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

In the Matter of	)	
	)	
Terrestrial Use of the 2473-2495 MHz Band	)	
for Low-Power Mobile Broadband Networks;	)	IB Docket No. 13-213
Amendments to Rules for the Ancillary	)	RM-11685
Terrestrial Component of Mobile Satellite	)	
Service Systems	)	
	)	

Reply Comments of Oceus Networks

Oceus Networks Inc. ("Oceus Networks") respectfully submits these reply comments in response to the Notice of Proposed Rulemaking ("NPRM")[1] issued by the Federal Communications Commission ("FCC" or "Commission") on proposing modified rules for the operation of the Ancillary Terrestrial Component (ATC)[2] of the single Mobile-Satellite Service (MSS) system operating in the Big LEO S band.[3] Oceus Networks, headquartered in Reston, Va., is a provider of wireless broadband solutions for federal and public safety customers.

[1] FCC, Terrestrial Use of the 2473-2495 MHz Band for Low-Power Mobile Broadband Networks; Amendments to Rules for the Ancillary Terrestrial Component of Mobile Satellite Service Systems (hereinafter "2.4 GHz Low Power NPRM"), *Notice of Proposed Rulemaking*, IB-Docket 13-213, rel. November 1, 2013.

[2] Ancillary Terrestrial Components (ATC) are terrestrial base stations and mobile terminals licensed to the operator of an Mobile-Satellite Service (MSS) system for provision of radio communication services offered together with MSS, re-using frequencies assigned for the licensees' MSS operations.

[3] "LEO" is an acronym for Low-Earth Orbit, and generally refers to orbits at altitudes of less than 2000 kilometers. The term "Big LEO" was coined to distinguish systems using the 1610-1626.5 MHz and 2483.5-2500 MHz bands, which operate with voice and higher data-rate capabilities, from "Little LEO" systems, that do not provide voice service and generally operate with lower data rate capabilities. The term "S band" generally refers to radiofrequencies from 2-4 GHz. Globalstar is currently authorized to operate its MSS (space-to-Earth) in the 2483.5-2500 MHz portion of the S band.

***Introduction*:** In this filing, Oceus Networks reiterates the benefits of the proposed approach by Globalstar[4] to provide a low-power ATC service in a portion of its licensed spectrum at 2483.5-2495 MHz and in the adjacent 2473-2483.5 MHz band under the FCC's unlicensed rules and its recommendation, now supported by the record established in this proceeding, that the FCC take action to allow this new service.[5]

As stated in our initial comments, an appropriate regulatory framework can support specialized broadband solutions for users for whom traditional consumer-grade solutions provide insufficient availability, security, and throughput.[6] This new low power service would allow users in public safety and other specialized markets to leverage commercial economies of scale for devices, equipment, and chipsets which offer state-of-the-art capabilities and features.[7]

We agree with Globalstar's assertions that the managed nature of the new service, as proposed, has several inherent advantages. Greater levels of security, control, and QoS are all features that a managed service would offer to specialized users that are impossible to replicate using an unmanaged service. In addition, management of the service by a sole operator would enable greater control to protect against interference to licensed operators, while increasing the ability to coexist with unlicensed uses.[8] A managed service in this band would also help alleviate Wi-Fi congestion, and corresponding lower service quality, generated by the increased

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[4] *See* RM-11685, at 13-15 (filed Nov. 13, 2012) (hereinafter "Globalstar Petition").

[5] *See* Comments of Oceus Networks, IB Docket No. 13-213 (filed May 5, 2014) (hereinafter "Oceus Networks Comments").

[6] Oceus Networks Comments at 2.

[7] *Id.* at 4.

[8] *See* Comments of Globalstar, Inc., IB Docket No. 13-213 (filed May 5, 2014) (hereinafter "Globalstar Comments"), at 21-22.

