

## FIRE STREAM MANAGEMENT

### Purpose:

To promote the most effective and efficient deployment and utilization of fire streams possible during firefighting operations.

### Responsibility:

- A. The Incident Commander is responsible for overall coordination and management of fire stream operations.
- B. It is the responsibility of each engine company to provide its own uninterrupted, adequate supply of water. "Provide", in this case, does not mean they must necessarily lay the line or that they must pump it. It is their responsibility to get water into their pump, by whatever means are appropriate.
- C. Company Officers must assume responsibility for the effectiveness of their fire streams. Such officers must maintain an awareness of where fire streams are going and their effect.
- D. All members involved in fire stream operations are responsible for the safe operation of such streams.

### Guidelines:

- A. Factors
  - 1. The factors involved in fire stream selection and deployment are as follows:
    - a. Size.
    - b. Placement.
    - c. Speed.
    - d. Mobility.
    - e. Supply.
  - 2. The fire stream factors must be considered in light of fire stream characteristics and the fire problem in order to effectively manage fire stream operations.
- B. Fire control forces must consider the characteristics of fire streams, the fire stream factors, and the fire problem in order to choose the proper nozzle and stream for the task.
  - 1. Solid stream: More penetration, reach and striking power, less steam conversion.
  - 2. Fog: More gross heat absorption/expansion, low reach.
  - 3. 1 ¾" lines: Fast, mobile, moderate to high volume.
  - 4. 2 ½" lines: Big water, big knockdown, slow/immobile.

5. Master Streams: Mostly stationary, slow to set up, maximum water.
  6. Consider that hose lines pump as much air as they pump water (particularly fog streams). Think of them as fans when making line placement judgements and use confinement and reduction of loss. When entering basement fire(s) do not open nozzles until you can see and are near the fire.
- C. Basic Hose Line Placement
1. The first stream is placed between the fire and persons endangered by it.
  2. When no life is endangered, the first stream is placed between the fire and the most severe exposure.
  3. Second line is taken to secondary means of egress (always bear in mind the presence of personnel opposite the second line).
  4. Succeeding lines to cover other critical areas.
  5. Whenever possible, position hose lines in a manner and direction that assists rescue activities, supports confinement, and protects exposures.
  6. Hose lines should be advanced inside fire buildings in order to control access to halls, stairways, or other vertical and horizontal channels through which people and fire may travel.
- D. General Operations
1. Use the size of hoselines that should be required from the beginning; if you need a big line, provide it from the outset. If there is any doubt from the beginning, go to the next size hoseline.
  2. When you make a decision on what size fire stream to apply, select the size that is actually required. Beware of automatically going for the size you use most often; or the size that is fastest/easiest – we tend to rely on one size of fire stream.
  3. When you change commitment from offensive to defensive and pull hand lines out of the fire building, do not continue to operate them as handlines – convert them to exterior master streams. Give priority to water supply and application. The operating positions of such streams must also be evaluated. Do not continue to operate into burned property.
  4. Do not operate fire streams into smoke – fire location must be determined before water can be effectively applied.
  5. Fire streams must deliver an effective rate of flow (GPM) in order to overcome the amount of heat being generated by the fire. In other words, the amount of water and the rate at which it is applied to the fire must be enough to absorb more heat than is being generated by the fire.
  6. Hoseline judgements generally involve the trade-off of time versus pure tactical placement; if a tactical placement principle is violated, back-up action must be taken.

7. As soon as a fire is knocked down, the rate of flow (GPM) should be reduced or discontinued according to the situation in order to hold water damage to a minimum.

E. Attack Lines

1. Offensive attack activities must be highly mobile. As their movement slows down, they necessarily become more defensive in nature and effect. Many times effective offensive operations are referred to as “aggressive”; fast, active, vigorous, energetic, bold, forward, assertive.
2. Offensive attack positions should achieve an effect on the fire quickly; consequently back-up judgements should also be developed quickly. If you apply water in an offensive attack position and the fire does not go out – react – back it up.
3. Beware of hoselines that have been operated in the same place for long periods. Fire conditions change during the course of fire operations (most things will only burn for a limited time) and the effect of hoseline operations must be continually evaluated. If the operation of such lines becomes ineffective, move, adjust or redeploy them.
4. Beware of the limitations of operating nozzles through holes. The mobility of such streams is limited and it is generally difficult to evaluate the effectiveness of such streams. Sometimes, you must breach walls, floors, etc., to operate – realize the limitations of such situations.
5. Have attack lines ready during forcible entry operations. Attack crews should be fully protected and supervised before entry is effected.
6. If you commit attack crews to inside operations, do not operate exterior streams into the same building, particularly ladder pipes. Do not combine interior and exterior attacks in the same building. It may be necessary to coordinate pulling crews out of the building while an exterior heavy stream knockdown is made. Know when to shut down nozzles. Many times continuing operations of large streams prevents entry and complete extinguishment.

F. Ladder Stream Operations

1. Ladder pipes are particularly useful and effective when operated on large open-type fires. A good general rule is that you have, in effect, written off the building (or portion) when you initiate ladder pipe operations and you are essentially in a defensive mode.
2. Ground crews should be advised before ladder pipes go into operation.
3. Do not apply water to the outside of a roof and think you are extinguishing the fire. Such water application may offer effective exposure protection, but, if part of the roof is intact, it will shed water just like it was built to do and will prevent water from

reaching the seat of the fire. This is particularly true of ladder pipe operations.

4. Do not operate fire streams down ventilation holes during offensive operations.

G. Water Supply

1. During large scale operations, company officers must be mindful of the fact that when several engines attempt to draw from the same water system, considerably less water is available and at a reduced residual pressure.
2. Fire department personnel should have knowledge of those areas in the district where water supply may be a problem.