

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
Spectrum and Service Rules for Ancillary Terrestrial Components in the 1.6/2.4 GHz Big LEO Bands)	IB Docket No. 07-253 RM-11339
)	
Review of the Spectrum Sharing Plan Among Non-Geostationary Satellite Orbit Mobile Satellite Service Systems in the 1.6/2.4 GHz Bands)	IB Docket No. 02-364
)	

COMMENTS OF CTIA – THE WIRELESS ASSOCIATION®

CTIA – The Wireless Association® (“CTIA”)¹ hereby submits comments in response to the Federal Communications Commission’s (“FCC” or “Commission”) Notice of Proposed Rulemaking (“NPRM”) in the above captioned proceedings.² The NPRM seeks comment on, *inter alia*, Globalstar’s request to expand its S-band authorization to permit Ancillary Terrestrial Component (“ATC”) use throughout the band. CTIA opposes any such expansion. The fact that the adjective “ancillary” is used to qualify “terrestrial service” in “ATC” is particularly telling in this situation. The Commission should reject Globalstar’s request and its transparent attempt to establish its Mobile Satellite Service (“MSS”) operation as a terrestrial service with an ancillary satellite component.

¹ CTIA – The Wireless Association® is the international organization of the wireless communications industry for both wireless carriers and manufacturers. Membership in the organization covers Commercial Mobile Radio Service (“CMRS”) providers and manufacturers, including cellular, Advanced Wireless Service, broadband PCS, and ESMR, as well as providers and manufacturers of wireless data services and products.

² *In re: Spectrum and Service Rules for Ancillary Terrestrial Components in the 1.6/2.4 GHz Big LEO Bands*, Second Order on Reconsideration, Second Report and Order, and Notice of Proposed Rulemaking, IB Docket No. 07-253 (2007) (“*Globalstar NPRM*”).

I. INTRODUCTION

Since the Commission first adopted rules allowing for the introduction of ATC operations in MSS spectrum, it has restricted ATC operations to a portion of the Big LEO band to protect co- and adjacent-channel licensees from harmful interference.³ In May 2006, Globalstar applied for authority to offer ATC services under those rules, stating “[u]pon grant of [its] application, Globalstar will be positioned to rapidly take advantage of the additional flexibility that ATC service will afford” and that “a carefully designed MSS/ATC system could support approximately 4 million MSS/ATC subscribers in the 10 most populous US cities plus Washington, D.C. ... with no loss in MSS service in adjacent beams or adjacent channels.”⁴ Having received its authority to provide ATC on those terms,⁵ Globalstar now alleges that “current and future needs of its customers” demands expansion of this authority to *all* of its assigned spectrum.⁶

The Commission should reject Globalstar’s request. Permitting ATC operation in the spectrum already designated for licensed, wide-area, terrestrial fixed and mobile service would contravene sound spectrum management policy. CTIA supports the Commission’s tentative conclusion in the NPRM that ATC and Broadband Radio Service (“BRS”) cannot, and should not, share the same licensed spectrum⁷ – a fact that Globalstar does not dispute.⁸ Further, CTIA

³ See *Flexibility for Delivery of Communications by Mobile Satellite Service Providers in the 2 GHz Band, the L-Band, and the 1.6/2.4 GHz Bands, Review of the Spectrum Sharing Plan Among Non-Geostationary Satellite Orbit Mobile Satellite Service Systems in the 1.6/2.4 GHz Bands*, Report and Order and Notice of Proposed Rulemaking, 18 FCC Rcd 1962, ¶ 204 (2003) (“*ATC Report and Order*”). Section 25.202(a)(4)(i) provides that Big LEO MSS licensee Globalstar may use the 2483.5-2500 MHz band for the satellite-to-user link of its MSS offering. 47 C.F.R. § 25.202(a)(4)(i). A Big LEO MSS licensee’s ATC operations are restricted to a sub-portion of that spectrum at “the 1610–1615.5 MHz, 1621.35–1626.5 MHz, and 2487.5–2493.0 MHz bands and to the specific frequencies authorized for use by the MSS licensee that seeks ATC authority.” 47 C.F.R. § 25.149(a)(2)(iii).

⁴ Globalstar, Inc., File No. SAT-MOD-20050301-00054, Exhibit A at 1, 5, and Att. 5, filed Mar. 1, 2005,

⁵ *Globalstar LLC*, Order and Authorization, File No. SAT-MOD-20050301-00054, 21 FCC Rcd 398 (IB 2006) (“*Globalstar ATC Authorization*”).

⁶ Globalstar, Inc., *Petition for Expedited Rulemaking for Authorization to Provide Ancillary Terrestrial Component Services in its Entire Spectrum Allocation* (filed June 20, 2006), at 1 (“*Globalstar Petition*”).

