

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

In the Matter of)
)
Petition of Association of American Railroads)
(AAR) for Modification of Licenses For Use in)
Advanced Train Control Systems and Positive)
Train Control Systems)

ORDER

Adopted: February 13, 2001

Released: February 15, 2001

By the Chief, Public Safety and Private Wireless Division, Wireless Telecommunications Bureau:

I. INTRODUCTION

1. We have before us a petition for modification of licenses (Petition) filed by the Association of American Railroads (AAR) on March 24, 2000.¹ AAR, which is the licensee of over three hundred private land mobile radio (PLMR) call signs in connection with an Advanced Train Control System (ATCS), seeks to modify these licenses to receive a single geographic area license. For the reasons set forth below, we grant AAR's Petition.

II. BACKGROUND

2. In 1986 and 1987, AAR, which represents virtually every major American railroad, filed hundreds of PLMR applications for thousands of base stations, seeking authorization to use six specific frequency pairs in the 900 MHz band.² Specifically, AAR requested licenses for these frequency pairs to facilitate the construction and development of an ATCS,³ which is now referred to as Positive Train Control (PTC).⁴ These frequencies were to be used to build the largest and most complex land mobile radio communications system in the world, enabling the transfer of large volumes of data between locomotives, work crews, and computerized control centers.⁵ AAR envisioned that implementation of the ATCS would automate rail operations nationwide, enabling railroads to operate more safely, efficiently,

¹ Association of American Railroads Petition for Modification of Licenses, filed March 24, 2000 (*Petition*). In addition, AAR filed corresponding modification applications on April 18, 2000.

² The six frequency pairs are 896.8875/935.8875 MHz, 896.9375/935.9375 MHz, 896.9875/935.9875 MHz, 897.8875/9375 MHz, 897.9375/936.9375 MHz, and 897.9875/936.9875 MHz.

³ Waiver of Sections 90.621(d), 90.623(a), 90.629, 90.633, and 90.651(c) of the Commission's Rules to License Use of Six Conventional 900 MHz Frequency Pairs for an Advanced Train Control System, *Order*, 3 FCC Rcd 427, 427 ¶ 2 (1988) (*Order*). AAR also indicated that it intended to file additional applications for hundreds of other sites it had yet to identify. *Id.* at 427 ¶ 3, 429 ¶ 19.

⁴ *Petition* at 3.

⁵ *Order*, 3 FCC Rcd at 427 ¶¶ 1, 4.

and economically.⁶ For example, the system was designed to prevent train collisions, high speed accidents, and incursions into locations reserved for railway workers.⁷ Because some of the ATCS's operating requirements could not be met under the Commission's regulations, AAR sought a waiver of Sections 90.621(d) (providing a means for achieving exclusivity by a seventy-mile protection contour for stations meeting loading requirement), 90.623(a) (limiting the number of channels that may be assigned to a licensee for operation in the conventional mode to five), 90.629 (limiting extended implementation periods to three years), 90.629(b) (requiring annual progress reports by licensees with extended implementation periods, and providing that exclusivity for conventional channels cancels automatically if the implementation schedule is not met), 90.633(a) (setting a loading requirement of seventy mobile units), 90.633(c) (requiring construction within eight months of license grant unless an extended implementation period is granted), and 90.651(c) (requiring loading report within eight months of license grant) of the Commission's Rules.⁸

3. In 1988, the Commission granted AAR's request.⁹ The Commission allowed AAR ten years in which to complete the proposed ATCS project.¹⁰ Rather than grant AAR the exclusive use of the six frequencies nationwide, as AAR had requested,¹¹ the Commission established an eighty-mile zone of protection around each site for the duration of the ten-year construction period, and provided that applicants for those channels outside this zone would first have to seek alternative 800 and 900 MHz frequencies.¹² The *Order* required that AAR submit a final report at the end of the ten-year period identifying the locations of all base stations and the number of mobile units associated with those stations.¹³

In order to retain exclusivity after ten years (in the form of a seventy-mile zone of protection), AAR would have to demonstrate that it met the loading requirements.¹⁴ For those stations not meeting the requisite loading criteria, the Commission stated that it would consider applications from other users on the six frequencies if the proposed operations would not threaten rail safety.¹⁵ The Commission also stated that it would still require other applicants for the six frequencies to exhaust alternative channels first.¹⁶

4. In its final report, AAR certified that all the licensed stations were constructed and the loading requirements were met. In accordance with the policies set forth in the *Order*, to date, no other PLMR

⁶ *Id.*

⁷ *Id.*

⁸ 47 C.F.R. §§ 90.621(d), 90.623(a), 90.629, 90.629(b), 90.633(a), (c), 90.651(c) (1988).

