

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)	

COMMENTS OF WORLDVU SATELLITES LIMITED

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

INTRODUCTION AND SUMMARY

OneWeb applauds the Commission’s efforts to update its rules to authorize communications between earth stations in motion (“ESIMs”) and non-geostationary orbit, fixed-satellite service (“NGSO FSS”) systems. OneWeb expects the rules adopted in this proceeding will expand the potential of NGSO FSS systems to provide innovative connectivity solutions to a variety of mobile platforms. OneWeb is spearheading industry efforts to develop and build satellite-powered networks capable of ensuring seamless mobile connectivity for millions of consumers on the go.

OneWeb fully supports the Commission’s proposal to authorize ESIM operations in bands currently allocated for NGSO FSS operations. The Commission should also allow NGSO FSS systems to communicate with ESIMs potentially operating in the 12.2-12.7 GHz band (“12 GHz

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”).

band”). The 12 GHz band is allocated to NGSO FSS systems on a primary basis and can be utilized for ESIM connectivity without compromising other terrestrial or satellite-based operations. Such an allocation would also align the Commission’s regulatory regime with current ESIM connectivity utilizing GSO satellites and with European regulatory bodies, which have developed equipment standards and harmonized regulations for ESIM connectivity with NGSO FSS systems across NGSO-allocated spectrum bands in the Ku-and Ka-bands, which include the 12 GHz band.

The Commission should also adopt its proposal to permit blanket licensing of ESIM terminals. Blanket licensing for mobile terminals is consistent with applicable Commission precedent and is necessary to facilitate the rapid expansion of NGSO-provisioned connectivity to mobile terminals. Finally, OneWeb supports adoption of the conforming rule changes proposed in the NPRM that are necessary to authorize ESIM communications with NGSO FSS systems.

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I. THE COMMISSION SHOULD AUTHORIZE NGSO FSS SYSTEMS TO OPERATE IN THE 12 GHZ BAND IN ADDITION TO CONVENTIONAL KU- AND KA-BAND FREQUENCIES IN ORDER TO FACILITATE COMPETITION AND INNOVATION IN MOBILITY MARKETS

OneWeb supports the Commission’s proposal to generally permit NGSO FSS systems to communicate with ESIMs where the U.S. Table of Frequency Allocations permits communications with NGSO FSS space stations, including conventional Ku-band and Ka-band frequencies. The Commission should also explicitly include the 12 GHz band within the list of frequencies authorized for ESIM communications with NGSO FSS systems. The 12 GHz band is allocated to the NGSO FSS on a primary basis and can be utilized for ESIM communications without impacting the current sharing environment between NGSO operators and other terrestrial and satellite-based providers.

A. OneWeb Supports Commission Efforts to Authorize NGSO-ESIM Operations in the Conventional Ku- and Ka-bands

OneWeb supports the Commission’s proposals to allow ESIM connectivity with NGSO FSS systems in large portions of the Ku- and Ka-bands that are already allocated to the NGSO FSS in the U.S. Table of Frequency Allocations.² As the Commission appropriately recognized when streamlining its rules for ESIMs operating with satellites in geostationary orbit, providing expanded spectrum access to satellite operators will “promote innovative and flexible use of satellite technology and provide new opportunities for a variety of uses.”³ This is precisely what will occur if the Commission authorizes NGSO FSS constellations to provide ESIM connectivity.

² NPRM at ¶¶ 8-14.

³ *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 Docket No. 17-95, FCC 18-138 at ¶ 1 (rel. Sept. 27, 2018) (“GSO ESIM Order and FNPRM”).

