



APTA RT-OP-S-013-03, Rev. 3

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Operating Practices Working Group

Training of Rail Operating Employees

Abstract: This standard provides requirements for the development and implementation of rail transit agency operations training programs for rail operating employees.

Keywords: for-cause training, operations personnel, qualification, rail operating employees, rail transit agency, requalification, training

Summary: This standard is intended to provide the training requirements and recommended practices for rail operations employees. Elements include training program development, testing phases and evaluation metrics; qualification and requalification; performance tracking; training program revision and training documentation; and program evaluation.



Foreword

The American Public Transportation Association is a standards development organization in North America. The process of developing standards is managed by the APTA Standards Program's Standards Development Oversight Council (SDOC). These activities are carried out through several standards policy and planning committees that have been established to address specific transportation modes, safety and security requirements, interoperability, and other topics.

APTA used a consensus-based process to develop this document and its continued maintenance, which is detailed in the [manual for the APTA Standards Program](#). This document was drafted in accordance with the approval criteria and editorial policy as described. Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

This document was prepared by the Operating Practices Working Group as directed by the Rail Standards Policy and Planning Committee.

This document represents a common viewpoint of those parties concerned with its provisions, namely transit operating/planning agencies, manufacturers, consultants, engineers and general interest groups. APTA standards are mandatory to the extent incorporated by an applicable statute or regulation. In some cases, federal and/or state regulations govern portions of a transit agency's operations. In cases where there is a conflict or contradiction between an applicable law or regulation and this document, consult with a legal adviser to determine which document takes precedence.

This document supersedes APTA RT-OP-S-013-03, Rev. 2, which has been revised. Below is a summary of changes from the previous document version:

- Some global changes to section headings and numbering resulted when sections dealing with references and acronyms were moved to the end of the document.
- Changed references from "rail transit system (RTS)" to "rail transit agency."
- Global edits for grammar, syntax, clarity and consistency throughout the document.
- Expanded Section 1, "Requirements," and Section 2, "Training program development."
- Added Section 2.1, "Supplemental methods of training and familiarization."
- Expanded Section 3, "Testing phases."
- Added Section 6, "Retraining."
- Added Section 8, "Management of change."
- Added Section 9, "Training timeline."
- Added Section 10, "Trainer minimum qualifications."
- Added Section 11, "Curriculum development."
- Added Section 12, "Minimum staffing levels."
- Added Section 12.1, "New starts/future needs."
- Added Section 13.3, "Tracking and reporting."
- Added Section 14, "Computer-based training."
- Added Section 15, "Qualification card."
- Added Section 16, "Periodic/scheduled training program evaluation and update."
- Added Section 17, "Alternate operating mode proficiency."
- Added Section 18, "Expectations in emergency situations."



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Introduction

This introduction is not part of APTA RT-OP-S-013-03, "Training of Rail Operating Employees."

Rail transit is not directly comparable to railroads (Amtrak, commuter, freight rail, etc.). Rail transit agencies differ greatly in the types of service, vehicles and technology employed, with some systems operating fully automated trains on exclusive rights-of-way and others operating on streets mixed with traffic. Rail transit demands a unique approach to solving its problems, and the APTA Rail Transit Standards Program was enacted to accomplish this complex task.

APTA recommends the use of this document by:

- individuals or organizations that operate rail transit systems;
- individuals or organizations that contract with others for the operation of rail transit systems; and
- individuals or organizations that influence how rail transit systems are operated (including but not limited to consultants, designers and contractors).

Scope and purpose

This standard outlines the basic elements required for a comprehensive rail operating employee training and retraining program. The purpose of a comprehensive training program is to ensure the consistent and complete training of all appropriate rail operating employees covered by this standard. Such a program requires each employee to have a base knowledge that is consistent across their particular job. The program also ensures that the rail transit agency provides initial qualification and ongoing requalification. This standard provides guidance to rail transit agencies on training programs that are an element of the activities that comprise the safety promotion component of their safety management system (SMS).

Note on alternate practices

Individual rail transit systems may modify the practices in this standard to accommodate their specific equipment and mode of operation. APTA recognizes that some rail transit systems may have unique operating environments that make strict compliance with every provision of this standard impossible. As a result, certain rail transit systems may need to implement the standards and practices herein in ways that are more or less restrictive than this document prescribes. A rail transit system may develop alternates to APTA standards so long as the alternates are based on a safe operating history and are described and documented in the system's safety program plan (or another document that is referenced in the system safety program plan).