⁹ *Order*, 3 FCC Rcd at 430 ¶ 25.

¹⁰ *Id.* at 428 ¶ 15.

¹¹ *See id.* at 429 ¶ 18.

¹² *Id.* at 429 ¶ 21.

¹³ *Id.* at 429 ¶ 22.

¹⁴ *Id.*

¹⁵ *Id.*

¹⁶ *Id.*

licensees have been authorized to use the six frequencies licensed to AAR for ATCS use. In the years since the licenses were originally granted, AAR has relocated or otherwise modified a number of sites; in each case, this has required the filing of an individual modification application.¹⁷

5. On March 24, 2000, AAR filed the instant Petition seeking to modify its ATCS licenses by consolidating them into a single geographic area license. On May 26, 2000, the Public Safety and Private Wireless Division of the Wireless Telecommunications Bureau released a *Public Notice* seeking comment on AAR's proposal.¹⁸ Comments were filed by the Federal Railroad Administration (FRA), the federal agency responsible for setting railroad standards, and the Industrial Telecommunications Association (ITA), a FCC-certified PLMR frequency coordinator. AAR filed reply comments.

III. DISCUSSION

6. AAR's Petition seeks modification of the licenses for its ATCS/PTC stations into a single geographic area license. Under AAR's proposal, the scope of the modified license would be defined as a seventy-mile zone on either side of the rights-of-way of all operating rail lines in the United States.¹⁹ If its Petition is granted, AAR plans to issue sub-licenses to the individual railroads that use ATCS/PTC, and will maintain a computerized database of all site-specific information pertaining to such sub-licenses.²⁰ In addition, the FCC and FCC-certified PLMR frequency coordinators will have access to the AAR database via the Internet.²¹ AAR also will provide the Commission and frequency coordinators with access to a software program that determines whether any given point in the United States is within the seventy-mile zone.²²

7. AAR argues that its proposal, by eliminating the need for the filing and review of an individual modification application every time an ATCS/PTC station is relocated, will both streamline the Commission's licensing processes and provide AAR with needed flexibility in choosing where to deploy ATCS/PTC base stations.²³ We agree with AAR and FRA²⁴ that implementation of this proposal would enhance administrative efficiency for both the Commission and AAR; moreover, we believe that such a streamlining is in the public interest.²⁵ We also find that such a licensing approach will result in

¹⁷ See *id.* at 430 n.8 (providing that if AAR needed to move a base station, it would have to follow the standard procedures for modifying a license). Most of the current authorizations expire in 2003.

¹⁸ Wireless Telecommunications Bureau Seeks Comment on Association of American Railroads Petition for Modification of Licenses for Use in Advanced Train Control Systems and Positive Train Control Systems, *Public Notice*, 15 FCC Rcd 9133 (WTB PSPWD 2000).

¹⁹ *Petition* at 4.

²⁰ *Id.* at 4-5.

²¹ *Id.*

²² *Id.* at 23.

²³ *Id.* at 21.

²⁴ See FRA Comments at 1.

²⁵ See, e.g., 1998 Biennial Review – Streamlining of Radio Technical Rules in Parts 73 and 74 of the Commission's Rules, *Second Report and Order*, FCC 00-368, ¶ 6 (rel. Nov. 1, 2000).

improvements to the safety of train operations in general, because the increased flexibility inherent in a geographic area license should facilitate the deployment of current and future ATCS/PTC facilities.²⁶ AAR also argues that granting its Petition will ensure that the railroads' safety-critical communications data links continue to be protected from interference,²⁷ while at the same time promoting full spectrum utilization by allowing the six channel pairs to be fully accessed by non-railroad users outside the boundary of the geographic license.²⁸ Finally, AAR notes that the Canadian government has licensed the six 900 MHz channel pairs used for ATCS/PTC under a single nationwide, geographic area license to the Railway Association of Canada.²⁹ AAR argues that we should conform the United States licensing with that of the Canadian government. We agree that international harmonization would further the public interest by contributing to smooth transborder operations.

8. ITA, on the other hand, contests AAR's assertion regarding full spectrum utilization. First, ITA suggests that 140 miles is "perhaps excessive" in light of the fact that the area to be served will be limited to the railroad tracks, a comparably small area.³⁰ Second, ITA contends that a 140-mile wide zone of protection will limit the promotion of full utilization of the spectrum to non-critical rural areas.³¹ Third, ITA questions whether "interference with railroad communications in the 900 MHz Industrial/Land Transportation Pool is a critical issue," and urges us to seek documentation of any interference complaints or concerns.³² ITA also is concerned that coordinating these frequencies for non-railroad use will be difficult because it will not be able to identify and define the 140-mile wide protected area surrounding the railroads' rights-of-way.³³

