



Errata

NFPA 25

Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems

2017 Edition

Reference: Various

Errata No: 25-17-1

The Technical Committee on Inspection, Testing, and Maintenance of Water-Based Protection Systems notes the following errors in the 2017 edition of *NFPA 25, Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems*.

1. In Table 5.1.1.2, correct the cross references to read as follows:

Table 5.1.1.2 Summary of Sprinkler System Inspection, Testing, and Maintenance

| Item | Frequency | Reference |
|------------------------------------|---------------------------------|---|
| Inspection | | |
| Control valves | | Chapter 13 |
| Fire department connections | | Chapter 13 |
| Gauges (wet and deluge systems) | Quarterly | Chapter 13 |
| Gauges (dry and preaction systems) | Monthly/quarterly | Chapter 13 |
| Hanger/braces/supports | Annually | 5.2.3 |
| Heat tracing | Per manufacturer's requirements | 5.2. 7 ₆ |
| Hydraulic design information sign | Annually | 5.2. 6 ₅ |
| Information signs | Annually | 5.2. 7 , 5.2. 8 , 5.2.9 |
| Internal piping condition | | Chapter 14 |
| Pipe and fittings | Annually | 5.2.2 |
| Sprinklers | Annually | 5.2.1 |
| Sprinklers (spare) | Annually | 5.2.1.4 |

| | | |
|--|---|-------------------------------------|
| Supervisory signal devices (except valve supervisory switches) | Quarterly | 5.2.54 |
| System valves | | Chapter 13 |
| Valve supervisory signal devices | Quarterly | 5.2.54 |
| Waterflow alarm devices | Quarterly | 5.2.54 |
| Test | | |
| Antifreeze solution | Annually | 5.3.43 |
| Control valves | | Chapter 13 |
| Gauges | 5 years | Chapter 13 |
| Main drain | | Chapter 13 |
| Sprinklers | At 50 years and every 10 years thereafter | 5.3.1.1.1, 5.3.1.1.1.1, 5.3.1.1.1.2 |
| Sprinklers | At 75 years and every 5 years thereafter | 5.3.1.1.1.5 |
| Sprinklers (dry) | 10 years and every 10 years thereafter | 5.3.1.1.1.6 |
| Sprinklers (extra high or greater temperature solder type) | 5 years | 5.3.1.1.1.4 |
| Sprinklers (fast-response) | At 20 years and every 10 years thereafter | 5.3.1.1.1.3 |
| Sprinklers (harsh environments) | 5 years | 5.3.1.1.2 |
| Supervisory signal devices (except valve supervisory switches) | | Chapter 13 |
| System valves | | Chapter 13 |
| Valve supervisory signal devices | | Chapter 13 |
| Waterflow alarm devices (Mechanical) | Quarterly | 5.3.32.1 |
| Waterflow alarm devices (vane and pressure switch type) | Semiannually | 5.3.32.2 |
| Maintenance | | |
| Low-point drains (dry pipe and preaction systems) | | Chapter 13 |
| Sprinklers and automatic spray nozzles protecting commercial cooking equipment and ventilation systems | Annually | 5.4.1.7 |
| Valves (all types) | | Chapter 13 |
| Investigation | | |
| Obstruction | | Chapter 14 |

2. In Table 6.1.1.2, correct the cross references to read as follows:

Table 6.1.1.2 Summary of Standpipe and Hose Systems Inspection, Testing, and Maintenance

| Item | Frequency | Reference |
|--|-----------------------------|----------------------------|
| Inspection | | |
| Cabinet | Annually | 6.2.4 8 |
| Control valves | | Chapter 13 |
| Gauges | Weekly/quarterly | Chapter 13 |
| Hose | Annually | NFPA 1962 6.2.5 |
| Hose connection | Annually | 6.2.4 3 |
| Hose nozzle | Annually and after each use | NFPA 1962 6.2.6 |
| Hose storage device | Annually | 6.2.4 7 |
| Hydraulic design information sign | Annually | 6.2.3 2 |
| Hose valves | | Chapter 13 |
| Hose connection | Annually | 6.2.4 |
| Piping | Annually | 6.2.4 4 |
| Pressure-regulating devices | | Chapter 13 |
| Test | | |
| Flow test | 5 years | 6.3.1 |
| Hose | 5 years/3 years | NFPA 1962 |
| Hose connections | Annually | 6.2.1 |
| Hose valves | | Chapter 13 |
| Hydrostatic test | 5 years | 6.3.2 |
| Main drain test | | Chapter 13 |
| Pressure control valve | | Chapter 13 |
| Pressure-reducing valve | | Chapter 13 |
| Supervisory signal devices (except valve supervisory switches) | | Chapter 13 |
| Valve status test | | Chapter 13 |
| Valve supervisory devices | | Chapter 13 |
| Waterflow alarm devices | | Chapter 13 |
| Maintenance | | |
| Hose connections | Annually | Table 6.1.2 |
| Hose valves | | Chapter 13 |
| Valves (all types) | Annually/as needed | Chapter 13 |

3. Correct the cross references in 8.3.3.6.3.3 and 8.3.3.6.3.4 to read as follows:

8.3.3.6.3.3 If the test results are not consistent with the previous annual test, the test shall be repeated using the test arrangement described in 8.3.3.6.3.1.

8.3.3.6.3.4 If testing in accordance with 8.3.3.6.3.1 is not possible, a flowmeter calibration shall be performed and the test shall be repeated.

4. In Table 9.1.1.2, correct the cross references to read as follows:

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

| Item | Frequency | Reference |
|--|-----------|------------|
| Inspection | | |
| 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 |
| Catwalks and ladders | Quarterly | 9.2.54.1 |
| Check valves | | Chapter 13 |
| Control valves | | Chapter 13 |
| Expansion joints | Annually | 9.2.54.3 |
| Heating system — tanks with supervised low temperature alarms connected to constantly attended location | Weekly* | 9.2.32.1 |
| Heating system — tanks without supervised low temperature alarms connected to constantly attended location | Daily* | 9.2.32.2 |
| Hoops and grillage | Annually | 9.2.54.4 |
| Interior — all other tanks | 5 years | 9.2.65.1.2 |
| Interior — steel tanks without corrosion protection | 3 years | 9.2.65.1.1 |
| Painted/coated surfaces | Annually | 9.2.54.5 |
| Support structure | Quarterly | 9.2.54.1 |
| Surrounding area | Quarterly | 9.2.54.2 |
| Tank — exterior | Quarterly | 9.2.54.1 |
| Temperature alarms — connected to constantly attended location | Monthly* | 9.2.43.2 |
| Temperature alarms — not connected to constantly attended location | Weekly* | 9.2.4.3 |
| 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 |
| 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 |
| Test | | |
| High temperature limit switches | Monthly* | 9.3.4 |
| Level indicators | 5 years | 9.3.1 |
| Low water temperature alarms | Monthly* | 9.3.3 |
| Pressure gauges | 5 years | Chapter 13 |
| Tank heating system | Prior to heating season | 9.3.2 |
| Valve status test | | Chapter 13 |
| Water level alarms | Semiannually | 9.3.5 |
| Maintenance | | |
| Check valves | — | Chapter 13 |
| Control valves | — | Chapter 13 |
| Embankment-supported coated fabric (ESCF) | — | 9.4.6.2 |
| Water level | — | 9.4.2 |

*Cold weather/heating season only.

