

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

In the Matter of)
)
ViaSat, Inc.)
) File No. _____
Petition for Declaratory Ruling Granting)
Access to the U.S. for a Non-U.S.-Licensed)
Nongeostationary Orbit Satellite Network)

PETITION FOR DECLARATORY RULING

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November 15, 2016

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PETITION FOR DECLARATORY RULING

ViaSat, Inc. (“ViaSat”) files this Petition for Declaratory Ruling seeking access to the United States for a nongeostationary orbit (“NGSO”) satellite network operating under authority of the government of the Netherlands (the “VIASAT-NGSO” satellite network). This Petition is filed pursuant to Section 25.137 of the Commission’s rules,¹ the Commission’s *Space Station Licensing Reform Order*,² and recent public notices establishing cut-offs for additional NGSO-like satellite applications and petitions for operations in: (i) the 17.8-18.6 GHz, 18.8-19.3 GHz, 27.5-28.35 GHz, 28.35-29.1 GHz, and 29.5-30.0 GHz band segments; and (ii) the 37.5-40.0 GHz, 40.0-42.0 GHz, 47.2-50.2 GHz and 50.4-51.4 GHz band segments.³

¹ 47 C.F.R. § 25.137. Consistent with the Commission’s 2015 *Part 25 Reform Order*, this request is styled as a Petition for Declaratory ruling. *See Comprehensive Review of Licensing and Operating Rules for Satellite Services*, Second Report and Order, 30 FCC Rcd 14713, at ¶ 250 (2015) (specifying that “all requests for market access by the space station operator must be submitted through a petition for declaratory ruling”) (“*Part 25 Reform Order*”). In its response to Question 17.b of the accompanying FCC Form 312, ViaSat has selected “Letter of Intent to Use Non-U.S. Licensed Satellite to Provide Service in the United States” because the FCC Form 312 has not yet been updated to reflect the direction provided in the 2015 *Part 25 Reform Order*.

² *See Amendment of the Commission’s Space Station Licensing Rules and Policies*, 18 FCC Rcd 10760, at ¶ 294 (2003) (“*Space Station Licensing Reform Order*”).

³ *See OneWeb Petition Accepted for Filing*, Public Notice, DA 16-804 (Jul. 15, 2016)

As detailed herein, the VIASAT-NGSO satellite network would use spectrum in the Ka and V Bands to provide fixed-satellite service (“FSS”) to customers located within CONUS, Hawaii, Alaska, Puerto Rico and the U.S. Virgin Islands (as well as locations outside of the United States). ViaSat provides in this Petition information required by 47 C.F.R. § 25.137 for applicants seeking U.S. market access using non-U.S.-licensed satellite networks. Technical information relating to the satellite network is provided on Schedule S and in narrative form in the associated Attachment A, Technical Information to Supplement Schedule S (the “Technical Annex”).

I. GRANT OF VIASAT’S PETITION WOULD SERVE THE PUBLIC INTEREST

ViaSat has previously demonstrated its qualifications as a Commission licensee of spacecraft and earth station networks. ViaSat has a long history of and extensive expertise in providing and developing satellite communications technologies for both military and commercial uses, as well as innovating by improving the performance and bandwidth efficiency of satellite networks while reducing their costs. In addition, ViaSat is a leading provider of satellite-based broadband services to consumer, enterprise, and government users throughout the United States.

Grant of this Petition would serve the public interest in several important respects—including by facilitating ViaSat’s ongoing efforts to provide high-quality, innovative satellite-based broadband services to users in the United States. ViaSat currently provides satellite-based broadband services using an existing fleet of geostationary orbit (“GSO”) satellites. Although ViaSat plans to expand its existing capacity with additional GSO satellites

(“Ka-Band Processing Round PN”); *Boeing Application Accepted for Filing in Part*, Public Notice, DA 16-1244 (Nov. 1, 2016) (“V-Band Processing Round PN”).

featuring even more advanced technical capabilities and even more compelling bandwidth economics, ViaSat also seeks to augment those capabilities with NGSO capabilities.

The VIASAT-NGSO satellite network is another step in the evolution of the company's satellite broadband platform. Among other things, the VIASAT-NGSO satellite network would allow the company to utilize spectrum resources in the Ka and V Bands more intensively, and thus facilitate ViaSat's efforts to provide broadband services throughout (as well as outside of) the United States. Notably, the ubiquitous coverage afforded by the NGSO constellation would enable ViaSat to serve all areas of the country—including those that have been “left behind” by terrestrial broadband providers. Therefore, among other things, grant of this Petition would advance the Commission's universal service objectives.

In addition, ViaSat seeks authority to use the VIASAT-NGSO satellite network to develop and offer innovative satellite-based communications services that combine the high throughput available through ViaSat's existing and planned GSO satellites with the ubiquitous coverage and low latency available through a NGSO platform. More specifically, ViaSat plans to develop “hybrid” offerings that efficiently combine the attributes of both network architectures in order to effectively address specific customer needs. Because these offerings would be viable alternatives to more traditional terrestrial offerings, the grant of this Petition and deployment of the VIASAT-NGSO satellite network would also further the Commission's goals of enhancing competition and promoting the growth and development of cost-effective broadband services throughout the United States.