The Commission’s proposal to make more spectrum available for ESIM connectivity will accelerate these existing growth trends and facilitate the continued development of innovative, satellite-based consumer offerings. Consumer demand for satellite-provisioned mobile connectivity continues to increase, while advances in antenna technology, ground infrastructure, and constellation design have enabled the development of new mobility markets that NGSO operators are poised to serve.⁴ Expanding the ability of ESIMs to communicate with NGSO FSS satellites will provide at least two significant consumer benefits that are unique to NGSO FSS architectures. *First*, NGSO FSS constellations are well-positioned to offer fiber-comparable bandwidth and speeds, with latency around 50 ms round-trip.⁵ This increase in performance will increase competition in key mobility markets—which are provisioned today, primarily, by GSO satellites—while simultaneously improving the end-user consumer experience.⁶ *Second*, as the

⁴ See, e.g., *Maritime Bandwidth Demand Poised for Significant Growth*, SATELLITE MARKETS & RESEARCH (Mar. 8, 2019), <http://www.satellitemarkets.com/market-trends/maritime-bandwidth-demand-poised-significant-growth> (noting “booming bandwidth requirements coming not only from bandwidth-hungry passengers and crew but also from the overall development of smart applications”); *Over 60% of Commercial Aircraft to be Connected by 2027*, SATELLITE MARKETS & RESEARCH (June 19, 2019), <http://www.satellitemarkets.com/news-analysis/over-60-commercial-aircraft-be-connected-2027> (noting that “[i]ntensifying competition among the different stakeholders of the IFC value chain, in order to offer more bandwidth to the aircraft, will allow aviation to enter a new era with connectivity at its heart.”); Mark Holmes, *Greg Wyler, The Definitive 2018 Interview*, VIA SATELLITE (Nov. 2018), <http://interactive.satellitetoday.com/via/december-2018/greg-wyler-the-definitive-2018-interview/> (“The biggest, fastest user adoption of the system will be where there is high demand and where there are people with a lot of understanding of technology. That will come from mobility and markets where there are people every day trying to find answers to some of the questions they are looking to solve. So, the mobility markets and the emergency services markets are really important ones.”).

⁵ See Patrick Gannon, *Transition time for the Satellite Industry?*, BUSINESSCOM NETWORKS (Dec. 28, 2017), <https://www.bcsatellite.net/blog/transition-time-for-the-satellite-industry/> (stating that “higher data rates are available by satellite at more affordable prices” and latency for NGSO systems around 50 ms puts “LEO satellite latency on a par with terrestrial services.”).

⁶ See *NSR Report: Non-GEO Satellites to Dominate Supply, Adding over 25 Tbps in Next*

NPRM recognizes, the ubiquitous coverage afforded by NGSO FSS systems will facilitate uninterrupted connectivity to long-haul international flights that traverse polar regions, coverage that GSO satellites typically cannot achieve currently. The Commission's proposal to allow NGSO FSS operators to provide innovative ESIM connectivity across much of their spectrum footprint will provide myriad end-user benefits, increase competition, and should be adopted.⁷

B. Communication With ESIMs in the 12 GHz Band Would Allow NGSO FSS Systems to Unlock Substantial Consumer Benefits in the United States and Harmonize Its Regulatory Regime with Europe

OneWeb appreciates the Commission's efforts to facilitate ESIM connectivity with NGSO FSS systems across most of the spectrum currently allocated for NGSO operations. The Commission should extend the same flexibility in one additional band currently allocated on a primary basis for NGSO FSS downlinks: the 12 GHz band.⁸ OneWeb is on the verge of launching a constellation with the capability to provide global connectivity to mobile consumers utilizing the 12 GHz band. Numerous other NGSO FSS operators have been licensed to operate in the 12 GHz

Decade, GLOBAL NEWS WIRE (Sep. 18, 2018), <https://globenewswire.com/news-release/2018/09/18/1572593/0/en/NSR-Report-Non-GEO-Satellites-to-Dominate-Supply-Adding-over-25-Tbps-in-Next-Decade.html> ("These networks offer a new set of attributes for customers such as low latency, full mesh connectivity, or high-bandwidth per terminal, and will be key to unlocking new greenfield markets.").

⁷ See Jeffrey Hill, *The FCC Chairman Wants to Cultivate Innovation in Space*, VIA SATELLITE (Feb. 2019), <http://interactive.satellitetoday.com/via/february-2019/fcc-chairman-wants-to-cultivate-innovation-in-space/> (Chairman Pai stating that NGSO systems will play "an important part of the market with their own unique value propositions. Here too, we're hopeful that the NGSO operators will be better suited to provide their unique value following our [ESIM] rule changes. I can tell you this in particular; I see GEO and NGSO systems playing a critical role in rural and remote connectivity. This is something that really matters to us.").

