Transportation Trades Department, AFL-CIO

September 2, 2025

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Chief Counsel
Federal Railroad Administration
1200 New Jersey Avenue, SE
Washington, DC 20590

RE: Expanding Certain Locomotive Wheel Set Diameter Variations
Docket No. FRA-2025-0126

Mr. Fields:

On behalf of the Transportation Trades Department, AFL-CIO (TTD), I am pleased to respond to the Federal Railroad Administration's (FRA) notice of proposed rulemaking (NPRM) regarding its proposal to expand the maximum permitted variation in diameter for locomotive wheel sets using alternating current (AC) technology. TTD consists of 39 affiliate unions representing workers across all modes of transportation, including freight rail workers who will be directly affected by this proposed rule.[1] We respectfully request that the FRA rescind this NPRM. In addition, we endorse the comments filed in this docket by our affiliate, the Brotherhood of Locomotive Engineers and Trainmen (BLET), the Transportation Division of the International Association of Sheet Metal, Air, Rail, and Transportation Workers (SMART-TD), and the International Association of Machinists and Aerospace Workers (IAM).

Background

As the FRA notes in the section-by-section analysis accompanying this proposed rule, excessive wheel size variation is a safety concern due to the potential impact on wheel slip and truck dynamics. For locomotives equipped with direct current (DC) traction motors, excessive wheel size variation causes current imbalance and triggers wheel slip corrections, including unnecessary sanding, removing tractive effort, and removing power. Locomotives equipped with AC traction motors utilize single axle control technology to apply voltage and control current to each wheel set based on operating conditions.

Expanding Wheel Set Diameter is Unsafe

Despite the improvements to prevent wheel slip, wheel sets on locomotives equipped with AC traction motors still need to minimize wheel size variation to help maintain proper truck dynamics. Excessive wheel size variation can decrease the effectiveness of weight distribution from corresponding trucks, and the trucks' inability to help

[1] Attached is a complete list of the unions affiliated with TTD.

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absorb the impact of a shifting load could lead to a derailment. In fact, typically, AC locomotives have more stringent wheel diameter per the manufacturer's instructions. FRA cites no empirical safety data, accident reports, or manufacturer certifications supporting the proposition that these changes "maintain current levels of safety."

In our view, to increase variations in wheel set diameter is arbitrary and not based on practical applications in railroading. Increasing the variance in wheel set diameter impacts the weight distribution on the trucks, causing an uneven ride for the locomotive. More pronounced differences in wheel size also increase the possibility of derailments. A quarter-inch expansion beyond the existing limit amplifies side-to-side imbalance, reducing suspension effectiveness and increasing derailment risk. FRA has not provided test data, peer-reviewed studies, or operational safety analyses demonstrating that the proposed increase to a 1½ inch diameter poses no additional risk.

In addition to derailment concerns, wheel slips resulting from increased variation in wheel set diameter will cause strain on equipment. Computer technology shuts off power to the traction motors immediately when wheel slip occurs. This sudden stop takes a toll on wearable parts in the traction motor and trucks. Furthermore, greater disparity in wheel set diameter increases asymmetric tread wear, reduces wheel life, and necessitates more frequent maintenance.

Finally, the FRA's regulations governing variations in wheel set diameter are already less stringent than manufacturers' guidelines. Manufacturer maintenance instructions for GE/Wabtec and Electro-Motive Diesel (EMD) locomotives specify wheel truing and pairing tolerances equal to or more restrictive than FRA's existing 1¼-inch limit. These requirements reflect manufacturers' engineering judgment that wheel diameter variance beyond this level materially affects truck dynamics, conicity, and hunting stability. A regulatory limit exceeding manufacturer specifications would create a direct conflict between federal standards and the engineering limits established by the very entities that designed the equipment. As such, we urge the FRA to adopt manufacturers' guidance as the baseline for variations in wheel set diameter.

Conclusion

FRA's existing 1¼-inch limit reflects sound engineering practice and remains necessary for safe operation. Raising the limit to 1½ inches or eliminating it for non-powered axles introduces additional mechanical risk, contravenes manufacturer specifications, and lacks evidentiary justification. We therefore urge the FRA to rescind this proposed rule. We appreciate the opportunity to comment on this rulemaking and look forward to working with the FRA in the future.

Sincerely,

Greg Regan
President