



Brotherhood of Locomotive Engineers and Trainmen

A Division of the Rail Conference — International Brotherhood of Teamsters

NATIONAL LEGISLATIVE OFFICE

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Vice President and

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May 26, 2007

Docket Clerk
DOT Central Docket Management Facility
Room PL-401
400 7th Street, SW (Plaza Level)
Washington, DC 20590-0001

Re: Docket No. FRA-2007-27287

Dear Docket Clerk:

On September 27, 2006, BNSF Railway Company (“BNSF” or “Petitioner”) petitioned the Federal Railroad Administration (“FRA”) for a waiver from compliance with the requirements of 49 CFR Sections 236.377 through 236.381 for certain solid state, processor-based signal and train control systems. *See* FRA-2007-27287-1 (“Petition”). On April 13, 2007, FRA published notice of the filing of BNSF’s petition, soliciting comments thereon from interested parties. *See* FRA-2007-27287-3.

These comments are submitted by the Brotherhood of Locomotive Engineers and Trainmen, a Division of the Rail Conference of the International Brotherhood of Teamsters (“BLET”), which is the duly designated and recognized collective bargaining representative for the craft or class of Locomotive Engineer employed on BNSF. Consequently, BNSF’s petition would have a significant impact upon our members. For the reasons set forth below, BLET opposes granting the requested relief.

The regulations from which Petitioner seeks relief require testing of certain systems when first placed in service and, again, at the earlier of (1) when modified or disarranged and (2) every two years. The systems covered by the subject regulations are approach locking (§ 236.377), time locking, (§ 236.378), route locking (§ 236.379), indication locking (§ 236.380), and traffic locking (§ 236.381). The systems for which Petitioner seeks relief are limited to those based on solid state microprocessor, rather than relay logic, technology. Petition at p. 1.

According to Petitioner, the current regulations are “onerous,” when applied to solid state technology that BNSF claims is “fail-safe.” Id. Moreover,

The 2-year signal locking tests for solid-state interlockers required by the FRA place an undue burden on the railroad. Each route must be tested individually with complex control points having 20-30 routes. Some of the required tests require track-time between control points on either side of the location to be tested, tying-up 20 miles of track or more for the duration of these tests. Due to train traffic, some large control points can take a month or more to complete the 2-year locking tests.

Id.

BNSF asserts that those interlocking and controlled points equipped with solid state processors are systems that use programmed logic for operation. Id. Further, once “a processor based system has been tested and locking tests documented on installation, since the operation does not change, retesting should not be required.” Id. Accordingly, Petitioner requests waiver from the specified regulations

to the extent that only the following be required every 4 years after initial testing or program change:

- Verification of the CRC/Check Sum/UCN of the existing location specific application logic to the previously tested version.
- Tests on equipment outside the processor (switch indication, track indication, searchlight signal indication, approach locking (if external)[]) are verified to the processor’s inputs and switch locking is tested from the processor’s output to the switch machine.
- Testing of the duration of any timers with variable settings.

Id.

Preliminarily, we submit that the Railroad Safety Board should deny the Petition because it fails to comply with the requirements of FRA’s Rules of Practice. In order for the Railroad Safety Board to grant a petition for waiver of a safety rule, said petition must both comply with the requirements of Section 211.9 **and** be justified. 49 CFR § 211.41(c). Accordingly, either failure to comply with the requirements of Section 211.9 or lack of justification provides an independent basis to deny such a petition. 49 CFR § 211.41(d). Section 211.9 provides as follows:

§ 211.9 Content of rulemaking and waiver petitions.

