



# TEXAS WOMAN'S UNIVERSITY™

## Elevator Rescue Procedure

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Office of Environmental Health & Safety

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<https://twu.edu/health-safety/>



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## **I. PROGRAM STATEMENT**

When an elevator malfunction occurs that traps passengers inside, it is the goal of Texas Woman's University (TWU) to provide for the passengers' exit from the elevator as quickly as possible as long as doing so does not place the passengers or TWU personnel in danger.

Whenever possible, it is recommended that any evacuation of passengers from elevator cars be performed under the direct supervision of elevator maintenance personnel, as they have the necessary resources and expertise to deal with the various complex hazards which may arise. However, waiting for elevator maintenance personnel may not always be practical.

Therefore, passenger evacuation may be performed using the procedure below, but only by TWU personnel who have been appropriately trained. The elevator service provider under contract with TWU or local municipal emergency responders will be summoned to perform any passenger evacuation that cannot be performed by TWU personnel in accordance with this procedure.

## **II. TRAINING**

Only TWU employees who have completed Elevator Rescue Training, as well as Lockout/Tagout (Hazardous Energy Control) training, may perform procedures related to shutting down power and manually opening elevator doors. TWU Department of Public Safety (DPS) Officers who have not received the above training may perform the duties assigned to them below, but may not directly assist personnel operating the equipment.

Risk Management is responsible for conducting the necessary training sessions.

## **III. EQUIPMENT**

Prior to attempting any rescue, it is imperative that the rescue team has the proper tools and equipment ready for use. It is equally important that they are trained in the proper use of the tools and equipment. Minimal tools and equipment necessary to conduct a safe elevator rescue are:

1. Elevator operation keys (fire department operation keys)
2. Hoistway door unlocking device (elevator interlocking release keys/"drop key")
3. Lockout locks/tags and group lockout devices to perform lockout of elevator equipment
4. Two-way-radios and/or mobile phones

## 5. Flashlights

In some rare instances, the rescue team may also need a short ladder to assist in evacuating the occupants out of the car. Please note the restrictions for rescues by TWU personnel listed below.

Elevator operation keys and hoistway door unlocking devices are maintained in fire department lock boxes in each building with elevators. DPS Officers and appropriate FMC personnel have been issued keys to the fire department lock boxes.

Lockout/Tagout equipment is maintained in both in the Central Plant and the FMC Service Center.

## IV. PROCEDURE

### A. Initial Notification/Mobilization

1. Notify DPS (Denton: 940-898-2911, Dallas 214-689-6666, Houston 713-794-2222) that someone is trapped in an elevator.
  - a) Notification may come from the trapped person via the intercom system in the elevator car, or from others with knowledge of the situation.
  - b) DPS should collect as much information as possible regarding the situation from the person making the notification.
2. DPS will dispatch an Officer to the scene and contact Facilities Management & Construction (FMC) at either 940-898-3131 (during business hours) or 940-898-3170 (after business hours), providing both with the information collected regarding the situation.
3. The Officer on scene will communicate with the occupants in the elevator car, inform them that they are safe, and that steps are being taken to evacuate them from the elevator car.
  - a) In communicating with the occupants, the Officer should determine the number of persons in the elevator and whether any of the occupants are ill or injured.
  - b) **If an injury is reported**, the Officer should request that dispatch contact the appropriate medical response personnel (i.e. local EMS and fire and rescue services).
  - c) The Officer shall instruct occupants to stay clear of the doors since they may be opened.

- d) The Officer will attempt to determine the location of the elevator car in relation to the nearest landing, without opening the hoistway doors, and note if the lights are on in the elevator car.
  - e) The occupants of the elevator should continually be kept informed and reassured of their safety by the Officer.
4. FMC will dispatch appropriate rescue personnel:
- a) **During Business Hours**
    - (1) FMC will contact the elevator service provider and determine their response time.
    - (2) FMC will also dispatch an FMC or Risk Management employee who has received appropriate elevator rescue and Lockout/Tagout training, who will coordinate rescue operations with the Officer on scene.
    - (3) If the elevator service provider's response time is adequate, the FMC or Risk Management employee and the Officer will stay on scene and keep the occupants calm until the elevator service provider can arrive and perform the rescue.
    - (4) If the service provider's response time is deemed inadequate, the FMC or Risk Management employee will attempt to rescue the occupants in accordance with the procedures below. The Officer will stay on scene and keep the occupants calm until the rescue is complete.
  - b) **After Business Hours**
    - i) FMC will determine if an FMC or Risk Management employee who has received appropriate elevator rescue and Lockout/Tagout training is available on campus. If so, the FMC or Risk Management employee will be dispatched to attempt to extract the occupants in accordance with the procedures below.
    - ii) If no appropriate FMC or Risk Management personnel are available;
      - (1) FMC will contact the elevator service provider and determine their response time.
      - (2) If the elevator service provider's response time is adequate, FMC will inform DPS, and the Officer will stay on scene and keep the occupants calm until the elevator service provider can arrive and perform the rescue.
      - (3) If the service provider's stated response time is deemed inadequate, DPS will call upon the local municipal emergency responders (e.g. fire department) to perform the elevator rescue. The Officer will stay on scene and keep the occupants calm until the rescue is complete.

