



APTA RP-xxx-xx-00x-10

Approved xxxx xx, 2010

National Elevator/Escalator
Maintenance Training Standards
Development Committee

Elevator and Escalator Maintenance Training Guidelines Standards

Abstract: This document contains standards for a fully accredited Elevator/Escalator Apprenticeship Program.

Keywords: apprenticeship, elevator, escalator, training

Summary: As of 2007, 25 states have adopted formal elevator and escalator maintenance licensing requirements. The transit agency response correspondingly reflects this regulatory environment, as each agency attempts to develop training specific to their regulating authority. The result is largely an unfunded mandate with which no single transit company can afford to comply. This brief description of the dilemma faced by the industry illustrates the urgent need for national guidelines and related training programs.

Scope and purpose: The curriculum, courseware and training guidelines adopted by the group and contained in this *Recommended Practice* are designed to meet or exceed the licensing requirements of jurisdictions, which currently or in the future, may legislate professional licensure or certification for elevator and escalator technicians. The apprenticeship program will ultimately be registered by the U.S. Department of Labor's Office of Apprenticeship.

This Recommended Practice represents a common viewpoint of those parties concerned with its provisions, namely, transit operating/planning agencies, manufacturers, consultants, engineers and general interest groups. The application of any standards, practices or guidelines contained herein is voluntary. In some cases, federal and/or state regulations govern portions of a rail transit system's operations. In those cases, the government regulations take precedence over this standard. APTA recognizes that for certain applications, the standards or practices, as implemented by individual rail transit agencies, may be either more or less restrictive than those given in this document.



Participants

APTA greatly appreciates the contributions of the **National Elevator/Escalator Maintenance Training Standards Development Committee**, which provided the primary effort in the drafting of this *Recommended Practice*:

Co-Chairs

Ed LaGuardia (SEPTA)
Hiram Nix (ATU Local 689)

Atlanta (MARTA/ATU Local 689)

Dwight Ferrell
 Gary Dinsmore
 Garry Free
 Ivy Moorman
 Chuck Neal
 Leon Brewton
 Curtis Howard

Chicago (CTA/IBEW Local 134)

Jim Kinahan
 Mike Fedanzo
 Nick Villasensor
 Tim Foley

New York (NYCT/TWU Local 100)

Joseph Joyce
 Peter Velasquez
 Julio Vidal
 Philip Newton

Northern California Bay Area (BART/SEIU Local 1024)

Mike Rodriguez
 Brian Tuck

Philadelphia (SEPTA/TWU Local 234)

John Buckner
 Ed Wallace
 George Martin
 Jerome Moore
 Joe Primwhere

Vancouver (SkyTrain)

Norm Langerhorst
 Paul Callahan

Washington (WMATA/ATU Local 689)

Ron Lewis
 Cedric Watson
 Shawn Muhammad
 Curtis Field

ATU International/APTA

Bob Hykaway
 John Remark
 Pam Boswell

Contents

1. Development of this standard	1
1.1 Objective.....	1
1.2 The committee	1
1.3 Current mix of licensing requirements	2
1.4 Process and tasks	3
2. Adopted Elevator/Escalator Apprenticeship Program	3
2.1 100-level courses	3
2.2 200-level courses	12
2.3 300-level courses	19
2.4 400-level courses	20
Abbreviations and acronyms.....	21

1. Development of this standard

The National Elevator/Escalator Maintenance Training Standards Development Committee was formed in 2005 to create a dialog among transit agencies and unions engaged in in-house conveyance equipment maintenance. Several compelling factors brought this group together:

- **First**, the elevator and escalator industry is incorporating digital control technologies into their designs faster than the incumbent workforce can learn these new systems.
- **Second**, every agency has experienced difficulty recruiting qualified elevator/escalator mechanics. In fact, through 2016 the US Department of Labor projects nine percent growth in the number of escalator/elevator positions, leaving transit agencies to compete with private sector employers over an already scarce labor pool. Coincidentally, some 40 percent of the current transit workforce is eligible to retire.
- **Third**, regulatory and legislative changes have required transit agencies to meet state occupational certification requirements for recently hired elevator and escalator maintainers. This regulatory and occupational certification is expected to become more common.

The committee is comprised of labor union and management representatives from North American public transit providers who continue to perform in-house elevator and escalator maintenance. The American Public Transportation Association and the involved transit unions have sponsored this effort, and the Transportation Learning Center (the Center, formerly, the Community Transportation Center) has supported and facilitated this program with funding provided by the U.S. Department of Labor, the Federal Transit Administration and the Transportation Research Board.