Documentation of alternate practices shall:

- identify the specific APTA rail transit safety standard requirements that cannot be met;
- state why each of these requirements cannot be met;
- describe the alternate methods used; and
- describe and substantiate how the alternate methods do not compromise safety and provide a level of safety equivalent to the practices in the APTA safety standard (operating histories or hazard analysis findings may be used to substantiate this claim).

Training of Rail Operating Employees

1. Requirements

Rail transit agencies shall develop qualification, requalification, familiarization and refresher training programs to ensure that rail operating employees demonstrate an understanding and proficiency in the application of rules, policies, procedures, equipment and system characteristics. Some rail transit agencies refer to qualification as certification.

The rail transit agency shall develop rail operating employee training programs in accordance with requirements of the Public Transportation Agency Safety Plan (PTASP).

2. Training program development

The rail transit agency shall establish a training program for both qualification and ongoing requalification of rail operating employees. The program elements, content and duration shall be specific to and identified by the rail transit agency.

The qualification training program shall include the following forms of instruction, as applicable to the agency. Required initial, refresher, familiarization, and return-to-work training may use any combination of the following forms of instruction:

- classroom instruction
- field instruction (e.g., for train operators, set up a train with a problem to simulate a unique situation, perform hands-on-training/familiarization in the field including means of testing/evaluating performance)
- on-the-job instruction (in revenue or nonrevenue conditions or both, and under daytime, nighttime and peak hour conditions, as applicable)
- computer-based training, if applicable
- simulator training, if applicable
- scenario-based training

The rail transit agency shall establish specific training requirements associated with each rail operating position (train operator, train controller, field supervisor, terminal supervisor, etc.).

The rail transit agency shall establish requirements for refresher training, which may include provisions related to specific skills building and/or new equipment.

2.1 Supplemental methods of training and familiarization

The rail transit agency shall consider alternative and supplemental training methods that enhance the rail operations employee training program. Such supplemental training actions may include but are not limited to the following:

- targeted efficiency testing and rule compliance checks
- observed line operation
- mentor training
- toolbox meetings or informational blitzes resulting from adverse trends or major events
- distribution of bulletins/notices

The rail transit agency may consider incorporating peer-to-peer familiarization in rail operations, wherein different operating employees observe or shadow one another, such as a train operator observing a rail controller or supervisor performing their duties. The rail transit agency shall consider cross-departmental familiarization so that operations and maintenance or other groups of employees gain familiarity with different job duties within the rail transit agency.

3. Testing phases

The rail transit agency shall determine if the training module requires testing. The rail transit agency shall establish passing scores for each exam or module based on the safety criticality and complexity of the material covered by the test. Testing may include written and/or practical/hands-on demonstration of knowledge of process, equipment or systems.

The rail transit agency shall determine the time frames within the initial training at which skills will be evaluated.

The rail transit agency shall formally document its testing and passing requirements. The rail transit agency shall ensure that its testing methods are measurable and consistent.

The rail transit agency shall determine if failure of any component of testing and evaluation disqualifies an individual from continuing in training.

4. Qualification

The rail transit agency shall develop a qualification process that includes the following:

- Standardized criteria for all elements, such as length and type of training, locations (e.g., yards, routes), rail vehicle equipment, operating conditions, and specific topics to be included (e.g., rulebook, SOPs in general, use of fire extinguishers, yard operations, signal tests, troubleshooting).
- Post-qualification review of employee performance, including employee records and in-person interviews and observations. The rail transit agency shall establish the number, frequency and topics of the post-qualification reviews based on agency requirements. The rail transit agency should prescribe the maximum post-qualification review period following qualification.

5. Credentialing: Requalification

After successful qualification, all rail operating employees shall attend a requalification training course on a regular, rail transit agency-established timeline, not to exceed two years. This course shall be formally established depending on agency requirements. The rail transit agency may administer a pretest to employees

to determine which areas need strengthening prior to starting requalification. The transit agency should determine the content, frequency and minimum test scores required to maintain qualification.

6. Retraining

The rail transit agency shall identify and document its retraining activities, including training related to return to work, changes in employee agreements, changes in regulation, rule violation, response to an event, or other reasons necessitating the retraining.

