Transportation Trades Department, AFL-CIO

March 17, 2025

Mr. Karl Alexy
Associate Administrator for Railroad Safety & Chief Safety Officer
Federal Railroad Administration
1200 New Jersey Avenue SE
Washington DC, 20590

RE: Petition for Approval of Product Safety Plan
Docket No. FRA-2024-0126

Mr. Alexy,

On behalf of the Transportation Trades Department, AFL-CIO (TTD), I am pleased to respond to the Federal Railroad Administration's (FRA) notice regarding CSX Transportation, Inc.'s (CSX) petition for approval of its Product Safety Plan (PSP) for the Trip Optimizer Air Brake Control product (TO/ABC). TTD consists of 37 affiliated unions representing the totality of rail labor, including freight rail employees.[1] For the reasons outlined below, we strongly encourage the FRA to deny this petition. In addition, we endorse the comments of our affiliates, the Brotherhood of Locomotive Engineers and Trainmen (BLET) and the Transportation Division of the International Association of Sheet Metal, Air, Rail, and Transportation Workers (SMART-TD).

Background

The TO/ABC software will functionally fully automate the movement of trains. The technology, if approved by the FRA, will be permitted to control trains' air brakes, independent brakes, and dynamic brakes with little to no input from a human operator. TO/ABC builds upon the existing Trip Optimizer software that currently automates the use of the throttle and dynamic brakes. As the BLET notes in its comments on this docket, incorporating additional functionalities into the Trip Optimizer software, such as the use of air brakes—the primary system for stopping trains—and independent brakes, which play a crucial role in controlling slack and preventing train separations and derailments, significantly increases the risks associated with train operations.

Safety Concerns

First, we must emphasize that TO/ABC does not include sensors or other technology intended to detect obstructions, obstacles, or other hazards. When TO/ABC is operational, the locomotive

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

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engineer is not in control of the train's brake systems, but will be relied upon to react to an unexpected hazard. While the PSP does outline the system's manual operating mode, the delay resulting from the operator deactivating TO/ABC and regaining manual control of the train's brakes could be the deciding factor in what may have been an otherwise preventable accident or incident. Furthermore, though the train's operator will have the option to put the train into emergency, which applies all available brakes immediately, this can lead to excessive in-train forces that could cause a derailment. A computer system or an algorithm fundamentally cannot replicate, nor should it replace, the skill, judgment, and adaptability of a trained, human operator.

In addition, CSX argues at various points in its PSP that TO/ABC does not provide a safety critical function while simultaneously claiming that the technology is, in fact, safety critical because a failure of the system would cause unsafe conditions. It is difficult to imagine a scenario in which the control of a locomotive's braking systems is not a safety critical function. Train braking is not a one-size-fits-all process; it requires precise adjustments based on train length, weight distribution, track gradient, weather conditions, and other dynamic factors. A fully trained locomotive engineer possesses the necessary skills to make these real-time adjustments, whereas an automated system introduces risks if it fails to account for the nuances of a particular situation. CSX's assertions downplay the serious risks associated with delegating braking control to an automated system, emphasizing the need for stringent oversight, rigorous testing, and continued human expertise in train operations.

For years, TTD has warned of the safety implications of some emerging automated technologies in the transportation space, and TO/ABC raises serious safety concerns. TTD has previously called on the FRA to ensure that newly deployed equipment and technology strengthen the existing rail workforce's ability to perform their duties more safely.[2] As evidenced by CSX's petition, rarely do railroads take the sensible, safety-first approach of analyzing how new technology can advance safety and supplement an employee's ability to do their job. Moreover, as SMART-TD has noted previously, "CSX and Wabtec must prove that the Trip Optimizer system will not compromise safety. The FRA is responsible for ensuring that any waiver for new equipment meets the basic standard of maintaining or improving safety, not jeopardizing it."[3] Overreliance on unproven, untested technology may very likely lead to a potentially disastrous outcome. Defect detector technologies, like hot bearing detectors, are intended to prevent tragedies such as the one in East Palestine. Yet, nearly two years later, there are still no regulations to guide the use and implementation of this technology. Before prioritizing new technologies, it's vital to address and regulate the existing tools that can enhance rail safety.