1.1 Objective

This committee’s ultimate objective is to develop a fully accredited Elevator/Escalator Apprenticeship Program certified through a national joint apprenticeship and training committee and continuing education training programs for incumbent technicians. The curriculum, courseware and training guidelines adopted by the group are designed to meet or exceed the licensing requirements of jurisdictions, which currently or in the future, may legislate professional licensure or certification for elevator and escalator technicians. The apprenticeship program will ultimately be registered by the U.S. Department of Labor’s Office of Apprenticeship.

1.2 The committee

1.2.1

Participants

State	City	Agency	Union
California	San Francisco	BART	SEIU Local 1132
Illinois	Chicago	CTA	IBEW Local 137
Georgia	Atlanta	MARTA	ATU Local 732
New York	New York	MTA, NYCT	TWU Local 100
Pennsylvania	Philadelphia	SEPTA	TWU Local 234
DC	Washington	WMATA	ATU Local 68
APTA			
Transportation Learning Center			

1.2.2 Meeting dates

The National Elevator/Escalator Maintenance Training Standards Development Committee met on the following dates:

- November 28, 2006
- April 3, 2007
- September 14, 2007
- November 7-8, 2007
- February 21, 2008
- June 14, 2008
- September 17, 2008
- November 5, 2008
- January 8-9, 2009

1.3 Current mix of licensing requirements

As of 2007, 25 states have adopted formal elevator and escalator maintenance licensing requirements. **Table 1** describes the current state of elevator and escalator regulation in the jurisdictions represented by the aforementioned transit agencies. This matrix of state and provincial regulations affects transit agencies' authority to service and maintain their equipment.

The agency response correspondingly reflects this regulatory environment as each agency attempts to develop training specific to their regulating authority. The result is largely an unfunded mandate with which no single transit company can afford to comply. This brief description of the dilemma faced by the industry illustrates the urgent need for national guidelines and related training programs.

TABLE 1
Guidelines and Related Training Programs

State/Province	Certification Requirements for Elevator-Escalator Maintainers
California	State-certified apprenticeship with annual renewal. BART is a certified ELES company.
Georgia	Four-year training program and annual recertification.
Illinois	State licensing performed by local constructor unions. Works with two years' experience grandfathered.
Maryland/District of Columbia	State-administered exam and apprenticeship graduate, with grandfathering for experience.
Pennsylvania	State equipment inspections; no contractor licensing requirements.
New York	No state requirement.
Ontario	Provincial certification testing.
Virginia	State-required exam for contractors.

The partnership opportunity created by the transit industry makes developing an elevator/escalator apprenticeship and continuing education program, along with the corresponding courseware, far more manageable for the group than for any single agency.

1.4 Process and tasks

The maintenance training guidelines working group is nearing completion of an interagency apprenticeship and incumbent training curriculum. The next critical steps include a formal courseware sharing agreement between participating agencies and the collection and development of specialized courseware. The immediate critical needs of the agencies involved demands that the process be abbreviated for short-term gains, while continuing with the long term solution of developing a national joint apprenticeship and training program. **Table 2** describes the group’s process to date. The adopted apprenticeship curriculum is presented in Section 2.

TABLE 2
Process to Date

Task	Status
1. Job task and maintenance program comparison among participant agencies.	Complete
2. Workforce skills assessment and training evaluation of each agency.	Complete
3. Interagency curriculum and training program comparison.	Complete
4. Comparison of state and provincial training, licensing and certification requirements.	Complete
5. Curriculum development and adoption.	Complete

2. Adopted Elevator/Escalator Apprenticeship Program

The following pages contain the adopted training content for transit elevator and escalator technicians

2.1 100-level courses

Property-specific orientation (including track safety, flagging, emergency evacuation)

101. Orientation and background

- **101-1. General Safety Overview**
 - Name the agencies and organizations that make and enforce safety regulations
 - Name several electrical shock hazards and the techniques used to prevent those hazards
 - Name the four classes of fire and how to extinguish them
 - Describe the technique used to lift a heavy load
 - Explain the importance of personal protective equipment (PPE) and name several types
 - Explain what MSDS stands for and how it applies to them (RtK)
 - Confined space training
- **101-2. Customer Service**
 - Crowd control
 - Operational signage
- **101-3. System Security**
 - Presentation by jurisdiction security force
- **101-4. Station Orientation**
 - Explain how to use the transit system and locate all stations
- **101-5. Safety and emergency procedures**
 - Explain how to reach both internal and external emergency service personnel
- **101-6. Public Safety**
 - Demonstrate the proper barricade setup for both elevators and escalators