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August 17, 2004

CIRCULAR LETTER
(c-9903)

Subject: Solicitation of Comments: Proposed Field Manual Appendix F - Wheel Impact Load Detector Calibration and Verification

TO MEMBERS AND PRIVATE CAR OWNERS

File Number: AC-2324 and TWBL-11.23

Circular Letter c-9892 was issued on July 16, 2004 soliciting comments on Stress State Reduction Initiative Rule (Advanced Technology Safety Initiative) changes. At the time of issuance of that Circular Letter, a proposed new "Appendix F" was still under review. The Wheels, Axles, Bearings, and Lubrication Committee has now completed research, review, and approval of the proposed "Appendix F". The Equipment Engineering Committee has reviewed and approved WABL's submission which is attached. Take note that where other rules in c-9892 reference the new "Appendix F", any required editorial revisions prompted by the new Appendix F will be handled under separate cover.

.In the proposal, an item of particular note is Paragraph B.1 Individual Train Data Validation. It reads: "The average vertical weight for all wheels measured must be calculated for each active circuit. The range (maximum-minimum) of these average weights for a rail must be less than 15 kips for any train set containing 50 or more axles. If the range is greater than 15 kips, then data from that rail does not meet the validation requirements."

The WABL Committee realizes that individuals not familiar with WILD site operations may not totally understand the logic of this paragraph and for that reason has provided the following explanation. Each weighing circuit on a rail experiences a deflection from each wheel that passes over it. For one example train, circuit #1 may have 500 wheels pass across that circuit and the average of those 500 weights is calculated. Circuit #2 further down the rail will have the same 500 wheels cross over it, and so on. For a rail with 10 weighing circuits, all 10 circuits would ideally have the same average weight for those wheels. Because of train dynamics, these weights have some variation. The 15 kip range variation limit accounts for typical train dynamics, but will flag any major problem occurring due to software, hardware, or track geometry anywhere in the vicinity of the detector to invalidate the measurement.

A copy of the proposed revision is attached for your review. Comments from all interested parties are herewith solicited under the provisions of AAR Standard S-050. All comments should be directed to the undersigned within 30 days of this letter. All comments will be considered by the responsible Committees before the implementation date

NOTE FOR INTERNET SUBSCRIBERS: This proposal is attached below as a Word document as well as a .PDF file which can be viewed using Adobe Acrobat Reader. If you do not have this feature, Acrobat Reader software can be downloaded for free from the Adobe web site.
http://www.adobe.com/prodindex/acrobat/readstep.html#reader

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Appendix F Calibration Standard.dAppendix F Calibration Standard.

Sincerely,

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Proposed Appendix F
Wheel Impact Load Detector Calibration and Validation Requirements

A. Calibration Requirements

1. Static calibration must be done in accordance with the manufacturer's procedures at installation and, at a minimum, once every three years thereafter.
2. The calibration procedure will be stored with the calibration record.

B. Validation Requirements

1. Individual Train Data Validation
   The average vertical weight for all wheels measured must be calculated for each active circuit. The range (maximum-minimum) of these average weights for a rail must be less than 15 kips for any train set containing 50 or more axles. If the range is greater than 15 kips, then data from that rail does not meet the validation requirements.

2. Minimum Functionality
   Wheel impact load detectors must be maintained such that each rail has at least 70% of the circuits active. If less than 70% of the circuits are active on a rail, then the data from that rail does not meet the validation requirements.

C. Data Requirements

The range of average weight variation for each rail of each train must be provided with the train data set. The percent of active circuits per rail must be provided with the train data set.