

Emergency Operations

Book:	3 Emergency Operations
Chapter	IV Firefighting
Subject	3 On Site Auxiliary Fire Equipment
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5.01 Purpose

To establish a procedure for identifying the type, condition and possible use of on-site auxiliary fire equipment in a given situation.

5.02 Policy

In the event a fire is reported in, or in the event a building or other property is threatened by fire the following guidelines have been established pertaining to the use of on-site fire equipment.

5.03 Procedure

- A. Determine if the involved occupancy has on-site auxiliary fire equipment; if so, identify the type or types of auxiliary equipment provided.
- B. If the occupancy is so equipped, determine if the auxiliary fire equipment is in operation.
- C. If currently in operation, determine the effectiveness of such equipment.
- D. If auxiliary equipment is non-operational, determine how to activate such equipment and place it into service if it will aid in control of the fire.
- E. Provide support to on-site auxiliary fire equipment in accordance with the type of equipment involved and the nature of the fire situation.

5.04 Scope

For the purposes of this policy, on-site auxiliary fire equipment shall include the following:

- a. Sprinkler systems
- b. Standpipe systems
- c. Hose Cabinets
- d. Dry Chemical systems
- e. Halon systems
- f. Carbon dioxide systems
- g. Foam systems

5.05 Sprinkler Systems

The following guidelines apply to all types of sprinkler systems including: wet pipe and dry pipe, deluge systems, pre-action systems, combined dry pipe and pre-action systems and outside sprinkler for exposure protection.

- a. Be guided by the policy concerning fires in sprinklered buildings.
- b. At fires where sprinkler systems are operating, support the system by pumping into the Fire Department Connection (FDC) at a pressure of 150 psi (residential system 100 psi) through a minimum of two (2) 2 ½" lines or one (1) 4" line.
- c. Check the effectiveness of the sprinkler system and take appropriate action to insure proper control and extinguishment.
- d. Insure that the water supply valve to the system is open. Detail a firefighter with a hand-held radio to stand by at the valve.
- e. Sprinkler systems in buildings that are severely exposed to a fire from another building or outside source should be supplied at the FDC to insure proper exposure protection.
- f. The pumper supplying the FDC should be utilized solely for that purpose, and additional hose lines should not be taken from that engine unless absolutely necessary.

5.06 Standpipe Systems

Where an occupancy is equipped with a standpipe system, Emergency Services personnel should utilize the system to the best advantage to eliminate the need for excessively long hose lays.

- a. Where the standpipe system is independent and is also equipped with a Fire Department Connection (FDC), support the system by pumping to the FDC, providing a pressure of 125 psi at the connection and 5 psi per story for each floor above the ground level. In addition, friction loss in the hose must be included in the calculations. Support of the system shall be a minimum of two (2) 2 ½" lines or one (1) 4" line to the FDC.
- b. Those personnel who are assigned to the interior attack utilizing the standpipe outlet must be able to communicate with the pump operator supplying the system.
- c. When a line is connected to a standpipe outlet in a stairwell on the fire floor, the excess hose should be pulled up the stairs toward the next floor, before it is charged. The hose will easily come down the stairs as the advance is made.
- d. It is obvious that the stairwell at the fire area is important for advancing lines to the fire floor. It is just as important to the occupants of the building who may be using it for evacuation. Firefighters must be careful not to impede their progress and not to allow great volumes of smoke to get into the stairway. If another stairway, farther from the fire is available, Evacuees should be directed to it.
- e. If outlets are in the corridors, the attack should begin from an outlet on the floor below the fire floor. The first line (or lines) should be advanced up a stairway to the fire floor. Most of the line should be taken up the stairs, so that it can more easily be advanced through the corridor of the fire floor. If required, additional

- lines may be taken up the stairs from still lower floors. This may also be necessary if the floor below the fire is untenable.
- f. If the fire is located some distance down the corridor from the stairway, the initial hook-up may be made on the fire floor. However, this should not be attempted unless Firefighters are certain that the fire is confined to a unit off the corridor or at least is some distance from the point of entry to the fire floor.

5.07 Hose Cabinets

When the decision has been made to utilize hose cabinets or house lines (as they are sometimes called), members should keep in mind the limitations of such installations and be guided by the following:

- a. When utilizing hose cabinets:
 1. Disconnect the existing hose line
 2. Remove any pressure reducing device
 3. Connect fire department hose
- b. Remember that the volume of water and the pressure available from these installations may be limited.
- c. Hose cabinet installations may be utilized for initial attack while back-up lines are being stretched into position.

