Rogers Fire Department Standard Operating Procedures

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PURPOSE

The purpose of this policy is to provide information on the tactics and operations involved with responding to elevators that have stalled or mechanically failed.

POLICY

The fire department may be called to provide rescue to persons trapped inside elevator cars. The reason for an elevator becoming stuck or inoperable is usually one of the following:

1. Electrical power failure
2. Malfunction of a mechanical component
3. Activation of safety devices

Although the cause of an inoperable elevator car may vary, generally passengers are in no immediate danger and there is no reason to endanger the lives of RFD members or the trapped civilians. When possible, it is often best to wait for an elevator service company who can correct the problem and release the passengers in a short time with undue risk to personnel.

Emergency situations involving elevators could include civilian(s) stuck in an elevator:

1. Who are experiencing a medical emergency
2. During a smoke or fire condition
3. Who are injured from an elevator car “free fall” in the shaft

Rescue Procedure

If the problem is suspected to be a power outage and power can be restored, or will be restored in a short period of time, it is best NOT to attempt to remove trapped passengers by rescue operations. Power restoration will typically allow elevators to return to normal, safe operation.

If conditions require passengers be removed from the car before the arrival of elevator service personnel, removal should be performed with extreme caution. Because safety is the prime consideration, Department members must be trained in elevator rescue procedures and must be familiar with the operation of the particular elevator system. It is the responsibility of each company to stay familiar with elevators in their first-due areas and maintain an awareness of their operation.

Due to the many different types of elevators found in buildings, it is not possible to list exact rescue procedures applying to every situation. The procedures listed in this section are offered as a guide and should be supplemented with additional knowledge of the particular elevator system.

1. Direct a member with a portable radio to locate the elevator power shut-off switch, shut off the power to the stalled elevator, and remain at the location. The member stationed at the shut-off switch must not allow the switch to be moved without direct orders from the officer in charge.

2. Locate the stalled elevator car by observing the floor indicator in the lobby or program selector indicator in the elevator machine room. Alternatively, voice contact can be made with the car occupants to confirm the location of the elevator.

3. Communications with the passengers either through the elevator door or by the telephone inside the car should be initiated as soon as possible. Passengers should be counseled to remain calm and be made aware of efforts to rescue them. It is important to find out from the passengers what direction the car was traveling when it stalled and at which floor the door was last opened.

   If the emergency stop switch was activated by the passengers, have them return it to the original position. This will silence the alarm bell, which often adds to the confusion and discomfort of the trapped occupants.

4. Call a working elevator car to the level at which rescue personnel are operating and place it on independent or emergency service to hold it at the location. Examine the door opening mechanisms and control panel features on this car, as they should be identical to the stalled car.

5. Begin the rescue effort with a simple recall attempt to the ground floor.

6. If a recall attempt does not open the elevator, direct the person stationed at the power shut-off switch to turn it back on. During the period the power

to the elevator is off, the programming equipment may reset itself and cause the door to open if the car is level with the floor. If not, instruct a passenger to depress the door-open button inside the elevator. Many times this will cause the door to open.

Elevator keys, which are on all fire companies, can be utilized to open the hoistway door for the stalled elevator car. Keyholes and other access points for the elevator keys should be identified and the devices used in a systematic process. Maintenance representatives from the building can be important resources to determine the appropriate elevator access key.

If these operations are not successful in opening the door, send a firefighter to the floor landing where the elevator door was last opened. It is possible there is a faulty contact switch on the hoistway door at the location and shaking the door may cause the switch to make contact allowing the car to move. Also, have a passenger shake the elevator car door in case the problem is in the contact switch.

If the car still does not move or the door does not open, send a firefighter to depress the hall button on the next floor to where the elevator is stalled, in the opposite direction from which the elevator was traveling. For example, if the elevator was traveling downward, the hall button on the floor above should be depressed. This may cause the elevator to return to the floor and open.

7. If the above operations have not caused the elevator car to move to a landing level and opened the door, the elevator power shut-off switch should be returned to the off position. With the power shut off, most elevator doors can be opened from the inside by the passengers pushing the doors in the opening direction. On most high-rise elevators, if the car floor is within the landing zone (usually 18 inches above or below the landing floor level), a pick-up vane on the car door will engage the hoistway door and open them. If the car is not within the landing zone, after the car door is opened, a passenger can manually move the latching device on the hoistway door.

8. If the doors cannot be opened by any of the methods listed to this point, and it is imperative passengers be removed quickly, the doors can be forced with pry bars or other traditional forcible entry methods. This should be considered only as a last resort and only for lifesaving operations due to the danger it presents to passengers and the extensive damage that is done to the doors.

Prior to beginning operations to force or cut the doors, passengers should be informed of what is going to be done and advised to move to a position in the car away from the doors.

To force doors sufficient pressure must be exerted at the top of the hoistway door to break the latch mechanism. Once the hoistway door is opened, the car door can be manually opened by pushing or prying it in the direction of opening travel.

9. Once elevator doors have been opened, extreme caution is required in removing passengers from the elevator, especially if the car is not level with the floor landing. Electrical power to the elevator machinery must remain off to prevent any unexpected movement of the car. On some installations it is possible to insert pry bars in the elevator drive sheave to prevent movement of the car.

   Passengers should be removed, one at a time, as quickly as possible as is consistent with safety, utilizing ladders if the distance from the floor level to the elevator requires it. If the car is above the floor landing, any open space between the bottom of the car and the floor landing must be barricaded as it presents a hazard to passengers exiting the car and rescue personnel who are assisting them.

10. After the passengers have been removed, the car and hoistway doors should be closed and the elevator kept out of service until it is examined by elevator service personnel. This procedure should be followed even if the elevator appears to return to normal operation after rescue operations have been completed.

Safety Device Engagement

If safety devices have activated and caused the elevator car to stop in the hoistway, it may be an indication of a serious malfunction in elevator control equipment or machinery. Under these conditions movement of the elevator car or removal of the passengers should not be attempted until a qualified elevator mechanic is on the scene to assist in rescue operations. If hoist ropes are parted or contain noticeable slack, it is an indication safety devices at the bottom of the car have engaged. In this situation, if the car is moved upward, even a slight amount, the safety devices may disengage possibly allowing the elevator car to drop.