

SUBJECT: OPERATIONS IN SPRINKLERED BUILDINGS**SECTION:** 301.14**REVISED:** FEBRUARY 10, 2004**PAGE(S):** 4

PURPOSE

To establish a standard procedure for operations in sprinklered and standpipe buildings.

POLICY

In the event that a structure equipped with a sprinkler or standpipe system is reported to be on fire (either by verbal or alarm system notification) the following operations have been established.

UPON ARRIVAL

- A. Give a conditions report.
- B. Continue size-up.
- C. Determine exact location of the fire.
 1. Check with occupants.
 2. Check annunciator panel (if available).
 3. Check for alarm bells ringing, which may indicate the involved zone.
 4. Check for water flowing from exterior drains, which may indicate the general area.
- D. Second engine to arrive at the scene of a building equipped with a sprinkler and/or standpipe system should position the apparatus at the Fire Department Connection (F.D.C.) and await orders to connect to the system and provide water supply.
 1. The pump operator should automatically connect to the F.D.C. upon hearing that there is smoke or fire existing in the building as reported from the interior fire crews.

SAFETY

- A. Utilize full protective clothing.
- B. Maintain tight control over personnel during interior operations.
- C. Utilize hose lines and/or life lines during interior search operations.

PROCEDURES

- A. The second arriving engine should be responsible for connection supply lines to the F.D.C.; however, if the first arriving engine has the F.D.C. at their location that engine should supply the system.
- B. The minimum fire department hook up to the F.D.C. should not be less than two 2 1/2" hose lines.
- C. If a fire is in progress and sprinkler heads have opened, one hundred fifty (150) pounds of pressure should be provided to the F.D.C. If long lines are required (over 100 feet) between the pumper and F.D.C., the friction loss in the hose must be considered in hydraulic calculations.
- D. Unless it is known for sure that private mains provide an adequate supply, pumpers should be connected to city hydrants, if available. A general rule is not to take suction from hydrants on a private system unless it is known that the system is adequate for the purpose.
- E. Send a fire fighter, equipped with a hand radio, to inspect the shut-off valve to:
 - 1. Determine if the sprinklers are operating properly.
 - 2. Open the valve if it is closed.
 - 3. Shut off the valve promptly when the Incident Commander decides that sprinkler operations may be discontinued.
 - 4. Reopen the valve in the event that the fire rekindles and cannot be controlled by those hand lines which are already in place.
- F. Normally, 1 1/2" or 1 3/4" hand lines may be used for fire streams in sprinklered buildings. However, when fires involve unusual hazards, high piled stock or large areas, 2 1/2" hand lines should be considered.
- G. Observe the affect of the sprinklered system on the fire to determine:
 - 1. If the system is operating properly.
 - 2. The size and number of hose lines which may be needed to effect complete control and extinguishment.
- H. Insure that evacuation, search and other life safety measures are promptly completed at fires in sprinklered buildings.
 - 1. Effective control of fires in sprinklered buildings requires proper ventilation. Whether such ventilation is accomplished by conventional means or by utilizing on site built-in automatic systems, the following steps must be accomplished: A fire fighter equipped with a hand radio must be sent to the shut-off valve to stand by.
 - 2. Hose lines must be ready, charged and in position for confinement and control before the sprinklers are shut off.
 - 3. Truck Company personnel must be in position and should have affected the necessary conventional opening(s) or be prepared to initiate available on site automatic systems before the sprinklers are shut off.
 - 4. The Incident Commander or the Operations Officer must insure proper communications and coordination.

5. When all of the above have been accomplished, the sprinkler system should be shut down (slowly) to allow proper ventilation to occur and those members manning hand lines to move in and fully extinguish the fire.
6. In the event that the hand lines are unable to affect control, the system should be turned on again until additional streams can be brought into position.
 - I. Initiate prompt salvage and water removal operations to protect records, machinery, storage, stock and furnishings from water damage.
 - J. After fire operations are complete:
 1. Contact owner, occupant, or agent about the sprinkler system being out of order and that they should contact the service representative to put the system back in operation.
 2. Explain to the owner, occupant, or agent that the property will not be protected or if connected to a central signaling station an alarm will not be transmitted.

THE "BUTTON-UP" APPROACH

Although not considered a standard method of handling fires in sprinklered buildings, the "button-up" approach offers an alternative operational procedure where unusual hazardous conditions may exist. In those situations where the involved sprinklered occupancy presents an extreme life safety hazard for fire personnel (such as high piled stocks of plastics or flammable liquids, etc.) The Incident Commander may, at his discretion, utilize the option of the "button-up" approach.

- A. Evacuate the building of all personnel.
- B. Close up the building as tightly as possible to limit the air supply available to the fire.
- C. Connect a pumper engine to the fire department sprinkler connection and pump into the system.
- D. Keep sprinkler control valves wide open and sprinklers operating at all times, for an hour or more as necessary, until the fire has essentially been extinguished and can be manually attacked.
- E. During the final stages of sprinkler operation, but before manual attack is begun, attempt to mechanically exhaust smoke from the building if the equipment is available. This will not only facilitate manual extinguishment, but will also help to prevent the chance that combustible gases, built up inside the building from fire in an oxygen-starved atmosphere, could flash or explode when the building is opened.
- F. Before shutting off sprinklers, attempt to evaluate fire severity. This can be done either by a reconnaissance using life lines and air packs, or by breaking through the roof or a wall if the location of the seat of the fire can be fixed from questioning employees.

- G. Then, shut off sprinklers, open up the building to vent smoke, and attack with hose streams. But, keep a person posted at the sprinkler control valve at all times (with two-way radio, if available), ready to turn sprinklers back on if the fire threatens to flare up.