

# NFPA 25

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CFPS, CFI-I, CEI

- ▶ Depends on the Facility and Jurisdiction

# WHAT EDITION DO I USE?

- ▶ Nebraska and CMS – 2011 from 2002
- ▶ City of Omaha – 2017 from 2011
- ▶ City of Lincoln – 2017 from 2002
- ▶ City of Council Bluffs – 2014 from 2008

# CURRENT EDITIONS

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- ▶ Ultimately the Owner
- ▶ Can be Delegated

# WHOSE RESPONSIBILITY

- ▶ Many items were split into separate requirements and others were relocated.
- ▶ New terms throughout.
- ▶ New Definitions.

# SUMMARY



CHANGES IN OCCUPANCY, USE,  
PROCESS OR MATERIAL





CHANGES IN OCCUPANCY, USE,  
PROCESS OR MATERIAL

- ▶ NEW 4.1.8
- ▶ Requirements for Riser Signage

# INFORMATION SIGN



- ▶ Whole new Section 4.6.6 in the 2017 Edition
- ▶ Additional Performance Based Requirements in 2017
- ▶ Common components relocated to Chapter 13

# 2017 EDITION

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# SPRINKLER SYSTEMS

## Chapter 5

- ▶ Visual Inspection from the Floor – Annually
  - ▶ Exception
    - ▶ Concealed Spaces
    - ▶ Inaccessible

# SPRINKLER HEADS

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- ▶ Only Glycerin shall be used with CPVC Systems

# ANTIFREEZE



- ▶ New requirements for Escutcheons
- ▶ New requirements for storage clearances
- ▶ Gauge inspection changed for wet pipe and deluge to Quarterly
- ▶ Gauges at same area must read within 3%
- ▶ Antifreeze System Several Changes
- ▶ List of Sprinklers Provided

# 2014 CHAPTER 5

- ▶ New requirements for when listed Escutcheons are not available.
- ▶ Signage was added for Antifreeze Systems
- ▶ Clarification that flow test shall be equivalent to a single head with the smallest orifice.

# 2017 CHAPTER 5

# STANDPIPE SYSTEMS

## Chapter 6

- ▶ Piping changed from Quarterly to Annually

# INSPECTION



- ▶ NEW 6.2.2

- ▶ NEW 6.3.4

# GAUGES

- ▶ Gauge inspection for automatic wet and semi-automatic dry from Monthly to Quarterly
- ▶ Hydraulic Nameplate Required now

# 2014 CHAPTER 6

- ▶ New Hose requirements incorporated from NFPA 1962.
- ▶ New demand requirement for Class II Systems

# 2017 CHAPTER 6

# PRIVATE FIRE MAINS

## Chapter 7



- ▶ Inspection and testing of private hydrants is no longer performed.
- ▶ Black bands around base no longer required.

M.U.D.