⁷ Globalstar NPRM at ¶ 40.

agrees with the Commission's tentative conclusion that Globalstar's request to utilize BRS spectrum for ATC operations until BRS licensees are prepared to use the spectrum is not in the public interest.⁹ CTIA opposes any grant of ATC authority in spectrum allocated for BRS licensees. Not only would such action inject needless uncertainty into BRS service provision, it would also further complicate AWS licensees' obligation to relocate BRS-1 licensees to the spectrum Globalstar now seeks.¹⁰

CTIA urges the Commission to retain its earlier, prudent decision to maintain sufficient separation between ATC and CMRS operations to avoid the potential for harmful interference.¹¹

II. THE COMMISSION SHOULD CONTINUE TO PROTECT CO-CHANNEL AND ADJACENT CHANNEL LICENSEES FROM INTERFERENCE FROM ATC

The Commission's well-reasoned analysis of the potential interference impact of ATC services on both co-channel and adjacent channel licensees led the Commission to restrict the operation of MSS ATC.¹² The Commission should not now deviate from its own precedent, as ATC operations cannot share spectrum with other terrestrial services and are not entitled to interference coordination with BRS. The Commission's NPRM contemplates three scenarios for ATC expansion: (1) expansion of ATC authority to the top of the S-band, necessitating spectrum sharing between ATC and BRS; (2) expansion of ATC authority to the top of the S-band, until such time as BRS occupies the spectrum; and (3) expansion of ATC authority to 2495 MHz, resulting in immediately adjacent terrestrial operation of ATC and BRS. CTIA supports the

⁸ Globalstar Petition at 23.

⁹ Globalstar NPRM at ¶ 40.

¹⁰ *See Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, including Third Generation Wireless Systems*, Ninth Report and Order and Order, 21 FCC Rcd 4473 (2006).

¹¹ Globalstar NPRM at ¶ 41.

¹² *See Review of the Spectrum Sharing Plan Among Non-Geostationary Satellite Orbit Mobile Satellite Service Systems in the 1.6/2.4 GHz Bands*, Report and Order, Fourth Report and Order and Further Notice of Proposed Rulemaking, 19 FCC Rcd 13356, 13388-89 (2004).

Commission's tentative conclusion that expansion of MSS ATC authority to the top of the S-band is not in the public interest. CTIA also opposes Globalstar's requested modification of the upper limit of ATC operation in the S-band and supports maintaining sufficient separation between primary BRS operation and ATC in adjacent spectrum.

Spectrum Sharing. CTIA supports the Commission's tentative conclusion in the *Globalstar NPRM* that ATC and BRS cannot operate in the same spectrum.¹³ Globalstar's request to expand its ATC authority to the top end of the S-band would interfere with BRS operations in the 2495-2500 MHz spectrum allocated for BRS-1.

By way of background, as a result of various rulemaking proceedings, the upper 2.4 GHz band is shared as follows: Globalstar is authorized to provide MSS service from 2483.5-2500 MHz, with ATC operations restricted to the 2487.5-2493 MHz band; BRS channel 1 will soon be relocated to 2496-2500 MHz where it is entitled to interference protection from Globalstar's MSS operations, and other BRS/Educational Broadband Service ("EBS") licenses (formerly MMDS/ITFS) operate in immediately adjacent spectrum in the 2500-2690 MHz band; and grandfathered BAS licensees retain interference protection rights on a primary basis in the upper 2.4 GHz band as well.¹⁴ Consistent with these requirements, Globalstar applied for – and the International Bureau granted – Globalstar authority to deploy ATC operations in the 2487.5-2493 MHz band.¹⁵

Globalstar's latest request to expand its ATC authority apparently stems from the Commission's April 2006 determination in the *Big LEO Spectrum Sharing Recon Order* that "when BRS and MSS are both operating in the same geographic area, sharing spectrum, through

¹³ Globalstar NPRM at ¶ 40.

¹⁴ See 47 C.F.R. § 2.106, Table of Frequency Allocations, Footnote NG147; 47 C.F.R. §§ 25.149, 25.202, 27.5(i)(2)(i).

