



INTERNAL AUDIT

Audit of Maintenance of Way Systems

R-21-03

May 4, 2022

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Rating Matrix

Descriptor	Guide
High	Matters considered being fundamental to the maintenance of internal control or good corporate governance. These matters should be subject to agreed remedial action within three months.
Medium	Matters considered being important to the maintenance of internal control or good corporate governance. These matters should be subject to agreed remedial action within six months.
Low	Matters considered being of minor importance to the maintenance of internal control or good corporate governance or that represents an opportunity for improving the efficiency of existing processes. These matters should be subject to agreed remedial action and further evaluation within twelve months.

Distribution List

Title	For Action ¹	For Information	Reviewed prior to release
Executive Director		*	*
Chief Operating Officer		*	
Chief Financial Officer		*	
Director of Maintenance Support	*		*
Director of Talent Development		*	
Records Manager			*

¹For Action indicates that a person is responsible, either directly or indirectly depending on their role in the process, for addressing an audit finding.

Executive Summary

Introduction

The Audit Committee directed Internal Audit (IA) to perform an audit to determine if controls over Maintenance of Way (“MOW”) Systems are designed adequately and operating effectively to ensure compliance with federal regulations, state laws, and internal policies and procedures as well as to support the achievement of management objectives. The Audit Plan was approved by the Audit Committee on January 31, 2022.

The preliminary assessment phase was concluded on May 6, 2021 and was reported to the Audit Committee on June 21, 2021. The audit phase was completed April 27, 2022 and was conducted in accordance with the International Standards for the Professional Practice of Internal Audit, published by the Institute of Internal Auditors.

Background and Functional Overview

The Maintenance of Way team would like to thank Internal Audit for their efforts during the assessment they performed on the MOW Systems Maintenance and MOW Infrastructure. Management would like to provide the following information and background about the MOW team.

The MOW Systems and MOW Infrastructure groups reside in the Maintenance Support Department, they consist of 106 total staff. The staff breakdown is as follows; 1 Director, 2 Managers, 3 Assistant Managers, 18 Supervisors, 56 Line and Signal Technicians, 26 Rail Maintenance Workers, and 1 Office Specialist.

The MOW Systems Maintenance group is responsible for the routine and emergency maintenance of all systems related infrastructure. They maintain the overhead catenary systems, traction power substations, 201 powered switches, and 134 grade crossings. They also coordinate with State of Good Repair (SGR) projects, support Systems Engineering, and perform periodic inspections on an as needed basis.

The MOW Compliance, Infrastructure and Inspection group is responsible for all Federal Railroad Administration (FRA) mandated inspections contained in 49 Code of Federal Regulations (CFR) Parts 234 (Grade Crossings) and 236 (Signal and Train Control) Standards. They also perform preventive maintenance, right of way cleanliness, rail repair, snow removal, tamping, and SGR support.

Again, The Maintenance of Way team, would like to thank the Internal Audit group for their efforts in helping us to align with best practices. MOW will work with the Executive team to develop plans to address the findings of this audit.

Objectives and Scope

The period of the audit phase focused on activity between June 1, 2021 to February 28, 2022.

The primary areas of focus for the audit were:

- Governance
- Inspections
- Maintenance
- Training

The audit phase focused on: 1) determining if any major processes have changed since the preliminary assessment 2) testing key controls identified in the preliminary assessment 3) determining the status of issues reported in the preliminary assessment.

Summary

IA reviewed without exception the following:

- Inspections are completed timely and at the required frequency
- Inspection assignments are rotated among staff.
- MOW employees in safety sensitive positions have completed Roadway Worker Protection training in the past year.
- On-duty personnel receive daily safety bulletins and attend a safety briefing.
- Overtime hours and underlying causes of need were analyzed. Overtime is appropriately used to meet temporary or situational staffing needs, not as a substitute for permanent resource deficiencies.
- Identified maintenance needs are addressed timely.
- The Training and Development has received resources towards developing an MOW apprenticeship program.

