

## Station Fire Protection Systems/Equipment Routine

### Expectations

1. Perform station inspection, testing, and maintenance work and correct minor issues encountered.
2. Log issues and associated corrections in the Station Log Book.
3. If any issues need additional action, submit a work request and make a note under "Comments."
4. Complete the appropriate forms with each station visit and submit them to the appropriate supervisor.
5. Keep records on site for a minimum of 5 years.

The California Fire Code (invoked as law under Titles 19 and 24 to the California Code of Regulations) requires that various inspection, testing, and maintenance (IT&M) activities be performed on fire protection equipment and systems. The frequencies and requirements for these IT&M activities are contained in the National Fire Protection Association (NFPA) standards listed in Table 1 below.

Table 1. NFPA Standards

Fire Protection System or Equipment	NFPA Reference
Portable fire extinguishers	10
Foam extinguishing systems	11
Carbon dioxide extinguishing systems	12
Automatic halon extinguishing systems	12A
Sprinkler systems	13
Standpipe and hose	14
Water spray systems	15
Fire pumps	20
Water storage tanks	22
Water mains and hydrants	24
IT&M of water based systems	25
Detection and alarm systems	72
Clean agent (gaseous) systems	2001

The requirements and frequencies for the various IT&M activities from the documents listed above are summarized in the tables on the following pages.

**Note:** Activities that must be conducted by a qualified vendor licensed in the State of California are identified with an asterisk (\*).

Table 2. Monthly Inspections

System or Equipment	Sat.	Unsat.	Corrections?
<b>Portable Fire Extinguishers</b>			
<b>General fire extinguisher inspection:</b> <ul style="list-style-type: none"> <li>• Check the extinguisher to ensure that it is fully charged (i.e., pressure indicator is in the green zone) and in good overall condition.</li> <li>• Check for obvious signs of physical damage (e.g., broken parts, cracked hose), corrosion, leakage, or prior use (i.e., broken seals or missing pins).</li> <li>• Portable extinguishers must be readily visible (or indicated by signs), accessible, and properly mounted in their designated locations.</li> <li>• Check the last service date. Log on the extinguisher tag the date of inspection and employee's name or LAN ID.</li> <li>• If damaged or otherwise found deficient, replace the extinguisher with an equivalent spare. Note any abnormal conditions found.</li> </ul>			
<b>Hydrants, Hose Stations (Hose Houses), Fire Department Connections</b>			
Visually check the general condition of hydrants, hose stations, and fire department connections for obvious signs of damage and that access is free of obstructions.			
Visually check that hose houses contain the required equipment (e.g., hose, nozzles, wrench, adapters/fittings) and are free of damage.			
<b>Sprinkler Systems (Wet Pipe, Dry Pipe, Pre-Action, and Water Spray)</b>			
Verify that all system gauges are in good condition, and that system pressure is being maintained.			
Verify that control valves are in the proper positions, and that access to the valves is free of obstructions (approximately 3-foot [ft] clearance).			
Visually check that alarm devices (e.g., horns/bells) are in good condition.			
<b>Fire Water Supplies (Pumps, Tanks, Feed from Public Main)</b>			
Verify that all water supply control valves are secured open (i.e., by chains, seals, or tamper switches).			
Verify that fire pumps start automatically on low pressure.			
<b>Detection (Smoke, Heat, UV/IR) and Alarms</b>			
Verify that the fire alarm control panel (FACP) is in "normal-ready" mode.			
Inspect the back-up battery for signs of corrosion.			
<b>Other Fire Extinguishing Systems (Hi-Ex Foam, Gaseous)</b>			
Verify that all system components are in good condition, and the system is in normal mode.			
Refer to the manufacturer's instructions for additional requirements/guidance.			

Date:

Name:

Comments:

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**Table 3. Quarterly Inspections**

System or Equipment	Sat.	Unsat.	Corrections?
<b>Portable Fire Extinguishers</b>			
No additional requirements beyond the monthly inspections.			
<b>Hydrants, Hose Stations (Hose Houses), Fire Department Connections</b>			
No additional requirements beyond the monthly inspections.			
<b>Sprinkler Systems (Wet Pipe, Dry Pipe, Pre-Action, and Water Spray)</b>			
Verify that sprinkler heads/spray nozzles are in good condition and that there are no obstructions (18-inch clearance) that could affect their spray pattern.			
Check the stock of spare sprinklers (orifice size and temperature rating).			
<b>Fire Water Supplies (Pumps, Tanks, Feed from Public Main)</b>			
No additional requirements beyond the monthly inspections.			
<b>Detection (Smoke, Heat, UV/IR) and Alarms</b>			
No additional requirements beyond the monthly inspections.			
<b>Other Fire Extinguishing Systems (Hi-Ex Foam, Gaseous)</b>			
* Have each system serviced <b>semi-annually</b> by a qualified vendor, or as specified in accordance with the manufacturer's instructions.			