A. Description of the VIASAT-NGSO Satellite Network

The proposed VIASAT-NGSO satellite network would incorporate a constellation of 24 satellites operating in medium earth orbit (“MEO”) in three separate orbital planes of eight satellites each, with one in-orbit spare in each orbital plane. The planes are inclined at 87° to the

equator and the satellites are in circular orbits at an altitude of 8,200 km. The network would utilize Ka- and V-Band spectrum in the specific band segments described below. In addition to the satellite constellation, the system would include: (i) earth stations that directly serve end users;⁴ (ii) earth stations associated with facilities that aggregate traffic and interconnect into terrestrial facilities (sometimes referred to as “gateways” or “gateway-type” facilities); and (iii) satellite control and network operations facilities. Commission authority for earth stations in the United States would be separately sought and obtained as appropriate.

ViaSat estimates that each satellite in the VIASAT-NGSO satellite network would operate for approximately 20 years. However, given that satellites could be replaced over time, the network as a whole is designed to be capable of operating indefinitely.

All of the capacity available on the VIASAT-NGSO satellite network would be provided on non-common carrier basis.⁵

The VIASAT-NGSO satellite network is described in greater detail in the attached Technical Annex.

B. Services to be Supported

ViaSat proposes to use the VIASAT-NGSO satellite network to provide a wide array of FSS communications services, both independently and in conjunction with capabilities available through ViaSat’s GSO satellites. These services would be tailored to meet the specific needs of consumer, enterprise, and government users in the United States. Given its global

⁴ Additional information is provided in Section II.A of the Technical Annex included as Attachment A.

⁵ See *Amendment to the Commission’s Regulatory Policies Governing Domestic Fixed Satellites and Separate International Satellite Systems*, 11 FCC Rcd 2429, at ¶¶ 46-50 (1996) (no longer a need to require domestic satellite licenses to provide capacity on a common carrier basis) (“*DISCO P*”).

coverage, the VIASAT-NGSO satellite network would also provide service outside of the United States, in a manner consistent with applicable law in the jurisdictions being served.

Among other things, the network would help ViaSat to satisfy the growing need for high-speed, high-capacity broadband access. The network would also allow ViaSat to develop and offer innovative “hybrid” offerings that combine and leverage the most attractive attributes of NGSO and GSO network architectures to efficiently address specific customer needs. Grant of this Petition therefore would allow ViaSat to more efficiently and effectively meet customer demands for high-quality broadband services.

In addition, the VIASAT-NGSO satellite network would use 27.5-29.1 GHz and 29.5-30.0 GHz FSS “uplink” spectrum and 17.8-19.3 GHz and 19.7-20.2 GHz FSS “downlink” spectrum to support high-speed transmissions between its MEO constellation and in-orbit GSO satellites. This spectrum would be used in the same direction in which it currently is used on GSO satellites, with the uplinks from MEO satellites to GSO satellites occurring in the uplink band segments, and the downlinks from GSO satellites to MEO satellites occurring in the downlink band segments. GSO satellites would forward data to the MEO satellites from various places on Earth, including the United States; GSO satellites also would transmit data from MEO satellites back to various places on Earth, including the United States.

This MEO-to-GSO communications capability would provide an additional and alternative means of transmitting essential data to, and “backhauling” essential data from, MEO satellites, and thereby would enable a wide variety of services, including remote sensing. For example, for new sensing technologies without ready access to satellite uplink and/or downlink spectrum, these capabilities would make existing satellite broadband capabilities available for transmitting payload mission data to Earth, and also for transmitting important updated tasking

and programming to the space-based sensors, among other things. Thus, these MEO-to-GSO capabilities would facilitate efficient spectrum use and reduce the need to find, coordinate, reserve, and license additional spectrum (such as S-Band and X-Band frequencies) for sensing missions. Moreover, MEO-to-GSO communications would provide many more transmission opportunities in real-time and near-real-time than using traditional “store and forward” sensing downlinks and ground stations. Accordingly, valuable data could be retrieved faster and made available in a more timely manner for processing and analysis. Furthermore, MEO-to-GSO communications links would provide important communications redundancies for both the main communications payload and for any sensing payloads that may be included on the MEO satellites, increasing the likelihood of communications with the MEO satellites if there ever is a problem with the MEO-to-Earth communications path.