## B. FMC or Risk Management Employee Rescue Procedure

### **Step #1: Fire Department Operation Key**

If a properly trained FMC or Risk Management employee is available, the employee will first attempt to “recall” the elevator car to the home floor using the fire department operation keys.

1. Insert the fire department operation key in the three-position switch in the elevator lobby and turn it to the “ON” position.
2. All elevators associated with that switch will return to the home floor (an alarm may also sound as the elevators return).
3. Assist the occupants out of the elevator as necessary.
4. Once the elevator is clear, switch the mainline disconnect switch for the affected elevator to the “OFF” position until the elevator service provider conducts an inspection and performs any required maintenance on the equipment.
5. If the elevator in question does not return to the home floor, return the switch to the “OFF” position and attempt the elevator reset procedure below.

### **Step #2: Elevator Reset**

If use of the fire department operation key did not succeed, the FMC or Risk Management employee will then attempt to “reset” the elevator prior to attempting to manually open the elevator doors.

1. The mainline disconnect switch for the affected elevator will be switched to the “OFF” position for at least 30 seconds, then to the “ON” position.
2. The employee will stay in contact with the Officer during this procedure to determine if the elevator resumes normal operation.
3. If the elevator resumes normal operation; once the occupants are out of the elevator, the mainline disconnect will be switched to the “OFF” position to take it out of service until the elevator service provider conducts an inspection and performs any necessary maintenance on the equipment.
4. If the elevator does not return to normal operation, attempt the occupant extraction procedure below.

### **Step #3: Occupant Extraction**

Neither FMC nor Risk Management will conduct the occupant extraction step under any of the following circumstances:

- Appropriately trained FMC or Risk Management personnel are not available on campus
- The car floor is more than **3 feet** from the closest landing (in other words; not more than 3 feet above or below the floor)
- Any situation where fall protection is required (this includes any work on the top of an elevator car in an unenclosed hoistway and any other situation where employees are exposed to a fall over 4 feet)
- Rescue cannot be accomplished through the normal doors (top or side emergency exits on the elevator will **NOT** be used by TWU personnel)
- Forcible entry is required (beyond using the hoistway door unlocking device and manual pressure on the hoistway and car doors)
- Any other situation where employees or occupants would be exposed to significant safety risks

If any of these conditions exist, the elevator service provider or municipal emergency responders will perform the occupant rescue.

### ***Lockout of Elevator Power Source(s)***

**Any and all additional steps not listed below** that are required for the elevator to be locked out in accordance with TWU's [Lockout/Tagout \(Hazardous Energy Control\) Program](#) **must also be completed**. Attempting an elevator rescue without locking out the appropriate energy sources exposes TWU employees to significant injuries.

1. The mainline disconnect switch for the affected elevator will be switched to the "OFF" position.
2. The FMC employee performing the rescue procedure will place a lock and tag and any additional devices needed to properly lockout the mainline disconnect switch in accordance with TWU's Lockout/Tagout Program.
3. Locks and tags must be placed by all employees who may be exposed to hazards caused by the elevator equipment. In other words, if there is more than one FMC or Risk Management employee participating in the rescue, each employee will need to place their own lock and tag on the mainline disconnect using a group lockout device at a minimum.

### ***Removal of Occupants from Car***

1. Unlock the hoistway door at the floor nearest to the stalled elevator using the hoistway door unlocking device (elevator door interlock release key/“drop key”) and slowly open the door.
2. Evaluate the distance between the elevator car floor and building landing (the floor you are on). If this distance is **greater than 3 feet**, do **NOT** attempt to remove any occupants from the elevator car and **close the hoistway door**. In this situation, it is inadvisable to remove the occupant through the elevator door opening as the excessive distance between the car floor and building landing creates a danger due to the possibility that an occupant or rescuer may fall into the hoistway. Ask the occupants to remain calm within the car until the elevator service provider or municipal emergency responders arrive and set the car closer to the landing or otherwise perform the rescue.
3. When the elevator car floor is **within 3 feet of elevator landing**, open the elevator car doors manually in accordance with TWU elevator rescue training.
4. Assist the occupants in leaving the elevator car one at a time. If the car is not level with the landing, make sure the occupants do not trip or fall while leaving the car. The use of a ladder may be required.