5.08 Dry Chemical Systems

Dry chemical systems may be found in a variety of occupancies and installations. Some of these include restaurants, spray booths and dip tanks.

- a. Upon arrival at a fire being attacked by a dry chemical extinguishing system, such as a deep fryer, lay lines to back up the system in case of re-ignition by hot metal after the chemical has dispersed. If you have portable extinguishers on your apparatus suitable for the kind of fire involved, they can be used to supplement the system.
- b. In the case of local application systems inside a building, such as deep fryers, do not turn hose streams on the fire, since this is likely to splash the burning oil out of the tank and cause it to spread on the water to the rest of the building.
- c. If a total flooding system is operating, do not open up the enclosure until the powder has fully extinguished the fire and any hot objects, which can act as sources of re-ignition have cooled off. The chemical must be permitted to build up sufficient concentration inside the enclosure to do the job; any premature "opening up" would nullify its ability to do this.
- d. If it is necessary to enter an enclosure to affect a rescue, wear self-contained breathing apparatus and go in pairs.
- e. Before leaving the scene of an incident where a system has operated and after you have completed your property conservation, be sure that steps are taken by the owner or occupant to restore the system to a condition of readiness.
- f. Always check out the possibility of fire on the upper floors or in the attic whenever a grease duct fire occurs.

- g. Before leaving the scene notify the Health Department if foodstuffs are involved.

5.09 Halon Systems

It is vitally important for all employees and members to have an understanding of Halon extinguishing systems. Although Halon 1301 is no longer being manufactured, it continues to exist in some systems.

- a. When responding to a fire where a total flooding system has operated in a room or vault, do not open the door until you are satisfied that the fire is out; do not open the door until sufficient time has elapsed to allow the gas to “soak” in and the material to cool so that re-ignition will not occur when the inert atmosphere is dissipated.
- b. When you decide to “open up”, wear SCBA and perform property conservation right away to make certain that extinguishment is complete and to ensure against rekindle.
- c. It is always well to “back-up” any system, whether local application or total flooding, and regardless of the agent, with suitable extinguishing capability, just in case the system fails to function as intended.
- d. During property conservation, be sure to wear SCBA. Remember that Halon 1301 is five (5) times heavier than air, and is apt to settle in low areas.
- e. Before leaving the scene of an incident where a system has operated and after you have completed your property conservation, be sure that steps are taken by the owner or occupant to restore the system to a condition of readiness..

5.10 Carbon Dioxide Systems

- a. Be prepared to operate the system manually just in case automatic activation has not occurred.
- b. If, upon arrival, the warning alarm has already sounded, the occupants have withdrawn, the doors have closed, and the CO₂ has already discharged into the area, do not open the door to “see for yourself”.
- c. Where response is to a fire being attacked by a local application system, you may be able to assist in the extinguishment by using portable CO₂ extinguishers
- d. Be prepared to handle flashbacks that may occur after the gas has dispersed, by having portable extinguisher available.
- e. If it becomes necessary to enter a flooded room to affect a rescue, no less than two (2) personnel, equipped with SCBA and a lifeline should enter the area.
- f. When ventilating an area, which has been flooded with CO₂, use PPV fans and wear SCBA until the environment is declared safe.
- g. Before leaving the scene of an incident where a system has operated and after you have completed your property conservation, be sure that steps are taken by the owner or occupant to restore the system to a condition of readiness.

5.11 Foam Systems

- a. If the fire has not been extinguished, make sure that the system has not had any valves closed that would prevent the water from flowing, or electricity cut off, which would prevent foam concentrate or water pumps from functioning.
- b. If the fire is still so small that detectors have not yet operated, it may be possible to stop it with portable extinguishers or hand lines before the system activates.
- c. However, if there is a serious fire progressing beyond the capabilities of hand lines or extinguishers, the system should be quickly tripped by hand and backed up with additional protection in the form of hand lines, foam streams, or dry chemical
- d. If a large spill has occurred, but not yet ignited, any system designed to protect this area could be manually operated to provide a protective foam blanket as an interim precaution while the leak is being stopped and the spill removed.
- e. Do not nullify the effectiveness of the foam system by turning water streams into the area; it will break up the continuity of the surface blanket.
- f. Before leaving the scene of an incident where a system has operated and after you have completed your property conservation, be sure that steps are taken by the owner or occupant to restore the system to a condition of readiness.