Notably, these satellite-to-satellite communications capabilities are consistent with the definition of the FSS under the Commission’s rules, which provides that FSS spectrum can be used for satellite-to-satellite links.⁶

ViaSat has demonstrated its commitment to developing technologies that make the most efficient use of spectrum, responding to customers’ expanding needs for greater broadband bandwidth and capacity. The VIASAT-NGSO satellite network is designed to play a vital role in providing affordable high-data-rate communications services, and would efficiently

⁶ See 47 C.F.R. §§ 2.1 and 25.103. Notably, these links would involve transmissions in the same directions (*i.e.*, away from the Earth and toward space; from space toward the Earth) anticipated under the Commission’s rules. To the extent the Commission nevertheless concludes that operation of such links is not currently contemplated by its rules, ViaSat requests a waiver to permit operation of the proposed satellite-to-satellite links. There is good cause for such waiver as such use would be consistent with other anticipated operations in the relevant spectrum, would facilitate more efficient use of that spectrum, and otherwise would be consistent with the policies underlying the Commission’s rules. See Technical Annex §§ I.A and IV.

employ Ka- and V-Band spectrum in doing so. As an innovative leader in the provision of broadband communications, ViaSat intends to continue to advance satellite technology and design to satisfy the ever-growing demand for those services.

II. DISCO II SHOWING – SECTION 25.137(A)

ViaSat is pursuing a license to operate the VIASAT-NGSO satellite network under the authority of the government of the Netherlands.⁷ Attachment B hereto is a letter from the Radiocommunications Agency Netherlands (“RA”) confirming that ViaSat is pursuing an authorization from the RA for the NGSO satellite network that is the subject of this Petition.

Because the VIASAT-NGSO satellite network will operate under the authority of the government of the Netherlands, the Commission’s *DISCO II* framework applies to this Petition.⁸ The *DISCO II* analysis includes consideration of a number of factors, such as the effect on competition in the United States, spectrum availability, eligibility requirements, technical requirements, national security, law enforcement, foreign policy and trade concerns.⁹ Each of these factors weighs in favor of granting this Petition.

A. Effect on Competition in the United States

In *DISCO II*, the Commission established a rebuttable presumption that it would further competition in the United States to allow non-U.S. satellite networks authorized by WTO Members to provide services covered by the U.S. commitments under the WTO Basic

⁷ See *Amendment of the Commission’s Regulatory Policies to Allow Non- U.S. Licensed Satellites Providing Domestic and International Service in the United States*, 12 FCC Rcd 24094, at ¶ 196 (1997) (explaining that an applicant seeking U.S. market access through a processing round need only furnish “proof that it is pursuing a license from a foreign administration”) (“*DISCO II*”).

⁸ *Id.* ¶¶ 30-49.

⁹ See, e.g., *Telesat Canada, Petition for Declaratory Ruling for Inclusion of Anik F2 on the Permitted Space Station List, Petition for Declaratory Ruling to Serve the U.S. Market Using Ka-band Capacity on Anik F2*, 17 FCC Rcd 25287, at ¶ 6 (2002).

Telecommunications Agreement.¹⁰ The Netherlands is a member of the WTO. Furthermore, ViaSat seeks to use the requested spectrum to provide satellite services that are covered by the WTO Basic Telecommunications Agreement.¹¹ Accordingly, the presumption in favor of entry applies to this Petition.

ViaSat also confirms that neither it, nor any person or entity controlling or controlled by ViaSat, possesses or enjoys any right, for the purpose of handling traffic to or from the United States, its territories or possessions, to construct or operate space segment or earth stations, or to interchange traffic, that is denied to any other United States company by reason of any concession, contract, understanding, or working arrangement to which the applicant or any persons or companies controlling or controlled by the applicant are parties.¹²

Grant of this Petition would enhance competition for satellite services (as well as broadband services) in the United States by permitting ViaSat to expand the available capacity of its satellite broadband network and develop and offer innovative “hybrid” offerings tailored to specific customer needs. Grant of this Petition thus would improve service quality, increase broadband service options, and foster technological innovation. The Commission consistently has relied on these same public interest benefits in granting similar requests.¹³

¹⁰ *DISCO II* ¶ 39; *see also* 47 C.F.R. § 25.137(a)(2).

¹¹ ViaSat does not seek to provide direct-to-home (“DTH”), direct broadcast satellite (“DBS”), or digital audio radio service (“DARS”) in the United States.

¹² *See, e.g.*, 47 C.F.R. § 25.145(e).

¹³ *See, e.g.*, *Digital Broadband Applications Corp.*, 18 FCC Rcd 9455 (2003); *Pegasus Development Corp.*, 19 FCC Rcd 6080 (2004); *DIRECTV Enterprises, LLC*, 19 FCC Rcd 15529 (2004).

