

BEFORE THE
Federal Communications Commission

WASHINGTON, DC

In the Matter of:)	
)	
Amendment of Part 2 and 25 to Implement the Global Mobile Personal Communications) by Satellite (GMPCS) Memorandum of Understanding and Arrangements))	IB Docket No. 99-67
)	
Petition of the National Telecommunications And Information Administration to Amend) Part 25 of the Commission's Rules to Establish Emissions Limits for Mobile and) Portable Earth Stations Operating in the) 1610-1660.5 MHz Band))	RM No. 9165
To: The Commission		

REPLY COMMENTS
OF NORCOM NETWORKS CORPORATION

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**NORCOM NETWORKS
CORPORATION**

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Dated: July 21, 1999

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Amendment of Part 2 and 25 to Implement)	IB Docket No. 99-67
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I. INTRODUCTION

Norcom Networks Corporation ("Norcom"),¹ by its attorneys and pursuant to Section 1.415 of the rules of the Federal Communications Commission ("FCC" or "Commission"),² hereby submits these Reply Comments in response to the comments filed on June 21, 1999 on the

¹ Norcom owns and operates a ground-based data transport system that provides value-added packet data mobile-satellite service ("MSS") in the United States in conjunction with the AMSC-1 satellite, which is owned and operated by American Mobile-Satellite Corporation ("AMSC"). See Establishing Rules and Policies for the Use of Spectrum for Mobile-Satellite Service in the Upper and Lower L-band, *Notice of Proposed Rulemaking*, 11 FCC Rcd 11675 (1996); see also AMSC Licensing Order, 4 FCC Rcd 6041 (1989), *Final Decision on Remand*, 7 FCC Rcd 266 (1992); *aff'd sub nom.*, Aeronautical Radio, Inc. v. FCC, 983 F.2d 75 (1993). For the purpose of providing this service, Norcom holds a blanket authorization to operate up to 200,000 mobile earth terminals in the L-band frequencies 1545-1599 MHz (receive) and 1646.5-1660.5 MHz (transmit). FCC File No. 371-DSE-P/L-96, Call Sign E960126.

² 47 C.F.R. § 1.415.

notice of proposed rulemaking (“NPRM”) released by the Commission on March 5, 1999.³ In its NPRM, the Commission proposed to adopt out-of-band emissions limits⁴ for the 1580.42-1605 MHz band to protect the Russian Federation’s Global Navigation Satellite System (“GLONASS”), a 24 satellite global radionavigation system maintained by the Russian Ministry of Defense.⁵ The Commission should not establish at this time out-of-band emission limits to protect GLONASS which will not take effect for over five years, but instead should establish a future timetable pursuant to which the Commission will review the need for such emission limits.

³ Amendment of Parts 2 and 25 to Implement the Global Mobile Personal Communications by Satellite (GMPCS) Memorandum of Understanding and Arrangements; Petition of the National Telecommunications and Information Administration to Amend Part 25 of the Commission’s Rules to Establish Emissions Limits for Mobile and Portable Earth Stations Operating in the 1610-1660.5 MHz Bands, *Notice of Proposed Rulemaking*, IB Docket No. 99-67, RM No. 9165, FCC 99-37 (rel. March 5, 1999), *Erratum*, IB Docket No. 99-67, RM No. 9165 (rel. April 29, 1999) (extending deadline for filing comments to June 21, 1999 to comply with the 75-day comment period required by the North American Free Trade Agreement) (“NPRM”). See also International Action: FCC Proposes Steps to Implement “GMPCS-MOU”, Facilitating Deployment of New Global Mobile Satellite Interference to Radionavigation Services, *News*, IB Docket No. 99-67, Report No. 99-9 (rel. Feb. 25, 1999).

