



U.S. Department  
of Transportation

**Federal Railroad  
Administration**

# Memorandum

Date: June 15, 1998

Reply to Att. of: MP&E 98-54

Subject: Load Meter Testing for Locomotives Equipped With AC Traction Motors

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

To: Regional Administrators, Deputy Regional Administrators,  
Motive Power & Equipment Specialists and Inspectors

There have been several inquiries pertaining to the requirement for testing load meters, 49 CFR 229.27(b), on new locomotives equipped with AC traction motors, which use a computer screen to display loading information to the engineer.

Since an analog load meter indicating the current or amperage being applied to the traction motors is not included or required on the AC locomotive control stand, the regulation does not apply. The information provided to an engineer operating an AC locomotive is the electric power output, as indicated by tractive effort in pounds. In many cases, a bar graph displays the tractive effort as a percentage of the locomotive's total output.

Further, the direct current traction motor analog load meter indicates short time high amperage zones, which alerts the engineer to possible overheating of the traction motor. The AC traction motor has no commutator or brushes, thus full current can be applied without damage because the computers automatically control loading at proper levels to prevent motor damage.

Please arrange to provide this information to each MP&E specialists and inspector in your region. Any questions or need for clarification should be directed to Headquarters, MP&E Division.

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