

Before the  
**FEDERAL COMMUNICATIONS COMMISSION**  
Washington, DC 20554

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

**COMMENTS**

The Wireless Communications Association International, Inc. (“WCA”), by its attorneys, and pursuant to Section 1.415 of the Commission’s Rules, hereby submits its comments in response to the *Notice of Proposed Rulemaking* (“*NPRM*”) in the above-captioned proceeding.

For the reasons set forth below, WCA urges the Commission to assure that any rules and policies adopted in response to the *NPRM* are fully consistent with the Commission’s core policy that no Ancillary Terrestrial Component (“ATC”) of a Mobile Satellite Service (“MSS”) system interfere with the operation of a licensed terrestrial service. WCA has actively participated in the Commission’s earlier proceedings involving the authorization and regulation of ATC. WCA’s objective has been to assure that the Commission’s rules and policies permitting the provision of ATC not jeopardize the ability of any terrestrial wireless broadband service provider to offer its subscribers a service that is free from interference.<sup>1</sup> The *NPRM* solicits comment on a proposal

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<sup>1</sup> See, e.g., Comments of Wireless Communications Ass’n Int’l, Inc., IB Docket No. 01-185, at 3-4 (filed Oct. 22, 2001) (raising need for guardband between MSS ATC operations and Multipoint Distribution Service operations); Reply Comments of Wireless Communications Ass’n Int’l, Inc., IB Docket No. 01-185 (filed Nov. 13, 2001); Opposition of Wireless Communications Ass’n Int’l, Inc. to Petition for Rulemaking, RM-11339 (filed Aug. 28, 2006); Letter from Paul J. Sinderbrand, Counsel to Wireless Communications Ass’n Int’l, Inc., to Kevin J. Martin, Chairman, Federal Communications Commission, RM-11339 (filed June 22, 2007).

by Globalstar, Inc. (“Globalstar”) to expand the 2.4 GHz band Big LEO MSS spectrum on which it can deploy terrestrial facilities – a proposal that threatens the deployment of wireless broadband services in the 2.5 GHz band unless the Commission retains the current rules and policies that protect Broadband Radio Service (“BRS”) channel 1 licensees from interference by Globalstar’s ATC facilities.

To date, the Commission has consistently and emphatically emphasized the need to protect operations in the 2.5 GHz band against potential interference from Globalstar ATC facilities. In 2003, when the Commission first decided to permit Globalstar and other MSS licensees to seek authority to implement ATC, the Commission adopted a series of rules and policies specifically designed “[t]o prevent harmful interference” to licensees operating in the 2.5 GHz band.<sup>2</sup> For example, the Commission restricted Globalstar’s ATC base station operations to a peak equivalent isotropic radiated power of 32 dBW in 1.25 MHz, and limited out-of-band emissions (“OOBE”) to no more than -44.1 dBW/30 kHz at the edge of Globalstar’s authorized frequency.<sup>3</sup> In addition, the Commission specifically restricted Globalstar’s ATC operations in the 2.4 GHz band to just the 2492.5-2498 MHz band, recognizing that separating ATC to at least

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<sup>2</sup> *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*, Report and Order and Notice of Proposed Rulemaking, 18 FCC Rcd 1962, 1966 (2003) [“*ATC Order*”]. At the time of the *ATC Order*, the 2.5 GHz band stretched from 2500 MHz to 2690 MHz, with the lowest channel being Instructional Television Fixed Service (“ITFS”) channel A1. In 2004, the Commission changed the name of ITFS to the Educational Broadband Service, and changed the Multipoint Distribution Service to BRS. See *Amendment of Parts 1, 21, 73, 74 and 101 of the Commission’s Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational and Other Advanced Services in the 2150-2162 and 2500-2690 MHz Bands*, Report and Order and Further Notice of Proposed Rulemaking, 19 FCC Rcd 14165, 14169 (2004) [“*2004 BRS/EBS R&O*”]. For ease of reference, the current names are used throughout these comments.

