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U.S. Department
of Transportation

**Federal Railroad
Administration**

Administrator

1120 Vermont Ave., NW.
Washington, DC 20590

MAY 1 2003

FRA-2000-8422-4

Mr. Edward Wytkind
Executive Director
Transportation Trades Department, AFL-CIO
888 16 Street, NW, Suite 650
Washington, D.C. 20006

Dear Mr. Wytkind:

The Federal Railroad Administration (FRA) has reviewed your letter dated March 11, 2003, urging FRA to favorably act upon the petition for rulemaking submitted by the Brotherhood of Locomotive Engineers (BLE) on the use of remote control locomotives (RCL). In that same letter, you also stated that "[u]ntil such a rule can be implemented, we [TTD] request that the agency issue an emergency order stopping all remote control operations." Because your letter raised two separate issues, I will address them individually.

I. BLE's Rulemaking Petition

On July 19, 2000, FRA held a technical conference to examine the use of RCL operations in the railroad industry. This public meeting allowed all interested parties, including the BLE and other rail unions, to present their views and describe their experiences with remote control operations. The conference examined all safety aspects of RCL operations, including (1) design standards, (2) employee training, (3) operating practices and procedures, (4) test and inspection procedures, and (5) security and accident/incident reporting procedures. BLE participated at the conference and submitted written comments to the docket (Docket No. FRA-2000-7325). BLE stated in its comments that it

> has consistently argued for safety above all other considerations. We recognize that a given technology is not necessarily unsafe in some circumstances, but in other circumstances it can never be made safe enough. This is especially true given the constantly changing environment of U.S. railroad operations . . . . With this in mind BLE will proceed with an open mind, holding to the principal [sic] that rail safety is our primary goal.

BLE also requested that FRA "recognize that: a one size-fits-all approach will not work in RCL use [because] . . . each railroad is different [and] we recognize that the adoption of 'best practices' has served this industry well."

On November 16, 2000, BLE filed a petition asking FRA to conduct a regulatory proceeding on RCL use. BLE referred to the technical conference FRA had held and argued that the record FRA had developed justified a rulemaking.

In February 2001, FRA issued Safety Advisory 2001-01 "which establishes recommended minimal guidelines for the operation of remote control locomotives." See 66 Fed. Reg. 10340 (Feb. 14, 2001). Based on the agency's review of information presented at the technical conference, FRA concluded that "[b]ecause this technology is not widely used in railroad operations, FRA has limited data on which to base an objective safety analysis and must therefore proceed prudently." Furthermore FRA stated that "[b]ecause information currently available to FRA does not lead to the conclusion that RCL operations should be prohibited on safety grounds, FRA has elected to proceed cautiously."

By issuing the guidelines, FRA effectively declined to establish the rules sought by BLE in its November 2000 petition for rulemaking. Although FRA did not officially deny BLE's petition, issuance of the guidelines implicitly conveyed FRA's conclusion that rules were not necessary at the time, and that FRA's guidelines constituted the agency's present conclusions concerning RCL operations.

FRA's guidelines are comprehensive, covering all aspects of RCL operations. Safety Advisory 2001-01 covers seven subjects: (1) safety design and operational requirements; (2) training of persons who operate the devices; (3) operating practices for safe use of the devices; (4) security of the devices when not in use; (5) inspection and testing of the devices; (6) notification of remote control use and protection of nearby workers; and, (7) accident-incident reporting procedures. While the guidelines are comprehensive, FRA made clear that "[i]n those situations [where a railroad may not be able to obtain complete consistency with these recommendations,] railroads are encouraged to develop alternative designs or practices which offer at least equivalent or greater levels of safety." Thus, FRA's guidelines allow railroads "to tailor their own RCL operations" as needed to allow for differences in the design of equipment, or differences in operating practices among railroads.

Although the voluntary nature of the RCL guidelines allows for some flexibility, FRA expressly warned railroads that some of the RCL design criteria and operating procedures were mandatory requirements.