B. Spectrum Availability

In this Petition, ViaSat proposes to access the United States using portions of the Ka and V Bands specified below in this Section II.B and in the associated Schedule S.¹⁴ The availability of specific band segments in which ViaSat seeks market access for NGSO FSS use is specified in: (i) the International and United States Tables of Frequency Allocations (as codified in the International Telecommunication Union (“ITU”) Radio Regulations and Section 2.106 of the Commission’s rules); (ii) Section 25.202(a)(1) of the Commission’s rules, which identifies certain band segments as available for FSS use; and (iii) the applicable band plan (Ka or V) established by the Commission.¹⁵ In any particular band segment, ViaSat would access the United States market on a primary, secondary, or nonconforming basis based on the manner in which these sources collectively treat NGSO FSS spectrum uses. The following table provides a

¹⁴ The main communications payload of each satellite in the VIASAT-NGSO network would also be capable of operating in the 17.7-17.8 GHz, 20.2-21.2 GHz, 30.0-31.0 GHz, 42.0-42.5 GHz and 51.4-52.4 GHz band segments. As a general matter, this application provides complete technical information only with respect to the frequency bands in which ViaSat is seeking authority to serve the United States. *See, e.g.,* Telesat Canada, IBFS File No. SAT-PPL-200605016-00061, at 1 n.2 (filed May 16, 2006; granted Jan. 18, 2007) (disclosing the existence of Ka-Band payload on Anik F3 but not seeking market access using the Ka-Band payload and providing only technical information regarding the C- and Ku-Band operations); *see also Establishment of Policies and Service Rules for the Mobile Satellite Service in the 2 GHz Band*, Report and Order, 15 FCC Rcd 16127, at ¶ 86 (2000) (clarifying that market access application requirements apply only to relevant system capabilities for communications to or from the United States, and not to system capabilities for communications wholly outside of the United States). ViaSat would coordinate its operations both within and outside the United States with the existing and planned operations of other operators, as appropriate.

¹⁵ *See Fixed-Satellite Service in the Ka Band*, Third Report and Order, 12 FCC Rcd 22310 (1997); *Redesignation of the 17.7-19.7 GHz Frequency Band*, Report and Order, 15 FCC Rcd 13430 (2000); First Order on Reconsideration, 16 FCC Rcd 19808 (2001) (Ka Band Plan); *Allocation and Designation of Spectrum for Fixed-Satellite Services in the 37.5-38.5 GHz, 40.5-41.5 GHz and 48.2-50.2 GHz Frequency Bands*, First Report and Order, 13 FCC Rcd 24649 (1999); *Allocation and Designation of Spectrum for Fixed-Satellite Services in the 37.5-38.5 GHz, 40.5-41.5 GHz and 48.2-50.2 GHz Frequency Bands*, Second Report and Order, 18 FCC Rcd 25428 (2003) (V Band Plan).

summary of the specific band segments in which ViaSat seeks authority to serve the United States.¹⁶

Band Segment (GHz)	Description¹⁷	NGSO FSS Status in the U.S.
17.8-18.3	Ka-Band Downlinks	Nonconforming (no U.S. allocation, but international FSS allocation)
18.3-18.6	Ka-Band Downlinks	Nonconforming (no U.S. allocation, but international FSS allocation)
18.6-18.8	Ka-Band Downlinks ¹⁸	Nonconforming (no U.S. allocation, but international FSS allocation)
18.8-19.3	Ka-Band Downlinks	Primary
19.7-20.2	Ka-Band Downlinks	Nonconforming (Primary allocation but no NGSO FSS designation under Ka Band Plan)
27.5-28.35	Ka-Band Uplinks	Operations permissible subject to the terms of the <i>Spectrum Frontiers Order</i> .
28.35-28.6	Ka-Band Uplinks	Secondary (Primary allocation but secondary designation under Ka Band Plan)
28.6-29.1	Ka-Band Uplinks	Primary
29.5-30.0	Ka-Band Uplinks	Secondary (Primary allocation but secondary designation under Ka Band Plan)
37.5-40.0	V-Band Downlinks	Operations permissible subject to the terms of the <i>Spectrum Frontiers Order</i> .
40.0-42.0	V-Band Downlinks	Primary
47.2-48.2	V-Band Uplinks	Secondary (Primary allocation but secondary designation under V Band Plan)
48.2-50.2	V-Band Uplinks	Primary
50.4-51.4	V-Band Uplinks	Primary allocation but not identified by Section 25.202(a)(1) or V Band Plan as available for FSS

¹⁶ TT&C would be provided from facilities outside of the United States at the edges of band segments specified in Section I.A of the attached Technical Annex.

¹⁷ In many instances, a given band segment is currently available under existing Commission practices to serve both “gateway-type” earth stations as well as end users; in others, that currently is not the case. See *Use of Spectrum Bands above 24 GHz for Mobile Radio Services*, 31 FCC Rcd 8014, at ¶ 69 n.166 (2016) (“*Spectrum Frontiers Order*”); 47 C.F.R. § 25.202(a)(1) & n.1. ViaSat seeks market access for the VIASAT-NGSO satellite network to the fullest extent a given band segment is permitted to be used now or may be permitted to be used in the future, as specifically authorized for such purpose in a grant of earth station authority or otherwise.

¹⁸ Use of this band segment would be limited to receiving downlink signals from GSO spacecraft transmitting in this band segment.

Based on the status of these band segments, the core operating band segments for the VIASAT-NGSO system in the United States would be the 18.8-19.3 GHz and 28.6-29.1 GHz band segments of the Ka Band, and the 40.0-42.0 GHz and 48.2-50.2 GHz band segments of the V Band. Those band segments can be used by NGSO satellite networks without any material restrictions on the location of, type of, or interference protection afforded to, associated earth stations. The additional band segments listed above are subject to various and varying limitations in the United States, and would be used on an “as, when, and where available” basis to provide important supplemental capacity when serving the United States.

