is intact and free of physical damage.

(3) Piping from the air compressor or nitrogen generator to the fire protection system is intact and free of physical damage.

(4) The means of anchoring the air compressor or nitrogen generator to the structure or to the system piping is secure, tight, and free of physical damage.

(5) Air compressors requiring oil have the required amount of oil in the oil reservoir.

(6) (6) Vapor phase corrosion inhibitor equipment is intact and free of physical damage.

19