⁸ See 47 C.F.R. § 2.106, n. 5.487A (stating that NGSO operators in the 12 GHz band must protect GSO satellites in the broadcast-satellite service).

band pursuant to the Commission’s ongoing processing rounds.⁹ In light of the potential near-term use of this spectrum by multiple NGSO FSS systems, there is no compelling reason to preclude mobile terminals—as discussed above, a growing and vibrant market—from extending the benefits of this newly provided NGSO connectivity to the 12 GHz band.

In addition to enhancing the ability of NGSO FSS operators to provide innovative services to mobile platforms, access to the 12 GHz band for NGSO connectivity to ESIMs would also more closely align the Commission’s regulatory regime with prevailing regulatory trends outside the United States. As the Commission has recognized, European regulatory and standards bodies have recently adopted rules and standards for ESIM operations with NGSO FSS systems.¹⁰ In particular, ECC Report 279 concluded that ESIMs operating across the conventional Ku-band—including the 12 GHz band—can be licensed as FSS applications.¹¹ This conclusion is consistent with prior ECC Reports that OneWeb’s proposed downlink operations in the Ku-band are compatible with existing Radio Astronomy Service (“RAS”) and Earth Exploration Satellite Service (“EESS”).¹² If the Commission were to authorize NGSO FSS operations for ESIM

⁹ See, e.g., *Space Norway AS, Petition for Declaratory Ruling Granting Access to the U.S. Market for the Arctic Satellite Broadband Mission*, Order and Declaratory Ruling, 32 FCC Rcd 9649 (2017); *Space Exploration Holdings, LLC; Application For Approval for Orbital Deployment and Operating Authority for the SpaceX NGSO Satellite System; Application For Approval For Orbital Deployment And Operating Authority for the SpaceX NGSO Satellite System Supplement*, Memorandum Opinion, Order and Authorization, 33 FCC Rcd 3391 (2018) (“SpaceX Grant”); *Kepler Communications Inc., Petition for Declarator Ruling to Grant Access to the U.S. Market for Kepler’s NGSO FSS System*, Order and Declaratory Ruling, FCC 18-162 (rel. Nov. 19, 2018).

¹⁰ NPRM at n. 15; see also Electronic Communications Committee, ECC Report 279, *The Use of Earth Stations In-Motion (ESIM) operating to NGSO Satellite Systems in the 10.7-12.75 GHz and 14-14.5 GHz Band* (approved May 18, 2018), <https://www.ecodocdb.dk/document/2990> (“ECC Report”).

¹¹ *Id.* at 26.

¹² See generally Electronic Communications Committee, ECC Report 271, *Compatibility and sharing studies related to NGSO satellite systems operating in the FSS bands 10.7-12.75 GHz*

connectivity in the 12 GHz band, OneWeb could leverage operational and cost efficiencies that would directly benefit mobility customers in the United States.

The Commission clearly anticipated that NGSO FSS operators may seek to provide connectivity to ESIMS in the United States utilizing the 12 GHz band. When the Commission first adopted rules for the earth station aboard aircraft (“ESAA”) service, it noted that “[i]n the event an interest in providing ESAA develops and matures in [the 12 GHz band], licensing of such services can be addressed...through further rule making proceedings, as market developments warrant.”¹³ Similarly, when it granted market access for OneWeb’s NGSO FSS system, the Commission noted it would not “prejudge later requests to operate [ESIMs] that receive from NGSO FSS space stations” in the 12 GHz band.¹⁴ The Commission has also conditioned NGSO licenses and market access grants on the outcome of the petition for rulemaking of the MVDDS Coalition, a group of multi-channel video distribution and data service (“MVDDS”) companies who filed a long-dormant petition to eliminate the primary allocation for NGSO FSS operations and permit widespread terrestrial mobile use of the 12 GHz band.¹⁵

(space-to-Earth) and 14-14.5 GHz (Earth-to-space) (approved January 26, 2018, updated January 25, 2019) <https://www.ecodocdb.dk/download/3ab9e6bc-0afd/ECC%20Report%20271.pdf>.

