


🌀 FIRE GROUND SAFETY INITIATIVE 🌀	
-Standard Operating Guideline-	-Number-
Standpipe Operations	SOG # 009
	Date Approved by the Fire Chiefs Association: 5-8-18 Date Last Revised: 4-16-18 Next Revision Date: Review Date: SOG shall be reviewed annually by the AHJ

Purpose

The intent of this document is to provide for the seamless integration of the use of standpipe supplied attack lines into the First Alarm/High Rise SOG's.

Scope

The fire ground operational priorities of a structure fire will not change when standpipes are used. The priorities will remain to: Save lives; Conserve Property; Minimize the impact to the environment.

The SOG does not require the use of standpipes when the fire is within reach of apparatus deployed attack lines.

The SOG recommends the use of 2 ½" hose and smooth bore nozzles. NFPA dictates available pressures at standpipe outlets. Because of these pressure requirements, the use of smaller diameter hose and/or fog nozzles is discouraged as they may not be properly supplied.

Procedures

Required Equipment

Standpipe Kit. Each engine company shall carry a "standpipe kit" with the following minimum basic complement of tools:

- 200' of 2 ½" hose
- 2 ½" nozzle with 1 1/8" solid stream tip (min).
- 2 ½" 30-degree elbow
- 2 ½" in-line pressure gauge.
- 2-Spanner wrenches.
- 2-Door chocks.
- Pipe Wrench

When operating from a standpipe, the 2 ½" connection shall be utilized. 1 ½" standpipe outlets are for occupant use only.

In most instances, two or three lengths will be brought into the building by each company assigned to fire attack. Some companies may opt to keep the 2 ½" nozzle pre-connected to one of the lengths.

Due to the complexity of supplying and stretching from standpipe systems, the first and second due companies may be required to operate together (Attack Team) in order to ensure prompt and efficient placement of the first hoseline. These companies shall always bring at least 200' of hose to the standpipe outlet.

It is recommended that all hoselines stretched from standpipes shall be 2 ½" diameter hose with smooth bore nozzle and 1 1/8" tip. All hoselines stretched from standpipes in multi-story buildings should be connected to outlets on the intermediate landing or floor below the fire floor.

The Attack Team Officer is responsible to make sure that the hose is properly connected to the outlet with the in-line gauge and elbow. The in-line gauge should **ALWAYS** be used to ensure correct outlet pressure and an effective fire stream.

If a second line is required on the fire floor, it may have to be stretched from a hose outlet two (2) floors below the fire floor or from another standpipe riser. Both situations often require additional lengths of hose. Officers must be vigilant to prevent opposing hose streams.

In some buildings, Pressure Reducing Devices (PRDs) may be installed. These PRDs are designed to reduce, restrict, or otherwise control the pressure available at the standpipe outlet. Several types of PRDs produced by various manufacturers may be encountered in the field.

Prior to attaching the in-line pressure gauge, flush the standpipe system to clear debris.

Nozzle pressure is to be adjusted by use of the hand wheel at the hose outlet valve and by observing the in-line gauge. This requires coordination between the fire attack company officer and the member operating the valve. It should be noted here that the in-line gauge reading is only accurate when the nozzle is open fully and **water is flowing**. Recommended pressures are: 100'= 75psi, 150'= 85psi, 200'=95psi. for 2 ½' hose with a 1 1/8" tip **WITH WATER FLOWING**.

Supplying Standpipe Systems

Standpipe systems are normally supplied through threaded or Storz connections. When siamese connections are vandalized, consider immediately utilizing a portable waterway such as: aerial standpipe, advancing a 3" supply into the building with a gated wye, etc.

Whenever possible, standpipe systems should be supplied by at least two different pumpers, with separate water supplies, and should be supplied through at least two independent siamese connections.

If a building is equipped with automatic sprinklers, it is essential that these systems are supplied by at least two different pumpers with separate water supplies and should be supplied through at least two independent siamese connections.

The pump discharge pressure for supplying standpipe systems should be 150 psi. Be aware that this pressure is assuming the use of 2 ½" hose with a smooth bore nozzle. This pressure may need

to be adjusted based on elevation, friction loss in the system, multiple hoselines, or the use of different size attack lines/nozzles.

Definitions

Class I System- A system that provides 2 ½ in. hose connections to supply water for use by fire departments.

Class II System- A system that provides 1 ½ in. hose stations to supply water for use primarily by trained personnel or by the fire department during initial response.

Class III System- A system that provides 1 ½ in. hose stations to supply water for use by trained personnel and 2 ½ in. hose connections to supply a larger volume of water for use by fire departments.

Hose Valve- The valve to an individual hose connection

Fire Department Connections (FDC)

A connection through which the fire department can pump the secondary water supply to an automatic standpipe system at the required system demand. Supplemental water can also be provided into the sprinkler system or other system furnishing water for fire extinguishment to supplement existing water supplies.

Reflex Time - Reflex time is associated with the span between arrival and mounting an effective attack.

Standpipe Kit – A tool bag containing the following minimum equipment:

- 200' of 2 ½" hose
- 2 ½" nozzle with 1 1/8" solid stream tip (min).
- 2 ½" 30-degree elbow
- 2 ½" in-line pressure gauge.
- 2-Spanner wrenches.
- 2-Door chocks.
- Pipe Wrench

Solid Stream Nozzle – Fixed orifice, solid bore nozzle

Pressure-Regulating Device- A device designed for the purpose of reducing, regulating, controlling, or restricting water pressure.

Pressure-Restricting Device- A valve or device designed for the purpose of reducing the downstream water pressure under flowing (residual) conditions only.

Pressure-Reducing Valve- A valve designed for the purpose of reducing the downstream water pressure under both flowing (residual) and non-flowing (static) conditions.

Standpipe System- An arrangement of piping, valves, hose connections, and allied equipment installed in a building or structure, with the hose connections located in such a manner that water

can be discharged in streams or spray patterns through attached hose and nozzles, for the purpose of extinguishing a fire, thereby protecting a building or structure and its contents in addition to protecting the occupants.

Automatic Dry Standpipe System- A standpipe system permanently attached to a water supply capable of supplying the system demand at all times, containing air or nitrogen under pressure, the release of which (as from opening a hose valve) opens a dry pipe valve to allow water to flow into the piping system and out of the opened hose valve.

Automatic Wet Standpipe System- A standpipe system containing water at all times that is attached to a water supply capable of supplying the system demand at all times and that requires no action other than opening a hose valve to provide water at hose connections.

Combined System- A standpipe system that supplies both hose connections and automatic sprinklers.

Manual Dry Standpipe System- A standpipe system with no permanently attached water supply that relies exclusively on the fire department connection to supply the system demand.

Wet Standpipe System- A standpipe system having piping containing water at all times.

Door person- The firefighter at the door that is responsible for advancing hose to the nozzle crew.

References

David M. McGrail, March 2007, Firefighting Operations in High-Rise and Standpipe-Equipped Buildings

NPFA 13E, Recommended Practice for Fire Department Operations in Properties Protected by Sprinkler and Standpipe Systems, 2015 Edition.

NPFA 14, Standard for the Installation of Standpipe and Hose Systems, 2016 Edition.