Internet use in the past few years.[9] The proposed rules would alleviate this congestion in the 2.4 GHz band by allowing Globalstar to deploy new TLPS access points to the areas of the country where Wi-Fi congestion is most severe.[10] Consumers would be able to use their existing Wi-Fi-capable devices to receive this service, enabling this more efficient use of the 2473-2483.5 MHz band to begin as soon as possible.[11]

Finally, Globalstar's worldwide spectrum licenses in 2.4 GHz would allow this new service, if approved, to be offered universally. This global reach would extend spectrum supportability options and spur development and equipment cost reductions, which could then be passed on to consumers.[12]

***Review of the Record*:** The FCC should take necessary steps to enable this new service as being in the public interest. It will unleash more spectrum for mobile broadband and foster the development of a new wireless service.[13] Many commenters support the FCC proposal. NTCH, among others, referred to it as "a large stride toward creating new capacity and new competition in the broadband marketplace."[14]

In addition, issues cited by filings in opposition to the proposal are not new. Concerns over potential interference and coexistence with Wi-Fi have been addressed convincingly by the

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[9] *See, e.g., Revision of Part 15 of the Commission's Rules to Permit Unlicensed National Information Infrastructure (U-NII) Devices in the 5 GHz Band*, ET Docket No. 13-49, First Report and Order, FCC 14-30 (rel. Apr. 1, 2014), Statement of Commissioner Mignon L. Clyburn ("Demand for unlicensed services has spiked so much that the 2.4 GHz band is now congested particularly in major cities.").

[10] Globalstar Comments at 11.

[11] *Id.*

[12] Oceus Networks Comments at 5.

[13] Globalstar Comments at 11-12.

[14] Comments of NTCH, Inc., IB Docket No. 13-213 (filed May 5, 2014), at 3; *see also* Comments of Sprint Corporation, IB Docket No. 13-213 (filed May 5, 2014), at 10 (hereinafter "Sprint Comments") ("Sprint supports the Commission in its search for additional wireless broadband spectrum and supports Globalstar in its attempt to provide such services over its spectrum.").

NPRM and the previously established record.[15] For example, the Bluetooth Special Interest Group ("Bluetooth SIG") is opposed on the grounds that interference with that technology will be untenable,[16] but Globalstar has reiterated that it will not supplant or push out unlicensed use.[17] As far back as its Petition for Rulemaking, Globalstar has provided technical specifications in support of its claims.[18] Other commenters have raised the question of possible interference with adjacent licensed services,[19] but those questions have also been acknowledged and addressed.[20] Furthermore, the record supports the desirability of such a service, which furthers the Administration's spectrum goals of freeing more spectrum for wireless broadband use.[21]

Conclusion: The Commission should act quickly to adopt a regulatory framework to enable Globalstar to offer a new terrestrial low power service in the 2.4 GHz band. Adopting this framework would provide an enhanced option for entities with special mobile broadband needs that cannot be met by traditional services. This opportunity is particularly important, as innovation will support global customers with global service requirements. In establishing these rules, the FCC can promote the Commission's and the Administration's intent to innovate using state of the

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[15] 2.4 GHz Low Power NPRM at 7-8.

[16] Comments of the Bluetooth Special Interest Group, IB Docket No. 13-213 (filed May 5, 2014), at 3 ("Bluetooth Low Energy (LE) devices utilize (Bluetooth) channel 39, in the 2473 to 2483.5 MHz band, as an "advertising" channel, and therefore would find it difficult to pair in the presence of an interferer in that band.") *But see id.* ("Certainly . . . most Bluetooth devices can and will adapt to interference").

[17] Globalstar Comments at 20 ("[Globalstar] has never sought to convert these unlicensed frequencies into its own exclusively licensed spectrum or claimed an operating status superior to that of other unlicensed users.").

[18] Globalstar Petition, Appendix B at 6-7.

[19] *See* Sprint Comments at 3 ("Sprint agrees that Globalstar must continue to operate in a manner that fully protects BRS channels from harmful interference and any rule revision should explicitly state this obligation.").

[20] *See* Globalstar Comments at 20 ("Globalstar has previously acknowledged these non-interference obligations below 2483.5 MHz . . . . Globalstar is confident that its managed TLPS operations would avoid harmful interference to other licensed services.").

[21] *See, e.g.*, Comments of Dish Network Corporation, IB Docket No. 13-213 (filed May 5, 2014) at 2. ("Increasing the utility of the Big LEO band and unlicensed operations in the adjacent 2473-2483.5 MHz band will help address these concerns [of spectrum availability].")

art sharing technologies and network architectures married to future-oriented policies.

Respectfully submitted,

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