- ▶ NEW 7.1.3
- ▶ Follow Chapter 14

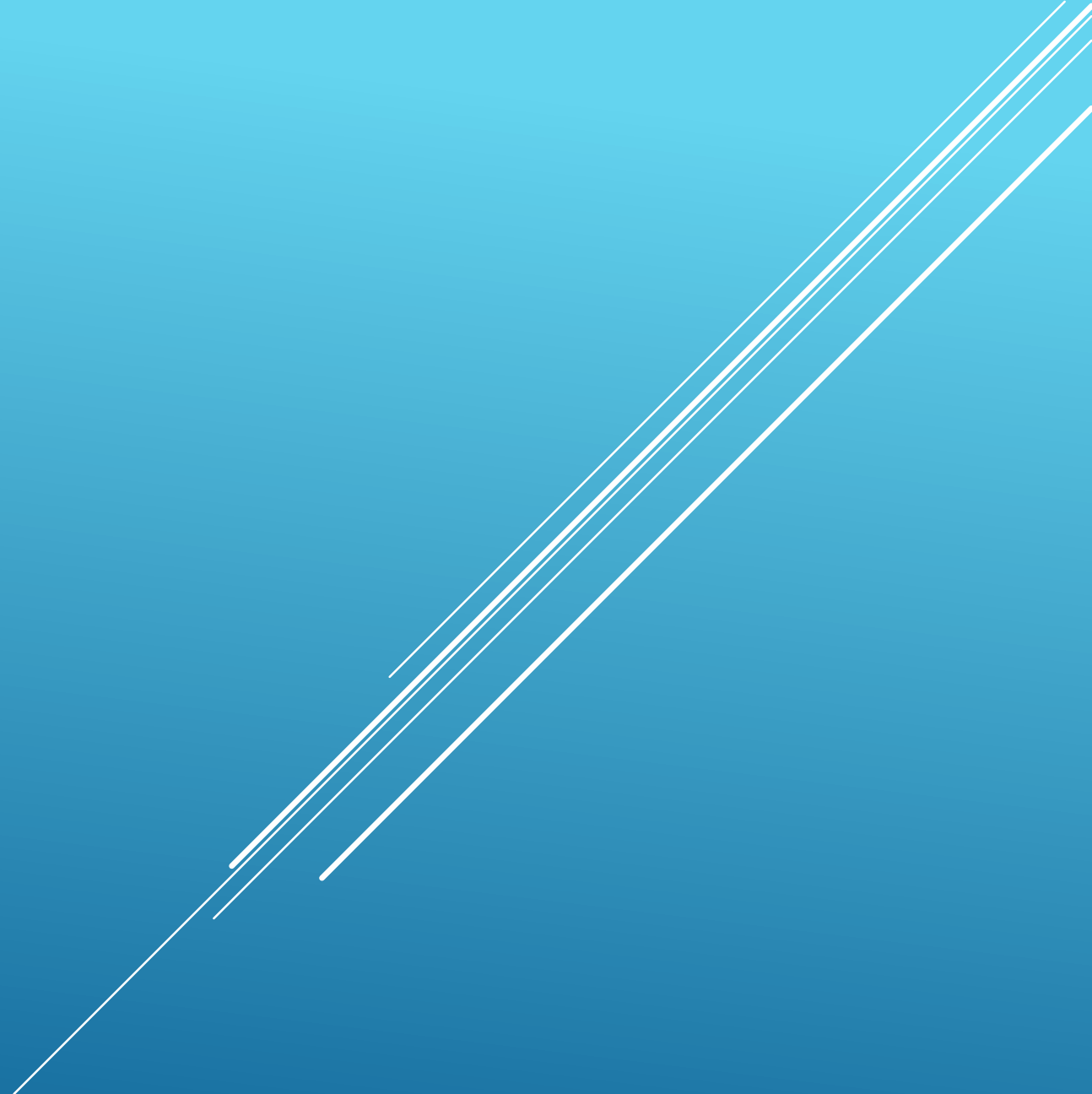
# OBSTRUCTIONS

- ▶ New requirements for Dry Barrel and Wall Hydrants, Wet Barrel Hydrants, Monitor Nozzles and Hose Houses

# 2017 CHAPTER 7

# FIRE PUMPS

## Chapter 8





- ▶ NEW 8.1.4
- ▶ Follow Chapter 14

# OBSTRUCTIONS

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- ▶ 8.2.2(2)(g) Waterflow test valves closed.
- ▶ 8.2.2(3)(f) Power to Jockey Pump

# INSPECTION

- ▶ NEW 8.3.1 Diesel vs Electric
- ▶ NEW 8.3.3.8 Engines with ECM

# TESTING

- ▶ Added new minimum temperature for diesel engine pump without engine heater (70°F)
- ▶ 8.3 Testing Re-worded
- ▶ Added temperature monitoring when recirculating water through a flow meter.
- ▶ Added diesel fuel testing requirement
- ▶ Added Positive Displacement Pump requirements

# 2014 CHAPTER 8

- ▶ Added specific details about items in table 8.1.1.2
- ▶ Added items to pump house inspection requirements (floor, coupling guard)
- ▶ Added requirement for pressure relief valve operation.
- ▶ New Section on Test Equipment

# 2017 CHAPTER 8

- ▶ New requirement for PPE with open controller
- ▶ Additional Test parameters for Electric Pumps
- ▶ New Specific Report Details