¹⁵ See *Globalstar ATC Authorization*, *supra* n. 5.

engineering solutions, should be feasible.”¹⁶ Globalstar’s reliance on this statement, however, is misplaced. In that Order, the Commission found that sharing between BRS and MSS licensees operating in the 2495-2500 MHz band was premised on Globalstar’s “capability to control its PFD ... by limiting the number of users on a particular channel in a given geographical region.”¹⁷ Significantly, the Commission stated:

Although we recognize ... that the PFD coordination threshold values in ITU-RR App. 5, Annex 1 do *not address all potential interference cases between MSS and BRS, such as mobile terrestrial use*, the lower gains of antennas associated with mobile handheld units make them less vulnerable *to the emissions of the satellite systems* than antennas of fixed systems, and thus, [those] coordination threshold values should protect mobile terrestrial users as well.¹⁸

The Commission’s conclusions with respect to the potential for harmful interference between terrestrial BRS operations and MSS licensees are therefore premised on the latter’s provision of *satellite operations* in the band – not ATC. Further, the Commission reiterated its conclusion that “MSS must accept interference from BRS pursuant to footnote US391” and its expectation that “most MSS operations will likely occur below 2495 MHz where they are entitled to protection.”¹⁹

The current MSS-BRS spectrum sharing regime is thus premised on Globalstar’s provision of satellite-to-mobile links in the spectrum. CTIA reiterates its strong objection that grant of Globalstar’s request for ATC authority throughout the S-band would necessitate spectrum sharing between two wide-area, co-channel *terrestrial* licensees authorized for mobile systems in contravention of the Commission’s basic spectrum policy principles.²⁰ Where

¹⁶ Globalstar Petition at 26 (citing Order on Reconsideration and Fifth Memorandum Opinion and Order and Third Memorandum Opinion and Order and Second Report and Order, 21 FCC Rcd 5606, ¶¶ 31 (2006) (“*Big LEO Spectrum Sharing Recon Order*”).

¹⁷ *Big LEO Spectrum Sharing Recon Order* at ¶ 31.

¹⁸ *Id.* (emphasis added).

¹⁹ *Id.* at ¶ 29.

²⁰ Opposition of CTIA – The Wireless Association, RM-11339, filed Aug. 28, 2006. Indeed, the Commission typically applies an exclusive use licensing model where wide area terrestrial licensees are involved. *See*

terrestrial services are licensed on a co-primary basis, the Commission typically provides for the relocation of one service out of the band to accommodate the interference-free provision of the other, as reflected in the Commission's broadband PCS and BRS reallocation proceedings.²¹

Globalstar's request would have the Commission turn this established policy on its head. The Commission should reject this request.

Spectrum Use Until BRS Licensee Relocation. The *Globalstar NPRM* also seeks comment on the use of the 2495-2500 MHz band for ATC operations until such time as BRS-1 licensees are relocated into the spectrum.²² CTIA supports the Commission's conclusion that the public interest is not served by additional ATC authority in bands allocated for BRS use.²³

Following FCC Auction No. 66, AWS-1 (Advanced Wireless Service) licensees are obligated to relocate BRS channel 1 licensees from the 2150-2156 MHz band to the 2496-2502 MHz band.²⁴ As a condition of the relocation process, AWS licensees must relocate BRS incumbents to "comparable facilities" in the 2496-2502 MHz band – including an obligation to

Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services, Notice of Inquiry, 19 FCC Rcd 5608, ¶ 4 (2004) ("Over the past decade, with respect to broadband personal communications services ("PCS") and other mobile radio services, the Commission has adopted a licensing model in which licensees have "exclusive and transferable flexible rights" to the use of specified spectrum within a defined geographic area, with spectrum use rights that are governed primarily by technical rules to protect against harmful interference."); Federal Communications Commission, Spectrum Policy Task Force, Report, ET Docket No. 02-135, at 38-39 (Nov. 2002) (discussing appropriateness of exclusive use spectrum management model for bands below 5 GHz where spectrum is subject to competing demands); *see also Amendment of Part 90 of the Commission's Rules to facilitate future development of SMR Systems in the 800 MHz frequency band*, 11 FCC Rcd 1463, ¶¶ 85-92 (1995) (prohibiting incumbent SMR systems from expanding into new co-channel wide-area licensees' service area).

²¹ *Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies*, Memorandum Opinion and Order, 9 FCC Rcd 1943, ¶ 34 (1994) (mandating relocation of all POFS licensees because it will not be possible for PCS and fixed microwave to operate in the same geographic area on the same frequency without interfering with each other); *Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, Including Third Generation Wireless Systems*, Second Report and Order, 17 FCC Rcd 23193, ¶¶ 40-47 (2002) (concluding that reallocation of 2.1 GHz spectrum for AWS will require relocation of incumbent microwave and BRS licensees).

²² Globalstar NPRM at ¶ 40.

²³ *Id.*

²⁴ *See Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, including Third Generation Wireless Systems*, Ninth Report and Order and Order, 21 FCC Rcd 4473 (2006).

ensure reliable interference protection.²⁵ A grant of authority to use BRS spectrum for ATC operations – even on an interim basis – introduces uncertainty and unnecessarily complicates the BRS relocation process for AWS licensees.