5. In Table 9.5.1.1, correct the cross references to read as follows:

| Item | Frequency | Reference |
|--|------------------|------------------|
| Inspection | | |
| Strainers, filters, orifices (inspect/clean) | 5 years | 13.4.1.2 |
| Enclosure (during cold weather) | Daily/weekly | 13.4.3.1.1 |
| Exterior | Monthly | 13.4.3.1.63 |
| Interior | Annually/5 years | 13.4.3.1.74 |
| Test | | |
| Automatic tank fill valve | Annually | 9.5.3 |

6. In Table 10.1.1.2, correct the cross references to read as follows:

Table 10.1.1.2 Summary of Water Spray Fixed System Inspection, Testing, and Maintenance

| Item | Frequency | Reference |
|-------------------------------|---|--|
| Inspection | | |
| Backflow preventer | | Chapter 13 |
| Check valves | | Chapter 13 |
| Control valves | Weekly (sealed) | Chapter 13 |
| Control valves | Monthly (locked, supervised) | Chapter 13 |
| Deluge valve | | 10.2.2, Chapter 13 |
| Detection systems | | <i>NFPA 72</i> |
| Detector check valves | | Chapter 13 |
| Drainage | Quarterly | 10.2.87 |
| Electric motor | | 10.2.98, Chapter 8 |
| Engine drive | | 10.2.98, Chapter 8 |
| Fire pump | | 10.2.98, Chapter 8 |
| Fittings | Annually | 10.2.43, 10.2.43.1 |
| Fittings (rubber-gasketed) | Annually and after each system activation | 10.2.43.1, A.10.2.4.1 |
| Gravity tanks | | 10.2.409, Chapter 9 |
| Hangers, braces, and supports | Annually and after each system activation | 10.2.43.2 |
| Heat (deluge valve house) | Daily/weekly | 10.2.1.5, Chapter 13 |
| Nozzles | Annually and after each system activation | 10.2.1.1, 10.2.1.2, 10.2.1.6, 10.2.5.1, 10.2.5.2 10.2.4 |
| Pipe | Annually and after each system activation | 10.2.3.1.1, 10.2.1.2, 10.2.4, 10.2.4.1 |
| Pressure tank | | 10.2.409, Chapter 9 |
| Steam driver | | 10.2.98, Chapter 8 |
| Strainers | Manufacturer's instruction | 10.2.76 |
| Suction tanks | | 10.2.409, Chapter 9 |
| Water supply piping | | 10.2.6.1, 10.2.6.2 |
| UHSWSS — controllers | Each shift | 10.4.3 |
| UHSWSS — detectors | Monthly | 10.4.2 |
| UHSWSS — valves | Each shift | 10.4.4 |
| Operational Test | | |
| Backflow preventer | | Chapter 13 |
| Check valves | | Chapter 13 |
| Control valves | Annually | 13.3.3.1 |

| | | |
|-------------------------|-----------|---|
| Deluge valve | | 10.2.2, Chapter 13 |
| Detection systems | | <i>NFPA 72</i> |
| Detector check valve | | Chapter 13 |
| Electric motor | | 10.2. 98 , Chapter 8 |
| Engine drive | | 10.2. 98 , Chapter 8 |
| Fire pump | | 10.2. 98 , Chapter 8 |
| Gravity tanks | | 10.2. 409 , Chapter 9 |
| Main drain test | Annually | <u>Chapter 13.3.3.4</u> |
| Manual release | Annually | 10.2.1.3, <u>10.3.63.5</u> |
| Nozzles | Annually | 10.2.1.3, 10.2.1.6, Section-10.3 |
| Pressure tank | | Section-10.2.9 , Chapter 9 |
| Steam driver | | 10.2. 98 , Chapter 8 |
| Strainers | Annually | 10.2.1.3, <u>10.2.1.7, 10.2.76</u> |
| Suction tanks | | 10.2. 409 , Chapter 9 |
| Waterflow alarm | Quarterly | Chapter 5 |
| Water spray system test | Annually | Section-10.3 , Chapter 13 |
| Water supply flow test | | 7.3.1 |
| UHSWSS | Annually | Section 10.4 |
| Valve status test | | <u>13.3.1.2-13.4</u> |

Maintenance

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| Backflow preventer | | Chapter 13 |
| Check valves | | Chapter 13 |
| Control valves | Annually | 10.2.1.4 , Chapter 13 |
| Deluge valve | | 10.2.2 , Chapter 13 |
| Detection systems | | <i>NFPA 72</i> |
| Detector check valve | | Chapter 13 |
| Electric motor | | 10.2. 98 , Chapter 8 |
| Engine drive | | 10.2. 98 , Chapter 8 |
| Fire pump | | 10.2. 98 , Chapter 8 |
| Gravity tanks | | 10.2. 409 , Chapter 9 |
| Pressure tank | | 10.2. 69 , Chapter 9 |
| Steam driver | | 10.2. 98 , Chapter 8 |
| Strainers | Annually | 10.2.1.4, 10.2.1.6, <u>10.2.76</u> |
| Strainers (baskets/screen) | 5 years | 10.2.1.4, 10.2.1.7, <u>A.10.2.76</u> |
| Suction tanks | | 10.2. 409 , Chapter 9 |
| Water spray system | Annually | 10.2.1.4, Chapter 13 |

7. In Table 11.1.1.2, correct the cross references to read as follows:

Table 11.1.1.2 Summary of Foam-Water Sprinkler System Inspection, Testing, and Maintenance

| System/Component | Frequency | Reference |
|--|-----------------------|-------------------------|
| Inspection | | |
| Control valve(s) | Weekly/monthly | Chapter 13 |
| Deluge/preaction valve(s) | | 11.2.1, Chapter 13 |
| Detection system | See <i>NFPA 72</i> | 11.2.2 |
| Discharge device location (spray nozzle) | Monthly | 11.2. 54 |
| Discharge device location (sprinkler) | Annually | 11.2. 54 |
| Discharge device position (spray nozzle) | Monthly | 11.2. 54 |
| Discharge device position (sprinkler) | Annually | 11.2. 54 |
| Drainage in system area | Quarterly | 11.2. 87 |
| Fire pump(s) | | Chapter 8 |
| Fittings corrosion | Annually | 11.2. 32 |
| Fittings damage | Annually | 11.2. 32 |
| Foam concentrate strainer(s) | Quarterly | 11.2.7. 26,4 |
| Gauges | See Chapter 13 | Chapter 13 |
| Hangers/braces/supports | Annually | 11.2.3 |
| Pipe corrosion | Annually | 11.2. 32 |
| Pipe damage | Annually | 11.2. 32 |
| Proportioning system(s) — all | Monthly | 11.2.98 |
| Strainer(s) — Mainline | 5 years | 11.2.6. 1 |
| Water supply piping | | 11.2. 65 .1 |
| Water supply tank(s) | | Chapter 9 |
| Waterflow devices | <u>See Chapter 13</u> | Chapter 13 |
| Test | | |
| Backflow preventer(s) | Annually | Chapter 13 |
| Complete foam-water sprinkler system(s) (operational test) | Annually | 11.3.2, 11.3.3 |
| Control valve(s) | See Chapter 13 | Chapter 13 |
| Deluge/preaction valve(s) | See Chapter 13 | 11.2.1 |
| Detection system | See <i>NFPA 72</i> | 11.2.2 |
| Discharge device location | Annually | 11.3.2. 67 |
| Discharge device obstruction | Annually | 11.3.2. 67 |
| Discharge device position | Annually | 11.3.2. 67 |