Each petition for rulemaking or waiver must:

- (a) Set forth the text or substance of the rule, regulation, standard or amendment proposed, or specify the rule, regulation or standard that the petitioner seeks to have repealed or waived, as the case may be;
- (b) Explain the interest of the petitioner, and the need for the action requested; in the case of a petition for waiver, explain the nature and extent of the relief sought, and identi-

fy and describe the persons, equipment, installations and locations to be covered by the waiver;

(c) Contain sufficient information to support the action sought including an evaluation of anticipated impacts of the action sought; each evaluation shall include an estimate of resulting costs to the private sector, to consumers, and to Federal, State and local governments as well as an evaluation of resulting benefits, quantified to the extent practicable. *Each petition pertaining to safety regulations must also contain relevant safety data.*

49 CFR § 211.9 (emphasis added).

BNSF's Petition is — for all intents and purposes — a single-page letter comprised of four paragraphs. Petitioner has failed to comply with subsection (b), because it has failed to enumerate the locations where the solid state, processor-based systems are installed, despite the clear requirement that the petition include the “equipment, installations **and locations** to be covered by the waiver.” It is impossible to determine from the Petition the precise scope of the relief sought or, for that matter, whether that universe will grow, shrink or remain stable in the future.

The Petition also is fatally deficient as to subsection (c) in two specific respects. First, the rule requires that a petition provide “an evaluation of resulting benefits, quantified to the extent practicable.” Other than stating a desire to water down compliance with a testing schedule it considers operationally inconvenient, Petitioner provides no data.

For example, Petitioner insinuates that current testing requirements either result in substantial delays to trains or consume inordinate time that otherwise would be spent more productively. As to the first result, it is curious that this arises only now, nearly a quarter of a century after the test standard was first promulgated. Furthermore, neither insinuation is supported by even a scintilla of record evidence. Similarly, Petitioner has failed to quantify for the Railroad Safety Board the economic savings it plans to reap by downsizing its corps of testing personnel should the waiver be granted.

Second, Section 211.9(c) mandates that each “petition pertaining to safety regulations must also contain relevant safety data.” Petitioner claims that “programmed logic ... [o]nce installed ... continues to operate in the same manor (sic) as it did when installed.” Petition at p. 1. This claim, if accurate should be capable of demonstration via the submission of actual performance data gathered by Petitioner during the use of this technology. Since Petitioner failed to submit any such data for the Safety Board's consideration, this claim must be deemed unsubstantiated, and Petitioner therefore has failed to satisfy its burden of proving no diminution of safety.

The instant Petition also should be denied as it is contrary to public policy. On April 19, 2007, FRA sponsored a Technical Conference to address “non-conventional” signal and train control

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technologies (*i.e.*, technologies, components, devices and systems that fall within neither the conventional signal and train control rules set forth in Part 236, Subparts A–G, nor the parameters established by Subpart H) that currently are unregulated. As FRA knows, it is the BLET’s position that the scope of Subpart H should encompass all technologies, components, devices and systems not governed by Subparts A–G. *See* FRA-2007-27623-7 at pp. 2, 6.

The devices that are the subject of the instant Petition appear to be a hybrid technology. That is to say, the appurtenances located in the field differ little — if at all — from conventional devices historically subject to Subpart C, which encompasses Sections 236.377 through 236.381, while control is exercised through solid state microprocessor-based electronics. In our view, a nexus exists between these control systems and Subpart H on at least a functional level and, indeed, these systems obviously are forward-compatible with Positive Train Control technology.

In deciding waiver petitions, the Safety Board must balance the specific request for relief against “the importance of uniform and consistent regulation.” *See, e.g.*, FRA-2006-25630-3. This balancing test is all the more important where — as here — “the purpose of the requirements ... is to ensure timely testing and inspection of safety-critical devices at regular intervals in order to ensure that those devices are able to perform their intended functions and, if they are not, that they are removed from service.” *Id.*

FRA’s inquiry into the safety of “non-conventional” signal and train control technologies, components, devices and systems appreciates the potential negative safety impact of development and evolution that occur without any oversight whatsoever. It is clear to us that permitting hybrid systems to wriggle out from under regulatory oversight, even if only for purposes of frequency of testing, will lead to the same result. In other words, permitting the “non-conventional” systems to proliferate via the waiver process creates just as much risk as blanket omission from oversight.