¹³ *Revisions to Parts 2 and 25 of the Commission’s Rules to Govern the Use of Earth Stations Aboard Aircraft Communicating with Fixed-Satellite Service Geostationary-Orbit Space Stations Operating in the 10.95-11.2 GHz, 11.45-11.7 GHz, 11.7-12.2 GHz and 14.0-14.5 GHz Frequency Bands*, IB Docket No. 12-376, Notice of Proposed Rulemaking and Report and Order, 27 FCC Rcd 16510, 16520, n. 43 (2012) (“ESIM NPRM and Report and Order”).

¹⁴ *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, 32 FCC Rcd 5366, 5370 ¶ 8 (2017) (“OneWeb Market Access Grant”).

¹⁵ See Petition of MVDDS 5G Coalition for Rulemaking, RM11768 (filed Apr. 26, 2016) (“MVDDS Petition”).

OneWeb’s views on the deeply flawed MVDDS Petition are a matter of record with the Commission.¹⁶ During the almost three years that the MVDDS Petition has been pending, MVDDS has failed to materialize as a viable terrestrial service and MVDDS licensees continue to demonstrate a pattern of failing to satisfy applicable construction deadlines for their licenses.¹⁷ While not greenfield spectrum, the 12 GHz band remains vastly underutilized by MVDDS licensees and could easily accommodate the NGSO FSS systems who have expended extraordinary capital to design and build out systems capable of delivering high-quality, satellite-based services to all Americans. Permitting further use of the 12 GHz band is also consistent with both the current administration and Chairman Pai’s goal of winning the race to 5G, which will require “us[ing] radiofrequency spectrum (spectrum) as efficiently and effectively as possible.”¹⁸

The co-primary status of fixed service stations and the MVDDS with NGSO FSS systems in this band should not preclude the Commission from authorizing ESIM connectivity in the 12 GHz band. Notably, in the GSO ESIM Order and FNPRM, the Commission called for comment on “allowing ESIMs to operate in all of the frequency bands in which earth stations at fixed

¹⁶ See, e.g., Opposition of WorldVu Satellites Limited, RM-11768 (filed June 8, 2016); Reply Comments of WorldVu Satellites Limited, GN Docket No. 17-183 (filed Nov. 15, 2017).

¹⁷ See, e.g., *Requests of Three Licensees of 22 Licenses in the Multichannel Video and Data Distribution Service for Extension of Time to Meet the Final Buildout Requirement for Providing Substantial Service under Section 101.1413 of the Commission’s Rules, et al*, Order, File No. 0007219617, et al, DA 18-1109 (WTB Oct. 29, 2018) (denying the request of three MVDDS licensees for extension of the 10-year construction requirement.).

¹⁸ President Donald J. Trump, *Presidential Memorandum on Developing a Sustainable Spectrum Strategy for America’s Future* (Oct. 25, 2018), <https://www.whitehouse.gov/presidential-actions/presidential-memorandum-developing-sustainable-spectrum-strategy-americas-future>; See also Ajit Pai, Chairman, Fed. Communications Comm’n, Remarks at the Wireless Infrastructure Association Connectivity Expo (May 23, 2018) (“We need to be aggressive in our policy decisions. We should act—and I use that word advisedly, in opposition to ‘talk’—as if U.S. leadership is the only acceptable option.”).

locations operating in GSO FSS satellite networks can be blanket-licensed.”¹⁹ In particular, the Commission concluded that operations of ESIMs “should not introduce a material change to the interference environment created or to the protection required.”²⁰ OneWeb agrees and believes this rationale is equally compelling with respect to NGSO FSS access to the 12 GHz band.²¹ The bands in which the Commission seeks comment as to potential GSO ESIM operations include many bands with primary, fixed-service allocations.²² Although OneWeb agrees the Commission may need to further address the NGSO-MVDDS sharing environment, as demonstrated below there are no significant technical issues that would prevent the Commission from authorizing ESIMs communicating with NGSO FSS in the 12 GHz band.

