

Functional Testing


CODE REQUIREMENTS

WEEKLY

 **Diesel Fire Pumps** NFPA 25
Operate fire pump under no-flow conditions for 30 minutes
Make visual observations according to checklist for pump and diesel engine

MONTHLY

 **Emergency Lights/Exit Signs** NFPA 101
30-Second quick check


 **Electric Fire Pumps** NFPA 25
Operate fire pump under no-flow conditions for 10 minutes
Make visual observations according to checklist for pump and electrical system


QUARTERLY

 **Sprinklers** NFPA 25
Mechanical water flow alarm devices — Water motor gongs
Valves, Valve Components
Low air pressure alarms, quick opening devices, priming water

SEMI-ANNUALLY

 **Hood Suppression Systems** NFPA 17A and 96
Test operation of detection system and releasing devices
Replace fusible links

 **Sprinklers** NFPA 25
Vane-type and pressure-switch type waterflow devices
Valves, Valve Components
Control valve supervisory switches — Tamper switches

 **Fire Alarm Systems** NFPA 72
Optical flame detectors, valve tamper switches, water flow switches

ANNUALLY

 **Clean Agent Suppression** NFPA 2001
Test all systems devices — Detectors, pull stations, abort stations discharge circuits, audible and visual devices • Agent quantity and pressure shall be verified to design specification
Agent distribution piping network integrity verified • Functional test of all detection, actuating inputs, alarm-sounding or displaying devices, remote annunciators, air-handling shutdown, and power shutdown relays per original design

 **Emergency Lights/Exit Signs** NFPA 101
90 Minute drain test and inspection, verification of charge voltage, alignment of light heads, hazard assessment, inspection sticker, required paperwork

 **Fire Alarm Systems** NFPA 72
Control Equipment (FACP): Building Systems Connected to Supervising Station
Functions, fuses, interface equipment, lamps & LEDs, primary power supply

Batteries

Emergency Voice/Alarm Communications Equipment

Remote Annunciators

Initiating Devices

Duct smoke detectors, electromechanical releasing devices • Fire extinguishing system or suppression system switches • Fire alarm boxes (manual pull stations)
Detectors: heat, smoke, gas, carbon monoxide, and others

Special Hazard Equipment

Initiating and releasing circuits, releasing devices, abort devices

Alarm Notification Devices

Audible devices, visible devices


Supervising Station Fire Alarm Systems - Transmitters

Dialer, DACT, DART, all other transmitters

Mass Notification Systems

Emergency Control Functions and Equipment

 **Portable Fire Extinguishers** NFPA 10
Maintenance: Conductivity test of all carbon dioxide hose assemblies • Pressure regulators on wheeled units • Uncoil and inspect hoses on wheeled units. Empty and recharge all stored-pressure loaded-stream fire extinguishers

 **Sprinklers** NFPA 25
Main drain, antifreeze solution concentration

Valves, Valve Components

Pressure reducing valves/relief valves (partial flow)

Master pressure reducing valves (full flow)

Control valves, dry system and deluge full trip test, preaction valve partial trip test

Low-temp alarms at beginning of heating season

Air maintenance device

Backflow Prevention Assemblies

Full forward flow test

Standpipes

Main drain test, hose valves, valves (all types)

Private Fire Service Mains

Monitor nozzles, hydrants

Fire Pump System

Fire pump alarm signals, full flow test, and perform annual maintenance

 **Two-Way Radio Communication Enhancement Systems** NFPA 1221
Operational test under normal conditions

3 YEAR CYCLE


 **Fire Alarm Systems** NFPA 72
Replace batteries or perform a load test to see if performance is acceptable


 **Sprinklers** NFPA 25
Dry and preaction system full flow trip test
Dry and preaction system air leakage test

 **Portable Fire Extinguishers** NFPA 10
Replace liquid charge-type AFFF and FFFP extinguishers — Perform internal examination at that time

5 YEAR CYCLE

 **Clean Agent Suppression** NFPA 2001
Hydrostatic test discharge hoses or replace
Check valves tested, change initiators

 **Portable Fire Extinguishers** NFPA 10
Internal inspection and hydrostatic test of stored-pressure water, water mist, and loaded stream extinguishers
Internal inspection and hydrostatic test of wetting agent, AFFF, FFFP, dry chemical (stainless steel shells), carbon dioxide, and wet chemical extinguishers
Hydrostatic test of pressure cartridges associated with portable extinguishers and wheeled units
Hydrostatic testing of carbon dioxide hoses equipped with a shut-off valve

 **Sprinklers** NFPA 25
Test gauges or replace
Sprinklers — Extra-high temperature/corrosive atmosphere
Check Valves — Test or replace
Piping internal inspection for obstructions

Standpipe — Full Flow Test Remote Point

Hose connection pressure reducing valves (Full Flow)

Hydrostatically test manual and dry standpipes

Standpipe Hoses

5-Year test for new hoses and every 3 years thereafter

Valve, Valve Components

Pressure reducing valves and relief valves (full flow)

Private Fire Service Mains


Full flow test


 **Two-Way Radio Communication Enhancement Systems** NFPA 1221
Full re-acceptance test of system

6 YEAR CYCLE

 **Portable Fire Extinguishers** NFPA 10
Perform internal investigation on stored-pressure extinguishers which require a 12-year hydrostatic test

12 YEAR CYCLE

 **Hood Suppression Systems** NFPA 17A
Hydrostatic test of all containers and hose assemblies

 **Portable Fire Extinguishers** NFPA 10
Hydrostatic test of cartridge-operated dry chemical and dry powder extinguishers with mild steel shells
Hydrostatic test of halogenated (clean agent) extinguishers