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| Fire pump(s) | See Chapter 8 | |
| Foam concentrate strainer(s) | Annually | 11.2.7.2 |
| Foam-water solution | Annually | 11.3.5 |
| Manual actuation device(s) | Annually | 11.3.4 |
| Proportioning system(s) — all | Annually | 11.2.9 |
| Valve status test | | Chapter 13 |
| Water supply flow test | 5 years | 7.3.1 |
| Water supply piping | Annually | Chapter 10 |
| Water supply tank(s) | See Chapter 9 | |
| Waterflow devices | See Chapter 13 | Chapter 13 |
| Maintenance | | |
| Backflow preventer(s) | See Chapter 13 | |
| Bladder tank type | | |
| Foam concentrate tank — hydrostatic test | 10 years | 11.4.4.2 |
| Sight glass | 10 years | 11.4.4.1 |
| Check valve(s) | See Chapter 13 | |
| Control valve(s) | See Chapter 13 | |
| Deluge/preaction valves | See Chapter 13 | 11.2.1 |
| Detection system | See <i>NFPA 72</i> | 11.2.2 |
| Detector check valve(s) | See Chapter 13 | |
| Fire pump(s) | See Chapter 8 | |
| Foam concentrate pump operation | Monthly | 11.4.6.1, 11.4.7.1 |
| Foam concentrate samples | Annually | 11.2.409 |
| Foam concentrate strainer(s) | Quarterly | Section 11.4 |
| In-line balanced pressure type | | |
| Balancing valve diaphragm | 5 years | 11.4.7.3 |
| Foam concentrate pump(s) | 5 years (<i>see Note</i>) | 11.4.7.2 |
| Foam concentrate tank | 10 years | 11.4.7.4 |
| Line type | | |
| Foam concentrate tank — corrosion and pickup pipes | 10 years | 11.4.5.1 |
| Foam concentrate tank — drain and flush | 10 years | 11.4.5.2 |
| Pressure vacuum vents | 5 years | 11.4.8 |
| Proportioning system(s) standard pressure type | | |
| Ball drip (automatic type) drain valves | 5 years | 11.4.3.1 |
| Corrosion and hydrostatic test | 10 years | 11.4.3.34 |

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| Foam concentrate tank — drain and flush | 10 years | 11.4.3.2 |
| Standard balanced pressure type | | |
| Balancing valve diaphragm | 5 years | 11.4.6.3 |
| Foam concentrate pump(s) | 5 years (<i>see Note</i>) | 11.4.6.2 |
| Foam concentrate tank | 10 years | 11.4.6.4 |
| Strainer(s) — mainline | 5 years | 11.2.7.6.1 |
| Water supply | Annually | 11.2.6.15 |
| Water supply tank(s) | See Chapter 9 | <u>Chapter 9</u> |

Note: Also refer to manufacturer's instructions and frequency. Maintenance intervals other than preventive maintenance are not provided, as they depend on the results of the visual inspections and operational tests. For foam-water sprinkler systems in aircraft hangars, refer to the inspection, test, and maintenance requirements of NFPA 409, Table 11.1.1.

8. In Table 13.1.1.2, correct the cross references to read as follows:

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

| Item | Frequency | Reference |
|---|------------------|-----------------|
| Inspection | | |
| <i>Backflow Prevention Assemblies</i> | | |
| Reduced pressure | Weekly/monthly | 13.67.1 |
| Reduced-pressure detectors | Weekly/monthly | 13.67.1 |
| <i>Check Valves</i> | | |
| Interior | 5 years | 13.4.2.1 |
| <i>Control Valves</i> | | |
| Sealed | Weekly | 13.3.2.1 |
| Locked or electrically supervised | Monthly | 13.3.2.1.1 |
| <i>Dry Pipe Valves/ Quick-Opening Devices</i> | | |
| Gauges | Weekly/monthly | 13.2.7 |
| Enclosure (during cold weather) | Daily/weekly | 13.4.4.15.1 |
| Exterior | Monthly | 13.4.4.1.45.1.3 |
| Interior | Annually | 13.4.4.1.55.1.4 |
| Strainers, filters, orifices | 5 years | 13.4.4.1.65.1.5 |
| <i>Deluge Valves</i> | | |
| Enclosure (during cold weather) | Daily/weekly | 13.4.4.1 |
| Exterior | Monthly | 13.4.4.1.53 |
| Interior | Annually/5 years | 13.4.4.1.64 |

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| Strainers, filters, orifices | 5 years | 13.4.4.1.75 |
| <i>Fire Department Connections</i> | Quarterly | 13.78.1 |
| <i>Preaction Valves</i> | | |
| Enclosure (during cold weather) | Daily/weekly | 13.4.3.1 |
| Exterior | Monthly | 13.4.3.1.63 |
| Interior | Annually/5 years | 13.4.3.1.74 |
| Strainers, filters, orifices | 5 years | 13.4.3.1.85 |
| <i>Pressure-Reducing and Relief Valves</i> | | |
| Sprinkler systems | Quarterly | 13.5.1.1 |
| Hose connections | Annually | 13.5.2.1 |
| Hose racks | Annually | 13.5.3.1 |
| <i>Fire pumps</i> | | |
| Casing relief valves | Weekly | 13.5.7.1, 13.5.7.1.1 |
| Pressure-relief valves | Weekly | 13.5.7.2, 13.5.7.2.1 |
| <i>Valve Supervisory Signal Initiating Device</i> | Semiannual | 13.3.2.1.23 |
| <i>Supervisory Signal Devices (except valve supervisory switches)</i> | Quarterly | 13.2.8.1 |
| <i>Alarm Valves</i> | | |
| Exterior | Monthly | 13.4.1.1 |
| Interior | 5 years | 13.4.1.2 |
| Strainers, filters, orifices | 5 years | 13.4.1.2 |
| <i>Hose Valves</i> | Quarterly | 13.6.1 |
| Testing | | |
| <i>Backflow Prevention Assemblies</i> | Annually | 13.7.2 |
| <i>Control Valves</i> | | |
| Position | Annually | 13.3.3.1 |
| Operation | Annually | 13.3.3.1 |
| Valve Status Test | After the control valve is reopened | 13.3.3.4 |
| Supervisory | Annually | 13.3.3.5 |
| <i>Deluge Valves</i> | | |
| Trip test | Annually/3 years | 13.4.4.2.3 |
| <i>Dry Pipe Valves/ Quick-Opening Devices</i> | | |
| Air leakage | 3 years | 13.4.45.2.9 |
| Priming water | Quarterly | 13.4.45.2.1 |
| Low air pressure alarm | Quarterly | 13.4.45.2.6 |
| Quick-opening devices | Quarterly | 13.4.45.2.4 |
| Trip test | Annually | 13.4.45.2.2 |

