

**Before the
Federal Communications Commission
Washington, D.C. 20554**

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| In the Matter of |) | |
| |) | |
| REQUESTS FOR WAIVERS FOR END-OF- TRAIN DEVICES TO EXCEED POWER LIMIT FOR TELEMETRY OPERATIONS IN THE 450- 470 MHZ BAND |) | FCC File Nos. 0004348068, 0004352165, 0004371962, 0004374293, 0004398594, 0004401558, 0004421093, 0004437389 |

ORDER

Adopted: December 3, 2010

Released: December 6, 2010

By the Deputy Chief, Mobility Division, Wireless Telecommunications Bureau:

1. *Introduction.* This *Order* grants eight requests for temporary waivers of the power limit for telemetry operations in the 450-470 MHz band. Specifically, eight railroads request waivers to permit the operation of end-of-train (EOT) devices with eight watts transmitter output power, pending the resolution of a related rulemaking proceeding. For the reasons set forth below, we grant the waiver requests. In addition, we grant a waiver to permit the equipment authorization of EOT devices with a transmitter output power of up to eight watts.

2. *Background.* Section 90.238(e) of the Commission's Rules limits telemetry operations in the 450-470 MHz band to two watts transmitter output power.¹ EOT devices, which operate on frequency pair 452/457.9375 MHz, transmit information regarding the brake pipe pressure on the rear car to the lead locomotive for display to the locomotive engineer and allow the locomotive engineer to apply the rear train brakes in an emergency. As a practical matter, EOT devices must be mounted on the coupling knuckle behind the last car in the train, but the path from the end of the train to the front of the train is always blocked by intervening train cars, and also can be adversely affected by variable terrain factors.

3. Currently pending before the Commission is a petition for rulemaking requesting that the maximum permissible power for EOT devices be increased, in order to minimize the possibility of communications link failure for EOT devices (especially on longer trains).² The Commission proposed to amend Section 90.238(e) to allow EOT devices to operate with up to eight watts transmitter output power, and sought comment on the proposal.³ The rulemaking proceeding remains pending.

4. In August 2010, Norfolk Southern Railway Company⁴ and Union Pacific Railroad Company⁵ filed applications and requests for temporary waivers of Section 90.238(e) to permit operation of EOT devices with eight watts transmitter output power, pending the resolution of the rulemaking proceeding. The Wireless Telecommunications Bureau's Mobility Division sought comment on the

¹ See 47 C.F.R. § 90.238(e).

² See Petition for Rulemaking of the Association of American Railroads (filed Oct. 2, 2007).

³ See Amendment of Part 90 of the Commission's Rules, *Second Report and Order and Second Further Notice of Proposed Rule Making*, WP Docket No. 07-100, 25 FCC Rcd 2479, 2493 ¶¶ 33-34 (2010).

⁴ See FCC File No. 0004348068 (filed Aug. 9, 2010).

⁵ See FCC File No. 0004352165 (filed Aug. 12, 2010).

waiver requests, and stated that it expected similar requests from other railroads.⁶ BNSF Railway Company,⁷ Wisconsin Central System,⁸ CSX Transportation Inc.,⁹ Delaware and Hudson Railway,¹⁰ Kansas City Southern Railway Company,¹¹ and Soo Systems Radio Communications Corporation¹² subsequently filed similar requests.

5. The Federal Railroad Administration (FRA) and Association of American Railroads (AAR) filed comments in support of the waiver requests. They state that the operating length of trains has increased in recent years, rendering the current power limit insufficient to support reliable communications between the front and end of the train.¹³ They also argue that permitting a transmitter output power of up to eight watts will not result in interference to other users, because use of frequency pair 452/457.9375 MHz is coordinated by the railroad industry.¹⁴

6. *Discussion.* Section 1.925 of the Commission's Rules provides that we may grant a waiver if it is shown that (a) the underlying purpose of the rule(s) would not be served or would be frustrated by application to the instant case, and grant of the requested waiver would be in the public interest; or (b) in light of unique or unusual circumstances, application of the rule(s) would be inequitable, unduly burdensome, or contrary to the public interest, or the applicant has no reasonable alternative.¹⁵ For the reasons set forth below, we conclude that grant of the pending requests is warranted.

7. The purpose of the two-watt limit on telemetry operations in the 450-470 MHz band is to provide adequate power for telemetry operations,¹⁶ while avoiding interference to other users.¹⁷ We

⁶ See Wireless Telecommunications Bureau Seeks Comment on Applications and Requests for Waivers Filed by Norfolk Southern Railway Company and Union Pacific Railroad Company for End-of-Train Devices to Exceed Power Limit for Telemetry Operations in the 450-470 MHz Band, *Public Notice*, 25 FCC Rcd 12585 (WTB MD 2010).

⁷ See FCC File No. 0004371962 (filed Aug. 31, 2010).

⁸ See FCC File No. 0004374293 (filed Sept. 2, 2010). Wisconsin Central System also requests a waiver to allow the other U.S. carrier operating subsidiaries of the Canadian National Railway Company (Bessemer and Lake Erie Railroad Company; Chicago, Central & Pacific Railroad Company; Duluth, Missabe and Iron Range Railway Company; Duluth, Winnipeg and Pacific Railway Company; Grand Trunk Western Railroad Company; and Illinois Central Railroad Company) to operate EOTs with eight watts transmitter output power, but none of these railroads has filed a corresponding application.