> FRA emphasizes that although compliance with this Safety Advisory is voluntary, nothing in this Safety Advisory is meant to relieve a railroad from compliance with all existing railroad safety regulations. Therefore, when procedures required by regulation are cited in this Safety Advisory, compliance is mandatory.

Id. at 10343. For example, the safety advisory made clear that the RCL system must be included as part of the required calendar day inspection for locomotives and RCL system components interfacing with the mechanical devices of the locomotive are subject to the required 92-day

periodic inspection. Similarly, FRA clearly stated that each RCL operator must be certified and qualified in accordance with 49 C.F.R. Part 240 if conventional operation of a locomotive under the same circumstances would require certification under that regulation. Furthermore, FRA made clear that each railroad must include RCL operating rules and procedures in its written program of operational tests and inspections required under 49 C.F.R. Part 217.

As explained more fully below, FRA continues to monitor RCL use closely. If at any time FRA concludes that voluntary guidelines, combined with enforcement of the existing relevant rules, are not sufficiently protecting employees and the public, we will take additional action which may include rulemaking.

II. TTD's Emergency Order Request

FRA's Emergency Authority Generally

FRA's authority to issue an emergency order is based on 49 U.S.C. § 20104, which states:

> If, through testing, inspection, investigation, or research carried out under this chapter, the Secretary of Transportation decides that an unsafe condition or practice, or a combination of unsafe conditions and practices, causes an emergency situation involving a hazard of death or personal injury, the Secretary immediately may order restrictions and prohibitions, without regard to section 20103(e) of this title, that may be necessary to abate the situation. (Emphasis supplied.)

This authority has been delegated to the Federal Railroad Administrator. 49 C.F.R. §1.49(m).

Because this extraordinary remedy does not require prior notice to the affected party or an opportunity to be heard prior to issuance of the order, Congress declared that such an order can be invoked only in "an emergency situation involving a hazard of death or injury to persons." FRA thus has no legal authority to issue such an emergency order unless such an emergency situation exists.

The Basis for TTD's Emergency Order Request

TTD asserts that FRA should issue an emergency order stopping all remote control operations [presumably, nation-wide] until FRA can implement a rule addressing the issues raised in the BLE's rulemaking petition. TTD offers no evidence of a safety emergency and presumably relies on its arguments advanced in support of BLE's rulemaking petition to also support its emergency order request. TTD states that FRA's Safety Advisory 2001-01 does "not actually require carriers to adopt all the safety procedures listed" in the Safety Advisory and that the recommended guidelines "do not go far enough to ensure that this technology is implemented and utilized safely." TTD, as an example of its claim, states that training for a remote control

operator (RCO) is inadequate as compared to that of a train service engineer. TTD also suggests that a rule is warranted because "there have been over 40 accidents involving remote control operations . . . [including one this year in which] a CSX [Transportation (CSXT)] trainman was killed when he was struck by a moving boxcar that was being pushed by a locomotive being operated remotely."

The Basis for FRA's Decision

Based on current safety data available to FRA, there is nothing that would indicate that RCL operations are any less safe than conventional operations. Nonetheless, FRA has elected to proceed cautiously in its approach to these operations and therefore issued Safety Advisory 2001-01 in February 2001. In issuing the Safety Advisory, FRA sought to identify a set of "best practices" to guide the rail industry when implementing RCL technology. As this is an emerging technology, FRA believes this approach serves the railroad industry by providing flexibility to both manufacturers designing the equipment and to railroads in their different operations, while reinforcing the importance of complying with all existing railroad safety regulations. All of the major railroads have used these recommendations as the basis for their own RCL operating procedures.

Regarding the enforcement of Federal regulations as they apply to RCL operations, the Safety Advisory explains that compliance with existing relevant regulations is mandatory. 66 Fed. Reg. at 10343.

