



Burlington Fire Department

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Section: 01 - Suppression	
SOG Number: 01.41	Effective Date: March 25, 2021
Subject: Standpipe Operations	
By Order of Fire Chief Steven A. Locke	

I. Purpose:

The purpose of this policy is to establish guidelines for the safe and effective deployment of high-rise packs at operations requiring the use of standpipe systems.

II. Scope:

This policy shall apply to all uniformed employees of the Burlington Fire Department (BFD). This SOG shall supersede any previous Department Directive (DD), SOG, or SOP relating to the use of standpipe systems with the exception of SOG 01.54 High Rise Building Fires.

III. Definitions:

FDC: Fire Department Connection that supports standpipe or sprinkler operations.

Gate Down: Manipulate an inline water valve to control the amount of pressure being discharge from the nozzle.

High-Rise Pack: Hose bundles consisting of two pre-assembled 100ft lengths of 1 3/4" hose for firefighting operations from standpipes in high-rise or other standpipe equipped buildings. One bundle is equipped with a 15/16 smoothbore nozzle.

Standpipe Kit: A tool bag containing the necessary equipment to perform standpipe firefighting operations. Standpipe Kit contents: 5ft section of 2 1/2 inch hose with in-line gauge Gated Wye 14" Lightweight Bolt Cutter (2) Quick fit Sprinkler Shut Off Tool (2) Spanner Wrench Rubber Mallet Door Chalk Vise Grip 1 1/2" NH Female - 1 1/2" NST Male Adapter.

IV. Guidelines:

A). INTERIOR TACTICAL CONSIDERATIONS

1. Due to the complexity of supplying and stretching from standpipe systems, the initial incident commander should give serious consideration to having the first- and second- due units operate together in order to ensure prompt and efficient placement of the first hose line.
2. Refer to the High Rise Building Fire Matrix located in SOG 01.54 for task designation based upon unit arrival.
3. When ascending stairs to begin operations, standpipe discharge valves on floors below should be inspected to be sure they are not open. The 2-1/2-inch pigtail assembly (in-line pressure gauge, 6' 2-1/2", and gated wye) should be attached to and supplied from the standpipe at an outlet on the floor immediately below the fire. The first 1 3/4 inch hose line should be deployed from the gated wye. If a second 1 3/4 inch hose line is required on the fire floor, it will also be connected to the gated wye.
4. The first due company will use one firefighter as the control firefighter whose responsibility will be to ensure a proper connection to the hose outlet, including connection of any necessary fittings and adapters, as well as deactivation or removal of any Pressure Reducing Device. The inline pressure gauge should always be used to ensure correct nozzle pressure and a good fire stream.
5. Prior to attaching the in-line pressure gauge, standpipe system flushing shall be thoroughly complete to ensure purging the appliance of all foreign objects.
6. Nozzle pressure is to be adjusted by the use of the hand wheel at the hose outlet valve and by observing the in-line gauge. This requires coordination between the engine company officer and the control firefighter. It should be noted the in-line gauge reading is only accurate for establishing nozzle pressure when the nozzle is open and water is flowing. It is important to monitor the in-line gauge closely after the nozzle is open and adjust the valve wheel sufficiently to provide proper pressure.
7. To establish effective fire streams in standpipe operations, use the following table.

Discharge Pressures at the Stand Pipe Discharge Outlet			
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Length 1-3/4” Hose	200’		
One Line Flowing	110 psi		
Two Lines Flowing	120 psi		

10. As with the advance of any hose line, ensure the line is charged and bled before entering the fire area. Sometimes this might require charging and bleeding the line in the stairway, such as when the apartment door is left open and high heat conditions exist in the hallway or at large commercial building fires with large, open floor areas. Other times, if conditions permit, the line may be stretched to the apartment door dry, charged and bled in the public hallway.

B. WATER SUPPLY/PUMP OPERATIONS

1. Refer to SOG 01.54 “High-Rise Operations”, Section E for typical operational considerations for addressing the fire department connection when operating from a standpipe.
2. In considering whether or not to support sprinkler or standpipe systems, it is important to recognize there are a variety of situations that might arise. Some buildings have adequate water supplies and fire pumps, and some buildings do not. As it exists currently, not all of this information is available in preplans. Because of this, it is important the control firefighter place the inline pressure gauge on the standpipe discharge as in Section A item 4, above.
3. When the standpipe discharge valve is open and the hose line is filled, the “static” pressure reading will give an indication of the pressure available in the standpipe. This should indicate whether or not there is a fire pump operating in the system, and whether there will be a need to “gate down” the discharge.
4. If there is a need, with water flowing in the hose line, the *control firefighter* should gate back the discharge valve to the proper pressure for the length of hose deployed. If, with water flowing, there is inadequate system pressure to supply an adequate stream to the hose line, communication must immediately occur with the division supervisor and the incident commander who will have the system supported by an engine.
5. If deploying additional lines from the standpipe, the valve must be opened further to accommodate the need for additional flow similar to how the pump operator

would add engine speed to pump multiple hose lines. If the system is being supplied by an engine, this may result in the need to increase the engine's pump pressure as well.

6. Pump operators who are pumping into standpipe systems must know how much hose is deployed on the fire floor in order to produce proper pump pressures. Pump pressure for standpipe operations must include 50 psi for nozzle pressure, 30 psi for each 100' of 1-3/4" hose, 5 psi for elevation loss (or gain) for each floor above (or below) the first floor, and a maximum of 20 psi for system and appliance losses (system and appliance losses would be less for one 1-3/4" line in operation).
7. It is important for pump operator to recognize there is a check valve in the fire department connection. If there is a building fire pump operating the check valve will not open until the engine's pump pressure exceeds the pressure of the building's pump. Therefore, even though the proper pump pressure is established, the engine's pump may not flow any water. This condition will be recognized by zero flow meter readings or by an absence of fluctuations in discharge gauges as nozzles are opened and closed during operations. In this situation care must be taken to avoid overheating the pump.
8. Pump operators supporting standpipe operations must recognize that additional hose lines may be deployed on the fire without their knowledge. This requires the pump operator be diligent to recognize the demand for additional flows by flow meter and pressure gauge readings. This situation may require the pump operator to increase engine speed to produce the additional flow required.
9. Proper use of pressure governors is required when pumping standpipe systems.
10. Standpipe systems that have blocked or damaged fire department connections may be pumped by taking the supply hose to the nearest standpipe discharge opening inside the building. By use of a double female adapter the hose may be connected to that discharge opening. By opening the standpipe discharge valve at that location and operating the engine's pump in the usual way, the standpipe may be supplied.
11. The inability to build pressure in a standpipe with your engine's pump may indicate an open standpipe discharge valve somewhere in the system other than the fire floor. This open valve must be closed in order to provide flows to the system.

V. **Responsibility:**

It is the responsibility of all members to read, understand and follow this Standard Operating Guideline

Revision History			
Revision Date	Section	Summary	Principal Author
A	Suppression	Initial Release	Lt. Ferris