C. NGSO-Enabled ESIMs Would Not Cause Interference to Terrestrial Operations in the 12 GHz Band

The Commission’s rules currently contain power flux density (“PFD”) restrictions on NGSO FSS satellites operating in the 12 GHz band to protect MVDDS operations.²³ OneWeb’s preliminary analysis indicates these operational restrictions on ESIM terminals’ communications with NGSO FSS systems will not prevent ESIM terminals from delivering next-generation connectivity to consumers.

¹⁹ GSO ESIM Order and FNPRM at ¶ 91.

²⁰ *Id.*

²¹ The 12 GHz band is currently available for blanket licensing of user terminals to communicate with NGSO FSS systems. *See* 47 C.F.R. § 25.115(f)(2).

²² GSO ESIM Order and FNPRM at ¶ 91 (seeking comments on potential GSO ESIM operations in the 10.7-10.95, 11.2-11.45, 17.8-18.3 19.3-19.4, and 19.67-19.7 GHz bands).

²³ *See* 47 C.F.R. § 25.208(o).

OneWeb expects NGSO operators will have options available to avoid or mitigate the potential for harmful interference to ESIM terminals. For example, aeronautical terminals will be deployed on aircraft with an antenna pointing upwards to space; as a result, there is little risk of interference from transmitting MVDDS stations. Similarly, maritime terminals will largely be deployed on seafaring vessels navigating large bodies of water. These terminals should not be impacted by MVDDS stations, whose antennas will be pointing towards residential areas and population centers, not the surrounding waters. OneWeb acknowledges that earth stations deployed on vehicles (“VMES”) may present a more challenging operating environment. However, due to the limited deployment of MVDDS stations, OneWeb and other ESIM terminal operators should be capable of adequately identifying potential sources of interference and utilizing necessary mitigation techniques (e.g., using frequency diversity in certain areas with more widespread MVDDS deployments) to avoid interference issues. In short, there is no technical reason that MVDDS deployments in the 12 GHz band should preclude ESIM terminal operators from delivering robust NGSO-provided connectivity to consumers.

II. BLANKET LICENSING OF ESIM TERMINALS IS NECESSARY TO FACILITATE THE PROVISION OF TRANSFORMATIVE NGSO CONNECTIVITY

A. Blanket Licensing of ESIM Terminals Will Afford Greater Flexibility to NGSO FSS Operators

The Commission has previously stated its desire to “encourage the development of new broadband services to the American public, including satellite broadband internet access.”²⁴ Accordingly, the Commission has recently acted to “remove regulatory obstacles for companies

²⁴ *Update to Parts 2 and 25 Concerning Non-Geostationary, Fixed-Satellite Service Systems and Related Matters*, Report and Order and Further Notice of Proposed Rulemaking, 32 FCC Rcd 7809, 7810 ¶ 1 (2017) (“NGSO FSS Report and Order” or “NGSO FSS Further Notice”), *pet. for recon. pending*.

proposing to provide these services via large, ambitious, non-geostationary-satellite orbit (NGSO), fixed-satellite service (FSS) satellite systems.”²⁵ Allowing blanket licensing for ESIMs in communication with NGSO FSS providers is therefore “appropriate,” and consistent with the Commission’s past efforts and stated desire to increase flexibility to NGSO FSS operators.²⁶

The Commission has previously been willing to approve blanket licensing to provide operational flexibility to NGSO FSS operators seeking to serve emerging mobility markets. In 2014, the Commission granted a blanket license for NGSO FSS operator O3b to communicate with up to 100 earth stations aboard maritime vessels.²⁷ The approval of the blanket license allowed O3b to avoid the burdensome process of filing multiple license applications for each earth station on board a maritime vessel, and also streamlined the Commission’s review process. Allowing blanket licensing for ESIM terminals communicating with NGSO FSS systems would codify this more efficient licensing regime to the benefit of NGSO operators and also conserve Commission resources.