IA found that additional resources are needed by the MOW department to meet the ongoing training and compliance needs of personnel.

Audit Status

Details:

The MOW department currently does not have a full-time employee dedicated to managing training needs, which would include developing training, tracking completion, drafting standard operating procedures, and leading instruction.

Criteria:

Not applicable.

Underlying Cause:

Not applicable – a training position has not existed.

Effect:

MOW has experienced the following effects because of training resource constraints:

- Supervisors have had to take on additional responsibilities, which reduces available time for their normal duties.
- MOW has paid a part-time consultant \$70,600 from 6/1/2018-4/14/2022. This consultant is a retired former employee. While a valuable service is provided by the contractor, he is only available part time on his terms.
- Training records are incomplete.
- There are not standard operating procedures for all major MOW processes.

The following are potential risks to not adequately resourcing MOW training:

- Noncompliance with regulations, including regulations of the Federal Railroad Administration.
- Personnel may become outdated on procedures or standards for maintaining rail assets.
- Supervisors may be required to work excessive overtime to meet training needs on top of their regular duties.
- The apprenticeship program will require ongoing subject matter expertise support from MOW to keep content current. MOW lacks the capacity to provide this support as currently resourced.

Recommendations:

- MOW should receive budget funding to staff a full-time training specialist.

Management Response and Action Plan:

Maintenance of Way management is aware of the need for a Training Specialist within the department. Management will request budget funding to staff a full-time position in 2023. The Training Specialist will reside in the MOW department and be responsible for training development, record tracking, drafting of standard operating procedures, and leading instruction.

MOW basic training and onboarding, CDL introduction, RWP, safety, GCOR, Radio Protocol, New Employee Orientation, Alignment Familiarity, and safe operating procedures are some of the essential topics the Training Specialist will communicate.

These responsibilities will be separate from the MOW apprenticeship program being developed by the Training department. However, the MOW Training Specialist will be a liaison to the Training department as a subject matter expert when needed.

Target Completion Date:

June 2023

Attachment B: Status of Preliminary Assessment Recommendations

Preliminary Assessment Finding R-21-03-1 Training Development Resources Risk Level: High

Audit Status

Details:

MOW is developing an Apprenticeship Program to reorganize the training and classifications of technicians. The program will formalize training materials and structure, bring UTA in full compliance with FRA regulations and fulfill the contractual obligation UTA has to create an Apprenticeship Program under the bargaining agreement with Amalgamated Transit Union, Local 382.

The primary task to developing this program is creating the training materials, which are measured in hour credits. IA estimates that it will take approximately 54,000 hours to develop the needed training. The estimate is based on Management’s assumptions of 900 training hours needed to be developed, and the estimate that each hour of training takes between 40-80 hours to draft. IA derived an estimate using the average of 60 hours of development time per 1 hour of training. At current staffing and resource levels, it will take management 9.5 years to complete the Apprenticeship Program based on the assumption of 54,000 hours. Please see Table 1 below for the calculations.

Table 1 - Estimated Range of Development Hours for Apprenticeship Program

	Low	Median	High
Hours to develop one hour of training	40	60	80
Hours of Training for Apprenticeship Program	900	900	900
Hours Required	36,000	54,000	72,000
# of FTEs working on Apprenticeship Program	3	3	3

FTE Hours currently devoted to training	5,664	5,664	5,664
Years to Complete	6	10	13
1 FTE Work Year	1,888	1,888	1,888
FTE Work Year Calculation:			
Total Hours available 52 weeks/40 hours per week	2,080	2,080	2,080
Less Average Vacation	(80)	(80)	(80)
Less Average Sick Days Taken	(24)	(24)	(24)
Less Holidays (11)	(88)	(88)	(88)
Total Available Hours	1,888	1,888	1,888

Criteria:

The framework for an Apprenticeship Program was agreed to with the Amalgamated Transit Union, Local 382 pursuant to Side Letter No. 3, dated March 16, 2020.

