



Burlington Fire Department



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Section: 04 - Special Operations	
SOG Number: 04.7	Effective Date: July 21, 2017
Subject: Elevator Incidents	
By Order of Fire Chief Steven A. Locke	

I. Purpose:

To establish safe guidelines, an operational course of action, and an effective level of response for elevator incidents.

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:

Alternate Designated Landing: Alternate landing that the elevator will return to when Phase I is activated. This landing is used when there is fire or a smoke head activation on the designated level. This is the second best means of egress from the building.

Blind Hoistway: Hoistway for express elevators that serve only upper floors of tall buildings. There are no entrances to the shaft on floors between the main entrance and the lowest floor served.

Designated Landing: Landing that the elevator will return to when Phase I is activated. This is best means of egress from the building.

Elevator Status Panel: Located in the fire control room or on the main floor. Provides operating status and location of elevator car in hoistway and usually has intercom for communications.

Emergency Stop Switch: Located inside the elevator car, shuts power to the valves and/or pump motor (hydraulic elevator), or the driving motor and brake (cable elevator).

Guide Rails: The tracks the elevator and counterweights ride on through the hoistway. Made of heavy steel construction.

Hoistway: The vertical area of elevator travel (elevator shaft). May be one elevator car or several, includes all space from the bottom of the pit to the roof.

Interlock Release Key: The key used to open a hoistway door from the landing when inserted into the hoistway door interlock-unlocking device.

Interlock: An electromechanical device located on the hoistway door. Prevents the hoistway door from opening when the elevator car is not at the landing.

Lockout/Tagout (LOTO): The term lockout / tagout (LOTO) refers to a safety procedure that ensures dangerous machines and energy sources are properly shut off and not unexpectedly started up before the completion of maintenance or servicing work. Energy sources could include electrical, mechanical, hydraulic, pneumatic, chemical, radiation, and thermal hazards. The point of a LOTO procedure is to identify a hazard that may injure or even kill employees if such an incident occurs due to the startup or release of stored energy during the maintenance of machines and equipment.

Machine Room: Room located top floor or penthouse (cable operated) or anywhere in the building (hydraulic operated) usually ground floor. This room will contain all elevator equipment and the main line disconnect switch.

Main Line Disconnect Switch: Fused knife switch or large circuit breaker located inside the elevator machine room. When shut down (Lock-out/Tag-out) it removes operating power from the elevator.

Phase I Operation Switch: Firefighters switch located on the outside of the elevator usually at the designated landing

Phase II Operation Switch: Firefighters switch located on the inside of the elevator car.

Position Indicator: Identifies location of elevator in the hoistway.

Top Escape Hatch: An exit located on the top of the car which opens outward and usually locks from the outside.

IV. Guidelines:

Note: All responses are to be flow of traffic responses unless an actual emergency is known to exist.

A). Running assignments to be dispatched.

1. Elevator Incident (Alarm with no verbal contact)
 - a. (1) Suppression Company with elevator keys

2. Elevator Incident
(Verbal contact – Occupants stuck in stalled elevator, no medical emergency exists)
 - a. (1) Suppression Company with elevator keys
 - b. (1) Company with rope capability (T1, L2, or R1 when in service for T1)

3. Elevator Incident
(Verbal contact - known medical emergency exists– EMERGENT RESPONSE)
 - a. (1) Suppression Company with elevator keys
 - b. (1) Company with rope capability (T1, L2, or R1 when in service for T1)
 - c. (1) Ambulance

4. Elevator Alarm
(Verbal contact – Accidental Activation – No problem exists)
 - a. Dispatch to contact the building representative – No response of Fire Department Personnel.

