

***PURPOSE***

This guideline provides basic procedures and information for use in department operations concerning properties equipped with fixed fire protection systems. This will include wet pipe, dry pipe, deluge, pre-action, combination, and *non-automatic* sprinkler systems.

OBJECTIVE

To provide guidelines that assist personnel in effectively supporting automatic sprinkler systems and operating in sprinklered buildings.

SCOPE

All Personnel

ARRIVAL

The first arriving unit shall establish command as directed by guideline **3105.005 (Incident Management)**. An initial size-up shall be completed and the location of the fire should be determined. During size-up, the fire department connection (FDC) should also be located.

SUPPORTING SPRINKLER SYSTEMS

The first arriving engine shall be responsible for supplying water to the sprinkler system, as well as securing a 5" supply line to a hydrant. However, the first arriving engine may elect to have the second arriving engine lay the supply line from the hydrant and supply the sprinkler system if it is arriving simultaneously, the main entrance to the building is extremely remote from the FDC, or if the first arriving engine company must address an immediate rescue situation.

Metallic and plastic "break away" caps protecting the siamese connections, may be removed by striking the center of the cap with a striking tool or by prying one of the screw eyes off the pin lug. **NOTE:** Some siamese connections may be secured with the Knox FDC cap system, if so these will require the use of the Knox FDC cap key.

NOTE: Some of the newer commercial structures that are augmented with a fire pump operate at pressures between 225 to 300 PSI. The driver/operator should complete the connection with both 2 ½" hoses, filling both lines at idle pump pressure. The driver/operator should then check the fire pump to ensure it is operating at 150 PSI or greater. The IC should assign personnel to continue to monitor and verify that the pump is in operation. If the pump is not working or the pressure is less than 150 PSI the lines should be charged.

Immediately after all water supply connections have been completed and the FDC has been charged, the IC should verify that water is flowing into the sprinkler system. If water is not flowing, the IC should take action to verify that all accessible control valves are open. If a valve is found closed, the IC should be notified promptly and the valve should be opened fully unless it is tagged "Closed for Repairs." Valves found closed should be reported to the appropriate fire investigator after the incident.

Sprinkler systems in commercial buildings should always be supplied with no less than 2 ½" hose, and both siamese inlets should be supplied.

Sprinkler systems in residential buildings may be supplied with a single 1 ¾" hose. Residential sprinkler systems should not be pressurized more than normal water main pressure.

If a building is equipped with both a standpipe system and automatic sprinklers, the standpipe system should be supported first to ensure adequate water flow for the initial attack team. If the first arriving engine must support both the standpipe and sprinkler systems, later arriving engine companies may need to assist in augmenting both systems.

If a sprinklered building is not equipped with a standpipe system, the first line stretched should be a hand-line (either 1 ¾" or 2 ½", depending upon fire conditions) and the second line used to augment the sprinkler system.

Supply hose connected to the sprinkler system should be charged as necessary. The IC should order the sprinkler system augmented upon the indication of a working fire (smoke, heat or visible fire) or on reports from interior crews. Water flow alarms indicate only that water is flowing, but it may be due to reasons other than a fire. These may include broken piping or a dislodged sprinkler head.

Pump discharge pressure for supplying a sprinkler system should start at 150 psi, unless the system is posted for another pressure. This pressure may have to be adjusted accordingly based upon reports of sprinkler system performance received from interior crews, if more than two lengths of 2 ½" hose are needed to reach the siamese connection, or for fires on upper floors.

OPERATIONS IN SPRINKLERED BUILDINGS

In order to facilitate operations and reduce water damage, all interior crews shall carry wooden sprinkler wedges or sprinkler tongs to stop the flow of water from a sprinkler head. Stopping the water flow should only be done after verifying the fire is under control and hoselines are in place.

The sprinkler system control valve should only be shut down on orders from the IC. These orders will be given once it is determined that the fire has been controlled and hoselines are in position.

After the system control valve has been closed, personnel must be assigned to the sprinkler system control valve to immediately reopen the valve if needed. Assigned personnel must have a portable radio to have direct communication with the IC.

POST-FIRE OPERATIONS

Automatic sprinkler systems should not be shut off until the fire has been extinguished. If there is a sectional or floor control valve, this valve should be closed in lieu of the main valve. Personnel should be assigned to remain at the valve until overhaul is completed.

Pump operators shall shut down supply lines connected to the FDC, because these lines can bypass the main sprinkler valve and, in the absence of a floor valve, water will flow until the pump discharge gates are closed.

Where a combined sprinkler-standpipe system is installed, the hose lines should remain charged until fire overhaul is completed.

When the fire is extinguished and overhaul is completed, the lines from the engine to the sprinkler system FDC should be disconnected.

Where only a few sprinkler heads are operating, sprinkler tongs or wooden wedges should be used to immediately stop the flow from the opened heads without shutting off the entire system.

If the sprinkler system cannot be restored to operating condition by the time the last fire department unit leaves the premises, the District Chief and/or Battalion Chief should be notified of the structure's noncompliance status. The IC should notify the building owner or representative that the building cannot be re-occupied until the required sprinkler system is back in-service.

For liability reasons, fire department personnel shall not install replacement sprinkler heads in any building.

The Fire Prevention Division shall be notified anytime a sprinkler activation occurred as the result of a fire.