The rail transit agency shall establish minimum requirements for providing training and requalification, if applicable, to employees who are returning to work after an absence. The rail transit agency shall determine the length of time away from a position that will require such training. The rail transit agency shall determine if the level of required return-to-work training must be modified due to duration of absence and/or any refresher training provided during the employee's absence.

The rail transit agency shall ensure that retraining is documented.

7. Performance tracking and training program revision

The rail transit agency shall conduct periodic internal reviews of the complexity and types of its equipment, system characteristics and performance to verify the adequacy of the training.

The rail transit agency shall establish methods to evaluate the effectiveness of its training program.

The rail transit agency shall perform a periodic review of employee performance. The purpose of this review is to determine whether gaps exist between employee knowledge, skills or abilities and the job requirements, or with occupational category tasks/responsibilities. The data gathered through the review should be used to determine whether systemic performance gaps exist, and to determine if modifications to any training component are appropriate to close those gaps.

The rail transit agency shall determine the intervals and methods of such review. Examples of methods of such review include, but are not limited to, direct observation of employee performance, accident/incident-related data, industry trends, agency-initiated or independent audits, and test/examination scores.

Based upon the results of the review, one or more designated people should coordinate any necessary adjustments to any associated training program.

8. Management of change

The rail transit agency shall ensure that changes to rail operations, infrastructure, rules, procedures or practices are formally evaluated for impacts on training curriculum. If the rail transit agency determines that any changes result in conflicts with the existing training materials, then the agency shall update relevant training components.

The rail transit agency shall determine if any changes to new employee training also require the provision of refresher training to existing employees.

The rail transit agency should conduct a periodic review of the training program to determine if any changes to operating practices have occurred and need to be incorporated into the training materials. The rail transit agency shall establish a minimum cycle for this review period.

The rail transit agency shall document any changes to training program materials. The rail transit agency shall establish document and version control mechanisms for ensuring that all administered training is consistent and current.

9. Training timeline

The rail transit agency should establish a schedule for the performance of all training program components and ensure that the minimum timelines it established are met. If the rail transit agency is unable to meet the schedule, it shall document why and take steps to accomplish it in the future.

10. Trainer minimum qualifications

The rail transit agency shall establish minimum qualifications for any trainers or individuals assigned responsibility for administering training to rail operating employees. The rail transit agency may consider operations experience, work record, adult instruction skills or other factors in establishing minimum qualifications that trainers must possess.

The rail transit agency shall establish minimum qualifications for employees designated as on-the-job-training instructors or evaluators.

The rail transit agency shall consider minimum time working in rail operations, trainer skill sets, adult learning capabilities, etc.

11. Curriculum development

The rail transit agency shall identify the requirements for curriculum development, taking into consideration knowledge of and familiarity with the rail transit agency's rail operations, adult learning methods and documentation of training programs.

12. Minimum staffing levels

The rail transit agency shall establish minimum required staffing levels for developing and administering the rail operating employee training program, taking into consideration time required to create and update training materials, conduct training, evaluate performance and exams, develop performance metrics, and ensure that all employees are current in their required or as-needed training.

12.1 New starts/future needs

The rail transit agency shall ensure that when it experiences growth in system size or frequency of operation it performs a staffing level analysis to ensure that it has sufficient training resources to accommodate the growth.

The rail transit agency shall also determine if other factors, such as changes in technology, equipment or regulatory requirements, indicate a need for modifying the level of training resources.

13. Training documentation and tracking

13.1 General

Each rail transit agency shall maintain records to demonstrate the training and qualification of each employee subject to this standard. These requirements apply equally to the rail transit agency or any training/learning organization the rail transit agency may employ to conduct its training. Should the rail transit agency engage such a training/learning organization, it is responsible for the following requirements.

The rail transit agency shall identify document retention requirements:

- Designate the method of record retention, such as hard copy file, learning management system, database or electronic file system.
- Ensure that records of current employees are accessible during normal business hours at the rail transit agency's headquarters or other designated location.
- Designate its record retention policy for current and former employees.

At a minimum, the records should include the following information for each affected employee:

- the name of the employee
- unique identifier, such as an employee identification number, etc.
- craft or occupational category for which the employee is deemed qualified
- the subject/title and date of each formal training successfully completed, such as operating rules, physical characteristics qualifications and vehicle operation qualification

NOTE: Some training that may be done informally—such as through home mailings, training bulletins, written operational review, online informational opportunities or “safety blitz job briefings”—are not required to be documented.