Consistent with this summary, and as discussed below in greater detail, ViaSat is requesting waivers of the United States Table of Frequency Allocations, Section 25.202(a)(1) of the Commission’s rules, and/or the applicable band plan, as necessary to permit ViaSat to serve the United States using spectrum in the 17.8-18.3 GHz, 18.3-18.6 GHz, 18.6-18.8 GHz,¹⁹ 19.7-20.2 GHz, and 50.4-51.4 GHz band segments.

ViaSat’s request to use the frequencies identified in the table above to access the United States using the VIASAT-NGSO satellite network does not conflict with any satellite network operations previously authorized by the Commission. In particular, and as discussed below and in the Technical Annex in greater detail, ViaSat’s proposed operations: (i) would not conflict with the previously authorized NGSO operations of O3b Limited in the 18.8-19.3 GHz and 28.6-29.1 GHz band segments;²⁰ (ii) would not conflict with GSO operations in the band

¹⁹ As noted above, authority is sought to use this band segment for the limited purpose of receiving downlink signals from GSO spacecraft transmitting in this band segment.

²⁰ See O3b Limited, IBFS File Nos. SES-LIC-20100723-00952 (granted Sept. 25, 2012); SES-LIC-20130124-00089 (granted June 20, 2013); SES-LIC-20130528-00455 (granted May 13, 2014); SES-LIC-20130618-00516 (granted June 24, 2015); SES-LIC-20141001-00781 (granted June 8, 2015); SES-LIC-20141022-00809 (granted June 5, 2015); SES-LIC-20150310-00138 (granted Sept. 30, 2015); SAT-LOI-20141029-00118 (granted Jan.

segments identified above; and (iii) depending on network architectures and spectrum sharing terms, could coexist with a number of other NGSO systems operating in the Ka and V Bands.²¹

For these reasons, this Petition is fully consistent with the policies articulated in the *Space Station Licensing Reform Order* regarding processing of applications for NGSO-like satellite networks.²² As detailed in the following sections, this request also is consistent with Commission spectrum policies.

1. Primary NGSO FSS Allocations/Designations

In the United States, the 18.8-19.3 GHz (downlink), 28.6-29.1 GHz (uplink), 37.5-40.0 GHz (downlink), 40.0-42.0 GHz (downlink), and 48.2-50.2 GHz (uplink) band segments are allocated for FSS use on a primary basis, with NGSO use being specified as primary at 18.8-19.3 GHz and 28.6-29.1 GHz. Use of these band segments for NGSO FSS applications is also consistent with Section 25.202(a)(1) and the applicable Band Plan (Ka or V Band, as appropriate). As demonstrated in the attached Technical Annex, the VIASAT-NGSO satellite network would comply with applicable technical requirements in order to ensure that use of these frequencies would be compatible with adjacent satellite systems and other authorized services with equal or higher priority.²³

2. Secondary NGSO FSS Allocations/Designations

a. 27.5-28.35 GHz

The 27.5-28.35 GHz band is allocated to the FSS and fixed and mobile terrestrial services on a co-primary basis, and use by the FSS on a going-forward basis is subject to the

22, 2015), each as amended and/or modified.

²¹ See Technical Annex § IV.A & B.

²² See *Space Station Licensing Reform Order* ¶¶ 23 et seq.

²³ See Technical Annex § IV.

terms of the *Spectrum Frontiers Order*.²⁴ The operations of the VIASAT-NGSO satellite network would be compatible with Upper Microwave Flexible Use (“UMFU”) operations in this band segment under those requirements.²⁵

b. 28.35-28.6 GHz

The 28.35-28.6 GHz band segment is allocated to the FSS and fixed and mobile terrestrial services on a co-primary basis. Under the Ka Band Plan, the 28.35-28.6 GHz band is designated for primary use by GSO FSS operations and for secondary use by NGSO FSS operations. As demonstrated in the attached Technical Annex, the VIASAT-NGSO satellite network would be compatible with GSO FSS operations in this band segment.²⁶ In any event, ViaSat would operate in this band segment in the United States in a manner consistent with the obligations of a secondary user of spectrum to avoid harmful interference into, and to accept any interference received from, primary users. Notably, the Commission has previously permitted NGSO networks to use this band segment under similar circumstances²⁷ and should do the same here.

c. 29.5-30.0 GHz

The 29.5-30.0 GHz band is allocated to the FSS on a primary basis. Under the Ka Band Plan, the 29.5-30.0 GHz band is designated for primary use by GSO FSS operations and secondary use by NGSO FSS operations. As demonstrated in the attached Technical Annex, the

²⁴ See generally *Spectrum Frontiers Order*.

