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

In the Matter of	)	
	)	
Promoting Telehealth for Low-Income Consumers	)	WC Docket No. 18-213

COMMENTS OF SES AMERICOM, INC. AND O3B LIMITED

SES Americom, Inc. and its affiliate O3b Limited (together, "SES") welcome the opportunity to submit these comments in response to the Commission's Notice of Inquiry ("NOI") regarding actions to promote and improve telehealth services for low-income American consumers by creating an experimental "Connected Care Pilot Program" ("Telehealth NOI").[1]

SES is one of the world's largest commercial communications satellite operators and is the only company that operates both geostationary ("GSO") and non-geostationary ("NGSO") satellite fleets. SES entities operate more than 50 GSO satellites able to reach 99% of the world's population, many of them pursuant to Commission authority. These spacecrafts serve broadcasters, direct-to-home ("DTH") service providers, 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.

SES subsidiary O3b provides connectivity via its Medium Earth Orbit ("MEO") satellite network. O3b delivers the performance of fiber in places where terrestrial networks are limited and makes affordable broadband connectivity possible for billions of consumers and businesses

[1] *See generally Promoting Telehealth for Low-Income Consumers*, Notice of Inquiry, WC Docket No. 18-213, FCC 18-112 ("Telehealth NOI").

in nearly 180 countries. 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, approximately one quarter the latency of geostationary orbit satellites. O3b's MEO-enabled satellites provide low latency, high throughput connectivity at speeds that support 4G/LTE applications like cloud computing, allowing for fast, flexible, and affordable solutions to telemedicine and e-health challenges. The Companies use spectrum in the C, Ku, and Ka bands to support a range of e-health applications.

I. SATELLITE COMMUNICATIONS SERVE A VITAL ROLE IN PROVIDING BROADBAND-ENABLED TELEHEALTH SERVICES TO UNDERSERVED AND UNSERVED COMMUNITIES.

Connected care services have the potential to produce significant improvements in health outcomes and cost savings for low-income Americans, but without access to affordable high-speed broadband services consumers cannot benefit from ever-expanding capabilities and opportunities in telehealth.[2] SES' satellite capacity provides fast and affordable broadband connectivity for delivery of telehealth services in hard to reach areas on land, in the air, and at sea. Satellite communications are essential in providing connectivity for telehealth and other broadband services to underserved and unserved communities in remote and rural areas, where terrestrial services are limited or nonexistent. SES' satellite e-health solutions range from remote video conferencing and medical data recording to providing vital communications for time sensitive emergency relief efforts and military missions.

For instance, SES successfully provided its MEO satellite connectivity to the USS Fort Worth combat ship for a short-term operation.[3] During the operation, a crewman became ill

[2] Telehealth NOI at ¶ 10.
[3] O3b Limited, *O3b Network Successfully Participates in U.S. 7th Fleet Trident Warrior Exercises*, (June 22, 2015), http://www.o3bnetworks.com/o3b-networks-successfully-participates-in-u-s-7th-fleet-trident-warrior-2015-exercises/.

while the ship was traversing the Pacific Ocean. The USS Fort Worth contacted doctors on shore who evaluated and treated the patient using a real-time video conference application via O3b's high throughput, low latency connection. Satellite connectivity proved to be vital in providing medical attention at sea.

SES has also partnered with businesses, other governments and international organizations to develop innovative satellite broadband enabled-solutions to e-health challenges. SES collaborated with the Luxembourg government to develop SATMED, an IT enabled cloud infrastructure that provides fast and reliable global connectivity and facilitates data exchanges between professionals and medical frameworks.[4] SATMED covers a full spectrum of e-health services, including e-learning, e-care and e-surveillance, in one single access platform. It was deployed for the first time during the Ebola outbreak in West Africa in 2014.

SES' unique hybrid MEO and GEO constellation allows for the adoption of accelerated and advanced satellite-broadband enabled health care solutions. SES's Rapid Response Vehicle (RRV) is the world's first mobile platform to offer collaborative communications technologies over multiple orbits and frequencies, including Ku-, Ka-, and Military X- and Ka-bands across SES's GEO fleet and fiber-like Ka-band delivered over O3b's MEO constellation. This versatility enables the RRV to provide high-speed connectivity and global communications services tailored to a broad range of commercial, civil, humanitarian and defense missions around the world.[5] The RRV can deploy to areas lacking sufficient connectivity and quickly launch SATMED telemedicine services.

