

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of)	
)	
Inquiry Concerning the Deployment of)	GN Docket No. 17-199
Advanced Telecommunications Capability)	
To All Americans in a Reasonable and)	
Timely Fashion)	

REPLY COMMENTS OF WORLDTVU SATELLITES LIMITED

WorldVu Satellites Limited, d/b/a OneWeb (“OneWeb”) submits these Reply Comments in response to the *Thirteenth Section 706 Report Notice of Inquiry* adopted by the Federal Communications Commission (the “FCC” or “Commission”) on August 8, 2017 in the above-referenced proceeding.¹ OneWeb appreciates this opportunity to demonstrate the value satellite operators add to the Commission’s broadband deployment efforts and to offer suggestions that will facilitate widespread broadband deployment.

I. SATELLITE OPERATORS LIKE ONEWEB PLAY A VITAL ROLE IN DEPLOYING ADVANCED TELECOMMUNICATIONS TO CONSUMERS, INCLUDING IN RURAL AND UNDERSERVED AREAS

Satellite services enable an ever-increasing segment of advanced telecommunications availability in the U.S. As ongoing non-geostationary (“NGSO”) satellite processing rounds lead to the authorization of numerous constellations intended to provide broadband service beginning as soon as next year, the Commission should ensure that its Section 706 review fully accounts for the new advanced telecommunications capability engendered by satellite operators.

¹ *In re Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, Thirteenth Section 706 Report Notice of Inquiry, FCC 17-109, GN Docket No. 17-199 (rel. Aug. 8, 2017) (the “NOI”).

OneWeb is actively engaged in bringing affordable, high-speed satellite-delivered broadband to the U.S. market. Utilizing its state-of-the-art Ku-/Ka-band and V-band NGSO systems,² OneWeb plans to provide residential and enterprise broadband and enable a variety of other critical applications and services – including cellular backhaul, mobility services, and healthcare-related and emergency communications. The advances in broadband access made possible by OneWeb’s network are imminent: OneWeb is poised to begin launching its NGSO constellation in 2018.

The OneWeb network will facilitate ubiquitous delivery of next-generation broadband capacity and enable rapid response to changes in demand through mechanisms like dynamic spectrum allocation and efficient frequency re-use. OneWeb’s innovative architecture will allow it to offer high-quality broadband connectivity to those who currently lack broadband access and advanced, high-capacity broadband capabilities to metropolitan areas and large enterprise customers, all at speeds and latencies comparable to terrestrial fiber networks.

As satellite operators like OneWeb continue to increase their broadband offerings, the Commission should not lose sight of the scope and importance of the satellite industry’s contribution toward advanced telecommunications deployment.

II. THE COMMISSION SHOULD ASSESS SATELLITE DEPLOYMENT DATA IN THE SAME WAY THAT IT ASSESSES TERRESTRIAL DEPLOYMENT DATA

The Commission sought comment in the NOI on how to appropriately estimate deployment of satellite services.³ To the extent the Commission continues to use the deployment

² See *In re WorldVu Satellites Limited, Petition for a Declaratory Ruling Granting Access to the U.S. Market for the OneWeb NGSO FSS System*, Order and Declaratory Ruling, FCC 17-77 (rel. June 23, 2017) (granting OneWeb market access for its Ku-/Ka-band system); *Policy Branch Information: Satellite Space Applications Accepted for Filing*, Public Notice, Report No. SAT-01245 (rel. June 16, 2017) (“OneWeb V-Band Public Notice”) (accepting the OneWeb market access application for its V-band system).

³ NOI at ¶¶ 41-42.

data provided by broadband service providers in Form 477 in its assessment, it should treat terrestrial and satellite-based providers equitably. As in past annual assessments, the Commission should add up the population (and households) in each census block having at least one provider of residential services at the requisite speed benchmark – regardless of technology used – to arrive at its conclusions about overall deployment.⁴ This same method of calculation applied to terrestrial fixed networks should apply equally to satellite networks without any adjustment based on supposed concerns about the limits imposed by beam capacity.⁵ Satellite operators are rapidly deploying additional infrastructure and coming up with innovative ways to increase capacity and respond to changes in customer demand.

III. THE COMMISSION SHOULD ENCOURAGE NGSO SATELLITE DEPLOYMENT AS A KEY PIECE OF ADVANCED TELECOMMUNICATIONS AVAILABILITY IN RURAL AREAS

In the NOI, the Commission sought suggestions for ways to encourage “more expansive and rapid deployment of networks that provide advanced telecommunications capability.”⁶ The Commission can encourage deployment of advanced telecommunications services in part by facilitating the deployment and development of robust satellite networks.

First, the Commission should ensure that adequate spectrum is made available for satellite broadband networks. In the ongoing *Spectrum Frontiers* proceeding, the Commission is developing rules for shared use of additional spectrum above 24 GHz and continuing to refine its

⁴ *Id.* at ¶ 41.