# 2017 CHAPTER 8

# WATER STORAGE TANKS

Chapter 9



**Table 9.1 Summary of Water Storage Tank Inspection, Testing, and Maintenance**

Item	Activity	Frequency	Reference
Condition of water in tank	Inspection	Monthly/quarterly*	9.2.1
Water temperature	Inspection	Daily/weekly*	9.2.4
Heating system	Inspection	Daily/weekly*	9.2.6.6
Control valves	Inspection	Weekly/monthly	Table 12.1
Water — level	Inspection	Monthly/quarterly	9.2.1
Air pressure	Inspection	Monthly/quarterly	9.2.2
Tank — exterior	Inspection	Quarterly	9.2.5.1
Support structure	Inspection	Quarterly	9.2.5.1
Catwalks and ladders	Inspection	Quarterly	9.2.5.1
Surrounding area	Inspection	Quarterly	9.2.5.2
Hoops and grillage	Inspection	Annually	9.2.5.4
Painted/coated surfaces	Inspection	Annually	9.2.5.5
Expansion joints	Inspection	Annually	9.2.5.3
Interior	Inspection	5 years/3 years	9.2.6
Check valves	Inspection	5 years	Table 12.1
Temperature alarms	Test	Monthly*	9.2.4.2, 9.2.4.3
High temperature limit switches	Test	Monthly*	9.3.4
Water level alarms	Test	Semiannually	9.3.5
Level indicators	Test	5 years	9.3.1
Pressure gauges	Test	5 years	9.3.6
Water level	Maintenance	—	9.4.1
Drain silt	Maintenance	Semiannually	9.4.5
Control valves	Maintenance	Annually	Table 12.1
Embankment-supported coated fabric (ESCF)	Maintenance	—	9.4.6
Check valves	Maintenance	—	12.4.2.2

# SUMMARY TABLE 2002



Table 9.1.1.2 Summary of Water Storage Tank Inspection, Testing, and Maintenance

Item	Frequency	Reference
<b>Inspection</b>		
Water temperature — low temperature alarms connected to constantly attended location	Monthly	9.2.4.2
Water temperature — low temperature alarms not connected to constantly attended location	Weekly	9.2.4.3
Heating system — tanks with supervised low temperature alarm connected to constantly attended location	Weekly*	9.2.3.1
Heating system — tanks without supervised low temperature alarm connected to constantly attended location	Daily*	9.2.3.2
Control valves		Table 13.1
Water level — tanks equipped with supervised water level alarms connected to constantly attended location	Quarterly	9.2.1.1
Water level — tanks without supervised water level alarms connected to constantly attended location	Monthly	9.2.1.2
Air pressure — tanks that have their air pressure source supervised	Quarterly	9.2.2.1
Air pressure — tanks without their air pressure source supervised	Monthly	9.2.2.2
Tank — exterior	Quarterly	9.2.5.1
Support structure	Quarterly	9.2.5.1
Catwalks and ladders	Quarterly	9.2.5.1
Surrounding area	Quarterly	9.2.5.2
Hoops and grillage	Annually	9.2.5.4
Painted/coated surfaces	Annually	9.2.5.5
Expansion joints	Annually	9.2.5.3
Interior — tanks without corrosion protection	3 years	9.2.6.1.1
Interior — all other tanks	5 years	9.2.6.1.2
Temperature alarms — connected to constantly attended location	Monthly*	9.2.4.2
Temperature alarms — not connected to constantly attended location	Weekly*	9.2.4.3
Check valves		Table 13.1
<b>Test</b>		
Tank heating system	Prior to heating season	9.3.2
Low water temperature alarms	Monthly*	9.3.3
High temperature limit switches	Monthly*	9.3.4
Water level alarms	Semiannually	9.3.5
Level indicators	5 years	9.3.1
Pressure gauges	5 years	9.3.6
<b>Maintenance</b>		
Water level	—	9.4.2
Control valves	—	Table 13.1
Embankment-supported coated fabric (ESCF)	—	9.4.6
Check valves	—	13.4.2.2

SUMMARY TABLE 2011

## ►NEW 9.5 Automatic Tank Fill Valves

# TESTING

**Table 9.5.1.1 Summary of Automatic Tank Fill Valve Inspection and Testing**

Item	Frequency	Reference
<b>Inspection</b>		
Strainers, filters, orifices (inspect/clean)	Quarterly	13.4.1.2
Enclosure (during cold weather)	Daily/weekly	13.4.3.1.1
Exterior	Monthly	13.4.3.1.6
Interior	Annually/5 years	13.4.3.1.7
<b>Test</b>		
Automatic tank fill valve	Annually	

