



# Memorandum

U.S. Department  
of Transportation

**Federal Railroad  
Administration**

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Date: January 10, 1997

Reply to Attn of: S-96-07

Subject: Revision of Interpretation and Application of 49 CFR Section 234.221

*(Original Signed by E. R. English)*

From: E. R. English  
Director, Office of Safety Assurance and Compliance

To: All Regional Administrators, Deputy Regional Administrators, S&TC Specialists and  
S&TC Inspectors

The S&TC Technical Resolution Committee meeting in Portland, Oregon the week of July 22, 1996, acted on a request for clarification of the application of 49 CFR Section 234.221. The question before the committee as to determine the application, interpretation, and enforcement of the requirement of the rule to maintain each lamp at 85 percent of the prescribed lamp rating when the primary power is removed.

After a review of current industry testing procedures and recommended practices it was the consensus of the committee that the rule applies when the warning system is operating with either the primary or standby power source applied.

The committee recognized that due to some design standards in effect prior to January 1, 1995, there are certain highway-rail grade crossing warning systems that presently do not comply with the requirements of this regulation while operating on standby power. Some railroads may have a significant number of locations that do not comply and immediate correction is not possible. Each railroad headquartered in each respective region should be advised that FRA will work with them in developing a compliance plan for all locations the railroad has determined that do not presently meet the requirements of this section. If an inspector discovers a non-compliant condition with this part, it should be determined if the railroad has developed a mutually acceptable plan to bring the location into compliance. If a plan has not been developed, normal enforcement procedures should be followed.

The Association of American Railroads and the American Shortline Railroad Association have been advised of the 85 percent requirement for systems operating with either primary power or standby power applied. They have been advised that FRA will work with railroads in implementing a compliance plan where immediate correction is not possible.

To distinguish the results of these tests, the original defect code was revised and a new defect code added to enhance the current data base. This will provide information to determine the number of non-compliant conditions found with primary power applied and standby power applied.

### CLASSIFICATION OF DEFECTS

#### **Revised defect:**

234.221.01           Lamp voltage on primary power less than 85 percent of prescribed lamp rating.

#### **New defect:**

234.221.02   Lamp voltage on standby power less than 85 percent of prescribed lamp rating.

Additional discussion revealed that there were questions concerning the proper time interval when the test is conducted as per Section 234.253, with primary power removed. Section 234.215 (Standby Power System) requires that if alternating current power is used as the primary source of power, a standby power source must be provided. The following sentence will be added to Part 234 Grade Crossing Signal System Safety Manual in Section 234.253:

"When the test is conducted with primary power removed, the lights should operate for not less than two minutes and not more than five minutes before lamp voltage readings are taken."

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