

**COLORADO PUBLIC UTILITIES COMMISSION
SYSTEM SAFETY AUDIT CHECKLIST FOR
THE RTD LIGHT RAIL TRANSIT SYSTEM**

Checklist No. 6-OP-36	Date of Audit: 3/28/2016	Persons Contacted: Gary Shafer Sherie Skinner Matt Younce
Department: Rail Operations	Auditor: R. Lobato, M. Cross, P. Fischhaber	
49 CFR Requirement: 659.19 (m)		
REFERENCE CRITERIA		
<ol style="list-style-type: none"> SOP 104.6 SSPP section 6.7 		
ELEMENT/CHARACTERISTICS AND METHOD OF VERIFICATION		
<u>STOP SIGNALS AND INDICATORS</u>		
<ol style="list-style-type: none"> Review records within the past 12 months to determine the frequency of red signal violations and reasons for said violations. Review previous three years of records to determine if there is a systematic problem or reportable hazard. Review records of any changes made to the signal system to address possible problem areas. Ride two trains along the SE, SW, West, and CPV corridors to determine operator compliance with SOP 104.6. 		

RESULTS/COMMENTS

The Audit Team met with Gary Shafer, Acting General Superintendent, Rail Transportation, Sherie Skinner, Manager of Operations and Training, and Matt Younce, MOW Manager Maintenance Training to review records for stop signals.

- A review of signal violations for a twelve month period from March 2015 to February 2016 showed a total of 59 red signal violations. This is an upward trend from the previous three years. This increase has been attributed to operator errors and training issues.
- RTD completed a detailed analysis of red signal violation in 2015 as a continuation of red signal and stop indicator review. This analysis was consistent with the 2011 analysis which did not conclusively determine if there was a systemic issue with red signal violations. Operator error continues to be the main concern and is addressed through training and employee counseling by the Transportation Department. Light Rail Operations has activated an operator train simulator as a tool which allows staff to design training around stop signal and indicator issues. The simulator also allows staff to customize training for individual operators that have incurred a red signal violation.
- Through inspections by Maintenance of Way and the red signal violation analysis review, system adjustments have been made to specific signals that were hard to see. Maintenance of Way continues to work with Operation to address system issues if they arise. Through a review of the overall system, Maintenance of Way is systematically replacing signals to LED lighting to increase or improve sight distances for operators. A Rail incident in the Central Platt Valley prompted a Corrective Action Plan (CAP) to add support to the signaling system. This adjustment and completion of the CAP provides an

additional signal for trains moving through an increasingly congested area. The CAP was approved by the Executive Safety and Security Committee, installed and tested by Maintenance of Way.

4. The Audit Team rode two trains along each of the Southeast, Southwest, Central Platte Valley, and West corridors and found the Operators' to be in compliance with SOP 104.6

The Audit Team has no recommendations for this checklist.