# ► NEW 9.6 Component Action Requirements

## ACTIONS

Table 9.6.1 Summary of Component Replacement Action Requirements

Component	Adjust	Repair/ Recondition	Replace	Test Criteria
<b>Tank Components</b>				
Tank interior		X	X	Remove debris Verify integrity in conformance with NFPA 22, <i>Standard for Water Tanks for Private Fire Protection</i>
Tank exterior		X	X	Verify integrity in conformance with NFPA 22
Support structure		X	X	Verify integrity in conformance with NFPA 22
Heating system	X	X	X	Verify heating system is in conformance with NFPA 22
Catwalks and ladders	X	X	X	Verify integrity in conformance with NFPA 22
Hoops and grillage	X	X	X	Verify integrity in conformance with NFPA 22
Expansion joints	X	X	X	Verify integrity in conformance with NFPA 22
Overflow piping	X	X	X	Verify integrity in conformance with NFPA 22
Insulation		X	X	Verify integrity in conformance with NFPA 22
Valves				See Chapter 13
<b>Alarm and Supervisory Components</b>				
High and low water level	X	X	X	Operational test for conformance with NFPA 22 and/or NFPA 72, <i>National Fire Alarm and Signaling Code</i> , and the design water levels
Water temperature	X	X	X	Operational test for conformance with NFPA 22 and/or NFPA 72
Enclosure temperature	X	X	X	Operational test for conformance with NFPA 22 and/or NFPA 72
Valve supervision	X	X	X	Operational test for conformance with NFPA 22 and/or NFPA 72
<b>Fill and Discharge Components</b>				
Automatic fill valves				See Chapter 13
Valves	X	X	X	See Chapter 13
<b>Status Indicators</b>				
Level indicators	X	X	X	Verify conformance with NFPA 22
Pressure gauges			X	Verify at 0 psi (0 bar) and at system working pressure

- ▶ Changed Inspection interval for Strainers, Filters, orifices to 5 Years

# 2014 CHAPTER 9

▶ Removed Air Pressure requirements

# 2017 CHAPTER 9

# WATER SPRAY FIXED SYSTEMS

Chapter 10

- ▶ NEW 10.1.4
- ▶ Follow Chapter 14

# OBSTRUCTIONS

# ► NEW 10.5 Component Action Requirements

## ACTIONS

**Table 10.5.1 Summary of Component Replacement Action Requirements**

Component	Adjust	Repair/ Recondition	Replace	Required Action
<b>Water Delivery Components</b>				
Pipe and fittings	X	X	X	Operational flow test
Nozzles	X	X	X	Operational flow test
Manual release	X	X	X	(1) Operational test (2) Check for leaks at system working pressure (3) Test all alarms
Fire department connections				See Chapter 13
Valves	X	X	X	See Chapter 13
Fire pump	X	X	X	See Chapter 8
<b>Alarm and Supervisory Components</b>				
Pressure switch–type waterflow	X	X	X	Operational test using inspector's test connection
Water motor gong	X	X	X	Operational test using inspector's test connection
Valve supervisory device	X	X	X	Test for conformance with NFPA 15, <i>Standard for Water Spray Fixed Systems for Fire Protection</i> , and/or NFPA 72, <i>National Fire Alarm and Signaling Code</i>
Detection system	X	X	X	Operational test for conformance with NFPA 15 and/or NFPA 72
<b>Status-Indicating Components</b>				
Gauges			X	Verify at 0 psi (0 bar) and system working pressure
<b>Testing and Maintenance Components</b>				
Main drain	X	X	X	Full flow main drain test
Auxiliary drains	X	X	X	(1) Check for leaks at system working pressure (2) Main drain test
<b>Structural Components</b>				
Hanger/seismic bracing	X	X	X	Check for conformance with NFPA 15 and/or NFPA 13, <i>Standard for the Installation of Sprinkler Systems</i>
Pipe stands	X	X	X	Check for conformance with NFPA 15 and/or NFPA 13
<b>Informational Components</b>				
Identification signs	X	X	X	Check for conformance with NFPA 15



