



EAST TENNESSEE STATE UNIVERSITY

Facilities Management

Policy Number: 700.9

Title: Elevator Safety Policy and Procedures

Implementation Date: November 30th, 2015

Last Audit: April, 2016

Last Revised: May, 2016

Introduction

ETSU has installed many elevators throughout the various campuses. The safety of students, faculty, staff, repair personnel, and visitors must be a significant consideration in the operation, maintenance, and repair of these elevators. Many serious injuries occur in the U.S. every year due to entering and exiting elevator pits, as well as evacuating stalled elevator cars. This policy outlines appropriate steps that must be taken to minimize common hazards and provide uniform procedures for the operation, maintenance, and repair of campus elevators, as well as the extrication of passengers from stalled elevator cars.

Purpose

The purpose of this policy is to provide a set of uniform procedures, designed to provide an acceptable level of safety, for entering and exiting elevator pits, for the purpose of conducting various types of maintenance and repairs, and to provide a set of uniform procedures for emergency response personnel (e.g. ETSU Public Safety) to facilitate the evacuation of occupants from stalled elevator cars.

Scope

This policy shall apply to all facilities management and emergency response personnel (e.g. ETSU Public Safety).

Definitions

Traction elevator – In a "traction" elevator, cars are pulled up by means of rolling steel ropes over a deeply grooved pulley, commonly called a sheave in the industry. The weight of the car is balanced by a counterweight.

Hydraulic elevator - Hydraulic elevators are elevators which are powered by a piston that travels inside a cylinder. An electric motor pumps hydraulic oil into the cylinder to move the piston. The piston smoothly lifts the elevator cab. Electrical valves control the release of the oil for a gentle descent.

Entering and Exiting Elevator Pits

Procedures

1. Entry into an elevator pit requires two persons – one will function as the entrant that will conduct the work, and the other as a supervisor to monitor the hoist way opening, maintain the door in the open position, and hand down tools and parts, etc.
2. Control of the car must be obtained prior to entry to the elevator pit. This must be done by calling and holding the elevator on the upper floor and conducting a power shutdown of the elevator car.
3. The power shutdown must be done by using the main disconnect switch in the elevator control room. The main disconnect must then be locked out by using the Facilities Management Lockout/Tag Out Policy.
4. Jack stands must be used when entering the hoist way of a hydraulic powered elevator.
5. Barricades must be installed if the hoist way door will be open more than 5 inches while performing the work. A standard 5 inch elevator door wedge tool should be used to secure the door in the open position.
6. Elevator signs, stating that the “Elevator is Out of Service” must be placed on each level at the elevator doors while the elevator is inoperable.
7. After completion of the work, remove the lockout/tag out, energize the elevator distribution panel, check that the elevator is working, and remove the “Elevator Out of Service” signs.

Evacuating Occupants from Stalled Elevator Cars

Procedures

It is recognized that the preferred safe practice in evacuating passengers is to move the elevator car to a landing level. If the elevator is equipped with firefighters' service operation, emergency response personnel should first activate the Phase I lobby key switch to recall the elevator car to the main floor. If this does not work,

determine the position of the elevator car using the hoistway door key, located in the elevator key lockbox on the main floor. After opening the hoistway doors, cautiously look into the shaft to determine the location of car. There are three categories of elevator position as follows:

- (a) Car at or near landing;
- (b) Car within 3 ft. of landing;
- (c) Car more than 3 ft. from landing.

ETSU Public Safety personnel may only attempt to evacuate occupants of a stalled elevator car that is in category (a) at or near landing. The near landing measurement is defined as 18" or less above or below the level of the landing. Stalled elevator cars that are in category (b) or (c), that is, located within 3 ft. of landing (but more than 18") or more than 3 ft. from landing, must be evacuated under the direct supervision of Kone elevator personnel or Johnson City Fire Department personnel, as their experience and expertise assure the resourcefulness necessary to cope with the various complex hazards that may arise. A Kone elevator technician can be summoned by contacting Facilities Management at 439-7900.

If the elevator car is located at or near a landing: (See Appendix A for public safety response protocol).

- Call 439-7900 and request that the mainline disconnect switch for the stalled elevator be placed in the "OFF" position. The mainline disconnect switch is located in the elevator machine room.
- Once elevator power has been shut-off, open the hoist way door with the emergency elevator key.
- Enter the elevator car and set the emergency stop switch, if the car is so equipped, in the "STOP" position.
- Assist the passengers in leaving the elevator car, one at a time. If the car is not level with the landing, make sure the passengers do not trip or fall while leaving the car.

Responsibilities

All Facilities Management and emergency response (e.g. ETSU Public Safety) personnel are responsible for adhering to this policy.

References

2010 Elevator Industry Field Employees' Safety Handbook – NEII Safety Committee
ASME A17.4 (1999) – Guide for Emergency Personnel

Contact Persons

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Date approved: _____

Audited: April, 2016

Revised: May, 2016

Appendix A

Elevator Response Protocol for ETSU Public Safety Officers

When a person is trapped in an elevator car, the following steps should be followed:

1. Obtain the key for the firefighters' service operation from the elevator key lockbox and activate the Phase I lobby key switch to recall the elevator car to the main floor. If this does not work, then
2. Determine the position of the elevator car using the hoistway door key, located in the elevator key lockbox on the main floor.
3. After opening the hoistway doors, cautiously look into the shaft to determine the location of the car.
4. Go to the hoistway opening closest to the elevator car and determine the position of the elevator car. If the car is within 18" of the landing, call 439-7900 and request that the mainline disconnect switch for the stalled elevator be placed in the "OFF" position.
5. Once elevator power has been shut-off, enter the elevator car and set the emergency stop switch, if the car is so equipped, in the "STOP" position.
6. Assist the passengers in leaving the elevator car, one at a time.
7. If the car is greater than 18" of the landing, call 439-7900 and request a Kone technician to evacuate the car, or call the Johnson City Fire Department for extrication, if necessary.