\* **Note:** These activities must be conducted by a state-qualified vendor.

Date:

Name:

Comments:

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**Table 4. Annual Inspection, Test and Maintenance**

System or Equipment	Sat.	Unsat.	Corrections?
<b>Portable Fire Extinguishers</b>			
* Have each portable extinguisher serviced by a qualified vendor.			
<b>Hydrants, Hose Stations (Hose Houses), Fire Department Connections (FDCs)</b>			
Remove caps on hydrants and FDCs to ensure the pipe is free of obstructions.			
Verify that hose rack/reel and nozzles operate smoothly.			
Remove the hose from the rack and check for mildew, cuts, abrasions, and other indication of deterioration. Re-rack the hose to ensure there are no kinks.			
Verify the hose hydrostatic test date (within 3-years) and service pressure.			
<b>Sprinkler Systems (Wet Pipe, Dry Pipe, Pre-Action, and Water Spray)</b>			
Operate the inspector's test valve to verify that local and remote water flow alarms activate within 90 seconds.			
Test all tamper switches or supervisory devices for receipt of trouble signals.			
Conduct a main drain test to verify the availability of adequate pressure (record static and residual pressures).			
Trip test water spray and pre action valves.			
<b>Fire Water Supplies (Pumps, Tanks, Feed from Public Main)</b>			
Conduct a fire pump test, and verify the pump operates within the pump curve.			
Cycle water supply and ensure proper operation of isolation valves.			
<b>Detection (Smoke, Heat, UV/IR) and Alarms</b>			
Test each initiating device (i.e., detectors, manual pulls) and verify proper operation of local horns/strobes.			
* Calibrate (sensitivity test) detectors in accordance with the manufacturer's instructions.			
Verify that alarm signals (trouble and fire) are being monitored.			
<b>Other Fire Extinguishing Systems (Hi-Ex Foam, Gaseous)</b>			
* Have each system serviced semi-annually by a qualified vendor, or as specified in accordance with the manufacturer's instructions.			
<b>Other - Fire Pre-Plans and Fire Barriers</b>			
Review the facility's Fire Pre-Plans (if it exists) to ensure the plans represent the existing conditions of the facility. Contact the Operations Specialists if updates are needed.			
Inspect "critical" barriers (as noted on the Fire Pre-Plans) to ensure the integrity of the barriers are intact (i.e., penetrations sealed, doors properly latch) to prevent propagation of fire or smoke. Contact Station Engineering if repairs are needed.			

\* **Note:** These activities must be conducted by a state-qualified vendor.

Date: \_\_\_\_\_

Name: \_\_\_\_\_

Comments:

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**Table 5. 5-Year Service/Test**

System or Equipment	Sat.	Unsat.	Corrections?
<b>Portable Fire Extinguishers</b>			
* Perform hydrostatic tests every 6 years for halon and dry chemical extinguishers and every 5 years for all other types of extinguishers.			
<b>Hydrants, Hose Stations (Hose Houses), Fire Department Connections (FDCs)</b>			
Back flush FDCs to verify that there are no obstructions.			
Flow hydrants and verify the adequacy of the water supply (record flow and pressure).			
<b>Sprinkler Systems (Wet Pipe, Dry Pipe, Pre-Action, and Water Spray)</b>			
* Have a qualified vendor conduct a 5-year service.			
Inspect and clean the inside of alarm valves, including any strainers.			
<b>Fire Water Supplies (Pumps, Tanks, Feed from Public Main)</b>			
Cycle post indicator valves, underground gate valves, and OS&Y valves to verify proper operation.			
<b>Detection (Smoke, Heat, UV/IR) and Alarms</b>			
No additional requirements.			
<b>Other Fire Extinguishing Systems (Hi-Ex Foam, Gaseous)</b>			
No additional requirements.			

\* **Note:** These activities must be conducted by a state-qualified vendor.

Date: \_\_\_\_\_

Name: \_\_\_\_\_

Comments:

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