



Burlington Fire Department

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Section: 01 - Suppression	
SOG Number: 01.54	Effective Date: June 1, 2020
Subject: High Rise Operations	
By Order of Fire Chief Steven A. Locke	

I. Purpose:

The purpose of this policy is to establish a standardized approach to combating high-rise building fires so that fire department personnel will operate in a safe and controlled manner. High-rise fires present particular problems for firefighting operations. These problems are due to the size, complexities, and frequent difficulties in operating at high-rise fires.

II. Scope:

This Policy shall apply to all uniformed members of the Burlington Fire Department (BFD). This SOG shall supersede any other previous Department Directive (DD), SOG's, or SOP's of BFD.

III. Definitions:

Attack Stairwell: A stairwell being used by the fire department to gain access to the fire area, where the door between the stairway and the fire area is being maintained in an open position.

Compartmentation: The subdividing of floor areas by fire resistive separations into smaller spaces or compartments.

Evacuation Stairwell: Fire tower or stairwell that is remote from the fire area and used for the evacuation of the building occupants.

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

High-Rise Building: The generally recognized definition of a high-rise building is any building more than seventy five (75) feet tall, however, the Burlington Fire Department has identified the fact that there are many buildings within our city

that do not meet this definition but that will require the same command structure and tactics. Therefore, for the purpose of this policy the Burlington Fire Department shall treat any building with five (5) or more stories above grade level as a high-rise.

There are two main types of high-rise buildings:

Commercial high-rise building: These are characterized by center core construction consisting of elevators, stairwells and mechanical/electrical chases. These typically have more open spaces around the perimeter than residential high-rise building.

Residential high-rise building: May be hotels, apartment houses or condominiums. These occupancies are generally characterized by center hall corridors with numerous interior compartments.

High-Rise Pack: The high-rise pack consists of two pre-assembled 100ft bundles 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.

Lobby Control: Lobby Control is responsible for directing firefighters to proper stairways, the operation of alarm panels, communications systems, building system controls, elevators, and a running list of personnel in and out of the building keeping track of personnel entering and exiting the upper floors.

Order of Arrival: Order in which units arrive at the scene. 1st due Engine, 1st due Truck etc.

Order of Dispatch: Order in which the CAD system dispatches units based on location and capabilities

Plenum: The space above a hanging ceiling, used as part of the air handling system in the building.

Standpipe Kit: The standpipe kit is a tool bag containing the necessary equipment to perform standpipe firefighting operations.

Standpipe Kit contents:

5 section of 2 1/2 inch hose with in-line gauge	Gated Wye
14" Lightweight Bolt Cutter	(2) Quickfit 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). Upon the receipt of an alarm in a high-rise with no indication of smoke or fire, the emergency communications center (ABLE) shall dispatch companies according to the recommendation of the Computer Aided Dispatch System (CAD).

1. The first arriving unit, regardless of type, shall provide a Brief Initial Report as outlined in *SOG 06.21 – Brief Initial Reports*.
2. The first arriving Engine Company shall establish which floor the alarm is on by checking annunciator panel or alarm panel and then stage in the lobby with their High-Rise equipment.
3. The first arriving Truck Company shall position their truck in an appropriate location giving consideration to collapse potential.
4. Obtain a set of the buildings keys and proceed to the alarm floor by the appropriate means.
5. If the first due Truck is not available or has an extended response time, an Engine Company can be assigned to fill this role. This Company shall announce over the radio they are “acting as the first due truck” and the next due engine will assume the 1st due responsibilities
6. The second Engine Company on the assignment, will stage at a water supply.
7. Upon arrival, the Battalion shall establish or assume Command.

B). Upon the receipt of an alarm in a high-rise building with indications of smoke or fire, the emergency communications center (ABLE) shall dispatch companies according to the recommendations of a Structure Fire with the CAD.