49 CFR 243.101(a)(1) states:

Effective January 1, 2020, each Class I railroad, and each intercity or commuter passenger railroad conducting operations subject to this part with 400,000 total employee work hours annually or more, shall submit, adopt, and comply with a training program for its safety-related railroad employees.

Underlying Cause:

Current resources available are insufficient to timely develop the Apprenticeship Program. MOW has three individuals who can devote significant time to this project: a supervisor re-purposed from his day-to-day duties, a training administrator from another department, and a consultant. Even at full-time annual hours of approximately 1,960 each it would take approximately 9.5 years to complete the estimated 54,000 hours needed to develop the Apprenticeship Program.

Potential Risks:

MOW has until December 31, 2024 to be in full compliance with training requirements in 49 CFR 243. The following observed conditions are current obstacles to 243 compliance but would be remedied or improved with full implementation of the Apprenticeship Program:

- On-the-job training completion is not sufficiently tracked.

- MOW lacks necessary standard operating procedures (or equivalent) to comply with regulatory training requirements.
- The formal training program required by 49 CFR 243 is incomplete.
- MOW currently lacks an accurate method to track training.
- MOW lacks resources to provide some in-person training courses at needed intervals.
- The current MOW classifications require technicians to complete training courses unrelated to their day-to-day responsibilities. In practices, each technician has a specialty, but is included in a general population of technicians making unrelated training required to comply with 49 CFR 243.
- Efforts in developing the program will become obsolete given the long-range horizon to develop.

MOW will be unable to timely address these conditions at current resource levels, putting UTA at risk of being noncompliant with Federal regulations.

Recommendations:

- Develop a project plan to include realistic timelines and necessary resources to implement the program timely.
- Identify “off the shelf” training materials and videos that can be purchased to reduce the development time.
- Incorporate as part of the program training classes that may be already developed and available through other sources such as other transit agencies, system manufacturers, and commercial rail carriers.
- Budget for and add sufficient resources to develop the apprenticeship program.

Management Response and Action Plan

Management is well aware of the need and requirement to establish an Apprenticeship Program. Management is in the process of developing an apprenticeship program to enhance technician training and satisfy the initial FRA 49 CFR 243 requirements. Currently, training development is housed within the MOW Department, and although some progress has been made, it has not been the highest priority. To remedy this situation, we are currently working on centralizing this effort in the Training Department under the People Office to ensure full-time attention to developing and implementing the program.

Management recently hired Maintenance Apprenticeship Training Administrator to lead this effort. The team will consist of seven individuals (Administrator, Trainers, and designers). The team will focus on developing an Apprenticeship program for MOW, Light Rail, and Commuter Rail. Additionally, considering the lengthy time to develop curriculum, management is actively researching opportunities to contract development work and/or purchase training materials from vendors.

As identified in the finding, the full program requires substantial development hours. However, when looking at MOW specifically, technicians currently attend Union Pacific School. These courses are currently under review to determine which apprenticeship requirements these courses satisfy.

To ensure the Apprenticeship program is delivered in a timely manner, management will be requesting additional budget and headcount.

Target Completion Date:

December 2022

Current Status:

Management has taken the following steps to meet the resource needs of developing an apprenticeship program:

- Additional budget was requested by management. This is verified by presentation materials from budget sessions conducted by the Board in September 2022. At this time, they requested one-time funding of \$5 million for “instructional design contract” and \$6,500 for “ongoing funds”. Board support for this funding and the initiative overall was documented in the “Message from the Board of Trustees” introduction of the 2022 official budget. The official budget explicitly states that the \$5 million one-time request was granted.
- Two staff are primarily assigned to a development team. One of the team members recently came from being an MOW supervisor and has specific expertise on the subject.
- The development team is working on hiring a consultant, as funded in the 2022 budget.

Early successes and pain points were discussed with the development team. They feel well supported in the goal by their leadership. They are confident that budget and other resources will come as needed.

This progress shows management’s commitment to successfully creating an MOW apprenticeship program. The issue will be kept open and Internal Audit will follow up in 2023 to determine if the program was successfully launched and functioning.