The Commission has previously addressed RF interference concerns between ATC and BRS operations in the various allocation decisions and service rules underlying Section 25.149 of the Commission’s rules. As noted below, the Commission only recently reaffirmed its objective of separating ATC operations and BRS licensees and reiterated that “BRS deployment nationwide will not be hindered by a need to protect MSS operations above 2495 MHz, and BRS operations will be protected from MSS interference by PFD limits”²⁶

Grant of Globalstar’s request would disrupt both BRS and AWS licensees’ investment-backed expectations by allowing for the potential of interference from terrestrial ATC service in spectrum licensed for, or adjacent to, BRS use. Both BRS and AWS licensees took part in the AWS service rules proceeding and subsequent auction with the expectation that BRS-1 licensees would be relocated by AWS-1 licensees without concerns of interference from MSS ATC operations. Licensees in the AWS spectrum spent nearly \$14 billion dollars for spectrum currently occupied by BRS and other incumbents.²⁷ Commission action on Globalstar’s request should not disrupt the timely completion of the relocation process and provision of service in both the BRS and AWS bands.

ATC Use Adjacent to BRS Operation. CTIA supports the need to maintain sufficient separation between ATC and BRS operations to avoid the potential for harmful interference. Since its initial 2003 *ATC Report and Order*, the Commission has always contemplated

²⁵ *Id.* at ¶ 15.

²⁶ *See Big LEO Spectrum Sharing Recon Order* at ¶ 29.

²⁷ *See* Factsheet for Auction 66, Federal Communications Commission, *available at* http://wireless.fcc.gov/auctions/default.htm?job=auction_factsheet&id=66 (last accessed Dec. 18, 2007).

separation between ATC operations and BRS licensees. In 2003, the Commission restricted the use of Big LEO 2.4 GHz MSS spectrum for ATC operations based on careful consideration of RF interference matters, finding that adequate protection of MMDS/ITFS operations in the 2500-2690 MHz band could be achieved “provided that ATC base station operations are below 2498.0 MHz” – a 2 MHz separation.²⁸ Globalstar, L.P. had advocated this very position at that time, observing that “ATC base stations will not interfere with ITFS or MMDS if operated below 2498.0 MHz.”²⁹

The Commission reaffirmed its objective of separating ATC operations and BRS licensees the following year. It adopted a “fixed and mobile except aeronautical mobile allocation” for the 2495-2500 MHz band – but recognized that this new allocation “conflict[ed] with ATC operations previously designated for use in the 2492.5-2498 MHz band.”³⁰ As a result, the Commission amended Section 25.149 in 2004 to its current version, moving the permissible frequencies for ATC operations to the 2487.5-2493.0 MHz band in part “so that ATC base stations do not overlap the new fixed and mobile allocation.”³¹ The Commission concluded, “[b]y moving the ATC band, we have even greater frequency separation (*i.e.*, 2 megahertz plus 1 megahertz guard band from 2495-2496 MHz) to protect BRS” while ensuring that Big LEO MSS operations could continue to provide service.³² The Commission should continue to exercise a separation between BRS services and ATC operations to minimize the

²⁸ *ATC Report and Order* at ¶ 204.

²⁹ Globalstar, L.P., et al., *Ex Parte* Presentation in IB Docket No. 01-185, Attachment at 26 (filed Mar. 13, 2002).

³⁰ *Review of the Spectrum Sharing Plan Among Non-Geostationary Satellite Orbit Mobile Satellite Service Systems in the 1.6/2.4 GHz Bands, Amendment of Part 2 of the Commission’s Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, including Third Generation Wireless Systems*, Report and Order, Fourth Report and Order, and Further Notice of Proposed Rulemaking, 19 FCC Rcd 13356, ¶ 75 (2004) (“*Big LEO Spectrum Sharing Order*”), *aff’d in relevant part on recon. Big LEO Spectrum Sharing Recon Order*, ¶¶ 29-58.

³¹ *Big LEO Spectrum Sharing Order* at ¶¶ 69, 72.

³² *Big LEO Spectrum Sharing Order* at ¶¶ 72-74; *see also Big LEO Spectrum Sharing Recon Order* at ¶ 7 (“The Commission also shifted MSS [ATC] operations down five megahertz, from 2492.5-2498 MHz to 2487.5-2493 MHz, to ensure adequate separation between MSS ATC and BRS operations at and above 2496 MHz.”).

potential for interference between the two services and to provide certainty to the already-complex BRS-1 relocation process.

IV. CONCLUSION

For the foregoing reasons, CTIA urges the Commission to adopt its tentative conclusion that ATC and BRS cannot share the same spectrum and to further reject Globalstar's requests for expanded ATC authority.

Respectfully submitted,

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