B). Response and Arrival

1. Response Considerations
 - a. Availability of preplans.
 - b. PPE: Helmet and gloves.
 - c. Harnesses if working in hoistway (for members and occupants).
 - d. Type of building (new, old, under construction).
 - e. Number of elevators banks.
 - f. Type of elevator (hydraulic, cable, freight).
2. Arrival
 - a. Make contact with building maintenance and determine:
 - b. How long occupants have been in elevator.
 - c. Notification of elevator mechanic and estimated time of arrival.
 - d. Determine location of elevator car within the hoistway using:
 - (1) Elevator status panel.
 - (2) Position indicator.
 - e. Determine location of elevator machine room.
 - f. Communicate with occupants
 - g. Determine if a true medical emergency or conditions exist.
 - h. Advise them steps are being taken to assist them.
 - i. Determine the number of occupants that a located within the stalled elevator.
 - j. Provide progress updates and reassurance of their safety.
3. Personnel Assignments
 - a. Position personnel at the following locations:
 - b. Elevator Keyswitch Panel on designated landing for appropriate hoistway. Generally, the designated landing is the lobby of building.
 - c. Landing outside affected car if at or near landing.
 - d. Elevator machine room. Minimum two personnel at this location with Lock-out/Tag-out equipment (In extreme cases if no lock out tag out equipment is readily available, a firefighter with portable radio, may be left at the machine room to act as the lock out/tag out).

C). Removal Procedures

**** NOTE: Conditions must be constantly monitored;
an incident may escalate into an emergency quickly.***

1. Preliminary Steps: The following steps are a progression of options to attempt removal of occupants:
 - a. Instruct occupant to pull car emergency “STOP” button then press back to verify it was not activated. When complete, have occupant press the Floor button nearest their stalled position.
 - b. If unsuccessful, have occupant apply force to the car doors in the closing direction. At the same time have a firefighter do the same to the hoistway doors at the landing.
 - c. Activate Phase I operations (Firefighters Service). Notify occupants prior to activation.
 - d. Direct firefighters in machine room to recycle the main power. Have occupants try floor button again. To properly recycle, the main power to the affected elevator should be turned off for at least 30 seconds before restoring.
 - e. If the elevator doors open allowing the occupants to exit and the elevator appears to be operating normally, BFD personnel will leave the elevator in operation.
 - f. If the elevator doors open allowing the occupants to exit yet the elevator does not appear to be functioning correctly, BFD personnel will shut the elevator down and request the building contact be notified.
 - g. If recycling the main power is unsuccessful, the Engine Company shall perform Lock-out/Tag-out procedures in the machine room. **No further operations will be conducted until Lock-out/Tag-out confirmation is received from the Company member(s) in the machine room!**
 - h. Unless there is a medical emergency, an excessively long estimated response time, or extreme conditions, it is best to wait for the elevator mechanic! **As with all events, the ultimate decision for removal is at the discretion of responding officer based on conditions at scene.**
 - i. Gather necessary equipment and make entry into car. Equipment includes:
 - (1) A-Frame ladder (Little Giant).
 - (2) Attic ladder.
 - (3) Elevator keys.
 - (4) Hand lights.
 - (5) Rope.
 - (6) Class III harnesses. (Extra for occupants if needed.)
 - (7) Forcible entry tools (e.g., conventional, hydraulic, mini lifting bags).
 - j. Confirm Lock-out/Tag-out.
 - (1) Locate interlock key hole and use appropriate key to open landing doors.

- (a) Once landing doors are open car will be located:
 - (i) At or near landing (within 18 inches).
 - (ii) Within 3 feet of landing (above or below).
 - (iii) More than 3 feet of landing (above or below).
- 2. Car at or Near Landing (within 18 inches)
 - a. Chock open hoistway doors.
 - b. Enter the car and activate “Emergency Stop” button.
 - c. Protect occupants from trip hazards and assist from car from doorway.
 - d. After removal, of occupants secure hoistway and car doors.
 - e. DO NOT restore power to stalled car and contact owner.
- 3. Car Within 3 Feet of Landing (Above or Below)

Warning: Always consider the hazard of an open hoistway! Consider removing occupants to the floor above first. Removing to the floor below in this situation exposes rescuers and occupants to the hazard of an open hoistway.