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|---|------------------------|---------------|
| Full flow trip test | 3 years | 13.4.45.2.2.2 |
| <i>Gauges</i> | 5 years | 13.2.7 |
| <i>Main Drains</i> | Annually/quarterly | 13.2.5 |
| <i>Preaction Valves</i> | | |
| Priming water | Quarterly | 13.4.3.2.1 |
| Low air pressure alarms | Quarterly/annually | 13.4.3.2.10 |
| Trip test | Annually/3 years | 13.4.3.2.3 |
| Air leakage | 3 years | 13.4.3.2.65 |
| <i>Pressure-Reducing and Relief Valves</i> | | |
| Sprinkler systems | 5 years | 13.5.1.2 |
| Circulation relief | Annually | 13.5.76.1.2 |
| Pressure relief valves | Annually | 13.5.76.2.2 |
| Hose connections | 5 years | 13.5.2.2 |
| Hose racks | 5 years | 13.5.3.2 |
| <i>Hose valves</i> | Annually | 13.6.2 |
| <i>Waterflow Alarms</i> | Quarterly/semiannually | 13.2.6 |
| <i>Supervisory Signal Devices (except valve supervisory switches)</i> | Annually | 13.2.8.2 |
| Maintenance | | |
| <i>Control Valves</i> | Annually | 13.3.4 |
| <i>Dry Pipe Valves/ Quick-Opening Devices</i> | Annually | 13.4.45.3 |
| <i>Hose Valves</i> | Annually | 13.6.3 |
| <i>Preaction Valves</i> | Annually | 13.4.3.3 |
| <i>Deluge Valves</i> | Annually | 13.4.4.3 |

9. In Table 13.11.1, correct the cross references to read as follows:

Table 13.11.1 Summary of Component Action Requirements

| Component | Adjust | Repair/ Recondition | Replace | Inspection, Test, and Maintenance Procedures |
|--|--------|------------------------|---------|---|
| Water delivery components | | | | |
| 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 inspection conforming to 13.3.3.1 and 13.3.3.2 |

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|--|---|---|---|--|
| | | | | (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 inspection 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 13.4.4/13.4.3 (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 13.4.4.2-25.2.9 (2) Trip test (3) Main drain test |
| Pressure-regulating device — hose valves | X | X | X | (1) Inspect for leaks at system pressure per 13.5.4.2 (2) Full flow test |

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|---|---|---|---|--|
| | | | | (3) Main drain test (Only when a control valve has been closed) |
| Pressure-regulating devices — other than hose valves | 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 |
| Hose valve | X | X | X | (1) Inspect for leaks at system pressure per Section 13.56 (2) Main drain test |
| Backflow prevention device | X | X | X | (1) Inspect for leaks at system pressure per Section 13.67 (2) Forward flow test per 13.67.2.1 (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 13.78 (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 (10 bar) (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 (3.5 bar) above the normal working pressure [200 psi (14 bar) 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 |

| Alarm and supervisory components | | | | |
|---|---|---|---|---|
| Alarm device | X | X | X | Test for conformance with NFPA 13 and/or <i>NFPA 72</i> |
| Supervisory device | X | X | X | Test for conformance with NFPA 13 and/or <i>NFPA 72</i> |
| System protection components | | | | |
| Pressure relief valve — fire pump installation | X | X | X | See 8.3.3.38 and 13.5.76 |
| 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 |
| Informational components | | | | |
| Identification signs | X | X | X | Inspect for compliance with NFPA 13 and 13.3.1 |

10. In Table A.3.3.7, correct the cross references to read as follows:

Table A.3.3.7 Water-Based Fire Protection System Inspection and Testing Findings

| Item | Finding | Reference | Critical | |
|--|---|-----------|------------|------------------------|
| | | | Impairment | Noncritical Deficiency |
| Chapter 5: Sprinkler Systems — Inspection | | | | |
| All sprinklers | Leaking — spraying or running water | 5.2.1.1.1 | X | |
| All sprinklers | Leaking — dripping water | 5.2.1.1.1 | | X |
| All sprinklers | Foreign material attached or suspended from | 5.2.1.1.1 | X | |
| All sprinklers | Spray pattern obstructed — less than 18 in. (457 mm) or 36 in. 915 mm) below deflector (stock, furnishings, and equipment), temporary or nonpermanent | 5.2.1.1.1 | | X |

| | | | | | |
|--|---|-----------|--|---|---|
| | (signs, banners, decorations, etc.) | | | | |
| All sprinklers | Lightly loaded | 5.2.1.1.1 | | | X |
| Standard-response sprinklers in nonresidential occupancies | One sprinkler and less than 50% of sprinklers in compartment is heavily loaded or corroded; painted operating element, bulb, deflector, or coverplate; improper orientation; glass bulb has lost fluid; damaged | 5.2.1.1.1 | | X | |
| Standard-response sprinklers in nonresidential occupancies | Two or more sprinklers in compartment are heavily loaded or corroded; painted operating element, bulb, deflector, or coverplate; improper orientation; glass bulb has lost fluid; damaged | 5.2.1.1.1 | | X | |
| Fast-response element, quick-response, residential sprinklers and standard-response in residential occupancies | Any sprinklers, heavily loaded or corroded; painted operating element, bulb, deflector, or coverplate; improper orientation; glass bulb has | 5.2.1.1.1 | | X | |

| | | | | |
|--------------------------------|--|---------------------------------|---|---|
| Coverplates | lost fluid; damaged Concealed sprinkler coverplates caulked or glued to ceiling | 5.2.1.1.1 | X | |
| Escutcheons and coverplates | Missing recessed or flush escutcheons, concealed coverplate with deflector and operating element in correct position | 5.2.1.1.6 | | X |
| Escutcheons and coverplates | Missing recessed or flush escutcheons, concealed coverplate with deflector and operating element not in correct position | 5.2.1.1.6 | X | |
| Escutcheons | Recessed or flush escutcheons caulked or glued to ceiling | 5.2.1.1.1 | | X |
| Spare sprinkler cabinet | Cabinet missing, temperature over 100°F, not proper number and type, missing wrench for each type | new 5.2.1.34(1), 5.2.1.34(2) | | X |
| Pipe and fittings | Leaking — slowly dripping and/or moisture on surface | 5.2.2.1 | | X |

| | | | | |
|---|--|--|---|---|
| Pipe and fittings | Leaking — spraying or running water | 5.2.2.1 | X | |
| Pipe and fittings | Critical mechanical damage | | | X |
| Hangers and seismic braces | Damaged or loose | 5.2.3.2 | | X |
| Hangers and seismic braces | Unattached | 5.2.3.2 | X | |
| Gauges | Poor condition | 5.2.4.1 <u>13.2.7.1.1</u> | | X |
| Gauges | Not showing normal water/air pressure | 5.2.4.1, 5.2.4, <u>13.2.7.1.2, 13.2.7.1.3</u> | X | |
| Gauges | Freezer — system pressure lower than compressor | 5.2.4.4 <u>13.2.7.1.4</u> | X | |
| Alarm devices | Physical damage apparent | 5.2.5 <u>4</u> | | X |
| Hydraulic design information sign | Not attached properly, illegible or missing | 5.2.6 <u>5</u> | | X |
| Information sign | Not attached, illegible or missing | New <u>5.2.7</u> | | X |
| Heat tape | Not in accordance with manufacturer's instructions | 5.2.7 <u>6</u> | X | |
| Chapter 5: Sprinkler Systems — Testing | | | | |
| Gauges | Not replaced or calibrated in 5 years, not accurate within 3% of scale | 5.3.2 <u>13.2.7.2/13.2.7.3</u> | | X |
| Alarm devices | Water motor and gong not functioning | 5.3.3 <u>2</u> | | X |
| Alarm devices | Pressure switch— or | 5.3.3 <u>2</u> | X | |

| | | | | |
|----------------------------------|---|---------------------------------|---|---|
| | vane-type switch not functioning or no alarm | | | |
| Antifreeze systems | Mixture and concentration does not meet requirements of 5.3.4.2.1 | 5.3.4 <u>3</u> | | X |
| Antifreeze systems | Concentration is inadequate to prevent freezing | Table A.5.3. <u>3</u> .4.2-1(1) | X | |
| Main drain | More than 10% drop in full flow pressure | 13.2.5. <u>23</u> | | X |
| Assessment of internal condition | Inspection revealed presence of MIC, zebra mussels, rust, and scale | 14.2.1 | | X |