### ***Post-Rescue Actions***

1. Once the car is cleared, close the elevator and hoistway doors, ensuring locking mechanisms are properly engaged to prevent the doors from being manually opened without the hoistway door unlocking device.
2. TWU personnel who placed locks and tags on the mainline disconnect isolation devices should remove them.
3. **DO NOT** switch the mainline disconnect switch to the “ON” position. The mainline disconnect switch will be left in the “OFF” position until the elevator service provider conducts an inspection and performs any necessary maintenance on the equipment.
4. If injuries occurred during the incident:
  - a. Complete all normally required incident reporting procedures including completion of [workers compensation forms](#) if employee injuries occurred.
  - b. In addition, if the incident involved a death or other “serious bodily injury”, the Texas Department of Licensing and Regulation (TDLR) [Elevator Incident](#)



[Report](#) must be completed and submitted to the TDLR within 72 hours of the incident.

- i. A “serious bodily injury” is defined as a major impairment to bodily function or serious dysfunction of any bodily organ or part requiring medical attention

The elevator mainline disconnect switch must remain in the “OFF” position until a TDLR representative has completed an investigation and issued an approval to return the elevator to service.

### **C. Stalled Elevator without Passengers**

Stalled elevators without trapped occupants are not considered to be emergency situations, but the following procedure will be followed:

1. Contact FMC at 940-898-3131 (during business hours) or 940-898-3170 (after business hours) to report the issue.
2. During business hours, FMC shall use the fire department key to set the elevator to the “STOP” position and post signage around the elevator lobbies to alert potential occupants that the elevator is out of service. If the fire department key is unavailable, or there is doubt about the effectiveness of signage, set the mainline disconnect switch for the stalled elevator to the “OFF” position.

FMC shall notify the elevator service provider of the situation and request repair service.

### **D. “Key Rescue” Procedure**

Keys and other objects dropped into the elevator hoistway are generally not considered to be emergency situations, but the following procedure will be followed:

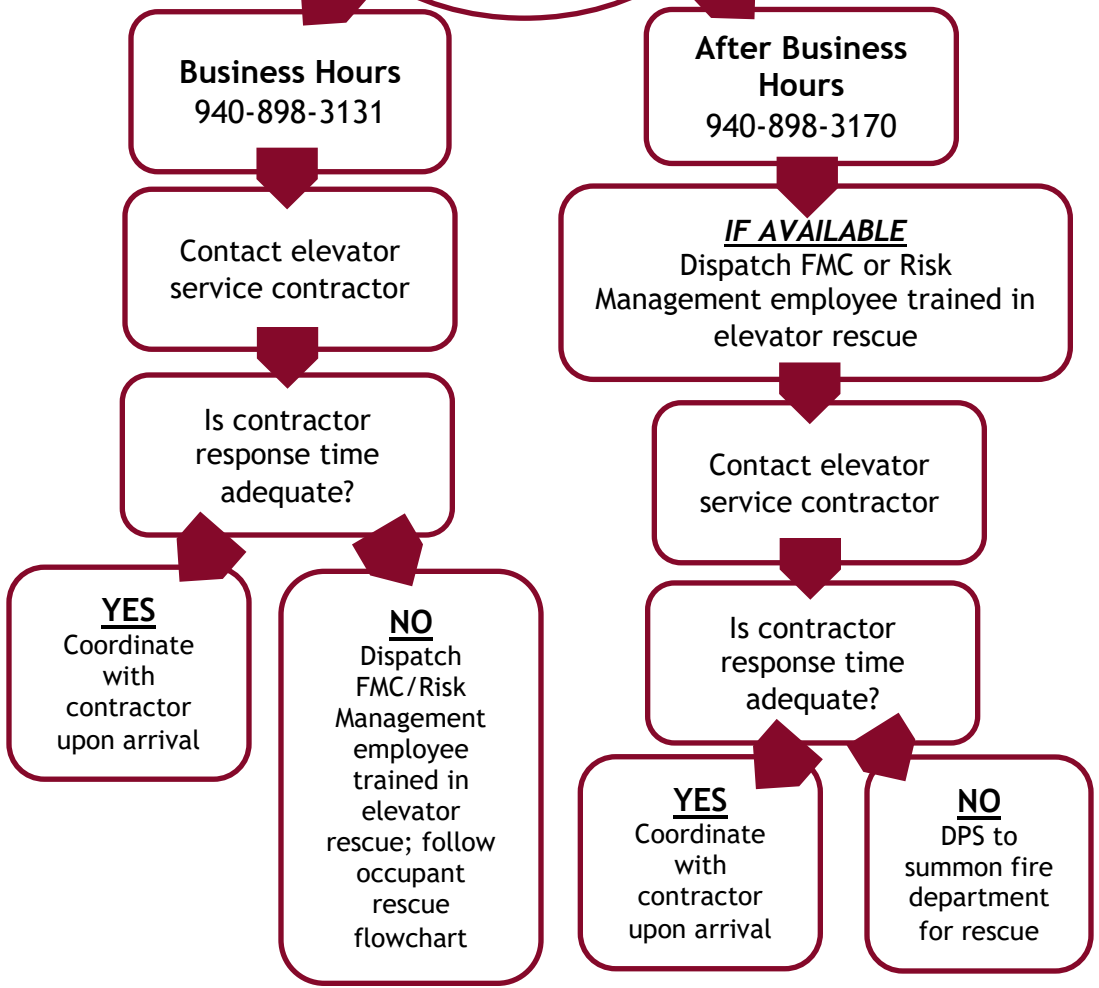
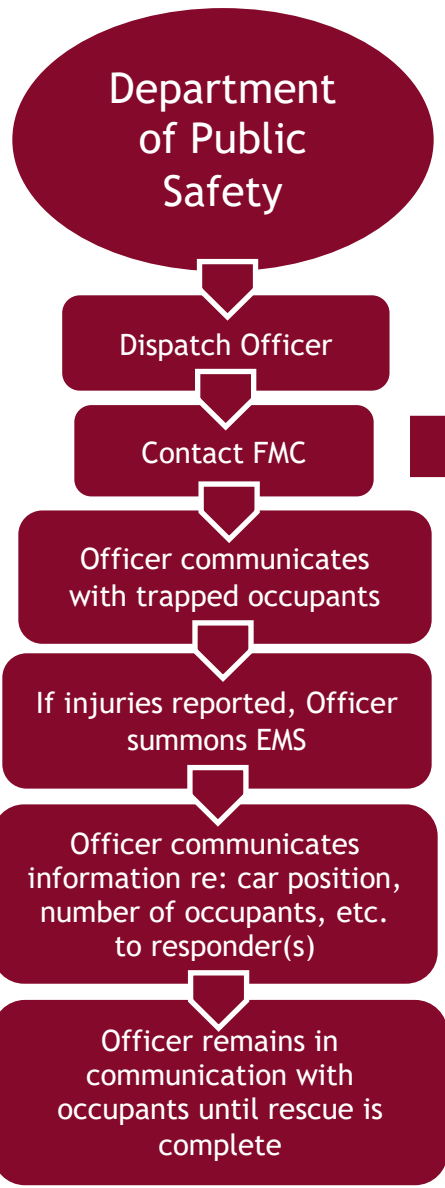
1. Contact FMC at 940-898-3131 (during business hours) or 940-898-3170 (after business hours) to report the issue.
2. **If retrieving the item is not an emergency**, FMC will contact the elevator service contractor and request that the item be retrieved at a time convenient for the contractor when they are on campus providing other services.
3. **If retrieving the item is considered by FMC to be an emergency:**
  - a. FMC will contact the elevator service provider and determine their response time.

- b. If their response time is adequate, FMC will request that the elevator service provider retrieve the item.
- c. If the response time is inadequate; FMC will dispatch an FMC or Risk Management employee who has received appropriate elevator rescue and Lockout/Tagout training. A second FMC/Risk Management employee or a DPS Officer will also need to be dispatched to assist in this procedure.
- d. The FMC or Risk Management employee will use the fire department operation keys or other elevator operator keys to relocate the elevator car as necessary and then hold the car in place (in other words, move the car at least one floor above the lowest floor the elevator serves, and place the run/stop switch in “stop” or have the fire department switch in the car in the “on” position).
- e. The FMC employee will then need to perform the steps listed under [“Lockout of Elevator Power Source\(s\)”](#) above prior to entering the hoistway.
- f. The hoistway door unlocking device will then be used to open the hoistway door on the lowest floor of the hoistway.
- g. The FMC or Risk Management employee who has placed their lock and tag on the mainline disconnect switch will then enter the hoistway to retrieve the lost object while the second person keeps the hoistway door partially open (allowing the door to close enough so that it is not possible to fall into the hoistway), and keeps all other persons away from the door. Entry into the hoistway will be accomplished by a fixed or portable ladder.
- h. Once the FMC or Risk Management employee exits the hoistway, they will close the hoistway door, remove their lock and tag, and use the fire department/elevator operation keys to return the elevator to normal operation.

# Initial Notification of Elevator Entrapment



## Flowchart



# Occupant Rescue



## Flowchart



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