<sup>3</sup> See 47 C.F.R. § 25.254(a). The Commission based these requirements on the use of cdma-2000 or IS-95 system characteristics, and limited 2.4 GHz Big LEO ATC to those systems. See *ATC Order*, 18 FCC Rcd at 2056-57, 2062. The Commission found that “by requiring ATC base stations to operate at EIRP and out-of-channel emission levels consistent with cdma-2000 or IS-95 architectures, the band arrangement we adopt today for Big LEO ATC base stations will not cause adjacent band interference to . . . MMDS/ITFS users of allocations adjacent to the Big LEO downlink band.” *Id.* at 2063. A Big LEO MSS licensee may only utilize a different architecture if it “is able to demonstrate that the use of different system architectures would produce no greater potential interference than that produced as a result of implementing” Section 27.254 of the Commission’s Rules. 47 C.F.R. § 25.254, Note.

two megahertz from the closest neighboring 2.5 GHz band operations would help reduce the potential for interference.<sup>4</sup> Acknowledging, however, that even this guardband might prove insufficient to fully protect 2.5 GHz band terrestrial licensees, the Commission unambiguously declared that if “*an adjacent . . . operator does receive harmful interference from ATC operations, either from ATC base stations or mobile terminals, the ATC operator must resolve such interference.*”<sup>5</sup> That requirement provides 2.5 GHz band licensees an essential safety net against interference and guarantees that their spectrum near Globalstar’s ATC spectrum will be fully useable for the provision of wireless broadband services to consumers. It is codified at Section 25.255 of the Commission’s Rules, and in apparent appreciation for the fundamental role that rule plays in governing ATC, the *NPRM* does not propose that it be modified.

Subsequently, the Commission decided to relocate BRS channel 1 from its historic location at 2150-2156 MHz to 2496-2502 MHz to clear the 2110-2155 MHz band for reallocation to the Advanced Wireless Service.<sup>6</sup> In conjunction with that decision, the Commission shifted Globalstar’s authorized ATC band downward five megahertz from 2492.5-2498 MHz to 2487.5-2493 MHz. It did so in recognition of the need to assure that ATC and the new BRS channel 1 allocation not overlap,<sup>7</sup> and “to ensure adequate separation between MSS

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<sup>4</sup> See *ATC Order*, 18 FCC Rcd at 2062 (concluding that ATC base station operators using either cdma-2000 or IS-95 characteristics would protect existing 2.5 GHz equipment, *provided that ATC base station operations are below 2498.0 MHz*).

<sup>5</sup> *Id.* at 2017 (emphasis added).

<sup>6</sup> See *2004 BRS/EBS R&O*, 19 FCC Rcd at 14178-80; *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, 13385-90 (2004) [“*Big LEO Spectrum Sharing Order*”].

<sup>7</sup> See *id.* at 13389.

ATC and BRS operations at and above 2496 MHz.”<sup>8</sup> Once again, the Commission stressed that those BRS channel 1 licensees being involuntarily relocated would be fully protected against interference because Section 25.255 requires Globalstar to cure any interference it causes to terrestrial operations of BRS channel 1 licensees.<sup>9</sup>

Given this history, as well as the record developed in response to the Globalstar petition for rulemaking that led to the *NPRM*, it is hardly surprising that the Commission has tentatively concluded “that it is not feasible or in the public interest to authorize ATC in the portion of the S-band that Big LEO MSS shares with the fixed and mobile services, at 2495-2500 MHz.”<sup>10</sup> The record before the Commission fails to establish any reason for the Commission to reverse its prior decisions rejecting sharing in this band. When the Consumer and Governmental Affairs Bureau solicited public comment on Globalstar’s petition for rulemaking, WCA, the WiMAX Forum, Sprint Nextel Corporation, CTIA, and T-Mobile USA, Inc. all presented incontrovertible evidence that sharing of the 2495-2500 MHz band is not feasible.<sup>11</sup> Indeed, as recognized in the

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<sup>8</sup> *Amendment of Parts 1, 21, 73, 74 and 101 of the Commission’s Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational and Other Advanced Services in the 2150-2162 and 2500-2690 MHz Bands*, Order on Reconsideration and Fifth Memorandum Opinion and Order and Third Memorandum Opinion and Order and Second Report and Order, 21 FCC Rcd 5606, 5613-14 (2006) [“2006 BRS/EBS Order”].

<sup>9</sup> See *Big LEO Spectrum Sharing Order*, 19 FCC Rcd at 13389. (“section 25.255 of the Commission’s rules allows other services to file a complaint with the Commission if the ATC operator fails to resolve the interference caused by its operations.”).

<sup>10</sup> *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, FCC 07-194, at ¶ 40 (rel. Nov. 9, 2007) [“*NPRM*”].

<sup>11</sup> See Wireless Communications Ass’n Int’l, Inc. Opposition to Petition for Rulemaking, RM-11339 (filed Aug. 28, 2006) [“WCA Opposition”]; Opposition of Sprint Nextel Corporation, RM-11339 (filed Aug. 28, 2006); Comments of WiMAX Forum, RM-11339 (filed Aug. 28, 2006); CTIA Opposition to Globalstar, Inc. Petition for Expedited Rulemaking, RM-11339 (filed Aug. 28, 2006) [“CTIA Opposition”]; Comments of Motorola, RM-11339 (filed Aug. 28, 2006); Reply Comments of T-Mobile USA, Inc., RM-11339 (filed Sept. 12, 2006); *Ex Parte* Letter from Trey Hanbury, Esq., Director, Sprint Nextel Corporation, to Marlene H. Dortch, Secretary, Federal Communications Commission, RM-11339 *et al.* (filed May 2, 2007).