⁴ The National Telecommunications and Information Administration (“NTIA”) proposed the limits, which would apply to Mobile-Satellite Service (“MSS”) mobile earth terminals (“METs”) operating in the 1610-1660.5 MHz band that are commissioned prior to January 1, 2002, in a petition for rulemaking (“Petition”) filed with the Commission in 1997. See letter of September 18, 1997 from Mr. Richard D. Parlow, Associate Administrator for Spectrum Management, NTIA, to Ms. Regina M. Keeney, Chief of the International Bureau of the FCC; see also Office of Public Affairs Reference Operations Division Petitions for Rulemaking Filed, *Public Notice*, Report No. 2227 (rel. Sept. 23, 1997) (treating letter of Sept. 18, 1997 from NTIA to FCC as a petition for rulemaking (RM-9165) and requesting comments thereon).

⁵ GLONASS currently operates on frequencies between 1602 and 1616 MHz. However, at the request of the United States, the Russian Federation agreed to migrate GLONASS to spectrum below 1606 MHz by 2006 to prevent interference between GLONASS and the Big LEO satellite systems licensed by the United States. See NPRM, ¶ 47-48.

II. DISCUSSION

Like the Global Positioning Service (“GPS”) operated by the United States,⁶ GLONASS was designated by the International Civil Aviation Organization to be a component of a proposed integrated Global Navigation Satellite System (“GNSS”) to be used to determine the location of and to assist to route, fly, and land commercial aircraft.⁷ In its NPRM, the Commission proposes out-of-band emission limits to protect GLONASS from interference after GLONASS is migrated to spectrum below 1605 MHz to facilitate the successful integration of GLONASS into GNSS. Specifically, for mobile earth terminals (“METs”) that provide Mobile-Satellite Service (“MSS”) in the 1610-1660.5 MHz band (other than Big LEO METs) and that are commissioned for use prior to January 1, 2002, the Commission proposes to limit out-of-band, wide-band signals in the 1585.42-1605 MHz bands to -70 dBW/MHz, and out-of-band, narrow-band signals to -80 dBW/700Hz starting January 1, 2005.⁸ Thus, the Commission proposes to delay for five years the application to certain grandfathered METs of out-of-band emission limits to protect GLONASS.

As Norcom demonstrated in its initial comments in the instant proceeding, the level of protection from interference that the Commission proposes to provide GLONASS is unnecessarily strict and, as a result, could cost the MSS industry tens of millions of dollars.⁹

⁶ GPS is a radionavigation satellite system which employs 24 non-geostationary satellites that transmit signals centered at 1575.42 MHz.

⁷ Other planned radionavigation satellite networks also may be incorporated into GNSS at a later date, such as the Galileo system proposed to be constructed by the European Union. See Comments of the National Telecommunications and Information Administration, at 23-24.

⁸ NPRM, ¶¶ 55, 62.

⁹ Comments of Norcom Networks Corporation, at 5-7 (stating that compliance with the proposed out-of-band emission limits may cost Norcom \$3 million) (“Norcom Comments”); Comments of AMSC Subsidiary Corporation, filed on June 21, 1999, at 10 (stating that compliance may cost AMSC \$80 million) (“AMSC Comment”); Comments of Comsat Corporation, at 17 (stating that

However, more fundamentally, establishing in the instant proceeding out-of-band emission limits for the protection of GLONASS which will not take effect for five years is unwarranted. It is unlikely that integration of GLONASS into GNSS and the subsequent FAA approval for commercial aircraft to use GNSS will be accomplished by 2005. Norcom was unable to locate a firm or even anticipated date for the completion of the integration of GLONASS into GNSS. Further, even once GNSS has been fully developed, the FAA must test the efficacy of GNSS and approve the use of GNSS in commercial aircraft, aircraft must be outfitted with new radionavigation equipment, and personnel must be trained to use the equipment.¹⁰ Moreover, it is unclear that the Russian Federation even possesses the resources to maintain GLONASS.¹¹

Therefore, as expressly endorsed by the NTIA and several other parties that filed comments in the instant proceeding,¹² the Commission should review at a later date the need for

Comsat will suffer an “extraordinary cost impact” if required to comply with the proposed limits); see also Comments of AMSC Subsidiary Corporation, filed on December 3, 1997, Appendix A (incorporating into the record of this proceeding Appendix E to the WG/6, SC-159 Report of RTCA, Inc., which provides a technical, probabilistic analysis demonstrating that the proposed limits are many orders of magnitude stricter than necessary).