1. The first arriving unit, regardless of type, shall provide a Brief Initial Report as outlined in *SOG 06.21 – Brief Initial Reports*.
2. The standard First Alarm assignment for a reported fire in a high-rise building shall be (3) Engines, (2) Trucks, (2) Ambulances, and (1) Battalion Chief.
 - a. Upon arrival, the Battalion shall assume Command and establish a Command Post where they can monitor conditions from the exterior. Upon conformation of a working fire, a request for an additional alarm should be considered.
 - b. The first arriving Truck Company shall:
 - (1) Position their truck in an appropriate location giving consideration to collapse potential.
 - (2) Obtain the buildings keys and read the fire alarm annunciator panel.

- (3) The first arriving Truck Company will coordinate with the first due Engine Company in determining which stairwell will be used for firefighting activities and which stairwell(s) will be designated for occupant removal.

Gerald Tracy, Battalion Chief (retired) with the FDNY and catalyst on wind-driven firefighting tactics research notes, *“The policy of the FDNY before we undertook research on Smoke Management was to open the door at roof level of the Attack stair (ASAP) so that the smoke would lift and vent out naturally taking advantage of the buildings stack/chimney effect. Our research with NIST revealed that by venting the roof door while the attack line was advancing would draw the fire, heat, and smoke directly at the attack team and that could be dangerous. Especially if an exterior window of the fire area were to fail, it could create a blow torch condition to overwhelm them.*

CONTROL THE DOORS.

ITS ALL ABOUT PROTECTING THE STAIRS FROM SMOKE.

Once the stairwell determination has been made, Command shall be notified. The Truck Company shall gain entry to the fire floor utilizing building keys or forcing entry.

- (4) Set up a portable fan at the base of the attack stair to pressurize it so smoke does not migrate into that stair while advancing onto the fire.
 - (5) Proceed to the fire floor by the appropriate means.
 - (6) After gaining entry, the company shall search the floor for the fire location and endangered occupants.
 - (7) Upon finding the fire, the Truck Company shall take appropriate steps to confine the fire and transmit the fire location to the Engine Companies working on the fire floor. If the first due Truck is not available or has an extended response time, an Engine Company can be assigned to fill this role. This Company shall announce over the radio they are “acting as the first due truck” and the next due engine will assume the 1st due responsibilities.
- c. The first arriving Engine Company:
- (1) Confirm Fire Alarm Panel information.
 - (2) Report to the fire floor with their high-rise equipment and all personnel.

- (3) If a hose line is needed, the members shall utilize the standpipe connection in the stairwell and make the connection one floor below the fire floor.
 - (4) All connections shall be made and the Engine Company Officer shall determine the stretch to place the line in operation for the best tactical advantage.
 - (5) The in-line gauge shall be set with the nozzle in the fully open position to ensure adequate fire flow.
- d. The first arriving BFD Ambulance Company:
- (1) If they arrive simultaneously with the first due Engine Company, they shall team up and assist the first due Engine Company with getting the attack hose line in place and in operation.
 - (2) If they arrive after the first due Engine Company, they will operate at the discretion of the incident commander.
- e. The second arriving Engine Company:
- (1) Establish a water supply and prepare to supply the building's standpipe system.
 - (2) After making the connection, the chauffeur shall stay with the engine and supply the system.
 - (3) After the water supply has been established, the remaining members shall report to the attack stairwell with their high-rise packs and assist the first Engine Company getting to the fire area.
- f. The second due Truck Company should consider:
- (1) Positioning their truck in an appropriate location giving consideration to collapse potential and proceed to the floor above the fire.
 - (2) If second stairwell is available, set up a portable fan in the evacuation stairwell.
 - (3) Gaining entry to the floor above utilizing building keys or forcing entry.
 - (4) After gaining entry, the company shall search the floor for endangered occupants and fire extension starting with the location directly over the fire.
 - (5) All conditions shall be relayed to the command post.
- g. The third arriving Engine Company shall consider:

- (1) Proceed to two floors below the fire floor with their high-rise packs and prepare to get a second line in operation if needed. This line will be the back up to the attack line and if needed be stretched to the floor above.
- h. The second arriving Ambulance Company, at the direction of the Incident Commander, may proceed to two floors below the fire floor and assist the Engine Company getting the line in operation if needed. They will bring any remaining high rise equipment to the attack stairwell.
- i. The fourth due Engine Company or third due Truck Company shall report to the Command and be assigned the Rapid Intervention Crew (R.I.C. See S.O.G 01.34) or any other task ordered by the Incident Commander. This will be the first company to receive off duty members to fill out a six (6) person R.I.C.
- j. Level II Staging shall be determined by the Incident Commander until the Staging Officer arrives and assumes that duty. As a general rule of thumb, it should be located two (2) blocks away from the incident.

C). Elevator Use

1. Elevators shall not be used for fires below the sixth floor of any building.
2. Members shall familiarize themselves with stairwell locations prior to elevator use.
3. Prior to entering an elevator car, members must evaluate the elevator shaft for the presence of smoke. Elevator use is prohibited with evidence of smoke in the shaft.
4. Only elevators that have fire service controls may be used by fire service personnel during emergencies.
5. Crews shall exit the elevator two (2) floors below the fire floor.
6. Elevators shall not be used for the evacuation of occupants.
7. Member shall maintain full PPE and SCBA while inside the elevator car.
8. No more than 5 members are to be in the elevator car.

D). Building Voice Evacuation System Use

1. Consider the presenting hazard and the fire location prior to utilizing Voice Evacuation System.
2. Building evacuation is not always the best course of action.
3. Occupants may have to be sheltered in place or relocated.

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
June 1, 2020	All	Replaces SOG 01.4 High Rise Operations (DOI - 04.23.2010)	Captain Curtin

High Rise Building Fire Matrix - Task Sheet

Burlington, Vermont Fire Department

	1st Engine Company	2nd Engine Company	3rd Engine Company	4th Engine Company	1st Ladder Company	2nd Ladder Company	1st Battalion Chief	2nd Battalion Chief	1st EMS Transport	2nd EMS Transport	1st Deputy Chief -or- Chief Engineer
Tasks to be completed.	Position apparatus to allow aerial access	Establish Water Supply for Building System	Establish Second Water Supply	Rapid Intervention Crew	Position near front of building or location designated by IC	Position near Rear of building or location designated by IC	Establish Command. Brief Initial Report	May assume the role of Staging Area Manager	Assist first due engine if simultaneous arrival.	Operate at the discretion of the IC	Assume Command from Battalion Chief, Initial BC becomes Operations Section Chief
	If B-1 not on scene: Initial Size Up, Brief Initial Report, Est. Command	Chauffeur stays with Engine and pumps.	Report to Incident Command		Building Keys, Read Fire Alarm Panel	Pressurize evacuation stairwell.	Conducts 360. Assumes or Establishes Command		Operate at the discretion of the IC	EMS Assignment	Typically will not occur unless incident has escalated to a 2nd alarm or greater.
	Stage all members w/High Rise Packs in Lobby	Remaining crew brings high rise packs	Stage 2 floors below fire floor.		Pressurize attack stairwell with PPV	Place Egress ladders	Consider the need for additional alarms			Assist with Fire Suppression if third ambulance on scene.	
	Read (confirm) Fire Alarm Panel	Assist the first due engine with getting initial line in operation.	Stretch a 2nd attack or backup line		Search floor for fire and occupants	Utility Control	Maintain Fireground Accountability			Establish Rehab/Provide Standby EMS	
	Stretch initial attack line on fire floor				Relay Fire Location to Engine Co.	Operate at the discretion of the IC					

RULES:

- 1). Ladder Company Defined: Tower 1, Ladder 2 or Ladder 4 (when not utilized as an engine), or Rescue 1 (Heavy Rescue)
- 2). If first due truck is not available, an engine maybe assigned to fill this role. Must announce that they are acting as first due truck over radio.