*NPRM*, Globalstar's own reply comments openly conceded that BRS and ATC cannot share spectrum in the same geographic area.<sup>12</sup>

Given that concession, Globalstar has been limited of late to arguing that it should be permitted to use the 2495-2500 MHz band only on an interim basis until BRS channel 1 licensees deploy their service offerings. In the interest of brevity, WCA will not repeat the numerous arguments, summarized in the *NPRM*, as to why Globalstar should not be permitted to do so.<sup>13</sup> Suffice it to say that the record establishes beyond any doubt that allowing such interim use would severely hamper the ability of BRS channel 1 licensees to offer wireless broadband services to American consumers in a timely manner.<sup>14</sup> WCA will address interim use of the band by Globalstar more fully in reply comments should Globalstar request such access in its comments in response to the *NPRM*.

The *NPRM* also seeks comment on whether the current three megahertz guardband between ATC and BRS channel 1 that was established just three years ago should remain.<sup>15</sup> Ironically, that guardband was first proposed by Globalstar itself when Globalstar advised the Commission that restricting the operation of ATC base stations to spectrum below 2498.0 MHz will avoid interference to BRS or EBS (which then was limited to the 2500-2690 MHz band).<sup>16</sup> The Commission ultimately agreed and assigned only the 2492.5-2498 MHz band to ATC:

Globalstar contends that ATC base stations operating below 2498.0 MHz will not interfere with [BRS/EBS]. We evaluated, in Appendix C3, Section 4.2, the worst case potential for ATC base stations to interfere with currently deployed [BRS/EBS] operations above 2500 MHz in various situations and we agree with

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<sup>12</sup> See Reply of Globalstar, Inc., RM-11339, at 12 (filed Sept. 12, 2006) ["Globalstar Reply"].

<sup>13</sup> See *NPRM* at ¶ 40.

<sup>14</sup> See, e.g., WCA Opposition at 11-13; CTIA Opposition at 7-8.

<sup>15</sup> See *NPRM* at ¶ 41.

<sup>16</sup> See Letter from William D. Wallace, Esq., Counsel for Globalstar, L.P., to William Caton, Acting Secretary, Federal Communications Commission, IB Docket No. 01-185, Attachment 1 at 26 (filed Mar. 13, 2002).

Globalstar that ATC base station operators (using either cdma-2000 or IS-95 characteristics) would protect existing [BRS/EBS] equipment, *provided that ATC base station operations are below 2498.0 MHz.*<sup>17</sup>

Thereafter, when in 2004 the Commission reallocated the 2495-2500 MHz band for fixed and mobile services to accommodate the relocation of BRS channel 1 from 2150-2156 MHz, it slid the ATC spectrum at 2492.5-2498 MHz down five megahertz to 2487.5-2493 MHz, thus creating a three megahertz guardband between ATC and BRS channel 1. Again, the Commission's discussion of the potential for interference between ATC and BRS channel 1 is telling:

ATC operations will be moved down 5 MHz in frequency in the S-band so that ATC base stations do not overlap the new fixed and mobile allocation [at 2495-2500 MHz]. In the [2003 ATC Order], the Commission separated ATC base stations, by 2 megahertz, from the edge of the fixed and mobile terrestrial allocation at 2500 MHz. *By moving the ATC band [down to 2487.5-2493 MHz], we have even greater frequency separation (i.e., 2 MHz plus 1 MHz guard band from 2495-2496 MHz) to protect BRS . . . .*<sup>18</sup>

WCA appreciates that Section 25.255 of the Commission's Rules imposes an absolute obligation on Globalstar to resolve harmful interference caused by its ATC operations, and arguably obviates any need for a protective guardband.<sup>19</sup> While Section 25.255 effectively renders Globalstar's ATC usage secondary to BRS, the Commission has recognized that "[e]stablishing a secondary allocation, . . . , does not itself adequately protect primary licensees against interference."<sup>20</sup>

The problem, in a nutshell, is that absent retention of the current guardband, there is a risk that Globalstar ATC operations will cause actual interference to BRS channel 1 usage,

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<sup>17</sup> *ATC Order*, 18 FCC Rcd at 2062 (footnotes omitted).

