Policy: **Fire Stream Management**

Purpose: The purpose of this standard operating procedure is to provide for a method of evaluating the effective use of fire streams in the extinguishment of fire.

Scope: This policy applies to all NPFPD personnel.

Policy

The following items represent an index of the tactical effectiveness of hose lines:

- Size
- Placement
- Speed
- Mobility
- Supply

These factors also represent the options involved in fire stream management.

FIRE STREAM SIZE

Use the size of hose line that will eventually 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 larger size hose line. If a small line is used for a fast attack, consider backing it up with a larger line.

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 most often use or the size that is fastest/easiest - we tend to rely on one size of fire stream and hose size.

When you change commitment from offensive to defensive mode and pull hand lines out of the fire building, do not continue to operate them as hand lines - 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.

BASIC HOSE LINE PLACEMENT

When in the offensive attack mode, hose lines should be advanced inside the fire building in order to control access to halls, stairways, or other vertical and horizontal channels through which people and fire may travel.

- The first stream is placed between the fire and persons endangered by it.
- When no life is endangered, the first stream is placed between the fire and the most severe exposure.
- Second line is taken to secondary means of egress (always bear in mind the presence of personnel operating in opposing positions).
- Additional lines cover other critical areas.
- Whenever possible, position hose lines in a manner and direction that supports rescue activities, begins confinement, and protects exposures.

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 that are appropriate. If there is any doubt, lay your own line.

Hose line judgments generally involve the trade-off of time versus pure tactical placement. If a tactical placement principle is violated, back-up action must be taken.

Fire control forces must consider the characteristics of fire streams: Choose the proper nozzle and stream for the task.

- Solid Stream: More penetration. Reach and striking power. Less steam conversion.
- Fog: More gross heat absorption/expansion. Shorter reach.
- 1 3/4" Lines: Fast, mobile, variable volume.
- 2 1/2" Lines: Higher volume for knockdown. Slow/difficult to move.
- Master Stream: Mostly stationary. Slow to set up - maximum water.

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."

Offensive attack positions should achieve an effect on the fire quickly -- consequently, back-up judgments should also be developed quickly. If you apply water to an offensive attack position and the fire does not go out -- REACT! Back it up or Re-deploy.

Beware of hose lines 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 hose line operation must be continually evaluated. If the operation of such lines becomes ineffective, move, adjust, or re-deploy them.

Beware of the limitations of operating nozzles through holes. The mobility of such streams is necessarily limited and it is generally difficult to evaluate their effectiveness. Sometimes you must breach walls, floors, etc. to operate, realize the limitations of such situation.

Consider that hose lines pump as much air as they pump water (particularly fog streams). Think of them as fans when making line placement judgments and use the fan characteristics in a manner that provides for confinement and reduces loss. When entering basement fire(s) do not open nozzles until you can see and are near the fire. Do not use fog streams in basement fires.

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 streams knockdown is made. Know when to shut down nozzles - many times continuing operations of large streams prevents entry and complete extinguishment. Do not operate fire streams into smoke - fire location must be determined before water can be effectively applied.

If an exterior stream is used, use a big one. Straight bore tips provide better penetration for heavy streams.

Companies operating hand lines should not engage in laying any more hose than they require to operate their own lines.

The more pumped water, the higher the overall attack capability.

Maintain control of key hydrants - be certain that pumpers are assigned to such key hydrants to provide most effective fire stream operation. Beware of numerous un-pumped hydrant supply lines instead of fewer pumped lines.

Have attack lines ready during forcible entry operations. Attack crews should be fully protected and supervised before forcible entry is affected.

Company officers must assume responsibility for the effectiveness of their fire streams. Such officers must maintain an awareness of where fire streams are going, their effectiveness and then report the general operational characteristics back to the sector officer or Command. Company officers must be aware that nozzle diameter adjustment or nozzle tip reduction may be necessary in order to produce an effective stream.

Master Streams are particularly useful and effective when operated on large open-type fires. A good general rule is that you have written off the building (or portion) when you

initiate master stream operations and you are essentially in a defensive mode. Ground crews should be advised before master streams go into operation.

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 master stream operations.

Do not operate fire streams down ventilation holes during offensive operations. This reduces the effect of ventilation and may seriously endanger interior attack crews.

On the fireground everyone wants to hold a line of their own - be careful who has water from the standpoint of type of company, position and function. Command must maintain an awareness of the position and functions of hand line operations.

By the Order of: _____
Fire Chief

Date: _____