# FOAM WATER SYSTEMS

Chapter 11



- ▶ Pipe and Fitting inspections changed from Quarterly to Annually

# INSPECTION

- ▶ NEW 11.1.5
- ▶ Follow Chapter 14

# OBSTRUCTIONS

# ► NEW 11.5 Component Action Requirements

**Table 11.5.1 Summary of Component Replacement Action Requirements**

Component	Adjust	Repair/ Recondition	Replace	Required Action
<b>Water Delivery Components</b>				
Pipe and fittings on open head system	X	X	X	Operational flow test
Pipe and fittings on closed head system	X	X	X	Hydrostatic test in conformance with NFPA 16, <i>Standard for the Installation of Foam-Water Sprinkler and Foam-Water Spray Systems</i>
Discharge devices	X		X	(1) Check for leaks at system working pressure (2) Check for impairments at orifice
Fire department connections	X	X	X	See Chapter 13
Manual release	X	X	X	(1) Operational test (2) Check for leaks at system working pressure (3) Test all alarms
Valves	X	X	X	See Chapter 13
Fire pump	X	X	X	See Chapter 8
<b>Foam Components</b>				
Foam concentrate strainer(s)	X	X	X	See Chapter 13
Proportioning system(s)	X		X	Conduct flow test and check proportioning by refractometer test or equivalent
Water supply tank(s)	X		X	See Chapter 9
Foam concentrate	X		X	Submit 1 pint (473 mL) sample for laboratory analysis for conformance with manufacturer's specifications
Foam concentrate pump	X	X	X	See Chapter 8
Ball drip (automatic type) drain valves	X	X	X	See Chapter 13
Foam concentrate tank	X	X	X	Inspect for condition, repair as appropriate
Bladder tank	X	X	X	Check water jacket for presence of foam concentrate
<b>Alarm and Supervisory Components</b>				
Vane-type waterflow	X	X	X	Operational test using inspector's test connection
Pressure switch-type waterflow	X	X	X	Operational test using inspector's test connection
Water motor gong	X	X	X	Operational test using inspector's test connection
Valve supervisory device	X	X	X	Test for conformance with NFPA 16 and/or NFPA 72, <i>National Fire Alarm and Signaling Code</i>
Detection system	X	X	X	Operational test for conformance with NFPA 16 and/or NFPA 72
<b>Status-Indicating Components</b>				
Gauges			X	Verify at 0 psi (0 bar) and system working pressure
<b>Testing and Maintenance Components</b>				
Main drain	X	X	X	Full flow main drain test
Auxiliary drains	X	X	X	Check for leaks at system working pressure
Inspector's test connection	X	X	X	Check for leaks at system working pressure
<b>Structural Components</b>				
Hanger/seismic bracing	X	X	X	Check for conformance with NFPA 16 and/or NFPA 13, <i>Standard for the Installation of Sprinkler Systems</i>
Pipe stands	X	X	X	Check for conformance with NFPA 16 and/or NFPA 13
<b>Informational Components</b>				
Valve signs	X	X	X	Check for conformance with NFPA 16 and/or NFPA 13
Hydraulic placards	X	X	X	Check for conformance with NFPA 16 and/or NFPA 13