²⁵ *Id.* ¶¶ 43 *et seq.* These matters need not be resolved fully at this juncture. See *Teledesic LLC*, 14 FCC Rcd 2261, at ¶ 19 (1999) (recognizing that in granting space station authority, issues regarding how earth stations would successfully share spectrum with terrestrial operations should be resolved as part of future earth station applications).

²⁶ See Technical Annex § IV.A.

²⁷ See *Northrop Grumman Space & Mission Systems Corp.*, 24 FCC Rcd 2330 (2009); *contactMEO Communications, LLC*, 21 FCC Rcd 4035 (2006).

VIASAT-NGSO satellite network would be compatible with GSO FSS operations in this band segment.²⁸ In any event, ViaSat would operate in this band segment in the United States in a manner consistent with the obligations of a secondary user of spectrum to avoid harmful interference into, and to accept any interference received from, primary users. Notably, the Commission has previously permitted NGSO networks to use this band segment under similar circumstances²⁹ and should do the same here.

d. 47.2-48.2 GHz

The 47.2-48.2 GHz band segment is allocated to the FSS and fixed and mobile terrestrial uses on a co-primary basis. However, under the V Band Plan the 47.2-48.2 GHz band is designated for terrestrial wireless uses on a primary basis, with FSS uses secondary. As demonstrated in the attached Technical Annex, the VIASAT-NGSO satellite network would be compatible with terrestrial wireless operations in this band segment.³⁰ In any event, absent any change in the United States Table of Frequency Allocations and the V Band Plan,³¹ ViaSat would operate in this band segment in the United States in a manner consistent with the obligations of a secondary user of spectrum to avoid harmful interference into, and to accept any interference received from, primary users. Notably, the Commission has previously permitted NGSO networks to use this band segment under similar circumstances³² and should do the same here.

²⁸ See Technical Annex § IV.A.

²⁹ See *Northrop Grumman Space & Mission Systems Corp.*, 24 FCC Rcd 2330 (2009).

³⁰ See Technical Annex § IV.C.4.

³¹ See, e.g., Comments of ViaSat, Inc., GN Docket No. 14-177 (Sept. 30, 2016).

³² See *Northrop Grumman Space & Mission Systems Corp.*, 24 FCC Rcd 2330 (2009).

3. Waiver Requests for Nonconforming Spectrum Use

As noted above, ViaSat is requesting waivers of the United States Table of Frequency Allocations, Section 25.202(a)(1) of the Commission's rules, and/or the applicable Commission band plan, as necessary to permit ViaSat to serve the United States using spectrum in the 17.8-18.3 GHz, 18.3-18.6 GHz, 18.6-18.8 GHz,³³ 19.7-20.2 GHz, and 50.4-51.4 GHz band segments. As explained more fully below, grant of the requested waivers would facilitate more intensive and efficient use of spectrum without posing a risk of harmful interference to other operators.³⁴

a. 17.8-18.3 GHz

The International Table of Frequency Allocations allocates the 17.8-18.3 GHz band for use by the FSS in Region 2, which includes the United States. Similarly, the United States Table of Frequency Allocations allocates the 17.8-18.3 GHz band for FSS operations by Federal users. However, there is no non-Federal allocation for the FSS in the United States Table of Frequency Allocations in this band segment, which is allocated to the Fixed Service ("FS") on a primary basis. In addition, neither Section 25.202(a)(1) nor the Ka Band Plan identifies the 17.8-18.3 GHz band segment as one available for FSS use. ViaSat therefore requests waivers of Sections 2.106 and 25.202(a)(1), and the Ka Band Plan, as necessary to permit ViaSat to operate its downlinks in this band segment on a nonconforming basis. As demonstrated in the attached Technical Annex, ViaSat's proposed operations in the United States

³³ As noted above, authority is sought to use this band segment for the limited purpose of receiving downlink signals from GSO spacecraft transmitting in this band segment.

³⁴ 47 C.F.R. § 1.3. *See also WAIT Radio v. FCC*, 418 F.2d 1153, 1157 (D.C. Cir. 1969) (waiver is appropriate when grant "would better serve the public interest than strict adherence to the general rule"); *Fugro-Chance, Inc.*, 10 FCC Rcd 2860, at ¶ 2 (1995) (waiver of the U.S. Table of Allocations is appropriate "when there is little potential for interference into any service authorized under the Table of Frequency Allocations and when the non-conforming operator accepts any interference from authorized services").

would be compatible with FS uses of the band segment, and ViaSat would coordinate with Federal FSS uses as appropriate.³⁵ Among other things, ViaSat would comply with all applicable Commission and ITU downlink power flux density limits.³⁶

In any event, ViaSat would operate in this band segment in the United States in a manner consistent with the obligations of a nonconforming user of spectrum to avoid harmful interference into, and to accept any interference received from, both primary and secondary users. There is good cause for the requested waiver, which would facilitate productive use of the band segment without increasing the potential for harmful interference or foreclosing use of the band segment by other operators. Notably, the Commission has previously granted waivers to facilitate NGSO operations in the 17.8-18.3 GHz band segment in analogous circumstances³⁷ and should do the same here.

