

SUBJECT: ON-SITE AUXILIARY FIRE EQUIPMENT**SECTION:** 301.13**REVISED:** JANUARY 11, 2004**PAGE(S):** 6

PURPOSE

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

POLICY

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

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.

SCOPE

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

- A. Sprinkler systems.
- B. Standpipe systems.
- C. Wall lines.
- D. Dry chemical systems.
- E. Halon systems.
- F. Carbon dioxide systems.
- G. Foam systems.

SPRINKLER SYSTEMS

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

- A. Be guided by fire department policy concerning fires in sprinklered buildings.
- B. At fires where sprinkler systems are operating, support the system by pumping to the Fire Department Connection (FDC) at a pressure of 150 p.s.i. through a minimum of two (2) 2 1/2" hose lines.
- 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 fire fighter with a hand radio to stand by at the valve.
- E. Sprinkler systems in buildings which are severely exposed to a fire from another building or outside source such as a storage area 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.

STANDPIPE SYSTEMS

Where an occupancy is equipped with a standpipe system, Fire Department personnel should utilize the system to 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 25 p.s.i. at the connection and 5 p.s.i. per story for each floor above the ground level. In addition, hydraulic calculations must also be included for the hose line(s) being utilized off the standpipe outlet. Support of the system through the Fire Department Connection (FDC) shall be with a minimum of two (2) 2 1/2" hose lines.
- B. Where the standpipe system is combined with the sprinkler system by pumping to the FDC, providing the appropriate FDC with the standard pressure of 100 p.s.i. at the connection.
- C. Those members who are assigned to the interior attack utilizing the standpipe outlet must be able to communicate with the pump operator supplying the system.
- D. When a line is connected to a standpipe outlet in a stairwell on the fire floor, the excess hose should be flaked up the stairs toward the floor above the fire.
- E. 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 occupants of the building who may be using it for evacuation. Fire fighters 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.
- F. If the 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.
 - G. 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 Fire Fighters are certain that the fire is confined to a unit off the corridor or at least is some distance from their point of entry to the fire floor.

WALL LINES

When the decision has been made to utilize wall lines 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 a wall line installation:
 - 1. Disconnect the existing hose line.
 - 2. Remove any pressure reducing device which may be present.
 - 3. Connect fire department hose.
- B. Remember that the volume of water and the pressure available from these installations may be limited.
- C. House line installations may be utilized for initial attack while back-up lines are being stretched into position.

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 an out-of-doors fire being attacked by a dry chemical extinguishing system, such as a tank loading rack, 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 for a dip tank, do not turn hose streams on the fire, since this is likely to splash the burning liquid 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 operation.
- D. If it is necessary to enter an enclosure in a heavy concentration of dry chemical to close up openings or effect a rescue, wear self-contained breathing apparatus and go in pairs.
 - E. Where hand hose systems are available, these can often be used to help to automatic system.
 - F. Before leaving the scene of an incident where a system has operated and after you have completed your overhaul and salvage work, be sure that steps are taken by the plant's management to restore the system to a condition of readiness.
 - G. Before leaving the scene the Health Department should be notified of the problem so that they may investigate for contamination of food products.
 - H. Always check out the possibility of fire on upper floors or in the attic whenever a grease duct fire occurs.

HALON SYSTEMS

It is vitally important for all members to have an understanding of Halon extinguishing 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 self-contained breathing apparatus and overhaul the fire right away to make certain that extinguishment is complete and to ensure against a 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 overhaul work, be sure to wear your self-contained breathing apparatus while placing fans to assist in the prompt ventilation of such areas; but do not merely move the combustion products to another location - be sure they are directed to the outside where they will not enter a basement or lie in some hole. Remember that Halon 1301 is about five times heavier than air, and is apt to settle in low places.
- E. Be sure that steps are taken by the plant's management to restore the system.

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 of the room 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 a carbon dioxide hand hose line system if one is available.
- D. Be prepared to handle flashback that may occur after the gas has dispersed, by having your supplementary extinguishing equipment ready for immediate use. But, be sure it is suitable for the type of fire, or you can make things worse.
- E. If it becomes necessary to enter a flooded room to effect a rescue or manually close some opening to seal up the enclosure; in such circumstances, not less than two men, equipped with breathing apparatus and life line should carry out the task.
- F. When ventilating a room which has been flooded with CO₂, portable fans can sometimes be used to assist in removing the gas, especially where the vault or room has no exhaust system of its own. In this initial opening up, be sure to wear self-contained breathing apparatus.
- G. Be sure that steps are taken by the occupancy's management to restore the system.

FOAM SYSTEMS

- A. If the fire has not yet been extinguished, make sure that the system has not had any valves closed which would prevent the water from flowing, or electricity cut off, which would prevent the foam concentrate or water pumps from functioning.
- B. If the fire is still so small that the detectors have not yet operated, it may be possible to stop it with portable extinguishers before the system is activated.
- C. However, if there is a serious fire progressing beyond the capabilities of hand extinguishers, the system should be quickly tripped by hand (if not already operating) and backed up with additional protection in the form of hand hose foam steams, or carbon dioxide wheeled units or hand hose, if available; high expansion foam generators and dry chemical extinguishers can also be used, providing these agents are compatible with the foam being applied by the system.
- 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 by turning water streams into a tank or diked area, for not only will this break up the continuity of the surface blanket, but can cause the foam to overflow the container and may even wash flammable liquid over the sides and spread the fire.
- F. Remember that some systems are designed to provide insulation and exposure protection, as well as extinguishment of spill fires; such is the case where foam spray nozzles are located over the vessel to be protected, so be careful not to wash away this foam protection with your hose lines. The use of high velocity fog nozzles may be helpful, however, in shielding other tanks, reactor towers, stills, or processing equipment in the vicinity.
- G. On very extensive fires, the setting up of wagon batteries, portable monitor nozzles, ladder pipes and elevating platform nozzles, in locations where they can provide good exposure protection with minimum risk to fire fighters, may be a good course of action.
- H. After the fire is extinguished, and before returning to your quarters, see that the plant management restores the foam system to service.