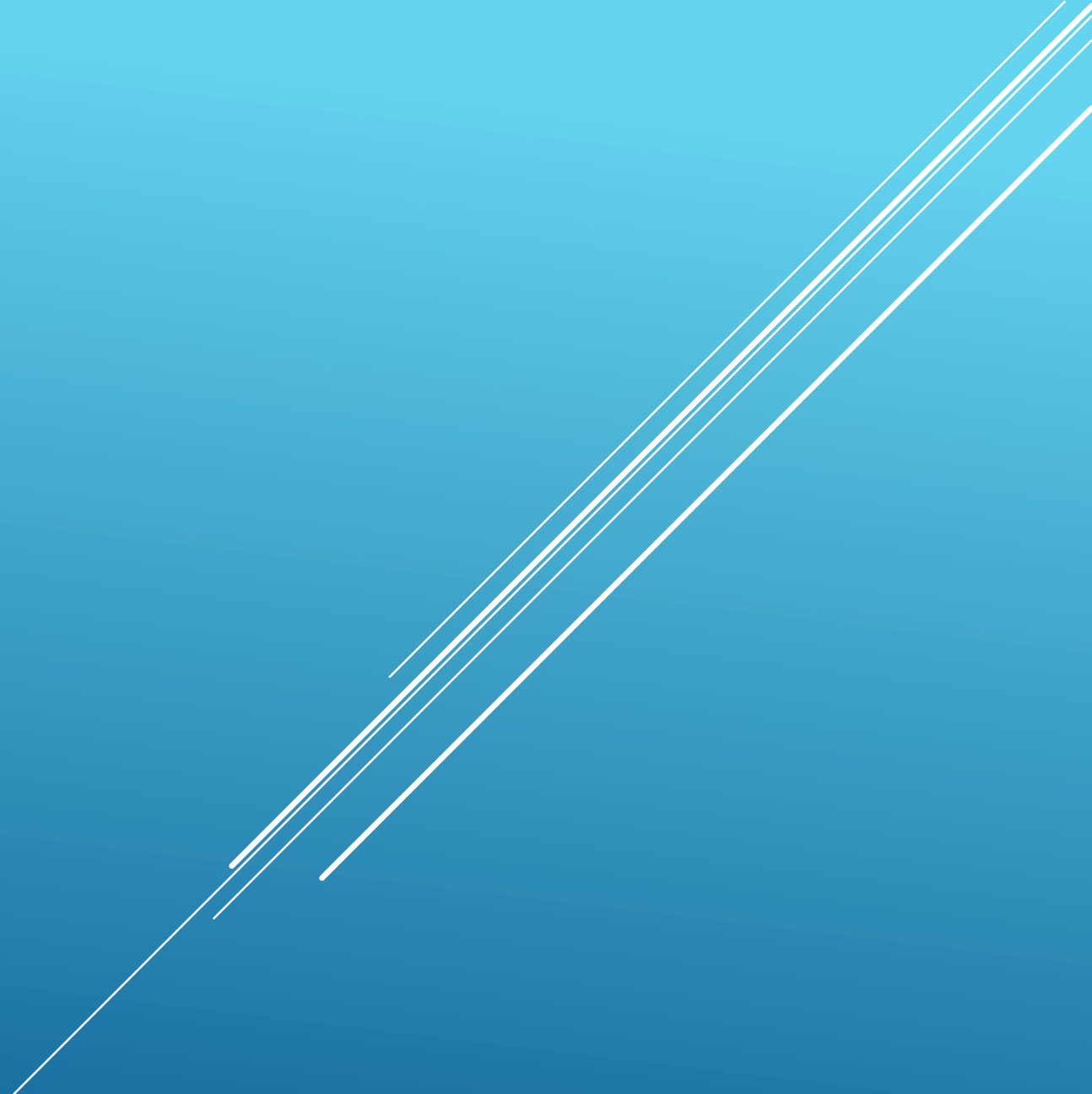
# ACTIONS

- ▶ New provisions for Strainers
- ▶ New allowance for not using foam
- ▶ New allowance for foam substitutes

# 2017 CHAPTER 11

# WATER MIST SYSTEMS

Chapter 12



- ▶ Added requirements for replacement parts
- ▶ Added section for Nozzles
- ▶ Added section on protective coverings

# 2014 CHAPTER 12

# VALVES, VALVE COMPONENTS & TRIM

Chapter 13



- ▶ Hose and Hose Racks changed from Quarterly to Annually
- ▶ Hose Pressure Reducing Valves changed from Quarterly to Annually

# INSPECTION

- ▶ NEW 13.4.3.2.6
- ▶ Preaction 3 Year Air Test
- ▶ NEW 13.4.4.2.9
- ▶ Dry Pipe 3 Year Air Test