In the 2017 NGSO Report and Order, the Commission took a number of actions that streamlined regulatory hurdles and increased ease of operation for NGSO FSS providers.²⁸ For example, the Commission authorized blanket licensing on a secondary basis for earth stations in the 17.8-18.3 GHz band.²⁹ The Commission reasoned that limiting deployment to individually

²⁵ *Id.*

²⁶ NPRM at ¶ 15.

²⁷ *See O3b Limited*, IBFS File No. SES-LIC-20130528-00455 (granted May 13, 2014).

²⁸ *See generally* NGSO FSS Report and Order.

²⁹ *Id.* at ¶ 8.

licensed earth stations would “unnecessarily increase licensing costs on both applicants and Commission staff.”³⁰ Similarly, the Commission adopted a proposal to permit blanket licensing of earth stations in the 19.3-19.4 and 19.6-19.7 GHz bands.³¹ The underlying rationale for allowing blanket licensing in these circumstances has not changed. Adopting blanket licensing of ESIM terminals would be consistent with past Commission actions and serve the same goals of increasing efficiency, decreasing costs, and facilitating the expedited deployment of NGSO-enabled mobile terminals.

In addition to allowing blanket licensing of earth stations, the Commission has consistently displayed a willingness to increase flexibility and ease of operations in general for NGSO FSS operators. In its grants of waivers to NGSO FSS operators, the Commission has acted in accordance with its desire to “encourage” the deployment of satellite broadband internet access.³² The current proposal to allow blanket licensing of ESIM terminals would be consistent with this stated goal.

It is not just recent actions that have underscored the Commission’s dedication to affording flexibility to NGSO FSS operators. In a 2000 Report & Order, the Commission concluded that “the public interest w[ould] be served by permitting” NGSO FSS operations in the Ku-band because such systems would “allow new advanced services to be provided to the public.”³³ To facilitate this service, the Commission adopted rules that dramatically increased the spectrum

³⁰ *Id.*

³¹ *Id.* at ¶ 21.

³² *See id.* at ¶ 1; *see also* Hill, *supra* note 7.

³³ *First Report and Order and Further Notice of Proposed Rule Making*, ET Docket No. 98-206, Report and Order, 16 FCC Rcd 4096, 4109 ¶ 19 (2000).

available to NGSO FSS operations.³⁴ This adoption of a flexible regulatory framework allowed the Commission to spur development of future NGSO FSS systems and set the stage for today's environment, where many NGSO operators have proposed new and innovative constellations. The Commission's initial reasoning for encouraging NGSO FSS system development still holds true today, and allowing blanket licensing for ESIM terminals would be consistent with the Commission's precedent of affording flexibility to NGSO FSS operators over the last two decades.

B. Blanket Licensing of ESIM Terminals is Consistent with Past Commission Treatment of Mobile Terminals

There is ample precedent supporting adoption of blanket licensing provisions for what are now considered ESIM terminals. In 2005, the Commission adopted a blanket licensing approach for earth stations on board vessels ("ESV").³⁵ The Commission found blanket licensing to be preferable to individually licensing ESVs because "ESV operators will likely deploy large numbers of technically identical earth stations that will operate over a wide geographic area" and that adopting blanket licensing would allow "for the expeditious processing of ESV licenses and accommodate spectrum uses planned by ESV operators."³⁶ In 2009, the Commission extended this blanket licensing approach to VMES on the basis that "the number and mobility of VMES locations may make it impractical to license VMES terminals on a unit-by-unit basis."³⁷ In 2012,

³⁴ *Id.* at ¶ 2.

³⁵ *See Procedures to Govern the Use of Satellite Earth Stations on Board Vessels in the 5925-6425 MHz/3700-4200 MHz Bands and 14.0-14.5 GHz/11.7-12.2 GHz Bands*, IB Docket No. 02-10, Report and Order, 20 FCC Rcd 674 (2005).

³⁶ *Id.* at ¶ 115.

