



# Emergency Operation of Elevator Systems

## A helpful guide for establishing emergency operations criteria

In any emergency, successful handling of that emergency is dependent upon trained and knowledgeable people within your facility. This document is designed to help you establish criteria for emergency operation of your elevators in the event of a fire, earthquake, or power loss. It will also aid you in the event that the elevator stops between floors.

The functions described within this document should be practiced by designated personnel at least semiannually, or more frequently if legal codes require. Practice should be conducted during low demand hours of the elevator system and in the presence of a supervisor within the facility, or trained elevator technician. Some jurisdictions may

require that certain tests explained in this brochure be performed by licensed technicians, so please check with your local Schindler office.

Note: A diagram showing the location of your elevators, car numbers, and the elevator car phone number, if applicable, should be in your designated security area. In addition, you should have your elevator company's emergency phone number readily available along with any numerical designation they may require.



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### Fire service recall

For fire service recall, trained personnel should know the location of and have access to the keys for fire service. The keys should be clearly marked and designate the elevator group for which the keys are used. The keys should be in a secure location in an area that is easily accessible near the elevator lobby at the main egress level for that elevator or elevator group.

Note: Elevators should not be used by the public in the event of a fire emergency.

#### Step 1

The key switch for emergency fire service is usually located in the lobby on the main egress floor of the building. If a smoke sensor is tripped, either above or below the main lobby, all cars in that bank will recall, running nonstop to the main egress level and secure themselves with their doors open. Turning the fire service key switch located at this level to on will achieve the same result.

#### Step 2

After recall, (Step 1), leave the switch in the on position and remove the key. When cars arrive at the floor level and doors open, select one car and turn the fire service key switch inside the car to the on position.

Note: During an actual fire situation you would leave the other cars parked in the lobby with the doors open. However, for test purposes, the other cars should be released by turning the lobby key switch to bypass and then to the off position.

### For testing purposes

After you have control of the one car in Step 2 above, you should test for emergency use. Push the desired floor button, and hold in the door close button. If the door close button is released prior to the car leaving the floor, the doors should reopen. This is to prevent the car from leaving the floor unattended. With the doors closed, the car should proceed nonstop to the floor you selected. Doors will not open until you push the door open button. If this button is released prior to the doors being fully open, the doors should close. This feature is designed to prevent the doors from fully opening automatically onto a floor that has a fire or smoke.

Ride to various floors to ensure you have complete control of the car. You should be able to take a car to any floor, whether up or down, nonstop.

Note: To restore the car to normal service, return the car to the main egress level, open the doors and turn the fire service key inside the car to the off position and remove the key.

#### Step 3

If it has been determined that the elevators had cycled through the recall mode due, for example, to a failure in a component such as a faulty smoke detector or after an actual fire condition, you may still have tripped smoke detectors that are keeping the elevators on recall. After consultation with the fire chief, the elevators can be returned to normal service by turning the fire key

service switch, located at the main egress floor, to BYP or bypass. The key is not removable in the bypass mode. After the smoke detectors are reset and you are given the all clear, you may return the key switch to bypass and then to the off position so you can remove the key and allow the elevators to resume normal operation.

### Earthquake reset

If your elevator is equipped with earthquake features, excessive seismic activity can cause one or more of the elevators to secure themselves at a floor with their doors open. Each elevator controller has an earthquake reset button with an indicating light that is lit when tripped.

Caution: Never try to reset elevators if the earthquake circuit is set. Serious injury or damage could result. Instead, call your elevator service company immediately.

Note: Interruptions in power (emergency generator test, etc.) can also cause the earthquake circuits to trip.

### Emergency power operation

If your elevator system is equipped with emergency power operation (automatic or manual) and your building has an emergency generator, the following applies. Emergency power operation was designed to permit the lowering of one or more elevators at a time, depending on the size of your emergency generator and the power allocation for the other parts of your facility. In the event of a power outage, all elevators will stop

immediately, and the emergency lights in the elevator cab will come on. It is important to contact each elevator via your communications system to see if anyone is in the elevator. If so, follow the instructions regarding removal of people inside a stalled elevator car.

### **Automatic sequential operation**

If your elevator system has automatic sequential operation, when emergency power is up and running, your elevator controller will select the first car in the group, lower it to the main lobby, open the doors and shut the elevator down. Then the controller will choose the next car in line and repeat the process until all cars are at the main lobby. Normally the last car selected will be left in group operation, and it will continue to answer car calls and hall calls.

### **Manual operation**

If your elevator system has manual emergency power operation, there should be a panel in a secured room or station. After emergency power is up and running, you can select one elevator at a time and manually (usually using a key switch) lower the elevator to the main lobby. After the elevator has reached the main lobby and the doors are fully open, turn the key to the off position. Move to the next car and repeat the same procedure. After full power is restored, your elevators should automatically return to service.