# TESTING

- ▶ NEW 13.5.4
- ▶ Master Pressure Reducing Valves

# TESTING

# ► NEW 13.8 Component Testing Requirements

# ACTIONS

Table 13.8.1 Summary of Component Replacement Action Requirements

Component	Adjust	Repair/ Recondition	Replace	Inspection, Test, and Maintenance Procedures
<b>Water delivery components</b>				
Post indicator and wall indicator valves	X	X	X	(1) Inspect for leaks at system pressure (2) Perform full operational test conforming to 13.3.3.1 (3) Perform spring torsion check conforming to 13.3.3.1 and 13.3.3.2 (4) Verify target visibility at shut and full open position (5) Test supervisory device (6) Main drain test
Control valves other than post indicator and wall indicator valves	X	X	X	(1) Inspect for leaks at system pressure (2) Perform full operational test conforming to 13.3.3.1 (3) Perform spring torsion check for OS&Y valves conforming to 13.3.3.2 (4) Verify supervisory device (5) Main drain test
Alarm check valve	X	X	X	(1) Inspect for leaks at system pressure per 13.4.1 (2) Test all alarms and supervisory signals affected by the alarm valve (3) Main drain test
Dry pipe valve	X	X	X	(1) Inspect for leaks at system pressure (2) Trip test per 13.4.4.2 (3) Inspect condition of valve seat (4) Test all dry pipe system alarms and supervisory signals (5) Main drain test
Deluge/preaction valve	X	X	X	(1) Inspect for leaks at system pressure per 13.4.3 (2) Trip test (3) Inspect condition of valve seat (4) Test all deluge/preaction system alarms and supervisory signals (5) Main drain test
Quick opening device	X	X	X	(1) Inspect for leaks at system pressure per 13.4.4.2.2 (2) Trip test (3) Main drain test
Pressure regulating device — hose valves	X	X	X	(1) Inspect for leaks at system pressure per 13.5.1 (2) Full flow test (3) Main drain test (Only when a control valve has been closed)
Pressure regulating devices — other than hose valve	X	X	X	(1) Inspect for leaks at system pressure per Section 13.5 (2) Test pressure setting with full flow and without flow (3) Test supervisory device and alarm (4) Main drain test

# ► NEW 13.8 Component Testing Requirements

# ACTIONS

**Table 13.8.1** *Continued*

Component	Adjust	Repair/ Recondition	Replace	Inspection, Test, and Maintenance Procedures
Hose valve	X	X	X	(1) Inspect for leaks at system pressure per 13.5.6 (2) Main drain test
Backflow prevention device	X	X	X	(1) Inspect for leaks at system pressure per Section 13.6 (2) Forward flow test per 13.6.2.1 (3) Test supervisory device and alarm (4) Main drain test
Check valves	X	X	X	(1) Inspect for leaks at system pressure per 13.4.2 (2) Inspect for leaking through check valve (3) Main drain test
Fire department connection	X	X		(1) Inspect for leaks at system pressure per Section 13.7 (2) Main drain test (Only when a control valve has been closed)
Fire department connection — sprinkler system(s)			X	(1) Isolate and hydrostatic test for 2 hours at 150 psi (2) Main drain test (Only when a control valve has been closed)
Fire department connection — other than sprinkler system(s)			X	(1) Isolate and hydrostatic test for 2 hours at 50 psi above the normal working pressure (200 psi minimum) (2) Main drain test (Only when a control valve has been closed)
Strainers	X	X	X	Inspect and clean in accordance with manufacturer's instructions
Main drain valves	X	X	X	Main drain test per 13.2.5
Gauges			X	Calibrate per 13.2.7
<b>Alarm and supervisory components</b>				
Alarm device	X	X	X	Test for conformance with NFPA 13 and/or NFPA 72
Supervisory device	X	X	X	Test for conformance with NFPA 13 and/or NFPA 72
<b>System protection components</b>				
Pressure relief valve — fire pump installation	X	X	X	See 8.3.3.3 and 13.5.7
Pressure relief valve — other than fire pump installation			X	Verify relief valve is listed or approved for the application and set to the correct pressure
<b>Informational components</b>				
Identification signs	X	X	X	Inspect for compliance with NFPA 13 and 13.3.1

- ▶ Clarified that PIV wrenches are in place
- ▶ Added requirement for Deluge full flow testing to be by Automatic and Manual means
- ▶ Added requirement to verify air fill time on Dry Systems (30 min.)
- ▶ Added internal inspection requirement for Backflow preventers (5 yrs.)

# 2014 CHAPTER 13

- ▶ Added internal inspection of FDC connections
- ▶ Added hydrotest requirement for FDC piping (5 yrs.)

# 2014 CHAPTER 13

- ▶ Chapter Renamed
- ▶ Common Components and Valves

# 2017 CHAPTER 13



# OBSTRUCTION INVESTIGATION

Chapter 14



- ▶ New Sections 14.2.1.3 – 14.2.2.2 for when foreign materials are located.

# INTERNAL INSPECTION

# IMPAIRMENTS

## Chapter 15



- ▶ Water Supply added to Impairments list.

# 2017 CHAPTER 15

- ▶ New Chapter
- ▶ Other Water Based Fire Protection Systems

# 2014 CHAPTER 16