[4] SES S.A., *SES Partners for E-Medicine Platform SATMED*, (May 27, 2014), https://www.satmed.com/news-2014-05-27.php.
[5] SES S.A., *Rapid Response Vehicle - for Defence, Security and Humanitarian Missions*, (April 19, 2017), https://www.ses.com/newsroom/rapid-response-vehicle-defence-security-and-humanitarian-missions.

II. IF THE COMMISSION SEEKS TO PROMOTE TELEHEALTH DELIVERY USING COST-EFFECTIVE AND READILY AVAILABLE TECHNOLOGIES, ITS POLICIES SHOULD BE TECHNOLOGY NEUTRAL.

As demonstrated by the availability of existing cost-effective satellite services supporting tele-health, there are a number of difference services that can meet the Commission's goal; therefore, its policies for funding telehealth projects should not unnecessarily restrict of any specific technologies. Specifically, the Commission need not adopt a latency threshold, and indeed should not adopt a latency threshold, to best promote the use and expansion of satellite technologies for supporting telehealth. The Commission seeks comment on whether it should adopt minimum service standards for the pilot program and if those minimum service standards should include minimum service speeds.[6] Because there is a demonstrated capability to deliver broadband applications via satellite with a latency of 120-150 ms, SES suggests that if the FCC nevertheless decides to establish a latency benchmark, it should establish one that is higher than 100 ms. This will ensure that the Commission does not undermine the reach of quality broadband service by imposing an artificial threshold when systems with latencies higher than 100 ms already support real-time broadband applications.

Adopting a latency standard that is lower than 100 ms would be unnecessarily restrictive and potentially remove one viable option from the telehealth toolbox, as it would impede healthcare service providers' ability to use satellites to serve low-income American consumers and those in rural areas. Moreover, it ignores the fact that some telehealth services are not latency sensitive, such as video streaming and web browsing, and therefore, a latency floor could unnecessarily raise the cost of providing these services.

[6] Telehealth NOI at ¶ 43.

SES' MEO satellite system is able to support 4G LTE due to a latency as low as 120 ms, allowing end users to enjoy real-time interactive broadband applications.[7] With this latency level, SES' customer expectations are met for typical broadband applications which are all vital for providing telehealth services, including VoIP, cloud-based services, video and voice conferencing and video streaming.[8]SES also supports high-speed broadband through its GSO satellites.[9] For example, SES partnered with OptimERA to provide reliable GSO C-band capacity to deliver reliable and affordable internet connectivity to Unalaska, Alaska.[10] Alaska is home to a variety of telehealth approaches, including videoconferencing, that use broadband to deliver essential telehealth services.[11]

III. CONCLUSION

SES applauds the Commission's efforts regarding this NOI and encourages the Commission to consider satellite solutions when forming policies to provide accessible telehealth services for low-income American consumers. SES urges the Commission to promote telehealth delivery using cost-effective and readily available technologies through technology-neutral policies. SES continues to play a key role in providing telehealth solutions globally to unserved and underserved communities. SES offers these comments in support of the Telehealth NOI and remains readily available to assist in furthering the Commission's efforts.

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[7] *See* O3b, *What is Network Latency and Why Does It Matter*, http://www.o3bnetworks.com/wp-content/uploads/2015/02/white-paper_latency-matters.pdf (last visited July 26, 2018).

[8] O3b customers have successfully demonstrated that the O3b satellite system supports cloud-based services such as Citrix and Sharepoint, video and voice conferencing services such as Skype and Blue Jeans, video streaming services such as Netflix and YouTube, and multi-player video games such as Halo and Call of Duty. *See, e.g.*, *Cruise Ships Add Fast Internet - For Gaming*, THE MARITIME EXECUTIVE (Sept. 28, 2016), https://www.maritime-executive.com/article/cruise-ships-add-fast-internet-for-gaming#gs.7LDfp1w.

[9] *See, e.g.*, SES Networks, *Connecting Underserved Regions Case Study* (Nov. 29, 2017), *available at* https://www.ses.com/case-study/unalaska.

[10] *Id*.

[11] See The U.S. Chamber of Commerce, The Impact of Broadband on Telemedicine at 24 (2009), https://telehealth.org/sites/default/files/BroadbandandTelemedicine.pdf.

Respectfully submitted,

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