

TRANSIT SYSTEM SAFETY

Compliance with new federal regulations for rail and bus

James Brown

Vice President, TRC Companies, Inc.

Several serious transit rail accidents have recently occurred throughout the nation, resulting in the deaths of both passengers and transit employees. In response to these events, the U.S. Department of Transportation proposed legislation in December 2009 to increase Federal safety regulation, oversight and enforcement of rail transit systems. The proposed legislation also provides the Secretary the option to establish a safety program for public transportation bus systems.

The current scope of the proposed legislation includes the Federal authority for conducting inspections, investigations, audits, examinations and testing of public transportation system equipment, facilities, rolling stock, operations and persons engaged in the business of a public transportation system. The proposed legislation states: "If through testing, inspection, investigation, or research reveals unsafe condition or practice, or a combination of unsafe conditions and practices that causes an emergency situation involving a hazard of death, personal injury, or significant harm to the environment the Secretary may order restrictions and prohibitions that may be necessary to abate the emergency situation." Also, violations of the public transportation safety regulation may result in both civil and/or criminal penalties being applied.

Although it is not certain when the proposed legislation will be enacted, it is important for the transit industry to continue its aggressive, proactive efforts to ensure the continued safety of transit passengers, employees and the general public. It is prudent for this assessment to begin with the evaluation of the agency's System Safety Program Plan (SSPP) to determine if required safety elements are being implemented in support of the day to day services that are being provided. Key safety program elements that should be evaluated include:

- Workplace Safety
- Passenger & Public Safety
- Maintenance Programs (Vehicles, Systems, Facilities)
- Training (Safety and Technical)
- Operating Rules & Procedures
- Hazard Management
- Contractor Safety Management
- Emergency Management
- Accident Reporting & Investigation
- System Change Management

- Internal Assessment Program
- Safety Information Management & Analysis (Includes maintenance, employee and passenger information resource information)

An example of a transit agency's safety assessment of its maintenance program should include the following elements:

I. Baseline Review of Current Maintenance Practices and Resources

- a. Identify safety critical systems to be assessed such as vehicles, signals, track, power, communications, fire/life safety systems, escalators, elevators, etc.;
 - i. Management should define critical systems and associated documentation (both safety and mission critical) to be reviewed.
- b. Define the current preventative maintenance (PM) programs for each safety/mission critical system identified. Some equipment may have different PM schedules established based on the types, performance and current state of good repair of the equipment (e.g., vehicles);
 - i. Review and summarize current PM programs for the systems identified and meet with maintenance managers for each mode to assess the program requirements and application.
- c. Define the budgeted staffing and/or contractor resources as applicable that have been allocated to support the maintenance programs of the identified systems. It will be advantageous to also understand the preventative maintenance to corrective maintenance ratio relevant how these resources are being utilized and establish a baseline to measure future performance (identify similar transit systems for comparison purposes). Transit agencies may already have this capacity to measure maintenance performance from their respective maintenance information management systems.
- d. Sample/audit maintenance PM records for the safety/mission critical systems to assess current compliance to the agency's approved PM programs;
- e. Define the quality assurance (QA) programs and quality control procedures for the targeted systems being assessed and evaluate the application of these quality processes.

II. Gap Assessment of Current Maintenance Practices to Original Equipment Manufacturer (OEM) Recommended Programs

- a. Define OEM recommended PM requirements for each system being assessed and document a comparison of current PM programs (planned and actual) to its respective OEM requirements.

III. Gap Assessment of Current Maintenance Program to Relevant American Public Transportation Association (APTA) Standards and Recommended Practices.

- a. Identify relevant APTA Standards and Recommended Practices associated with each safety critical system and compare current maintenance programs / procedures for the safety critical systems identified to these industry developed standards and guidelines (gap analysis). This exercise is intended to determine the extent the transit agency is following approved industry maintenance standards and recommended practices.

IV. Analysis of Results and Strategy Development

- a. The initial assessment of the safety maintenance elements may identify areas of concern as well as program strengths. The transit agency should provide recommendations to address the key findings and develop a systematic strategy (risk based) for implementation based on priorities and effective resource utilization.

While the aforementioned example is focused on the transit agency's maintenance elements, the assessment may identify areas of concern relevant to other program elements such as training, system change management, contractor safety management, etc. The important aspect of the proposed assessment is to identify any gaps in the program and develop recommendations from a systems perspective that are designed to improve program efficiencies and results. Considering other elements that are interrelated is important to achieving the best value from the assessment. Other aforementioned key safety elements of the SSPP should also be assessed utilizing a similar evaluation process.

The development of a transit agency safety regulation strategy and compliance initiative would represent a proactive method to assess the status and level of implementation of transit agencies' key safety program elements relevant to the pending and more stringent safety regulation. The results of this assessment would effectively support the development of a safety program action plan that would be prioritized for progressive implementation. Given limited resources currently available to organizations, it is important to identify any existing program compliance gaps early to avoid a crisis management response to any concerns identified as well as support a progressive and continuous safety program improvement strategy.