It may be that the systems that are the subject of the instant Petition are sufficiently robust as to justify a modified testing schedule for the control processor, based on a thorough Subpart H-type risk assessment. However, that is not the factual situation from which the Safety Board will decide the matter. Granting the Petition will trigger a flood of similar petitions from other railroads, each seeking to impose its own, self-serving testing schedule; uniformity and consistency will be the short-term casualties, with safety increasingly diminished as time goes on.

We strongly believe that safety is far better served by the Safety Board denying the Petition and allowing FRA to continue to work to bring all “non-conventional” technologies under the rubric of Part 236. In this way, developing an appropriate testing schedule for these specific devices will proceed in a manner consistent with FRA’s regulatory mission.

Without retreating from the above, and assuming both that Petitioner complied with FRA's Rules of Practice and supplied sufficient evidence to justify some quantum of relief, the scope of relief sought by Petitioner greatly exceeds that which could be given, consistent with the intent of the involved regulations. The purpose of Sections 236.377 through 236.381 is to ensure that every element involved with approach, time, route, indication, and traffic locking operate properly upon installation, when modified and/or disarranged, and at least every two years.

This testing involves far more than simply checking whether the control device — whether operated by relay logic or by a solid state microprocessor — transmits the correct safety-critical command (*i.e.*, that there can be no change in status during the lockout period) to the field appurtenances. Unless we misapprehend the requirements, the testing also is intended to ensure that (1) the field appurtenances receive the correct safety-critical command, and (2) the field appurtenances execute the correct safety-critical command.

For example, Section 236.302 requires, in pertinent part, that “route locking shall be provided and shall be effective when the first pair of wheels of a locomotive or a car passes a point not more than 13 feet in advance of the signal governing its movement, measured from the center of the mast, or if there is no mast, from the center of the signal.” Verifying proper operation of the control microprocessor, in and of itself, does nothing to demonstrate that the requirement pertaining to the 13-foot maximum has been met.

Similarly, Section 236.303 mandates that circuits “shall be arranged so that [a] signal can display an aspect more favorable than ‘proceed at restricted speed,’ only when each switch, movable-point frog, and derail in the route is in proper position.” Correct display of a signal can occur only if the route is properly lined, which involves feedback between the control microprocessor and the field appurtenances. Again, verifying proper operation of the microprocessor, itself, does not satisfy the requirement, because only visual observation of the route can confirm (a) that the positions of the field appurtenances have been accurately transmitted to and understood by the microprocessor, and (b) that the signal accurately reflects the command of the microprocessor.¹

If yet another example was needed, Section 236.309 generally mandates that route locking circuits must be designed to withstand a loss of shunt of up to five seconds without releasing the lock. Again, testing for compliance necessarily involves more than merely determining whether the microprocessor is performing as intended.

¹ Indeed, the possibility that what is displayed in the field differs from what is indicated in the office is the reason for the regulatory prohibition against giving a train or engine crew information about the position or aspect displayed by a fixed signal by radio. 49 CFR § 220.51(a).

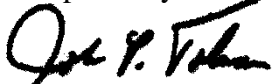
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BNSF concedes that the regulations identified in the Petition require and involve field testing, noting that “[s]ome of the required tests require track-time between control points on either side of the location to be tested.” Petition at p. 1. However, Petitioner, nonetheless, seeks to slash the frequency of testing in half — not just for the processor and logic software — but for all field hardware, as well.

Whatever else may be said about the reliability of solid state, processor-based controls, as compared to conventional relay logic systems, it cannot be seriously asserted that the field components perform more reliably when control is exercised by the former, instead of the latter. Yet, the specific relief requested by Petitioner assumes — and asks the Safety Board to conclude — that enhancement of control reliability increases reliability of the field appurtenances to an equivalent degree.

There is absolutely no evidence whatsoever in the record to support such an assumption or conclusion. Accordingly, and for all the reasons stated herein, the BLET strongly urges the Railroad Safety Board to deny the instant Petition.

Respectfully submitted,



Vice President and National Legislative Representative

cc: Grady C. Cothen, Jr., Esquire, FRA Deputy Associate Administrator for Safety Standards
and Program Development
All BNSF General Chairmen
All BNSF State Legislative Board Chairmen
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