Chapter 6: Standpipe and Hose Systems
— Inspection

| | | | | |
|-------------------|--|----------------------------|---|---|
| Pipe and fittings | Leaking — slowly dripping and/or moisture on surface | 6.2.1 | | X |
| Pipe and fittings | Leaking — spraying or running water | 6.2.1 | X | |
| Pipe and fittings | Critical mechanical damage | 6.2.1 | | X |
| Hose | Cuts, couplings not of compatible threads | 6.2. <u>45</u> , NFPA 1962 | | X |
| Hose | Deterioration, no gasket or damaged gaskets | 6.2. <u>45</u> , NFPA 1962 | | X |
| Hose | Mildew present, corrosion | 6.2. <u>45</u> , NFPA 1962 | | X |

| | | | |
|--|---|-------------------|---|
| | present, hose not connected | | |
| Hose nozzle | Missing, broken parts or thread gasket damaged | 6.2.46, NFPA 1962 | X |
| Hose storage | Hose not properly racked or rolled, nozzle clip missing, nozzle not contained, damaged, obstructed | 6.2.47, NFPA 1962 | X |
| Cabinet | Corroded or damaged parts, not easy to open, not accessible, not identified, door glazing in poor condition, lock not functioning in break glass type, valve, hose nozzle, fire extinguisher, etc. not readily accessible | 6.2.48, NFPA 1962 | X |
| Hydraulic design information sign | Missing | 6.2.32 | X |
| Chapter 6: Standpipe and Hose Systems | | | |
| — Testing | | | |
| Hose storage device | Rack will not swing out of cabinet at least 90 degrees | 6.2.47, NFPA 1962 | X |
| Standpipe system | Test results did not provide design pressure at required flow | 6.3.1.1 | X |
| Hydrostatic test of manual and semiautomatic dry standpipe systems | Leakage in inside piping | 6.3.2 | X |

| | | | | |
|--|--|---------------------|---|---|
| Main drain | More than 10% drop in full flow pressure | 6.3.1.5 13.2.5.3 | | X |
| Assessment of internal condition | Inspection revealed presence of MIC, zebra mussels, rust, and scale | 14.2.1 | | X |
| Chapter 7: Private Fire Service Mains | | | | |
| — Inspection | | | | |
| Exposed piping | Leaking — slowly dripping, and/or moisture on surface | 7.2.2.1.2 | | X |
| Exposed piping | Leaking — spraying or running water | 7.2.2.1.2 | X | |
| Exposed piping | Mechanical damage, corroded, not properly restrained | 7.2.2.1.2 | | X |
| Mainline strainers | Plugged, fouled | 7.2.2.3 | X | |
| Mainline strainers | Corroded | 7.2.2.3 | | X |
| Dry barrel, wet barrel, and wall hydrant | Inaccessible, barrel contains ice, cracks in barrel | 7.2.2.4 | X | |
| Dry barrel, wet barrel, and wall hydrant | Barrel contains water, improper drainage from barrel, leaks at outlets or top of hydrant | 7.2.2.4 | | X |
| Dry barrel, wet barrel, and wall hydrant | Tightness of outlets, worn nozzle threads, worn operating nut, missing wrench | 7.2.2.4 | | X |

| | | | | | |
|---------------------|----------------------------|---------|---|---|---|
| Monitor nozzles | Damaged, corroded, leaking | 7.2.2.6 | | X | |
| Hose/hydrant houses | Inaccessible | 7.2.2.7 | X | | |
| Hose/hydrant houses | Damaged | 7.2.2.7 | | X | |
| Hose/hydrant houses | Not fully equipped | 7.2.2.7 | | | X |

Chapter 7: Private Fire Service Mains — Testing

| | | | | | |
|--------------------------------|--|------------------|--|---|---|
| Underground and exposed piping | Test results not comparable to previous results | 7.3.1 | | X | |
| Dry barrel and wall hydrant | Hydrant did not flow clear or did not drain within 60 minutes | 7.3.2.1, 7.3.2.4 | | | X |
| Monitor nozzles | Did not flow acceptable amount of water, did not operate throughout their full range | 7.3.3.1, 7.3.3.2 | | X | |

Chapter 8: Fire Pumps — Inspection

| | | | | | |
|-----------------|---|----------|---|---|--|
| Pump house/room | Ventilating louvers not free to operate | 8.2.2 | | X | |
| Pump house/room | Heat not adequate, temperature less than 40°F | 8.2.2(1) | X | | |
| Pump house/room | Heat not adequate, temperature less than 70°F for diesel pumps without engine heaters | 8.2.2(1) | X | | |
| Pump house/room | Heat not adequate, temperature less than 40°F, not as recommended by the engine manufacturer, | 8.2.2(1) | X | | |

| | | | | |
|---------------------------------|---|----------|---|---|
| | for diesel pumps with engine heaters | | | |
| Pump system | Suction, discharge, or bypass valves not fully open, pipe leaking, suction line and system line pressure not normal, wet pit suction screens obstructed | 8.2.2 | X | |
| Pump system suction | Reservoir empty | 8.2.2 | X | |
| Pump system | Suction reservoir does not have required water level, wet pit suction screens missing | 8.2.2 | | X |
| Pump system | Minor leaking or drips on floor | 8.2.2(2) | | X |
| Pump system | Suction, discharge, or bypass valves not fully open, major leaking such as spraying or leaking to extent that pump performance might be questioned | 8.2.2(2) | X | |
| Electrical power to pump system | No electrical power — controller pilot light not illuminated, transfer switch pilot light not illuminated, isolating switch not closed, reverse | 8.2.2(3) | X | |

| | | | | |
|---------------------------------|---|----------|---|---|
| | phase alarm pilot light on or normal phase light is off, oil level in vertical motor sight glass not normal | | | |
| Electrical power to pump system | Electrical power is provided — controller pilot light not illuminated, transfer switch pilot light not illuminated, reverse phase alarm pilot light on, normal phase light is not illuminated | 8.2.2(3) | | X |
| Electrical power to pump system | Circuit breakers and fuses tripped/open | 8.2.2(3) | X | |
| Diesel engine system | Fuel tank empty | 8.2.2 | X | |
| Diesel engine system | Alarm pilot lights are on | 8.2.2(4) | | X |
| Diesel engine system | Battery charging current not normal | 8.2.2(4) | | X |
| Diesel engine system | Battery failure pilot lights on | 8.2.2(4) | | X |
| Diesel engine system | Battery pilot lights off | 8.2.2(4) | | X |
| Diesel engine system | Battery terminals corroded | 8.2.2(4) | | X |
| Diesel engine system | Battery voltage readings not normal | 8.2.2(4) | | X |
| Diesel engine system | Controller selector switch not in auto position | 8.2.2(4) | X | |