The Safety Advisory clearly states that "each person operating an RCL must be certified and qualified in accordance with 49 CFR Part 240 [FRA's locomotive engineer rule] if conventional operation of a locomotive under the same circumstances would require certification under that regulation." In November 2001, all six major railroads submitted to FRA their training programs for remote control operators (RCOs) as required by Part 240. Since that initial filing, several railroads have made changes to their remote control training programs at FRA's request. FRA is closely monitoring this training and making additional suggestions for improvement on individual railroads as they become necessary. These training programs currently require a minimum of two weeks classroom and hands-on training for railroad workers who were previously qualified on the railroad's operating and safety rules. Federal regulations require that locomotive engineers be trained and certified to perform the most demanding type of service they will be called upon to perform. Thus, an RCO that will only be called upon to perform switching duties using an RCL would not need to be trained to operate a locomotive on main track from the control stand of the cab. This training is no different than that afforded other locomotive engineers trained only for switching service in that both are limited to training in the type of service they will be called upon to perform.

In addition to the required training, the regulations require railroads to conduct skills performance testing of RCOs that is comparable to the testing required of any other locomotive engineer performing the same type of work. Federal regulations also hold RCOs responsible for

compliance with the same types of railroad operating rules and practices that other locomotive engineers are required to comply with in order to retain certification. See 49 C.F.R. § 240.117.

FRA will continue to exercise careful oversight of RCL operations. FRA inspectors are monitoring the evolving remote control operations and have had good success in working with railroads to resolve any safety concerns revealed by the inspections. Further, FRA has developed accident/injury reporting codes for RCL operations to ensure that any future safety hazards related to such operations can be easily identified, investigated, and analyzed for the purpose of discovering any potential safety risks associated with this evolving technology.

We have reviewed each of the 40 incidents to which you refer to the extent we have received any specific information on them. More than half of the 40 incidents you listed were not reported to FRA because they did not result in a serious injury to any employee nor did the railroad on-track equipment, signals, track, track structure, or roadbed incur damages meeting or exceeding the reporting threshold established by FRA regulation. See 49 C.F.R. § 225.5 (defining "accident/incident"). To date, none of the FRA reportable accidents or incidents concerning RCL operations have been the result of the RCL technology (although a few have been the result of non-RCL equipment failures, e.g., Union Pacific Railroad's Hinkle, Oregon, incident on June 9, 2002, was caused by a retarder failure); instead, nearly all of the FRA reportable accidents or incidents concerning RCL operations have been the result of human error. Meanwhile, FRA is currently exploring "root cause" analysis of these types of events to determine whether the human errors may have been inherent to RCL operations.

The tragic incident you described in your letter occurred on February 16, 2003, in Dewitt Yard, in Syracuse, when a secondary RCO was fatally struck by a freight car that had been kicked during an RCL operated switching movement. Although FRA has not yet issued its final report regarding the investigation of this accident, at this point there is no indication the operation of the RCL caused the incident. The fatally injured employee was engaged in a classification operation at the time of the incident and a transcript of radio communications indicates that this person had acknowledged that he was ready to accept the movement over the same track upon which he was run over.

Subsequent to the accident, FRA conducted three safety audits of yard and switching activities (including RCL operations) on the Albany Division of CSXT. The audits entailed sending teams of FRA safety inspectors to all major CSXT yards in the Albany Division, including the Dewitt Yard. In addition, the Safety Analysis branch within FRA's Office of Safety contributed FRA data regarding train accidents and injuries for CSXT in New York State. During the first audit, which occurred on February 21 - 23, FRA found no systemic safety concerns with CSXT's remote control operations. During FRA's second audit, which occurred on March 3 - 6, the only RCL issue that caused lingering concern was that CSXT did not have a standard which would ensure the ongoing education of a certified RCO who has not worked an RCL job for an extended period of time; FRA's regional personnel have reminded CSXT of this regulatory requirement and FRA will continue to closely monitor compliance with it. 49 C.F.R.