[2] https://ttd.org/policy/policy-statements/transportation-labor-calls-for-worker-protections-amidst-the-development-of-autonomous-automated-rail-technologies/
[3] https://www.smart-union.org/csx-threatens-engineers-jobs-with-new-zero-zero-autopilot-technology/

Skills and Training

In its petition, CSX claims it plans to rely on electronic modules to satisfy its responsibility to fully train locomotive operators on the use of TO/ABC software if they have already been trained to use the original Trip Optimizer software. It is impossible to evaluate the comprehensiveness and efficacy of the proposed training models without access to the direct training materials. Though CSX specifies that these materials are available upon request, it is unclear why they were not published in the docket from the outset, which would have facilitated more meaningful input from stakeholders. Additionally, we must stress that electronic training is not an adequate replacement for hands-on training, especially with regard to safety critical operations. Over the past several years, the Class I railroads have repeatedly requested waivers to provide virtual training rather than hands-on training.[4] Rail labor has been united in opposing such requests given the safety implications for rail workers and the communities through which our trains travel.

This technology will not only compromise safety across the freight rail network but also lead to the deskilling of thousands of locomotive engineers and conductors who have undergone years of specialized training and gained extensive experience in performing the very functions that TO/ABC seeks to replicate. A key consequence of implementing TO/ABC software is that locomotive engineers will have fewer opportunities to manually operate their trains, raising concerns about the deterioration of their overall skills and reducing their familiarity with the distinct characteristics of specific routes. Railroad terrain varies significantly across the United States, presenting unique operational challenges that require specialized knowledge and hands-on experience to navigate safely. Navigating challenging terrain with a varied consist presents complexities that demand skills that can only be preserved through regular practice and direct experience.

Should the FRA approve this PSP, the agency must require that locomotive operators regularly receive training on manually carrying out the regulated tasks they perform without relying on any technological assistance. That training will ensure that locomotive engineers and conductors are able carry out these important tasks when TO/ABC fails. Given that TO/ABC only requires passive monitoring, specific training should focus on human factors issues where "deskilling" is a predictable problem.

Request for Hearing

Given the increased public scrutiny on freight rail safety, TTD feels it necessary to reiterate the request made by the BLET in its comments for a public hearing prior to the FRA's potential approval of this technology. All affected stakeholders, including labor unions and the public, should be given the opportunity to provide testimony on the impacts and implications of the widespread adoption of TO/ABC. As noted by the BLET, many additional documents and

[4] https://ttd.org/policy/workers-cannot-be-forced-to-compromise-on-hands-on-training/

reference materials have not been made public as part of this filing, and a hearing would provide the public with an opportunity to ask questions for the record regarding subjects that have not been fully discussed in the PSP itself. We respectfully request that CSX and the FRA publish these documents in the docket prior to the requested public hearing so that interested parties may more fully evaluate the PSP and subsequently provide the most substantial testimony possible.

Conclusion

In conclusion, TTD strongly urges the FRA to deny CSX's petition for approval of its PSP for the TO/ABC system. The concerns outlined in these comments—ranging from critical safety risks and the deskilling of locomotive engineers to the lack of transparency in training materials and supporting documentation—demonstrate that this technology poses a significant threat to rail safety. Automation should enhance, not replace, the critical role of trained human operators, whose expertise is essential for navigating the complexities of train operations. If the FRA moves forward with approval, it must mandate stringent safety measures, including regular hands-on training to mitigate skill degradation and ensure that operators can safely intervene when necessary. Rail safety must remain the highest priority, and it is imperative that any new technology is thoroughly vetted to ensure it does not compromise the well-being of rail workers, the communities they serve, or the overall integrity of the freight rail network. We appreciate the opportunity to comment on this petition and look forward to working with the FRA in the future.

Sincerely,

Greg Regan
President