| | | | | |
|----------------------|--|----------|---|---|
| Diesel engine system | Cooling water level not normal | 8.2.2(4) | | X |
| Diesel engine system | Cooling water level not visible | 8.2.2(4) | X | |
| Diesel engine system | Crankcase oil level not normal | 8.2.2(4) | | X |
| Diesel engine system | Crankcase oil level below low level | 8.2.2(4) | X | |
| Diesel engine system | Electrolyte level in batteries not normal | 8.2.2(4) | | X |
| Diesel engine system | Electrolyte level in batteries below top of battery plates | 8.2.2(4) | X | |
| Diesel engine system | Engine running time meter not reading | 8.2.2(4) | | X |
| Diesel engine system | Fuel tank less than two-thirds full | 8.2.2(4) | X | |
| Diesel engine system | Water-jacket heater not operating | 8.2.2(4) | X | |
| Diesel engine system | Oil level in right angle gear drive not normal (not at level mark but visible in sight glass) | 8.2.2(4) | | X |
| Diesel engine system | Oil level in right angle gear drive below low level (not visible in sight glass or below one finger knuckle for inspection hole) | 8.2.2(4) | X | |

| | | | | |
|---|---|-------------|--|---|
| Steam system | Steam pressure gauge reading not normal | 8.2.2 | | X |
| Chapter 8: Fire Pumps — Testing | | | | |
| Fire pump test | Pump did not start automatically | 8.3.2.2 | | X |
| | Pump failed to run for 10 minutes | 8.3.2.3 | | X |
| | Pump failed to run for 30 minutes | 8.3.2.4 | | X |
| Fire pump test — pump system | System suction and discharge gauge reading, or pump starting pressure not acceptable | 8.3.2.89(1) | | X |
| Fire pump test — pump system | Pump packing gland discharge not acceptable, unusual noise or vibration, packing boxes, bearings, or pump casing overheating | 8.3.2.89(1) | | X |
| Fire pump test — electrical motor-driven system | Time for motor to accelerate to full speed, time controller is on first step, or time pump runs after starting not acceptable | 8.3.2.89(2) | | X |
| Fire pump test — diesel engine-driven system | Time for engine to crank and time for engine to reach running speed not acceptable (engine to reach rated | 8.3.2.89(3) | | X |

| | | | | |
|--|--|-------------|---|---|
| | speed within 20 seconds per 11.2.7.1 of NFPA 20, 2013 edition) | | | |
| Fire pump test — diesel engine-driven system | Low rpm | 8.3.2.89(3) | X | |
| Fire pump test — diesel engine-driven system | Low oil pressure, high temperature, high cooling water pressure | 8.3.2.89(3) | | X |
| Fire pump test — diesel engine-driven system | Time for engine to crank and time for engine to reach running speed not acceptable, low rpm, low oil pressure, high temperature, high cooling water pressure | 8.3.2 | | X |
| Fire pump test — steam system | Gauge reading and time for turbine to reach running speed not acceptable | 8.3.2 | | X |
| Fire pump test — steam system | Gauge reading and time for turbine to reach running speed not acceptable | 8.3.2.89(4) | X | |
| Fire pump annual test | Circulation relief valve and/or pressure relief valve did not work properly at churn condition | 8.3.3.2(1)7 | | X |
| Fire pump annual test | Pressure relief valve did not work properly at each flow condition | 8.3.3.38 | | X |

| | | | |
|---|---|-------------|---|
| Fire pump annual test (with transfer switch) | Overcurrent protective devices opened when simulating a power failure condition at peak load, power not transferred to alternate source, pump did not continue to perform at peak load, pump did not reconnect to normal power after removing power failure condition | 8.3.3.49 | X |
| Fire pump annual test | Alarms did not properly operate | 8.3.3.510 | X |
| Pump house/room | Heating, lighting, ventilating systems did not pass test | 8.3.4.32.2 | X |
| Fire pump annual test | Parallel or angular alignment not correct | 8.3.6.4.4 | X |
| Fire pump annual test | Flow test results not within 5% of acceptance test or nameplate | 8.3.57.2.4 | X |
| Fire pump annual test | Voltage readings at motor not within 5% below or 10% above rated (nameplate) | 8.3.567.2.9 | X |
| Fire pump annual test | Flow test results not within 5% of initial unadjusted | 8.3.57.2.4 | X |

| | | | | |
|-------------------------|---|-------|---|--|
| | acceptance test or nameplate | | | |
| Diesel fuel annual test | Diesel fuel tested for degradation and failed | 8.3.4 | X | |

Chapter 9: Water Storage Tanks — Inspection

| | | | | |
|----------------|---|----------|---|---|
| Water level | Water level and/or condition not correct | 9.2.1 | | X |
| Water level | Tank is empty | 9.2.1 | X | |
| Air pressure | Air pressure in pressure tanks not correct | 9.2.2 | X | |
| Heating system | Heating system not operational, water temperature below 40°F | 9.2.32 | | X |
| Heating system | Water temperature at or below 32°F | 9.2.32 | X | |
| Exterior | Tank exterior, supporting structure, vents, foundation, catwalks, or ladders where provided damaged | 9.2.54.1 | | X |
| Exterior | Area around tank has fire exposure hazard in form of combustible storage, trash, debris, brush, or material | 9.2.54.2 | | X |
| Exterior | Accumulation of material on or near parts that could result in accelerated | 9.2.54.2 | | X |

| | | | | |
|---|--|-----------|---|---|
| | corrosion or rot | | | |
| Exterior | Ice buildup on tank and support | 9.2.54.2 | X | |
| Exterior | Erosion exists on exterior sides or top of embankments supporting coated fabric tanks | 9.2.54.2 | | X |
| Exterior | Expansion joints leaking or cracking | 9.2.54.3 | X | |
| Exterior | Hoops and grilles of wooden tanks in poor condition | 9.2.54.4 | | X |
| Exterior | Exterior painted, coated, or insulated surfaces of tanks or supporting structure degraded | 9.2.4.5.5 | | X |
| Interior (pressure tanks or steel tanks w/o corrosion protection every 3 years, all others every 5 years) | Pitting, corrosion, spalling, rot, other forms of deterioration, waste materials exist, aquatic growth, local or general failure of interior coating | 9.2.65.3 | | X |
| Interior (pressure tanks or steel tanks w/o corrosion protection every 3 years, all others every 5 years) | Voids beneath floor, with sand in middle of tanks on ring-type foundations | 9.2.65.5 | | X |
| Interior (pressure tanks or steel tanks w/o corrosion protection every 3 years, all others every 5 years) | Heating system components or | 9.2.65.6 | | X |

| | | | | |
|---|--|----------|---|---|
| protection every 3 years, all others every 5 years) | pipng in poor condition but working | | | |
| Interior (pressure tanks or steel tanks w/o corrosion protection every 3 years, all others every 5 years) | Heating system components or heating system piping in poor condition and not working | 9.2.65.6 | X | |
| Interior (pressure tanks or steel tanks w/o corrosion protection every 3 years, all others every 5 years) | Blockage of antivortex plate | 9.2.65.7 | X | |
| Interior (pressure tanks or steel tanks w/o corrosion protection every 3 years, all others every 5 years) | Deterioration of antivortex plate | 9.2.65.7 | | X |

Chapter 9: Water Storage Tanks — Testing

| | | | | |
|------------------|---|--------|---|---|
| Interior testing | Tank coating did not pass adhesion, coating thickness, or wet sponge test | 9.2.76 | | X |
| Interior testing | Tank walls and bottoms did not pass ultrasonic test | 9.2.76 | | X |
| Interior testing | Tank bottom seams did not pass vacuum-box test | 9.2.76 | | X |
| Testing | Level indicator not tested after 5 years, lacked freedom of movement, or not accurate | 9.3.1 | X | |
| Testing | Low water temperature alarm did not pass test | 9.3.3 | X | |
| Testing | High water temperature limit switch | 9.3.4 | | X |

| | | | |
|---------|--|----------------------------------|---|
| Testing | did not pass test High and low water level alarms did not pass test | 9.3.5 | X |
| Gauges | Not tested in 5 years, not accurate within 3% of scale | 9.3.6 <u>13.2.7.2</u> | X |

