

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of)	
)	
Facilitating the Communications of Earth Stations)	IB Docket No. 18-315
in Motion with Non-Geostationary Orbit Space)	
Stations)	

REPLY COMMENTS OF WORLDVU SATELLITES LIMITED

WorldVu Satellites Limited (“OneWeb”) respectfully submits this reply to the comments filed in response to the Federal Communications Commission’s (the “Commission”) Notice of Proposed Rulemaking (“NPRM”) in the above-captioned proceeding.¹

I. THE RECORD DEMONSTRATES THE COMMISSION SHOULD EXTEND NGSO ESIM CONNECTIVITY TO ADDITIONAL FREQUENCY BANDS

Numerous commenters explicitly support the extension of earth station in motion (“ESIM”) connectivity to additional bands allocated for non-geostationary, fixed-satellite service (“NGSO FSS”) operations but not identified in the NPRM.² OneWeb strongly supports the Commission’s proposal to authorize connectivity between NGSO FSS systems and ESIMs in the

¹ *Facilitating the Communications of Earth Stations in Motion with Non-Geostationary Orbit Space Stations*, Notice of Proposed Rulemaking, IB Dkt No. 18-315, FCC 18-160 (rel. Nov. 16, 2018) (“NPRM”).

² See Comments of the Boeing Company, IB Dkt. No. 18-315 at 11 (filed Feb. 11, 2019) (“Boeing Comments”); Comments of Viasat, Inc., IB Dkt. No. 18-315 at 7 (filed Feb. 11, 2019) (“Viasat Comments”); Comments of SES Americom, Inc. and O3b Limited, IB Dkt. No. 18-315 at 9 (filed Feb. 11, 2019) (“SES/O3b Comments”).

frequency bands specified in the NPRM³ and believes the record in this proceeding supports the extension of that framework to other frequency bands, including the V-band and 12 GHz band.⁴

OneWeb agrees with SES/O3b and Boeing regarding the potential benefits of ESIM connectivity in the V-band.⁵ For NGSO FSS systems, the V-band represents an opportunity to extend and enhance NGSO-based service offerings. OneWeb has a pending market access application seeking to utilize the V-band, which among other things will augment connectivity in high traffic density and bandwidth-intensive areas.⁶ Multiple NGSO FSS constellations have already been authorized to utilize the V-band, and its advantageous propagation characteristics are likely to result in increased use by NGSO FSS systems.⁷ This strong demand for V-band connectivity will likely only accelerate in the future. The V-band is well-positioned to become a critical component of NGSO FSS services to mobile platforms.

In addition to the V-band, commenters requested that ESIM connectivity be extended to other frequencies outside those specified in the NPRM. Viasat urged “the Commission to consider expanding ESIMs into additional segments of the 27.5-30 GHz band where ESIM deployment is

³ NPRM at ¶¶ 8-14.

⁴ See SES/O3b Comments at 9; Boeing Comments at 11; Viasat Comments at 7; Comments of WorldVu Satellites Limited, IB 18-315 at 3-8 (filed Feb. 11, 2019) (“OneWeb Comments”).

⁵ See SES/O3b Comments at 9; Boeing Comments at 11.

⁶ OneWeb, Legal Narrative, IBFS File No. SAT-LOI-20170301-00031, at 6-7 (filed Mar. 1, 2017).

⁷ See *Telesat Canada, Petition for Declaratory Ruling to Grant Access to the U.S. Market for Telesat’s V-Band NGSO Constellation*, Order and Declaratory Ruling, 2018 WL 6075370 (2018); *O3b Limited, Request for Modification of U.S. Market Access for O3b Limited’s Non-Geostationary Satellite Orbit System in the Fixed-Satellite Service and in the Mobile-Satellite Service*, Order and Declaratory Ruling, 33 FCC Rcd 5508 (2018).

demonstrated to be compatible with the primary allocated services.”⁸ Similarly, OneWeb requested the Commission consider extending ESIM connectivity to the 12 GHz band, which is already allocated for NGSO FSS downlinks and would align the Commission’s regulatory regime more closely with international treatment.⁹ Thus, the record demonstrates there is support to extend the proposed ESIM framework to other frequency bands authorized for NGSO FSS operations that were not included in the NPRM.

II. THE COMMISSION SHOULD ADOPT MONITORING AND NETWORK CONTROL RULES THAT ARE SUBSTANTIALLY SIMILAR TO THE MONITORING AND NETWORK CONTROL RULES FOR GSO ESIMS

Most commenters in this proceeding expressed support for the Commission’s adoption of applicable network monitoring and control requirements for NGSO ESIMs. OneWeb agrees with O3b that the adoption of any such requirements should mirror the rules for GSO ESIMs and is “necessary to ensure that [NGSO FSS ESIM] terminals operate consistent with their authorization.”¹⁰ From a technical perspective, the management of Commission-authorized NGSO FSS ESIM terminals should not significantly differ from the ESIM management and control practices employed by GSO operators.¹¹

⁸ Viasat Comments, at 7.

⁹ OneWeb Comments at 3-4.

¹⁰ SES/O3b Comments at 9.

¹¹ See *Amendment of Parts 2 and 25 of the Commission’s Rules to Facilitate the Use of Earth Stations in Motion Communicating with Geostationary Orbit Space Stations in Frequency Bands Allocated to the Fixed-Satellite Service*, Report and Order and Further Notice of Proposed Rulemaking, IB Dkt. No. 17-95, FCC 18-138 at ¶ 28 (rel. Sept. 27, 2018).

In particular, the Commission should extend the proposed operating rules contained in Section 25.228(b) and (c), which apply to GSO FSS ESIMs, to NGSO FSS ESIMs.¹² Section 25.228(b) would require GSO FSS ESIMs to self-monitor and to shut off automatically if an ESIM exceeds its authorized off-axis EIRP density limits.¹³ Section 25.228(c) would require each GSO FSS ESIM to be monitored and controlled by a network control and monitoring center or equivalent facility.¹⁴ These two requirements combine to effectively prevent GSO FSS ESIMs from exceeding authorized EIRP limits, facilitating co-existence with other FSS applications. The substance of these two requirements should be incorporated into corresponding provisions governing NGSO FSS ESIM operations. Accordingly, OneWeb respectfully requests the Commission adopt a network monitoring and control regime for NGSO FSS ESIMs that closely mirrors the GSO FSS rules.

III. CONCLUSION

The record in this proceeding provides strong support for the Commission's proposals in the NPRM. Facilitating NGSO FSS connectivity to ESIM terminals will bring the benefits of satellite-based mobile connectivity to innumerable U.S. consumers. To ensure these benefits continue to grow, OneWeb agrees with other commenters that some further actions from the Commission are necessary. Extending NGSO-based ESIM connectivity to other bands, including the V-band and 12 GHz band, will help spur innovation and ensure Commission rules align with the trajectory of NGSO FSS service evolution. In addition, applying monitoring and

¹² NPRM, Appendix A.

¹³ *Id.*

¹⁴ *Id.*

network control requirements to NGSO FSS ESIMs will facilitate the successful co-existence of ESIM terminals with other FSS applications. By adopting the foregoing proposals, the Commission will ensure the vitality of innovative, NGSO-based mobile connectivity solutions.

Respectfully submitted,

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