

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

In the Matter of)	
)	
Inquiry Concerning Deployment of Advanced)	GN Docket No. 18-238
Telecommunications Capability to All Americans)	
in a Reasonable and Timely Fashion)	

COMMENTS OF SES AMERICOM AND O3B LIMITED

SES Americom, Inc. and its affiliate O3b Limited (“O3b”) (together, “SES”) welcome the opportunity to submit these comments in response to the Commission’s Fourteenth Broadband Progress Notice of Inquiry (“*NOI*”).¹ The Commission should take this opportunity to further recognize the importance of satellite in delivering advanced telecommunications capabilities across the United States and in particular, remote areas with limited access to terrestrial infrastructure. Consistent with this recognition, the Commission should make additional spectrum available for satellite deployment, while preserving existing frequency allocations for use by satellites. A balanced spectrum policy, which expands and preserves satellite spectrum access, will ensure that all Americans have access to advanced telecommunications capabilities.

I. BACKGROUND

SES, one of the world’s largest commercial communications satellite operators, is uniquely positioned to comment on issues raised by the *NOI* because its facilities include both geostationary (“GSO”) and non-geostationary (“NGSO”) satellite fleets. SES entities operate

¹ See generally *Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, Fourteenth Section 706 Report Notice of Inquiry, GN Docket No. 18-238, FCC-18-119 (rel. Aug. 8, 2018) (“*NOI*”).

more than 50 GSO satellites able to reach 99% of the world's population, many of them pursuant to Commission authority. These spacecraft serve broadcasters, direct-to-home video service providers ("DTH"), and corporate and government customers worldwide with offerings that include video and audio content distribution, DTH, private networks, broadband, satellite news gathering, aeronautical and maritime services, and mobile backhaul.

O3b is a global broadband satellite system in Medium Earth Orbit ("MEO") that operates a constellation of sixteen NGSO satellites in the Ka-band and offers high-speed, low-latency broadband connectivity where coverage from terrestrial networks is limited or non-existent. Since O3b satellites are at the MEO altitude of 8062 km, users on O3b's system typically experience round trip latency of less than 150 milliseconds, similar to that achieved by fiber-based broadband services. The Commission recently granted O3b market access for a next generation MEO NGSO constellation that will use the Ka-band and V-band to add multiple terabytes of capacity to deliver the next generation of NGSO broadband services.²

II. THE COMMISSION SHOULD PRESENT DEPLOYMENT ESTIMATES FOR BROADBAND SATELLITE SERVICES

SES agrees with the Commission's proposal to present deployment estimates for satellite broadband. As the Commission notes in the 2018 Broadband Deployment Report, satellite operators provide broadband services that meet the 25/3 Mbps benchmark for advanced telecommunications capability and enable end users to enjoy applications such as Skype, Netflix

² See O3b Limited, Call Sign S2935, File No. SAT-AMD-20171109-00154 (granted June 4, 2018).

and YouTube.³ Satellite services are uniquely situated to provide such advanced telecommunications capabilities nearly anywhere in the U.S.

For example, in the aftermath of Hurricane Maria, SES Network's FastConnect Solution⁴ deployed Ka-band NGSO capacity to enable reliable, high-performing LTE mobile connectivity to people in Puerto Rico. On the other side of the country, in the remote Alaskan city of Unalaska, where reliable fiber access is unrealistic due to the local geography,⁵ satellite is a critical component of providing broadband service. As part of a comprehensive partnership with local internet service provider OptimERA, SES uses C-band satellite capacity to provide city-wide WiFi and broadband services to meet growing business and consumer demands for faster, more reliable and affordable connectivity in the largely underserved region.⁶ This enables the residents of Unalaska to stream video, use cloud-based services, and helps local students to do homework and prepare for college.⁷ During a recent visit to Unalaska, FCC Commissioner Carr

³ *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, GN Docket No. 17-199, 2018 Broadband Deployment Report, ¶ 37. (rel. Feb. 2, 2018) ("2018 Report").

⁴ See *FastConnect Solution*, O3b Networks (Feb. 2017). Available at: <https://www.o3bnetworks.com/wp-content/uploads/2017/04/Product-FastConnect-Solution-English-14FEB17.pdf>. The O3b FastConnect Solution is a high throughput and fiber-like satellite connectivity service that provides quickly deployable and re-deployable IP Transit bandwidth, with the infrastructure needed to provide network connectivity, when and where it is needed.

⁵ Jim Paulin, *FCC commissioner gets earful on internet service in Unalaska*, Anchorage Daily News, August 9, 2018, available at <https://www.adn.com/business-economy/2018/08/09/fcc-commissioner-gets-earful-on-internet-service-in-unalaska/>.