9. Based on the record in this proceeding, we conclude that AAR's ATCS licenses should be modified as requested. We agree with AAR that the 140-mile protection zone is reasonable because it is derived from the fixed seventy-mile separation distance between co-channel stations set forth in Section 90.621(b) of the Commission's Rules.³⁴ In addition, we find persuasive AAR's explanation that the reason that there have been no complaints of interference in connection with the ATCS is that non-railroad users are currently not coordinated on the six ATCS/PTC frequency pairs.³⁵ Should AAR's proposal be granted,

²⁶ Congress recognized in the Balanced Budget Act of 1997 that railroad radio communications are used to protect the safety of life and property. *See* Implementation of Sections 309(j) and 337 of the Communications Act of 1934 as Amended, *Report and Order and Further Notice of Proposed Rule Making*, FCC 00-403, ¶¶ 75-76 (rel. Nov. 20, 2000) (citing H.R. Conf. Rep. No. 105-217, 105th Cong., 1st Sess. at 572 (1997)).

²⁷ *Petition* at 9.

²⁸ *Id.* at 21-22.

²⁹ *Petition* at 4. The Railway Association of Canada is AAR's Canadian counterpart.

³⁰ ITA Comments at 2.

³¹ *Id.*

³² *Id.* at 2-3.

³³ *Id.* at 2.

³⁴ AAR Reply Comments at 4.

³⁵ *See id.* at 5-6.

however, non-railroad users will be permitted access to these channels outside of the 140-mile protected zone, and interference could become an issue.³⁶ The 140-mile protected zone is therefore necessary to ensure the continued integrity of AAR's operations.³⁷ Regarding ITA's concern that full spectrum utilization will be limited to non-critical rural areas, we agree with AAR that a grant of its proposal will not suddenly limit the availability of spectrum for non-railroad use to non-critical rural areas, because AAR's current licenses are already protected from non-railroad use, and rail lines are clustered around major population centers.³⁸ Consequently, non-railroad users are already mostly precluded from co-channel operations near these metropolitan areas. Finally, we find that ITA's frequency coordination concerns are addressed by AAR's plan to make available to the Commission and the frequency coordinators a computer software program that will identify all points in the United States that are inside and outside of the area of the geographic license.³⁹

IV. CONCLUSION AND ORDERING CLAUSES

10. AAR has persuaded us that significant public safety benefits will be realized by granting its Petition. The importance of an efficient, ubiquitous, and internationally coordinated railroad communications system is apparent, and we believe that this *Order* will facilitate the continued success and development of ATCS/PTC throughout the United States. Therefore, we direct the Licensing and Technical Analysis Branch of the Public Safety and Private Wireless Division to issue a single nationwide geographic area license, defined by a 140-mile wide swath or ribbon that tracks all of the railroad rights-of-way in the United States, to replace AAR's existing site-by-site licenses for the six ATCS/PTC frequency pairs. The modified license shall expire on the expiration date of the earliest-to-expire existing license.⁴⁰ As with other geographic area licenses,⁴¹ the licensee may locate, move, or modify its stations anywhere within its 140-mile wide geographic area without obtaining Commission consent, except that AAR must individually license any facility that requires an Environmental Assessment pursuant to Section 1.1307 of the Commission's Rules⁴² or international coordination, or would affect the radio frequency quiet zones described in Section 1.924 of the Commission's Rules.⁴³ In addition, the requirement that any antenna structure that requires notification to the Federal Aviation Administration must be registered with the Commission prior to construction under Section 17.4 of the Commission's Rules⁴⁴ continues to apply.

³⁶ *Id.* at 6.

³⁷ *Id.*

³⁸ *See id.* at 5.

³⁹ *See id.* at 3.

⁴⁰ *See, e.g.,* Amendment of the Commission's Rules Concerning Maritime Communications, *Fourth Report and Order and Third Further Notice of Proposed Rule Making*, FCC 00-370, ¶ 36 (rel. Nov. 16, 2000); 47 C.F.R. § 22.507(c).

⁴¹ *See, e.g.,* 47 C.F.R. §§ 22.165(a)-(c), 80.371(c)(4), 101.1009(a)(1).

⁴² 47 C.F.R. § 1.1307.

⁴³ 47 C.F.R. § 1.924.

⁴⁴ 47 C.F.R. § 17.4.

11. 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 Petition for Modification of Licenses filed by the American Association of Railroads on March 24, 2000 IS GRANTED as set forth herein.

12. IT IS FURTHER ORDERED that the Public Safety and Private Wireless Division, Licensing and Technical Analysis Branch SHALL PROCESS the modification applications filed by the American Association of Railroads on April 18, 2000 in accordance with this *Order*.

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

D'wana R. Terry
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