

Union County Standard Operating Guidelines
Fireground Operations

Fireground Operations, SOG 3.30

ON-SITE AUXILIARY FIRE EQUIPMENT

1. Intent and Purpose

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

2. 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 if and 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.
- f. For the purposes of this guideline, on-site auxiliary fire equipment shall include the following:

- i. Sprinkler systems

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

1. Be guided by UCFD's guideline concerning fires in sprinklered buildings.
 2. At fires where sprinkler systems are operating, support the system by pumping to the FDC at a pressure of 150 psi through a minimum of two (2) 2 1/2" hose lines or one (1) 5" hose line .
 3. Check the effectiveness of the sprinkler system and take appropriate action to insure proper control and extinguishment.
 4. Insure that the water supply valve to the system is open.
 5. 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.
 6. The engine supplying the FDC should be utilized solely for that purpose, and additional hose lines should not be taken from that engine unless absolutely necessary.

- ii. Standpipe systems

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

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1. Where the standpipe system is independent and is also equipped with a 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 ground level. In addition, hydraulic calculations must be included for the hose lines(s) being utilized off the standpipe outlet. Support of the system through the FDC shall be a minimum of two (2) 2 1/2" hose lines.
2. Those members who are assigned to interior attack utilizing the standpipe outlet must be able to communicate with the pump operator supplying the system. The pump operator must adjust pressure according to what the interior crew is reporting (i.e. E281...we have no water pressure or too much pressure).
3. When a line is connected to a standpipe outlet in a stairwell on the fire floor, the excess hose should be pulled up the stairway toward the next floor and back down to the fire floor before it is charged. The hose will easily come down the stairs as the advance is made.
4. 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 pass the fire floor and back down to the fire floor, so that it can 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.
5. If the fire is located some distance down the corridor from the stairway, the initial hook-up made be made on the fire floor. However, this should not be attempted unless the Firefighters 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.
6. 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. 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.

iii. Standpipe Outlets

When the decision has been made to utilize standpipe outlets, personnel should keep in mind limitations of such installations and be guided by the following:

1. When utilizing a standpipe outlet:

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- a. Disconnect the existing hose line.
 - b. Remove any pressure-reducing device, which may be present.
 - c. Connect Fire Department hose (i.e. High-rise kit) and stretch out.
 - d. Open valve if present and have FDC engine (pump) supply the standpipe system.
 - e. Advance hose line.
2. Remember that the volume of water and the pressure available from these installations may be limited.
 3. If installation standpipe hose lines are used for initial attack (emergency situation only, i.e. hose needed now and none available), Fire Department hose lines will be stretched and replace installed standpipe hose lines as soon as possible.
- iv. 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.
1. In the case of local application systems inside a building, such as for a dip tank, do not turn water 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. Consider hand hose systems or foam if available.
 2. 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. The chemical must be permitted to build up sufficient concentration inside the enclosure to do the job.
 3. If it is necessary to enter an enclosure in a heavy concentration of dry chemical to effect rescue, SCBA and full protective clothing will be worn, and a hose line should be in place.
 4. Before leaving the scene of an incident where a system has operated, and after you have completed your overhaul and salvage, be sure that steps are taken by management to restore the system to a condition of readiness.
 5. Check out the possibility of fire on upper floors or in the attic whenever a grease duct fire occurs.
- v. Halon Systems
1. 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 fresh air is introduced.

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2. If it becomes necessary to enter a flooded room to effect a rescue or manually close some openings to seal up the enclosure; in such circumstances, not less than two (2) men, equipped with SCBA, should carry out the task.
 3. When you decide to “open up”, wear SCBA and overhaul the fire right away to make certain that extinguishment is complete and to ensure against a rekindle.
 4. 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.
 5. During overhaul work, be sure to wear SCBA and monitor air while placing fans to assist in the prompt ventilation of such areas, but do not merely move combustion products to another location – be sure they are directed to the outside. Halon 1301 is about five (5) times heavier than air, and is apt to settle in low places.
 6. If the system put out an actual fire the EPA does not need notified. However, if the system discharged and there was no fire the EPA is to be notified.
 7. Be sure that the occupancy’s management takes steps to restore/replace the system.
- vi. Carbon Dioxide systems
1. Be prepared to operate the system manually just in case automatic activation has not occurred.
 2. If, upon arrival, the warning alarm has sounded, the occupants of the room have withdrawn, the doors have closed, and the CO₂ has discharged into the area, do not open the door.
 3. 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.
 4. Be prepared to handle flashback that may occur after the gas has dispersed, by having supplement extinguishing equipment ready for immediate use. Be sure it is suitable for the type of fire.
 5. If it becomes necessary to enter a flooded room to effect a rescue or manually close some openings to seal up the enclosure; in such circumstances, not less than two (2) men, equipped with SCBA, should carry out the task.
 6. 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 the initial opening up, be

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sure to wear SCBA, monitor air, and have back-up extinguishing equipment in case of rekindle.

7. Be sure that steps are taken by the occupancy's management to restore the system.
- vii. Foam systems
1. 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.
 2. If the fire is still so small that the detectors have not yet operated, it may be possible to extinguish the fire with portable extinguishers before the system is activated.
 3. 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 streams, or carbon dioxide wheeled units, 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.
 4. 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.
 5. Do not nullify the effectiveness of the foam by turning water streams into a tank or dike 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 the flammable liquid over the sides and spread the fire.
 6. 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 hose lines.
 7. On very extensive fires, the setting up of portable monitor nozzles, ladder pipes, and elevating platform nozzles, in locations where they can provide good exposure protection with minimum risk to firefighters, should be considered.
 8. Be sure that steps are taken by the occupancy's management to restore the system.