⁶ *Connecting Underserved Regions*, SES and OptimERA Case Study (Nov. 2017). Available at: https://www.ses.com/sites/default/files/2017-11/Unalaska_Case_Study_11-1-17_0.pdf.

⁷ Emmett Fitch, *OptimERA Enables High-Quality Connectivity in Unalaska with SES Networks*, SES, January 31, 2018, available at <https://www.ses.com/blog/optimera-enables-high-quality-connectivity-unalaska-ses-networks>.

noted that satellite would continue to play a critical role in enhancing the quality of the connectivity to which local residents and businesses have access.⁸

The Commission seeks comment on whether it should consider limitations on the scope of the geographic coverage of satellite broadband providers, including limits on capacity. While the Commission should consider the unparalleled coverage and service that satellite provides in the U.S., it should refrain from estimating the amount of satellite capacity available.⁹ Each satellite network is distinct and operators have different approaches to deploying capacity and managing their networks. It would be highly unlikely that a Commission estimate could accurately capture how much satellite capacity is available in the U.S. or available in specific regions of the country.

SES agrees with ViaSat that the Commission should evaluate satellite networks by considering the nature and quality services provided, as it does with terrestrial networks.¹⁰ And, as ViaSat notes, all networks have capacity constraints and the Commission's evaluation should instead be focused on the quality of service delivered to the end user.¹¹ This will allow the Commission to focus on the delivery of advanced telecommunications capabilities to Americans instead of network management practices.

Rather than put together an estimate that may be inaccurate or single out satellite for having capacity constraints, the Commission should report on measurable qualities such as the ubiquity

⁸ See Paulin. "Carr said the FCC is working to increase broadband capability through regulatory reform to allow a network of thousands of low-orbiting satellites..."

⁹ See NOI at ¶17.

¹⁰ ViaSat at 4-5.

¹¹ *Id.* at 6-7.

of satellite service, and implement policies that encourage operators to continue to provide service where terrestrial options are limited.

III. THE COMMISSION MUST MAKE SPECTRUM AVAILABLE FOR SATELLITE SERVICES IN ORDER TO CLOSE THE DIGITAL DIVIDE

As noted above, broadband satellite is ideally suited to helping to bridge the digital divide because of its ability to provide coverage to even the most remote areas of the U.S. However, the satellite industry will be limited in its ability to help close the digital divide if it does not have access to sufficient spectrum to deliver broadband connectivity.

The Commission has taken some important steps to securing critical growth spectrum for next generation satellite systems, most notably opening up the 40 to 42 GHz and 48.2 to 50.2 GHz bands for ubiquitous satellite deployments.¹² This policy will help ensure that satellite systems are able to deploy cutting edge connectivity services, from both GSO and NGSO systems, to Americans in every corner of the country.

But the Commission is also in the midst of considering new policies that will unnecessarily limit satellite spectrum access and thereby restrict the industry's ability to deploy critical broadband services where they are needed. For example, the Commission's recent NPRM in the Spectrum Frontiers proceeding constrains satellite deployment throughout the country in deference to terrestrial services that, due to the propagation characteristics of the 50.4-51.4 GHz band, will likely only serve areas of the country that are already well fibered.¹³ If the

¹² *Use of Spectrum Bands Above 24 GHz for Mobile Service Radio*, Second Report and Order, Second Further Notice of Proposed Rulemaking, Order on Reconsideration, and Memorandum Opinion and Order, 32 FCC Rcd 10988 (2017).

¹³ *Use of Spectrum Bands Above 24 GHz For Mobile Radio Service*, Third Report and Order, Memorandum Opinion and Order, and Third Further Order of Proposed Rulemaking, FCC 18-73 (rel. June 8, 2018).

Commission hopes to bridge the digital divide, it must not be so quick to limit the satellite industry's access to spectrum in favor of terrestrial services that are far less likely to proliferate in areas where current coverage is lacking.

IV. CONCLUSION

The Commission's recent recognition of satellite's role in the provision of advanced telecommunications capabilities will create a more accurate assessment for its 2019 Broadband Report. The Commission should continue to recognize satellite's contribution to this important policy goal and take additional policy steps to ensure that satellite has access to the spectrum it needs to maintain its current, critical role in the deployment of advanced telecommunications capabilities and to expand and enhance those services in the future.

Respectfully submitted,

SES AMERICOM, INC.

By: /s/ Petra A. Vorwig
Senior Legal and Regulatory Counsel
1129 20th Street, NW
Suite 1000
Washington, DC 20006
(202) 478-7143

O3b LIMITED

By: /s/ Suzanne Malloy
Vice President of Regulatory Affairs
900 17th Street, NW, Suite 300
Washington, DC 20006
(202) 813-4026

/s/ Will Lewis

Will Lewis
Senior Legal Counsel
900 17th Street, NW, Suite 300
Washington, DC 20006
(202) 813-4033

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