b. 18.3-18.6 GHz and 18.6-18.8 GHz

In the United States, the 18.3-18.6 GHz and 18.6-18.8 GHz band segments are allocated to the FSS on a primary basis, although such use is limited to GSO FSS downlinks by footnote NG164.³⁸ Similarly, the Ka Band Plan contains a designation only for GSO FSS use of these band segments. ViaSat therefore requests waivers of Sections 2.106 and the Ka Band Plan as necessary to permit ViaSat to operate its NGSO downlinks in the 18.3-18.6 GHz band segment, and to use the 18.6-18.8 GHz band segment for the limited purpose of receiving downlink signals from GSO spacecraft transmitting in this band segment, on a nonconforming

³⁵ See Technical Annex § IV.C.1 & D.

³⁶ *Id* at § IV.C.1.

³⁷ See, e.g., O3b Limited, IBFS File No. SES-LIC-20100723-00952, Call Sign E100088 (granted Sept. 25, 2012); Letter from FCC to O3b Limited, 31 FCC Rcd 342 (2016).

³⁸ 47 C.F.R. § 2.106 n.NG164.

basis. As demonstrated in the attached Technical Annex, ViaSat's proposed operations in the United States would be compatible with GSO FSS use of these band segments.³⁹

In any event, ViaSat would operate in these band segments in the United States in a manner consistent with the obligations of a nonconforming user of spectrum to avoid harmful interference into, and to accept any interference received from, both primary and secondary users. There is good cause for the requested waiver, which would facilitate productive use of these band segments without increasing the potential for harmful interference or foreclosing use of these band segments by other operators. Notably, the Commission has previously permitted NGSO networks to use FSS spectrum designated for GSO use on a nonconforming basis⁴⁰ and should do the same here.

c. 19.7-20.2 GHz

The 19.7-20.2 GHz band segment is allocated to the FSS on a primary basis. Under the Ka Band Plan, the 19.7-20.2 GHz band segment is designated for primary use by GSO FSS operations, with no secondary designation for NGSO FSS operations. ViaSat therefore requests a waiver of the Ka Band Plan to permit ViaSat to operate its downlinks in this band segment on a nonconforming basis. As demonstrated in the attached Technical Annex, ViaSat's proposed operations in the United States would be compatible with GSO FSS use of the band segment.⁴¹

In any event, ViaSat would operate in this band segment in the United States in a manner consistent with the obligations of a nonconforming user of spectrum to avoid harmful interference into, and to accept any interference received from, both primary and secondary

³⁹ See Technical Annex § IV.A.

⁴⁰ See *Northrop Grumman Space & Mission Systems Corp.*, 24 FCC Rcd 2330 (2009).

⁴¹ See Technical Annex § IV.A.

users. There is good cause for the requested waiver, which would facilitate productive use of the band segment without increasing the potential for harmful interference or foreclosing use of the band segment by other operators. Notably, the Commission has previously permitted NGSO networks to use FSS spectrum designated for GSO use on a nonconforming basis⁴² and should do the same here.

d. 50.4-51.4 GHz

In the United States, the 50.4-51.4 GHz band segment is allocated for fixed and mobile terrestrial use, as well as fixed and mobile satellite uplinks, on a co-primary basis. However, no service rules exist for the FSS in this band segment, and Section 25.202(a)(1) does not identify this band segment as one available for FSS use. Moreover, the V Band Plan designates the 50.4-51.4 GHz band segment for terrestrial wireless services only. ViaSat therefore requests waivers of Section 25.202(a)(1) and the V Band Plan as necessary to permit ViaSat to operate its uplinks in this band segment on a nonconforming basis. As demonstrated in the attached Technical Annex, ViaSat's proposed operations in the United States would be compatible with terrestrial wireless use of this band segment.⁴³

In any event, absent any change in the United States Table of Frequency Allocations and the V Band Plan,⁴⁴ ViaSat would operate in this band segment in the United States in a manner consistent with the obligations of a nonconforming user of spectrum to avoid harmful interference into, and to accept any interference received from, both primary and secondary users. There is good cause for the requested waiver, which would facilitate productive

⁴² See *Northrop Grumman Space & Mission Systems Corp.*, 24 FCC Rcd 2330 (2009).

⁴³ See Technical Annex § IV.C.4.

⁴⁴ See Petition for Rulemaking of The Boeing Company, RM-11773 (June 22, 2016); Comments of ViaSat, Inc., GN Docket No. 14-177 (Sept. 30, 2016).

use of the band segment without increasing the potential for harmful interference or foreclosing use of the band segment by other operators.

C. National Security, Law Enforcement, and Public Safety Matters

Grant of this Petition is consistent with U.S. national security, law enforcement, and public safety considerations. The satellite's authorization from the Netherlands will be held by ViaSat Netherlands B.V., a wholly owned subsidiary of ViaSat. As noted above, ViaSat has a long history of providing satellite communication service to U.S. government and military users.