¹⁰ See AMSC Comments, at 14-15 (estimating that it will take ten years to integrate GLONASS into a GNSS system); NTIA Comments, at 24 (noting “some uncertainty” regarding the date for domestic implementation of GLONASS).

¹¹ See Air Force Space Command Tests GPS Satellite, Global Positioning and Satellite News (June 30, 1999) (“[Th]e Russian new agency Tass reported that it would take \$2 billion to fully equip and maintain the GLONASS satellite navigation system. The system, which is operated by the Russian Defense Ministry, may need outside help to survive.”); see also AMSC Comment, at 15 n.28 (noting that one third of the GLONASS satellites are not operational and half of the satellites are operating beyond their anticipated life expectancy).

¹² NTIA Comments, at 24 (“NTIA does agree that there is some uncertainty for the date of the domestic implementation of GLONASS. The status of GLONASS implementation should be reviewed in the 2005 timeframe and the date for invoking the final stages of compliance can be adjusted accordingly.”) (“NTIA Comment”). Because NTIA initially proposed the out-of-band emission limits discussed herein, NTIA’s position on this issue should be given significant weight by the Commission. See also Comments filed by Constellation Communications, Inc., at 11-12 (“The Commission should return [sic] flexibility to consider requests to extend the implementation dates of the more stringent limits, . . .”); AMSC Subsidiary Corporation, at 15 (“[The

out-of-band emission limits to protect GLONASS from METs commissioned prior to January 1, 2002, rather than establish now out-of-band emission limits that will not become effective for five years. By delaying the enactment of out-of-band emission limits until the implementation of GLONASS and GNSS for aviation purposes is farther advanced, the Commission will prevent the potentially unnecessary or premature expenditure of millions of dollars by MSS providers to modify their METs. Accordingly, Norcom recommended in its comments that the Commission review in 2002 and every two years thereafter whether adopting out-of-band emission limits applicable to grandfathered METS is necessary and in the public interest. By reviewing this issue on a regular basis and well in advance of the Commission's initially proposed 2005 implementation deadline, the Commission will be able to provide implicated MSS providers with sufficient lead time to develop filters and software necessary to comply with any out-of-band emission limit ultimately adopted by the Commission.¹³

Commission] should at the very least establish that it will monitor Glonass' development and its role in precision navigation for commercial aircraft and that it is prepared to waive or postpone this deadline if it becomes clear that Glonass will not be used in the United States for aeronautical navigation by 2005."); Comments of Inmarsat, Ltd., at 10 ("Inmarsat supports a postponement of the compliance deadline for the limits in the GLONASS band . . . in the event that progress toward domestic implementation of GLONASS proves slower than expected.")

¹³ NTIA recommended that the Commission review the out-of-band emission limits applicable to grandfathered METS "in the 2005 timeframe." NTIA Comments, at 24. If there is any possibility that GLONASS will be sufficiently integrated into GNSS to warrant protection as early as 2005, the Commission should readdress these out-of-band emission limits prior to 2005 so that implicated MSS providers will have an opportunity to develop, to the extent necessary, a means of complying with the out-of-band emission limits established by the Commission at that time.

III. CONCLUSION

The Commission should not at this time impose any out-of-band emission limits to protect GLONASS (1585.42-1605 MHz) that are applicable to MSS METs (other than Big LEO METs) operating in the 1610-1660.5 MHz band and commissioned prior to January 1, 2002. Instead, the Commission should reevaluate in 2002 and every two years thereafter whether the status of the integration of GLONASS into a GNSS and the FAA's approval of the use of the GNSS by commercial aircraft warrants the adoption of prospective out-of-band emission limits applicable to these METs.

Respectfully Submitted,

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