Chapter 10: Water Spray Fixed Systems — Inspection

| | | | |
|----------------------------|---|--------------------|---|
| Pipe and fittings | Mechanical damage, missing or damaged paint or coating, rusted or corroded, not properly aligned or trapped sections, low point drains not functioning, improper location of rubber-gasketed fittings | 10.2.4 <u>3</u> .1 | X |
| Hangers and seismic braces | Damaged or missing, not securely attached to structural or piping, missing or damaged paint or coating, rusted or corroded | 10.2.4 <u>3</u> .2 | X |
| Water spray nozzles | Discharge devices missing, not properly positioned or pointed in design direction, | 10.2.5 <u>4</u> .1 | X |

| | | | | |
|---------------------|---|-----------|---|---|
| | loaded or corroded | | | |
| Water spray nozzles | Missing caps or plugs if required, or not free to operate as intended | 10.2.54.2 | | X |
| Strainers | Strainer plugged or fouled | 10.2.76 | X | |
| Strainers | Strainer damaged or corroded | 10.2.76 | | X |
| Drainage | Trap sumps and drainage trenches blocked, retention embankments or dikes in disrepair | 10.2.87 | | X |
| Ultra-high-speed | Detectors have physical damage or deposits on lenses of optical detectors | 10.4.2 | | X |
| Ultra-high-speed | Controllers found to have faults | 10.4.3 | | X |

Chapter 10: Water Spray Fixed Systems — Testing

| | | | | |
|------------------|---|-------------|---|---|
| Operational test | Heat detection system did not operate within 40 seconds, flammable gas detection system did not operate within 20 seconds | 10.3.43.1+ | X | |
| Operational test | Nozzles plugged | 10.3.43.3.1 | X | |
| Operational test | Nozzles not correctly positioned | 10.3.43.3.1 | | X |

| | | | | |
|--------------------------------------|---|------------------------------|---|---|
| Operational test | Pressure readings not comparable to original design requirements | 10.3.3.4.4 | | X |
| Operational test | Manual actuation devices did not work properly | 10.3.6 <u>5</u> | X | |
| Main drain | More than 10% drop in full flow pressure | 10.3.7.1 13.2.5.3 | | X |
| Ultra-high-speed operational test | Response time was more than 100 milliseconds | 10.4.5 | X | |
| Assessment of the internal condition | Inspection revealed presence of MIC, zebra mussels, rust, and scale | 14.2.1 | | X |

Chapter 11: Foam-Water Sprinkler Systems — Inspection

| | | | | |
|----------------------------|---|-----------------|--|---|
| Alarm devices | Physical damage apparent | 11.1.3.1.3 | | X |
| Pipe and fittings | Mechanical damage, missing or damaged paint or coating, rusted or corroded, not properly aligned or trapped sections, low point drains not functioning, improper location or poor condition of rubber-gasketed fittings | 11.2.3 <u>2</u> | | X |
| Hangers and seismic braces | Damaged or missing, not | 11.2.4 <u>3</u> | | X |

| | | | | |
|------------------------------|---|-------------|---|---|
| | securely attached to structural or piping, missing or damaged paint or coating, rusted or corroded | | | |
| Foam-water discharge devices | Discharge devices missing | 11.2.54.1 | X | |
| Foam-water discharge devices | Discharge devices not properly positioned or pointed in design direction, loaded or corroded | 11.2.54.1 | | X |
| Foam-water discharge devices | Not free to operate as intended | 11.2.54.2 | | X |
| Foam-water discharge devices | Missing caps or plugs if required | 11.2.54.2 | | X |
| Foam-water discharge devices | Incorrect foam concentrate for application and devices | 11.2.54.4 | | X |
| Foam concentrate strainers | Blowdown valve open or not plugged | 11.2.6.47.2 | | X |
| Drainage | Trap sumps and drainage trenches blocked, retention embankments or dikes in disrepair | 11.2.87 | | X |
| Proportioning systems (all) | Proportioning system valves not in correct open/closed position in accordance with specified operating conditions | 11.2.98.3 | X | |

| | | | | |
|---|--|-------------|---|---|
| Proportioning systems (all) | Concentrate tank does not have correct quantity required by original design | 11.2.98.4 | | X |
| Proportioning systems (all) | Concentrate tank empty | 11.2.98.4 | X | |
| Standard pressure proportioner | Automatic drains (ball drip valves) not free or open, external corrosion on foam concentrate tanks | 11.2.98.5.1 | | X |
| Bladder tank proportioner | Water control valve to foam concentrate in "closed" position | 11.2.98.5.2 | X | |
| Bladder tank proportioner | Foam in water surrounding bladder | 11.2.98.5.2 | X | |
| Bladder tank proportioner | External corrosion on foam concentrate tank | 11.2.98.5.2 | | X |
| Line proportioner | Strainer damaged, corroded, pressure vacuum vent not operating freely | 11.2.98.5.3 | | X |
| Line proportioner | Strainer plugged or fouled | 11.2.98.5.3 | X | |
| Line proportioner | External corrosion on foam concentrate tank | 11.2.98.5.3 | | X |
| Standard balanced pressure proportioner | Sensing line valves not open, no power to foam liquid pump | 11.2.98.5.4 | X | |

| | | | | |
|---|---|-------------|---|---|
| Standard balanced pressure proportioner | Strainer damaged, corroded, plugged, or fouled, pressure vacuum vent not operating freely, gauges damaged or not showing proper pressures | 11.2.98.5.4 | | X |
| In-line balanced pressure proportioner | Sensing line valves at pump unit or individual proportioner stations not open, no power to foam liquid pump | 11.2.98.5.5 | X | |
| In-line balanced pressure proportioner | Strainer damaged, corroded, pressure vacuum vent not operating freely, gauges damaged or not showing proper pressures | 11.2.98.5.5 | | X |
| In-line balanced pressure proportioner | Strainer plugged or fouled | 11.2.98.5.5 | X | |
| Orifice plate proportioner | No power to foam liquid pump | 11.2.98.5.6 | X | |
| Orifice plate proportioner | Strainer damaged, corroded, pressure vacuum vent not operating freely, gauges damaged or not showing proper pressures | 11.2.98.5.6 | | X |

| | | | |
|---|---|--|---|
| Orifice plate proportioner | Strainer plugged or fouled | 11.2.98.5.6 | X |
| Chapter 11: Foam-Water Sprinkler Systems — Testing | | | |
| Alarm devices | Water motor and gong not functioning | 11.1.3.1.1, 11.3.1.1 13.2.6.1 | X |
| Alarm devices | Pressure switch or vane-type switch not functioning or no alarm | 11.1.3.1.2, 11.3.1.2 13.2.6.2 | X |
| Operational test | Fire detection system did not operate within requirements of <i>NFPA 72</i> | 11.3.2.45 | X |
| Operational test | Nozzles plugged | 11.3.2.67.1 | X |
| Operational test | Nozzles not correctly positioned | 11.3.2.67.1 | X |
| Operational test | Pressure readings not comparable to original design requirements | 11.3.2.783 | X |
| Operational test | Manual actuation devices not working properly | 11.3.4 | X |
| Operational test | Foam sample failed concentration test | 11.3.5 | X |
| Main drain | More than 10% drop in full flow pressure | 13.2.5.23 | X |
| Assessment of internal condition | Inspection revealed presence of MIC, zebra mussels, rust, and scale | 14.2.1 | X |

