

A program to help keep sprinklers working properly.



A simple program of inspection, testing and maintenance will greatly reduce the chance of sprinkler system malfunction during a fire.

Although automatic sprinkler systems are quite simple and provide dependable protection with a minimum amount of care, systems that are not tested and maintained may become inoperable—and increase the potential for a large fire loss.

Some practical advice to help you stay safe.

A regularly-scheduled testing program will ensure that the outside water supply is not impaired and that your facility alarms will sound as they should and signal the fire department.

Alarm testing and 2" main drain testing should be completed on a regular basis. The suggested frequencies which follow are minimums. The presence of high hazard operations may require more frequent inspections.

Alarm testing.

The following are procedures for testing your sprinkler system's alarms:

- **Mechanical water flow alarms** sound when the movement of water forces a paddle wheel to ring the motor-water gong. Test your mechanical alarm *quarterly*. If your alarms are also monitored by an alarm company, notify them before proceeding with the test. The alarm should be received by the central station within 90 seconds of opening the inspector's test connection.
- **Electrical flow switch alarms** use sensing switches to send a signal to an alarm panel and an off-site alarm company. Both alarms are tested by opening the inspector's test connection valve. Testing of the electrical flow alarms should be completed *semi-annually*.
- **Supervisory valve alarms** ("tamper alarms") deploy an electrical switch to signal when the water supply valve either is closed, partially closed or being "tampered" with. These alarms should be tested *semi-annually*. Before proceeding, inform the alarm company that you intend to test the tamper alarm system and then follow these steps:
 - If necessary, first unlock the valve
 - Then, turn the operating wheel or wrench three complete rotations in the closed direction
 - Wait 30 seconds, then return the valve to the fully-open position
 - Finally, contact the alarm company to determine if the signal was received

Main drain testing.

Your purpose for conducting 2" main drain testing is to confirm that there are no major obstructions between the riser and the water supply. Obstructions can develop in the piping outside or inside your facility. The 2" drain is attached directly to the sprinkler system riser and is generally piped through an exterior wall to the outside.

- **Quarterly testing:** If your sprinkler system has one or more risers supplied through a backflow preventer, you should test at least *one riser each quarter*.
- **Annual testing:** Test *all* risers each year.

Post test results on a tag on each riser and keep an additional written report in your files.

The results of the 2" drain test should be compared to previous tests. Changes in pressures or low pressure (below 30 psi) warrant further investigation by a qualified sprinkler contractor.

Important note: Use good judgment in performing these tests. If the 2" drain discharges outside, do not perform tests during freezing weather if it will result in ice forming on sidewalks, steps, parking lots, streets or other roadways.

For additional information.

This bulletin provides general information on sprinkler system testing and references *NFPA 25: Standard for the Inspection, Testing and Maintenance of Water-Based Fire Protection Systems (Table 5.1.1.2 and 13.1.1.2)*. It is not intended to replace the NFPA standards, consultation of a qualified sprinkler contractor or engineer. Consult your local authority having jurisdiction or fire chief to determine if more stringent requirements exist, such as the use of chained control valves or more frequent testing.



Who can complete this testing?

Quarterly main drain testing can be completed by a qualified employee, but the annual test must be completed by a licensed automatic sprinkler contractor. Likewise, quarterly water flow alarm testing can be completed by a qualified employee, but the annual test must be completed by your central station alarm contractor.

It is important to evaluate the capability of your employees to complete the necessary work. If in doubt, contract with a qualified professional. Whether testing is conducted by an outside sprinkler company or your own personnel, testing records must be kept on file.

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