### **People inside stalled elevator**

Every situation is different. In every case, the facility manager on duty should make a determination regarding the course of action to take.

Caution: The safety of those inside the car is of primary importance. Emergency evacuation is dangerous and should only be done by a professional elevator technician or trained emergency personnel.

#### **Step 1**

Establish contact with the people in the elevator through your communication system (phone or intercom) or through the elevator doors. Explain that the

elevator is experiencing a temporary problem and that qualified personnel are being called to release them. Assure passengers that they are safe and must NOT attempt to free themselves by prying doors or similar dangerous activities. Try to determine the location of the car in the hoistway, the number of people and if anyone is injured or if any life threatening situation exists. Find out if the lights are on in the car and what happened immediately before the car stopped. Passengers should be asked if anyone tripped the stop button. If so, the button should be returned to its original position. This could solve the problem immediately. Try to keep passengers calm, and assure them that you will get them out as quickly and safely as possible. Either the operator or a designated person should stay in communication with passengers.

#### **Step 2**

Call your elevator service company and request emergency service. Tell them that people are in the stalled elevator. Ask the operator to provide you with the technician's estimated time of arrival (ETA).

#### **Step 3**

Once you've taken care of emergency notification, let the people in the elevator know that help is on the way, and give an ETA if possible. Keep them informed.

Note: If a life threatening emergency exists and the elevator company's ETA is too long, call the fire department. Schindler recommends that building personnel should never attempt any evacuation without elevator service company or emergency personnel involvement.

### **Extreme weather**

Advance preparations can help prevent costly damage to your equipment.

#### **Right now**

Inspect your elevator machine room's ventilation openings, windows and doors for possible rain leakage. Install metal

splashguards over ventilation openings to help prevent water from reaching electrical panels. Install weather stripping around machine room doors that open to the outdoors.

### **Immediately before a storm hits**

Close up all vents and openings in the top of the hoistway to prevent water from getting into the elevator shaft. Barricade machine room windows as necessary.

1. Make sure no one is left in the building who would need the elevators for egress.
2. If elevators are enclosed and not exposed to the elements, run each car to a stop near the center of travel.
3. If elevators are exposed to the elements, run your elevators to the floor below the top floor.
4. Shut down the elevator with keyed switch and park it with doors closed.
5. In machine room, turn elevator electric disconnect switches to off. There is one switch for each elevator; it's usually located adjacent to the machine room door.

### **During the storm**

Never use elevators during a severe storm, even if your building has an emergency power generator. Rising water or wind-driven water can cause electrical short circuits that could disable an elevator and lead to entrapments.

### **After the storm**

Before restoring power to your elevators, inspect the machine room for water on the floor or the control panels. Also check the pit area for water damage. If you find water in these areas, call your elevator service company for an inspection before you operate the equipment.

Be sure to open any vents or openings at the top of the shaft if you sealed them just before the storm.



### Calls for service

Occasionally, an elevator may malfunction, and you will need to contact your elevator service company for a service call. Your maintenance agreement will determine coverage for service calls. If the call is covered, you could be billed for the call. Before you call your elevator service company, check the following items. This could prevent an unnecessary service call and let you restore service immediately.

1. Confirm that there is a problem, particularly if you learn about it second hand.
2. Check the emergency stop button to see if it was activated.
3. Check for doorway obstructions. This can include foreign matter in door sill grooves, or objects blocking complete closure of the doors.
4. Check all restricted access or keyed switches to be sure they are in their normal run positions.

5. Check the fire service key switch inside the car to be sure it is turned off.
6. Be sure your building is receiving full electric power from your utility. Have a qualified person check to see if there is a blown fuse on the main power supply.

Caution: No one other than a qualified elevator mechanic should work with the elevator control system. Serious damage or severe injury could result from tampering with the elevator control system by unqualified persons. Such damage could affect your warranty rights or result in additional charges under your service agreement.

### Accident reports

Occasionally someone may report being injured while using an elevator (claimed contact with doors, tripping etc.). It is important to take all reports seriously and to make a written report with statements from the injured party and any witnesses.

1. Record all information required by your company's insurance policy.
2. Check the elevator in question to see if the reported problem is occurring.
3. If the problem is occurring, take control of the elevator by switching the car to inspection service, and take the car to the lowest landing. Shut the car off and turn off the lights inside the car to discourage anyone from getting on that car.
4. Call your elevator service company and report the incident. Ask that the elevator service company personnel visit your site and check the elevator, even if the claimed problem has not reoccurred. Allow the elevator service contractor to determine if the elevator is operable and should be put in service.
5. Provide a copy of your report to the elevator service company.
6. Report to local government authority, if required.

For further information including location of the Schindler office nearest you, please visit:

**[www.us.schindler.com](http://www.us.schindler.com)**

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