- the date of any required on-the-job training modules program component that was successfully completed with documentation of evaluation or results
- the date of any qualification indicating successful completion of all required training associated with the craft or occupational category

13.2 Electronic recordkeeping

Electronic recordkeeping systems with the capability to do so should meet the following conditions:

- The electronic system is designed so that the integrity of each record is maintained through appropriate levels of security, such as recognition of an electronic signature or other means that uniquely identify the initiating person as the author of that record. No two people should have the same electronic identity.
- The rail transit agency, training organization or learning institution adequately limits and controls access to such information retained in its electronic database system and identifies those individuals who have such access.
- The rail transit agency has a designated representative who is authorized to authenticate retrieved information from the electronic system as true and accurate copies of the electronically kept records.

13.3 Tracking and reporting

The rail transit agency shall establish methods of tracking and reporting on training status in order to ensure that training lapses do not occur.

14. Computer-based training

The rail transit agency shall consider the use of computer-based training and/or a learning management system to support or supplement its rail operating employee training program.

15. Qualification card

If applicable, the rail transit agency shall require that rail operation employees carry their qualification card on their person at any time they are operating a train, whether in revenue or nonrevenue service.

16. Periodic/scheduled training program evaluation and update

The rail transit agency shall conduct periodic or scheduled evaluations of its training programs for overall effectiveness in communicating and ensuring requisite skills. The rail transit agency shall update the training program as needed, based on identified deficiencies or areas of improvement. The rail transit agency shall use this evaluation as a means for considering findings from safety inspections, hazard logs or other performance data.

17. Alternate operating mode proficiency

The rail transit agency shall consider requiring train operators at systems with automatic train operation to operate manually at a set frequency in order to retain proficiency with manual operation.

Rail transit agencies may identify other operating conditions or requirements that necessitate periodic operation in alternate operating modes or methods for rail operations employees.

18. Expectations in emergency situations

The rail transit agency shall identify and train on the rail operating employees' role in emergency situations for response to the situation and safety of passengers.

Related APTA standards

APTA RT-OP-S-005-03, “Operations Control Centers”

Definitions

familiarization training: Training used to familiarize employees with existing and/or new conditions.

qualification: The initial and refresher training and testing program given to employees new to a classification that upon successful completion qualifies them to carry out the full scope of duties and responsibilities of the classification. Some agencies refer to this as *certification*.

rail operating/operations employee: Rail transit agency employees either employed directly or by contract who are directly responsible for the routine movement of trains. This includes, but is not limited to, train operators, conductors, supervisors, and control center personnel.

refresher training: Training and testing given to existing employees in a classification that, upon successful completion, maintains this qualification to carry out the full scope of duties and responsibilities of the classification. Refresher training programs may be integrated with training for changes.

requalification: Training and testing given to employees currently qualified to ensure that they maintain the required level of skill, knowledge and/or ability to carry out the full scope of duties and responsibilities of the classification. Some rail transit systems refer to this as *recertification*.

train operator: An authorized onboard employee who controls the movement of a train.

Abbreviations and acronyms

PTASP Public Transportation Agency Safety Plan

Document history

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Appendix A (informative): Components of developing a training program

This appendix provides additional information that the rail transit agency should consider in using this standard for developing training programs for rail operating employees.

Training program development

When developing the qualification training program, rail transit agencies should consider the following:

- **Curriculum:** This is any and all information pertaining to the classification for which the training is being developed. This material includes general, operational, safety and emergency rules and procedures, documents, equipment, tools, and all elements of the position.
- **Student-to-instructor ratio:** The agency should establish the student-to-instructor ratio for both classroom and performance training according to the nature and complexity of the subject matter.
- **Resources:** This includes the necessary training materials, information and personnel. Materials may be written, visual and/or tactile.

Other considerations

This standard is intended to provide the training requirements and recommended practices for rail operating employees. The transit agency should also have a system to track performance to measure the effectiveness of training and a process to document training.

To develop a program to comply with this standard, the rail transit agency may consider some of the following instructional design activities:

- Conducting a needs analysis.
- Developing a project plan.
- Developing instructional goals.
- Forming a training advisory committee.
- Conducting a target audience analysis.
- Conducting a task analysis.
- Developing performance objectives.
- Developing criterion-referenced test items.
- Developing the overall instructional design strategy.
- Developing lesson plans.
- Developing formative and summative evaluation plans.
- Developing a train-the-trainer program.
- Developing a plan for reviewing and updating the curriculum.