<sup>18</sup> *Big LEO Spectrum Sharing Order*, 19 FCC Rcd at 13388-89 (emphasis added).

<sup>19</sup> *See also* 47 C.F.R. § 25.254(a)(3) (requiring an ATC applicant to demonstrate at the time of application "that it has taken, or will take steps necessary to avoid causing interference to other services sharing the use of the 2450-2500 MHz band through frequency coordination").

<sup>20</sup> *See, e.g., ATC Order*, 18 FCC Rcd at 1997.

forcing American consumers who rely on BRS-based wireless services to needlessly suffer until Globalstar effectuates a cure. As the Commission is well-aware, anytime spectrum reserved exclusively for downlink transmission from base stations (like Globalstar's ATC allocation in the 2.4 GHz band)<sup>21</sup> is immediately adjacent to spectrum that is used for uplink transmissions to base stations (like BRS channel 1, where Time Division Duplex WiMAX technology is being deployed), interference to base station reception is at risk. This potential for interference cannot be denied – unrefuted *ex parte* filings in response to Globalstar's petition for rulemaking by manufacturers of WiMAX base station components used in the 2.5 GHz band establish that at least three megahertz of separation between ATC and BRS channel 1 is necessary “to achieve marginally sufficient attenuation even with the best of filter designs [and] to avoid overload interference while still being capable of sufficiently amplifying the extremely weak signals from mobile devices.”<sup>22</sup> While Section 25.255 would require Globalstar to cure any interference caused by its ATC operations, that rule alone does not provide adequate protection for BRS channel 1 subscribers since it effectively forces them to suffer disrupted service while the BRS licensee must track down the source of the interference, coordinate with Globalstar, and await Globalstar's curative actions. By retaining the three megahertz guardband, the Commission can largely mitigate the risk that Americans who rely on wireless broadband service offered over BRS channel 1 for their broadband service will suffer any interference at all.

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<sup>21</sup> See 47 C.F.R. § 25.149(a)(1) (“ATC shall be deployed in the forward-band mode of operation whereby the ATC mobile terminals transmit in the MSS uplink bands and the ATC base stations transmit in the MSS downlink bands . . .”).

<sup>22</sup> Letter from David M. Sobczak, CSS Antenna, Inc., to Marlene H. Dortch, Secretary, Federal Communications Commission, RM-11339, at 2 (filed Oct. 24, 2007); Letter from Burton J. Calloway, KMW Communications, Marlene H. Dortch, Secretary, Federal Communications Commission, RM-11339, at 1 (filed Oct. 24, 2007). See also Letter from Vince Caputo, Andrew Corporation, to Marlene H. Dortch, Secretary, Federal Communications Commission, RM-11339 (filed Oct. 26, 2007).

Finally, WCA does not object to the proposal advanced in the *NPRM* to subject Globalstar's ATC operations to the restrictions on OOBE set forth in Section 27.53(1)(2) of the Commission's Rules, provided that the Commission makes absolutely clear that compliance with the requirements of Section 27.53(1)(2) does not obviate Globalstar's obligations under Section 25.255.<sup>23</sup> Make no mistake – where Globalstar's ATC usage causes interference to a BRS channel 1 base station, reducing Globalstar's OOBE may be an effective vehicle by which Globalstar can meet its absolute obligation under Section 25.255 to cure any interference its ATC operations cause to BRS channel 1. However, the Commission should avoid any suggestion that so long as Globalstar reduces its OOBE as required by Section 27.53(1)(2), it has no further obligation to the adversely impacted BRS channel 1 licensee and its customers.

In conclusion, the facts and circumstances before the Commission do not provide any basis for modification of the Commission's current requirement that Globalstar restrict its ATC operations to spectrum below 2493 MHz. The current rules, which were last revisited just three years ago, effectively serve the Commission's core policy that Globalstar's ATC not interfere with adjacent channel operations by BRS licensees. Globalstar has presented absolutely no evidence that those rules can be modified without undermining that policy. Thus, while the Commission's proposal to subject Globalstar's ATC operations to Section 27.53(1)(2) has merit (so long as the Commission is clear that it does not override Globalstar's obligations under Section 25.255), the Commission should otherwise maintain the *status quo* with respect to the relationship between ATC and BRS channel 1.

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<sup>23</sup> See *NPRM* at ¶ 41. Although not specifically stated in the *NPRM*, WCA presumes that the Commission would measure Globalstar's compliance with Section 27.53(1)(2) using the procedures set forth in Section 27.53(1)(6). To avoid any ambiguity, the Commission should clarify the applicability of Section 27.53(1)(6).

Respectfully submitted,

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December 19, 2007