⁹ See FCC File No. 0004398594 (filed Sept. 23, 2010).

¹⁰ See FCC File No. 0004401558 (filed Sept. 27, 2010).

¹¹ See FCC File No. 0004421093 (filed Oct. 14, 2010).

¹² See FCC File No. 0004437389 (filed Nov. 1, 2010).

¹³ See Federal Railroad Administration (FRA) comments at 1; Association of American Railroads (AAR) comments at 3. FRA states that failure of the communications link has caused serious accidents. See FRA comments at 1-2.

¹⁴ See AAR comments at 3; see also 47 C.F.R. § 90.35(b)(3). AAR also states that operation in Canada of EOTs with eight watts transmitter output power has not resulted in interference to other users. See AAR comments at 3-4.

¹⁵ 47 C.F.R. § 1.925(b)(3); see also *WAIT Radio v. FCC*, 418 F.2d 1153, 1159 (D.C. Cir. 1969).

¹⁶ See Amendment of Subpart D of Part 90 of the Commission's Rules and Regulations to Permit the Use of 12.5 kHz Offset Assignments in the 450-470 MHz band in the Private Land Mobile Radio Services, *Report and Order*, PR Docket No. 80-605, 87 F.C.C. 2d 647, 648 ¶ 5a (1981).

¹⁷ *Id.* at 650-51 ¶ 5g; cf. Amendments to Parts 1, 2, 27 and 90 of the Commission's Rules to License Services in the 216-220 MHz, 1390-1395 MHz, 1427-1429 MHz, 1429-1432 MHz, 1432-1435 MHz, 1670-1675 MHz, and 2385-2390 MHz Government Transfer Bands, *Report and Order*, WT Docket No. 02-8, 17 FCC Rcd 9980, 10034-35 ¶ 141 (2002).

conclude that this purpose would not be served by application to EOT devices. As noted above, two watts no longer appears to be sufficient to maintain the communications link with the locomotive on longer trains. In addition, given that use of the frequency pair and the adjacent frequencies is coordinated by the railroad industry, and they generally are not used by non-railroad entities, it appears from the record before us that there is little risk of interference due to the requested increase in power.

8. We also conclude that grant of the waiver request is in the public interest. Operation of higher-power EOTs will increase the safety of life and property for railroads and their employees, and for people in communities through which trains travel.¹⁸

9. Consequently, we grant the waiver requests associated with the above-captioned applications. In addition, we will grant waiver requests from any other railroads to operate EOT devices with eight watts transmitter output power pending the resolution of the related rulemaking proceeding. Such applications should reference this *Order* (by the DA number set forth above).

10. Finally, we note that EOT devices have been approved by the Commission for a maximum transmitter output power of two watts.¹⁹ Ordinarily, manufacturers would be required to obtain new equipment authorizations consistent with the parameters of the waiver granted herein before any EOT device could be operated with higher power.²⁰ We conclude, however, that this is not necessary for EOT devices that already are capable of operating in either two-watt mode or eight-watt mode. Therefore, for currently certificated EOT devices that can be modified to operate with eight watts transmitter output power by software upgrade without any hardware change, we waive our equipment authorization rules to permit the modification to be treated as a Class II permissive change.²¹ A copy of this *Order* shall be submitted with any equipment authorization application or permissive change filing for EOT devices that operate with eight watts transmitter output power.

11. *Conclusion.* We conclude that good cause has been shown for temporary waiver of Section 90.238(e) to permit operation of EOT devices with eight watts transmitter output power. We agree with the applicants and commenters that operation of such devices will improve railroad safety, without causing interference to other users. We therefore waive Section 90.238(e) and the equipment authorization rules, conditioned on the outcome of the pending rulemaking proceeding.²²

12. Accordingly, IT IS ORDERED that, pursuant to Section 4(i) of the Communications Act of 1934, as amended, 47 U.S.C. § 154(i), and Section 1.925 of the Commission's Rules, 47 C.F.R. § 1.925, the waiver requests filed in association with applications FCC File Nos. 0004348068, 0004352165, 0004371962, 0004374293, 0004398594, 0004401558, 0004421093, and 0004437389 ARE GRANTED, CONDITIONED on compliance with any rules adopted in WP Docket No. 07-100, and the applications SHALL BE PROCESSED in accordance with this *Order* and the Commission's Rules.

¹⁸ See, e.g., PTC-220, LLC, *Memorandum Opinion and Order*, 24 FCC Rcd 8537, 8543 ¶ 14 (WTB 2009).

¹⁹ See, e.g., Grant of Equipment Authorization CXY-15616.

²⁰ See 47 C.F.R. §§ 2.932(a), 2.1043(a).

²¹ See 47 C.F.R. § 2.1043(b)(2).

²² That is, licensees ultimately will be subject to the rules adopted in the pending rulemaking proceeding, but will be permitted to operate pursuant to this waiver until such rules take effect.

13. This action is taken under delegated authority pursuant to Sections 0.131 and 0.331 of the Commission's Rules, 47 C.F.R. § 0.131, 0.331.

FEDERAL COMMUNICATIONS COMMISSION

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