LONG TERM CYCLES

 **Clean Agent Suppression** NFPA 2001
CGA (Compressed Gas Actuator) — Replace at 10 years and every 10 years thereafter

 **Sprinklers** NFPA 25
Standard Response Sprinklers
Replace all sprinklers or test to keep at 50 years
Quick Response Sprinklers
Replace all sprinklers or test to keep at 20 years
Dry Type Sprinklers
Replace all sprinklers or test to keep at 15 years

20210616SM | Revised: 08/11/2022






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See other side for VISUAL INSPECTIONS Requirements

Visual Inspections



DAILY/WEEKLY

-  **Fire Alarm Systems** NFPA 72
Unmonitored control panels — Check for normal condition and any trouble or supervisory signals
-  **Fire Pump** NFPA 25
Pump system — valves open, no leaks, pressure gauges at normal readings
Electrical system or diesel system normal
Pump house heat working and above 40°F
Circulation relief and pressure relief valves
-  **Sprinklers and Standpipes** NFPA 25
Gauges on dry, preaction, and deluge systems – Inspect for condition and normal pressures
- Valves, Valve Components, Trim Inspections**
Control valves — Normal position, tamper switches or locks, accessible, leak-free, signage
Master pressure reducing valves
Enclosures — Maintain above 40°F — Inspect daily if no low-temp alarm
- Backflow Prevention Assemblies**
Check BFP is not discharging water
- Standpipes**
Sealed control valves

MONTHLY





-  **Hood Suppression System** NFPA 17A
Owner's inspection — Extinguishing system in proper location, manual actuators unobstructed, tamper seals intact, system tag in place, no obvious physical damage, pressure gauge in operable range, nozzle blow-off caps intact, no modifications to protected equipment
-  **Portable Fire Extinguishers** NFPA 10
Location in designated place
No obvious physical damage, corrosion, or clogged nozzle
No obstruction to access or visibility — Nameplate facing outward
Safety seals or tamper indicators not broken or missing
Pressure gauge reading in the operable range
Test for agent fullness by lifting or "hefting"
Wheeled units — Condition of wheels, hose, and nozzle
Non-rechargeable units — Check pressure indicator
Record inspection date on tag with initials
-  **Sprinklers and Standpipes** NFPA 25
Gauges on wet systems — Inspect for condition and normal pressures
Air pressure gauges on dry and preaction systems if electronically supervised
- Valves, Valve Components, Trim Inspections**
Control valves — Normal position, tamper switches or locks, accessible, leak-free, signage
Alarm and alarm check valves — Exterior inspection
Dry pipe, deluge, preaction valves — Exterior inspection
- Backflow Prevention Assemblies**
Control valves — Tamper switches or locks
- Standpipes**
Control valves — Tamper switches or locks

QUARTERLY





-  **Sprinklers** NFPA 25
Water flow alarm and all supervisory devices — Tamper switches
Fire department connections
Pressure reducing valves and relief valves
-  **Fire Alarm Systems** NFPA 72
Initiating Devices
Optical flame detectors, video smoke/fire detectors

CODE REQUIREMENTS



SEMI-ANNUALLY

-  **Hood Suppression System** NFPA 17A and 96
Certified technician's inspection
-  **Clean Agent Suppression** NFPA 2001
Visually inspect all field devices, measure agent quantity, and cylinder pressure
Fill out cylinder tags
-  **Fire Alarm Systems** NFPA 72
Fire alarm panel trouble signals, emergency voice/alarm communications equipment, remote annunciators, surge suppressors, panel batteries
- Initiating Devices**
Air sampling smoke detectors
Duct smoke detectors
Electromechanical releasing devices
Fire extinguishing system or suppression system switches
Fire alarm boxes (pull stations)
Detectors — heat, smoke, beam, carbon monoxide
Water flow devices
Supervisory signal devices
- Notification Appliances**
-  **Two-Way Radio Communication Enhancement Systems** NFPA 1221
Power, secondary power, fault indication, communication to FACP, physical damage

ANNUALLY

-  **Clean Agent Suppression** NFPA 2001
System hoses
Inspect enclosure to determine if penetrations have occurred that could lead to agent leakage
-  **Portable Fire Extinguishers** NFPA 10
Normal monthly inspection requirements, plus:
Inspect shell for damage or corrosion
Inspect hose and nozzle for blockage
Labels present, legible, and facing forward
Check for next 6-year internal or hydrostatic test date
Replace tamper seal
Remove extinguisher and inspect hanger, bracket, or storage cabinet
-  **Sprinklers** NFPA 25
Visually inspect from floor — Sprinklers, pipe and fittings, pipe hangers and seismic bracing
Spare sprinklers in spare sprinkler cabinet
Hydraulic design information sign
- Standpipes**
Piping
Hose racks
Hose connections and hose valves
Hose and hose nozzles
- Valves, Valve Components, Trim Inspections**
Interior inspections — Dry pipe valves, preaction, and deluge valves
- Private Fire Service**
Hydrants
Main line strainers
-  **Fire Alarm Systems** NFPA 72
Fire Alarm Panels
Fuses, interfaced equipment, lamps and LEDs, main power supply
Supervising station alarm system transmitters — dialer, DACT, cellular dialer, radio transmitter, IP transmitter
- NAC Extender Power Panels**
- Mass Notification Equipment**

5 YEAR CYCLE

-  **Clean Agent Suppression** NFPA 2001
External visual inspection on agent cylinders following CGA-C6
-  **Sprinklers** NFPA 25
Internal obstruction investigation of piping
- Valves, Valve Components, Trim Inspections**
Interior inspections — Alarm valves, check valves, alarm/check valves, filters, and strainers
Interior inspections — Externally resettable preaction and deluge valves

20210616SM | Revised: 08/11/2022

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