⁵ See *In re Thirteenth Broadband Progress Notice of Inquiry*, Comments of Satellite Industry Association, GN Docket No. 17-199, at 2 (Sept. 20, 2017) (“SIA Comments”).

⁶ NOI at ¶ 48.

rules for satellite operations in the V-band.⁷ As demonstrated by the ongoing V-band processing rounds,⁸ satellite operators are ready and able to begin providing broadband services using much of this spectrum. Geostationary (“GSO”) and NGSO operators have agreed upon principles that would enable rural broadband coverage using spectrum bands above 24 GHz, including reservation of the 48.2-50.2 GHz band for FSS and greater and more equitable access to the 47 GHz and 50 GHz bands for FSS vis-à-vis terrestrial operators.⁹ The Commission should ensure that: (i) adequate spectrum remains available for satellite gateways and user terminals; (ii) flexibility is maintained to accommodate potential new uses of high-band spectrum; and (iii) sharing rules do not place undue restrictions on satellite operators’ use of the spectrum.¹⁰

Second, the Commission should ensure that NGSO satellite operators have certainty about their spectrum availability. NGSO systems take years to design and require billions of dollars of investment, and therefore depend on long-term spectrum certainty. All systems, once placed on public notice with respect to their orbital locations and spectrum choices, must be assured of their continuing access to those orbital locations and spectrum, provided they do not

⁷ See *In re Use of the Spectrum Bands Above 24 GHz for Mobile Radio Services*, Report & Order and Further Notice of Proposed Rulemaking, 31 FCC Rcd 8014 (2016) (“Spectrum Frontiers Order”).

⁸ See OneWeb V-Band Public Notice; *Satellite Policy Branch Information: Space Station Applications Accepted for Filing*, Report No. SAT-01262 (rel. Aug. 25, 2017).

⁹ See Letter from Satellite Broadband Companies to Marlene H. Dortch, *Spectrum Bands Above 24 GHz et. al.*, Notice of Ex Parte, GN Docket No. 14-177 *et al.*, at 5 (Oct. 2, 2017).

¹⁰ See *In re Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, Comments of ViaSat, Inc., GN Docket No. 17-199, at 9 (Sept. 22, 2017).

interfere with prior-noticed systems. If the Commission follows this basic principle it will enable low-latency, affordable broadband access for all Americans.

Third, the Commission should ensure satellite operators have geographic certainty as to where they can use the spectrum. In the *Earth Station Siting* proceeding following release of the *Spectrum Frontiers* Order, the Commission is developing siting guidelines for fixed satellite service earth stations that support satellite/terrestrial spectrum sharing in the 28 GHz and 37/39 GHz bands.¹¹ As satellite operators have pointed out to the Commission in this proceeding, allowing FSS operators to define the area and population affected by their earth stations as accurately as possible will allow satellite and terrestrial operators to share this spectrum most efficiently.¹² If FSS earth stations can be located in any geographic area where they can be proven not to cause harmful interference to terrestrial operations, satellite operators can provide more robust broadband service to a greater number of users across the United States.

¹¹ See *International Bureau Seeks Comment on Implementing Earth Station Siting Methodologies*, Public Notice, IB Docket No. 17-172, DA 17-606 (rel. June 21, 2017) (seeking input on earth station siting guidelines). OneWeb also supports the Petitions for Reconsideration of the *Spectrum Frontiers* Order filed by satellite operators, insofar as these Petitions contemplate adjustments to the overly restrictive 0.1% population limit and the transient population limits currently in place for FSS earth station siting. See Joint Petition for Reconsideration of EchoStar Satellite Operation Corporation, Hughes Network Systems, LLC, and Inmarsat, Inc., *In re Use of Spectrum Bands Above 24 GHz for Mobile Radio Services*, GN Docket No. 14-177 (filed Dec. 14, 2016); Petition for Reconsideration of SES Americom, Inc. and O3b Limited, GN Docket No. 14-177 (filed Dec. 14, 2016); Petition for Reconsideration of the Satellite Industry Association, GN Docket No. 14-177 (filed Dec. 14, 2016); Petition for Reconsideration of The Boeing Company, GN Docket No. 14-177 (filed Dec. 14, 2016).

¹² See *In re International Bureau Seeks Comment on Implementing Earth Station Siting Methodologies*, Reply Comments of SES Americom, Inc.; O3b Limited; Hughes Network Systems, LLC; Inmarsat, Inc.; WorldVu Satellite Ltd. d/b/a OneWeb; and Telesat, IB Docket No. 17-172 (filed Aug. 7, 2017).

IV. CONCLUSION

For the foregoing reasons, the Commission's Section 706 inquiry must adequately account for the integral role satellite-based providers will continue to play in deploying advanced telecommunications services. To promote greater access to advanced telecommunications services, the Commission should adopt rules that encourage further satellite deployment in the United States, which will increase the number of customers and the geographic areas receiving high-quality broadband service.

Respectfully submitted,

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