- a. Chock open hoistway doors.
 - b. Enter the car and press “Emergency Stop” button on panel.
 - c. Use ladders to remove occupants to safe area.
 - d. If car is within 3 feet above the landing, block off the bottom with a ladder or objects to avoid fall hazard into hoistway.
 - e. After removal of occupants, secure hoistway and car doors.
 - f. DO NOT restore power to stalled car and contact owner.
- 4. Car More Than 3 Feet from Landing *(Request additional suppression company)
 - a. All members working near hoistway or descending to elevator car SHALL be in a Class III harness and tied off to an anchored rope line.
 - b. Chock open hoistway doors.
 - c. If multiple elevator cars are in shared hoistway, evacuate and perform Lock-out/Tag-out on all cars. To guarantee operational safety, no elevators should be able to move in hoistway. Activate Phase 1 and remove occupants from all other cars in same elevator bank. Activate Phase 2 and bring cars to the floor below of the stuck car to lessen the fall hazard.
 - d. Use ladder to access top of elevator car.
 - e. Check top of car for safe place to stand.
 - f. Activate emergency stop inspector’s switch (top of car).
 - g. Open top emergency exit door.
 - h. Remove false ceiling if present.
 - i. Place folding ladder into elevator car (make sure it is secured).
 - j. Descend into car and check condition of occupants.
 - k. Press “Emergency Stop” button on panel.

- l. Secure harness to each ascending occupant. As the occupant exits the top escape hatch, connect safety line to the harness.
- m. After removal of occupants, secure hoistway and car doors.
- n. DO NOT restore power to stalled car and contact owner.

D). Elevator Use during Emergency Operations

1. Phase I Operation
 - a. Automatic Phase I Activation
 - (1) If a smoke head is activated in any portion of the building other than the designated landing, the car will return to the designated landing.
 - (2) If the designated level smoke head is activated, the cars may return to the alternate designated landing on some systems.
 - b. Manual Phase I Activation
 - (1) Activate Phase I switch at the designated landing. The Phase I Switch has two or three positions:
 - (a) Off (normal position).
 - (b) On (activates system, brings cars to the designated level).
 - (c) Reset (takes the elevator out of phase 1 operation)
 - (2) Firefighters key can only be removed in the “On” or “Off” position. It cannot be removed in the “Reset” position.
 - (3) During Phase I activation, all push buttons and switches in the elevator car and at the landings become inoperable.
 - (4) Once the cars arrive at the designated level, the doors will open and remain open until Phase II is activated or Phase I is deactivated.
2. Phase II Operations
 - a. Once the elevator has arrived at the designated level, remove the Firefighters key in the “On” position.
 - b. Insert the key into the Phase II switch (inside the elevator) and turn it to the “On” position.
 - c. Hold the “Door Close” button until the doors fully close. If you let the “Door Close” button go too soon, the doors will reopen.
 - d. Once doors are closed, press the desired floor button.
 - e. To cancel or change the desired floor, press the “Call Cancel” button and the car will stop at the next landing.
 - f. After arrival at the desired floor, press the “Door Open” button and wait until the doors are fully open. If you release the button before the doors are fully open they will automatically shut. This is a built in safety feature.
 - g. Turn the Firefighters key to the “Hold” position and remove. This will keep the elevator car at that landing with the doors open. No one can use the car without a firefighters key.

If other firefighters need transport to your floor and personnel does not allow for an elevator operator, return the Firefighters key to the “Off” position (back into Phase I), and the car will return to the designated level.

E). Documentation and reporting.

1. The NFIRS Incident Type codes for Elevator Incidents shall be:
 - a. 353 – Removal of victim(s) from a stalled elevator (or)
 - b. 555 – Defective elevator, no occupants.

2. The member completing the NFIRS report shall denote:
 - a. Situation found.
 - b. Actions taken.
 - c. Disposition of elevator (remained in service, shut down, left with building contact).

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
5.8.2017	All	No prior elevator response SOG existed.	Lt. Curtin
10.16.17	A. 2-4.	Updated response types based upon conditions described by reporting party.	DC Collette
10.16.17	C.1.F,G.	Actions to take if elevator doors open and occupants can exit the car.	DC Collette
10.16.17	E. 1, 2.	Added NFIRS Incident Code Types for record keeping consistency.	DC Collette
08.24.18	IV, A. 1-4	Updated to be consistent with CAD roll out	SF. Petit