**Chapter 13: Valves, Valve Components,
and Trim — Inspection**

| | | | | |
|----------------------------------|---|-------------------------|---|---|
| Gauges | Poor condition | 13.2.7.1 | | X |
| Gauges | Not showing normal water/air pressure | 13.2.7.1 | X | |
| Control valve | Improper closed position | 13.3.2.2 | X | |
| Control valve | Improper open position, leaking | 13.3.2.2 | X | |
| Control valve | Not accessible, no appropriate wrench if required, no identification | 13.3.2.2 | | X |
| Control valve | Not sealed, locked, or supervised | 13.3.2.2 | X | |
| Alarm valve | External physical damage, trim valves not in appropriate open or closed position, retard chamber or alarm drain leaking | 13.4.1.1 | X | |
| Valve enclosure | Upon visual observation, enclosure not maintaining minimum 40°F (4°C) temperature | 13.4.3.1.1, 13.4.4.1.1 | X | |
| Valve enclosure | Low temperature alarms (if installed) are physically damaged | 13.4.3.1.1, 13.4.4.1.1 | X | |
| Preaction valve and deluge valve | External physical damage, trim valves not in | 13.4.3.1.63, 13.4.4.1.3 | X | |

| | | | | | |
|--|--|-------------------------|---|--|---|
| | appropriate open or closed position, valve seat leaking | | | | |
| Preaction valve and deluge valve | Electrical components not in service | 13.4.3.1.63, 13.4.4.1.3 | X | | |
| Dry pipe valve/quick-opening device | External physical damage, trim valves not in appropriate open or closed position, intermediate chamber leaking | 13.4.4.1.45.1.3 | | | X |
| Sprinkler pressure-reducing control valves | Not in open position | 13.5.1.1 | X | | |
| Sprinkler pressure-reducing control valves | Not maintaining downstream pressures in accordance with design criteria | 13.5.1.1 | | | X |
| Sprinkler pressure-reducing control valves | Leaking, valve damaged, hand wheel missing or broken | 13.5.1.1 | | | X |
| Hose connection pressure-reducing valves | Hand wheel broken or missing, hose threads damaged, leaking, reducer missing | 13.5.2.1 | | | X |
| Hose connection pressure-reducing valves | Cap missing | 13.5.2.1 | | | X |
| Hose rack assembly pressure-reducing valve | Hand wheel broken or missing, leaking | 13.5.3.1 | | | X |
| Hose valves | Leaking, visible obstructions, caps, hose threads, valve | 13.56.6.1 | | | X |

| | | | | |
|---|---|------------|---|---|
| | handle, cap gasket, no restricting device, damaged, or in poor condition | | | |
| Hose valves | Hose threads not compatible | 13.56.6.1 | X | |
| Backflow prevention assemblies | Reduced-pressure assemblies, differential-sensing valve relief port continuously discharging | 13.67.1.21 | | X |
| Fire department connection | Not accessible, damaged couplings, or clapper not operating properly or missing | 13.78.1 | X | |
| Fire department connection | Couplings and swivels damaged, do not rotate smoothly, check valve leaking, automatic drain not operating properly or missing | 13.78.1 | | X |
| Fire department connection | Missing identification sign | 13.78.1 | | X |
| Chapter 13: Valves, Valve Components, and Trim — Testing | | | | |
| Main drain | More than 10% drop in full flow pressure | 13.2.5.23 | | X |
| Alarm devices | Water motor and gong not functioning | 13.2.6.1 | | X |
| Alarm devices | Pressure switch or | 13.2.6.2 | | X |

| | | | | |
|----------------------|--|-----------------------|---|---|
| Gauges | vane-type switch not functioning, no alarm Not replaced or calibrated in 5 years, not accurate within 3% of scale | 13.2.7.2, 13.2.7.3 | | X |
| Control valve | Valve not operating through its full range | 13.3.3.1 | | X |
| Control valve | No spring or torsion felt in rod when opening post indicator valve | 13.3.3.2 | X | |
| Supervisory switches | No signal from two revolutions of hand wheel from normal position or when stem has moved one-fifth of distance from normal position, signal restored in position other than normal | 13.3.3.5.2 | | X |
| Preaction valve | Priming water level not correct | 13.4.3.2.1 | | X |
| Preaction valve | Pressure reading at hydraulically most remote nozzle and/or at valve not comparable to original design values | 13.4.4.23.2.2 | | X |
| Preaction valve | Three-year leakage test failed | 13.4.3.2.65 | | X |

| | | | | |
|----------------------------|---|--|---|---|
| Deluge valve | Annual full flow trip test revealed plugged nozzles, manual actuation devices did not operate properly | 13.4.3.2 <u>4</u> .2.3 | X | |
| Deluge valve | Pressure reading at hydraulically most remote nozzle and/or at valve not compatible with original design values | 13.4.3.2 <u>4</u> .2.3 | | X |
| Preaction valve | Low air pressure switch did not send signal, no alarm | 13.4.3.2.4 <u>2</u> <u>1</u> <u>0</u> | | X |
| Preaction and deluge valve | Low temperature switch did not send signal, no alarm | 13.4.3.2.1 <u>1</u> , 13.4.4.2.1 <u>4</u> | | X |
| Preaction valve | Automatic air maintenance device did not pass test | 13.4.3.2.4 <u>4</u> <u>1</u> <u>2</u> | | X |
| Dry pipe valve | Priming water level not correct | 13.4.4 <u>5</u> .2.1 | | X |
| Dry pipe valve | Test results not comparable with previous results | 13.4.4 <u>5</u> .2.2.2 | | X |
| Quick-opening device | Quick-opening device did not pass test | 13.4.4 <u>5</u> .2.4 | | X |
| Dry pipe valve | Low air pressure switch did not send signal, no alarm | 13.4.4 <u>5</u> .2.6 | | X |

| | | | | |
|--|--|-------------------------|---|---|
| Dry pipe valve | Low temperature switch did not send signal, no alarm | 13.4.45.2.7 | | X |
| Dry pipe valve | Automatic air maintenance device did not pass test | 13.4.45.2.8 | | X |
| Dry pipe system | Three-year leakage test failed | 13.4.45.2.9 | | X |
| Sprinkler pressure-reducing control valves | Test results not comparable to previous results | 13.5.1.2 | | X |
| Hose connection pressure-reducing valves | Test results not comparable to previous results | 13.5.2.2 | | X |
| Hose rack assembly pressure-reducing valve | Test results not comparable to previous results | 13.5.3.2 | | X |
| Hose valves (Class I and Class III standpipe system) | Annual test revealed valve leaking or difficult to operate | 13.5.6.2.1-1 | | X |
| Hose valves (Class II standpipe system) | Test revealed valve leaking or difficult to operate | 13.5.6.2.2,13.5.6.2.2.1 | | X |
| Backflow prevention assemblies | Did not pass forward flow test | 13.67.2.1 | X | |

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(Note: Electronic products and pamphlet reprints may have this errata incorporated. For current information about the NFPA Codes and Standards, including this errata, please see www.nfpa.org/docinfo)