§ 240.123(b) and App. B, § 3. During the third audit, which occurred on April 15 - 17, FRA found no systemic safety concerns with CSXT's remote control operations.

FRA has also addressed the security of RCL operations and believes that adequate safeguards are in place to ensure system integrity. Of paramount importance in RCL operations are the signals which direct the movement of the locomotive. The implications of an unauthorized movement can be severe. FRA sought to protect the integrity of the RCL system by recommending certain RCL design features in its Safety Advisory. Under the heading "Safety Design and Operational Requirements" FRA listed the following relevant recommendations:

- Although an RCT [remote control transmitter] can have the capability of control, at different times, different locomotives equipped with remote-control receivers [RCR], it should be designed to be capable of controlling only one RCR equipped locomotive at a time. (A locomotive may consist of one or more engines operated from a single control).

- An RCT having the capability to control more than one RCL should have a means to lock in one RCR "assignment address" to prevent simultaneous control over more than one locomotive.

- Each locomotive equipped with an RCR should respond only to the RCTs assigned to that receiver.

- The RCT should be designed to require at least two separate actions by the remote control operator before RCL movement can begin (in order to prevent accidental movement).

- When an RCT's signal to the RCL is interrupted for a set period, not to exceed five seconds, the remote-control system should cause:
  a. full service application of the locomotive and train brakes; and
  b. elimination of locomotive tractive effort.

The manufacturers of this equipment have designed sophisticated signal relay systems to protect the integrity of the system. The signals or bits of information sent to the RCL are encrypted with a unique address for that particular locomotive. If a control signal fails, is corrupted, or is interfered with in any way, the RCL system immediately acts to stop locomotive movement. Additionally, the RCLs are equipped with manual emergency "shutdown" push buttons on each side of the RCL. These buttons allow anyone close to the locomotive to immediately shut the locomotive down in the event of an emergency.

In addition to the above measures to ensure the safety and security of RCL operations, the railroad industry has undertaken a security risk assessment to identify potential security needs and enhancements. One of the key issues examined in the assessment was the security of

information, including the security of data radio transmissions like the kind used to operate RCLs. FRA is working with the Transportation Security Administration and the railroad industry to ensure the security and integrity of all critical data radio transmissions.

Based on the foregoing, I find that the conditions required by 49 U.S.C. § 20104(a) for issuance of an emergency order are not present. I find that conditions or practices nation-wide have not created an emergency situation involving a hazard of death or injury to persons and I am, therefore, unable to grant your request to issue an emergency order directing all railroads to cease all remote control operations. Should FRA's follow-up activities on any major railroad indicate that an emergency order is the appropriate remedy, we will not hesitate to act.

Conclusion

For the reasons explained above, FRA does not intend to take further action in connection with BLE's rulemaking petition at this time. Moreover, FRA has declined to issue the emergency order you have requested because no emergency has been shown to exist.

Finally, I have in fact met with BLE's president and discussed briefly the issue of RCL operations. Our meeting occurred in Florida in February of this year. I am always willing to discuss safety issues. However, on the narrow issue of whether a rule is necessary concerning RCL operations, BLE has decided to bring a legal action against FRA, and FRA has decided not to explore that issue further with BLE while BLE maintains its suit, which FRA believes to be lacking in merit.

Please note that FRA's policy of investigating every legitimate rail safety report (anonymous and otherwise) has not changed under this administration. Each year FRA expends substantial resources investigating numerous safety concerns raised by employees and rail labor organizations. Certainly, FRA's investigation of the fatality on CSXT, the related audits, and the follow-up work planned are recent and continuing examples of FRA's commitment to respond to our own, and the rail community's, safety concerns.

I hope this information is helpful and alleviates the concerns expressed by your organization. I appreciate your interest in transportation safety and look forward to working with you on other transportation issues of importance to you and your members.

Sincerely,

Allan Rutter
Administrator