³⁷ *Amendment of Parts 2 and 25 of the Commission's Rules to Allocate Spectrum and Adopt Service Rules and Procedures to Govern the Use of Vehicle-Mounted Earth Stations in Certain Frequency Bands Allocated to the Fixed-Satellite Service*, IB Docket No. 07-101, Report and Order, 24 FCC Rcd 10414, 10464 ¶ 160 (2009).

the Commission further extended blanket licensing to ESAA.³⁸ In doing so, the Commission noted the previous blanket licensing approaches to ESV and VMES, stating that “[i]n those contexts, blanket licensing has proven to be a very efficient licensing procedure.”³⁹

Together, ESV, VMES, and ESAA are the three earth station types comprising what are now called ESIMs.⁴⁰ Thus, the Commission has consistently found that adopting blanket licensing provisions for these types of earth stations is effective, efficient, and beneficial for applicants and consumers. The ESIMs at issue in this NPRM, like those discussed in the past, will be mobile and operating over different geographic areas, making individual licensing burdensome and inefficient. In light of the Commission’s past determinations on ESIMs, it is logical to extend the Commission’s traditional blanket licensing approach to ESIMs communicating with NGSO FSS systems. OneWeb highlights the Commission’s consistency in its treatment of satellite-based connectivity to mobile terminals and fully supports the Commission’s belief that blanket licensing is appropriate for ESIMs communicating with NGSO FSS systems.

C. ESIM Terminals Fit Seamlessly Into the Current NGSO Spectrum Sharing Environment

OneWeb’s analysis of the operational characteristics of ESIM terminals indicates that communications between ESIM terminals and NGSO FSS operators will not increase the complexities of the NGSO spectrum sharing environment. OneWeb therefore agrees with the Commission’s determination that it does “not believe that these operational characteristics necessitate additional requirements on ESIM communications with NGSO FSS space stations

³⁸ See ESIM NPRM and Report and Order.

³⁹ *Id.* at ¶ 104.

⁴⁰ GSO ESIM Order and FNPRM at ¶ 10.

beyond” what is considered in the NPRM.⁴¹ The number of proposed NGSO FSS constellations and the methods by which NGSO providers will likely utilize the available spectrum will not be negatively affected by blanket licensing for ESIM terminals, and therefore the Commission’s proposal to allow blanket licensing for ESIM terminals should be adopted.

III. ONEWEB SUPPORTS THE COMMISSION’S PROPOSED ADMINISTRATIVE CHANGES TO ENABLE A REGULATORY FRAMEWORK FOR ESIM COMMUNICATION WITH NGSO FSS SYSTEMS

In the ESIM NPRM, the Commission proposes a series of administrative rule revisions that will update the Commission’s rules to accurately reflect the proposed substantive changes in the NPRM.⁴² For example, the Commission proposes to remove “geostationary-orbit” from Section 25.103 to reflect the proposed substantive changes to the section.⁴³ OneWeb generally supports these changes as a necessary step to ensure a consistent and coherent regulatory framework for ESIM communication with NGSO FSS systems.

The changes set forth in this NPRM will allow NGSO FSS operators greater regulatory certainty and increased flexibility of use, and OneWeb supports this outcome. Any increase in clarity in the Commission’s rules can result in efficiency gains for all stakeholders. Therefore, OneWeb generally supports the proposals presented in paragraphs 16 through 21 in the NPRM in order to clarify the Commission’s regulations in accordance with the proposed changes elsewhere in the NPRM.⁴⁴ By making these changes, the Commission is enabling a regulatory framework that will help ease operation and compliance for NGSO FSS systems.

⁴¹ NPRM at ¶ 22.

⁴² *See id.* at ¶¶ 16-21.

⁴³ *Id.* at ¶ 20.

⁴⁴ *See id.* at ¶¶ 16-21.

IV. CONCLUSION

OneWeb urges the Commission to update its rules to allow ESIMs to communicate with NGSO FSS systems. This will introduce meaningful competition in the market for innovative connectivity as mobile platforms increasingly require higher bandwidth and lower latency service providers. To foster these nascent services, the Commission should also allow ESIMs in the underutilized 12 GHz band and permit the blanket licensing of ESIM terminals. The Commission should also adopt its proposed conforming changes necessary to implement this new regulatory regime. OneWeb looks forward to working with the Commission and key stakeholders to ensure NGSO FSS systems play a critical role in providing innovative connectivity to mobile platforms.

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