III. LEGAL AND TECHNICAL INFORMATION – SECTION 25.137(B)

A. Legal Qualifications

ViaSat's legal qualifications are set forth in this Petition and in the attached Form 312. Specifically, the Petition and attached Form 312 demonstrate ViaSat's satisfaction of the applicable requirements for space station applicants set forth in Section 25.114 of the Commission's rules.⁴⁵ As noted above, ViaSat holds several Commission licenses, and its legal qualifications are a matter of record before the Commission.

B. Technical Qualifications

The attached Form 312, Schedule S, and Technical Annex (which includes a safe flight and orbital debris mitigation showing) provide the required Part 25 technical information.

C. Safe Flight and Orbital Debris Mitigation

Section 25.137 of the Commission's rules requires market access applicants to provide a safe flight and orbital debris mitigation showing.⁴⁶ In the case of applications seeking U.S. market access via non-U.S.-licensed space stations, the Commission has concluded that this requirement can be satisfied by showing that the satellite system's debris mitigation plans are

⁴⁵ See 47 C.F.R. § 25.114.

⁴⁶ See *id.* §§ 25.114(d)(14), 25.137(b).

subject to direct and effective regulatory oversight by the satellite system’s national licensing authority.⁴⁷ The Commission has determined that this showing can be made by referencing an English language version of the debris mitigation rules or regulations of the national licensing authority and indicating the current status of the national licensing authority’s review of its debris mitigation plans.⁴⁸

As discussed above, ViaSat is pursuing a license to operate the VIASAT-NGSO satellite network under the authority of the government of the Netherlands. Notably, the Netherlands’ Space Activities Act⁴⁹ provides that a license application will be refused where it does not sufficiently ensure safety, protect the environment in outer space, and satisfy related international obligations.⁵⁰ Accordingly, as part of the licensing process, ViaSat will submit to the Netherlands information similar to that set forth in Section I.B of the attached Technical Annex, which describes ViaSat’s plan for safe flight as well as ViaSat’s strategy for mitigating orbital debris. ViaSat expects that the Netherlands, consistent with its past practice, will evaluate

⁴⁷ *Mitigation of Orbital Debris*, Second Report and Order, 19 FCC Rcd 11567, at ¶¶ 94, 95 (2004) (“*Orbital Debris Second Report and Order*”).

⁴⁸ *Id.* at ¶ 95; *Globalstar Licensee LLC, GUSA Licensee LLC, GCL Licensee LLC*, Order, 26 FCC Rcd 3948, at ¶¶ 30-32 (2011) (concluding that French Space Operations law and technical regulations provide for direct and effective regulation of debris mitigation measures by France, resulting in a finding that Globalstar provided adequate orbital debris mitigation showing); *O3b Limited, IBFS File No. SES-LIC-20100723-00952*, Call Sign E100088, Condition 90045 (granted Sept. 25, 2012) (determining that O3b’s request for a waiver of Section 25.283(c) for unvented pressure vessels was unnecessary, finding that O3b is subject to direct and effective regulation by the United Kingdom concerning orbital debris mitigation); *see also* *ViaSat, Inc., IBFS File No. SAT-MOD-20141105-00121*, Condition 4 (granted Apr. 15, 2015).

⁴⁹ *See* United Nations Office for Outer Space Affairs, *Selected Examples of National Laws Governing Space Activities: Netherlands* (translation of Netherlands Space Activities Act of June 13, 2006), available at http://www.unoosa.org/oosa/en/ourwork/spacelaw/nationalspacelaw/netherlands/space_activities_actE.html.

⁵⁰ *Id.* § 6.

this information with reference to: (i) the Space Debris Mitigation Guidelines of the United Nations Committee on the Peaceful Uses of Outer Space; (ii) the Space Debris Mitigation Guidelines of the Inter-Agency Space Debris Coordination Committee; (iii) ITU Recommendation ITU-R S.1003; (iv) the European Code of Conduct for Space Debris Mitigation; and (v) applicable ISO Standards. ViaSat submits that the requirements of Sections 25.114(d)(14) and 25.283(c) are therefore satisfied. Should the Commission nevertheless choose to conduct an independent review of ViaSat's safe flight and orbital debris mitigation plans, pertinent information is set forth in Section I.B of the attached Technical Annex.

IV. ADDITIONAL REQUIREMENTS – SECTION 25.137(D)

A. Milestones and Bond Requirement

ViaSat plans to implement the VIASAT-NGSO satellite network in compliance with the Commission's current milestone and surety bond requirements.⁵¹

B. Reporting Requirements

ViaSat would comply with all applicable Commission reporting requirements for the VIASAT-NGSO satellite network if this Petition is granted.

C. Spectrum Usage

ViaSat does not currently have any other Commission application for a NGSO-like satellite system license or market access authorization, or any Commission license or authorization for a granted but unbuilt NGSO-like system in the frequency bands covered by this Petition.⁵²

⁵¹ See 47 C.F.R. §§ 25.164 and 25.165; *see also Part 25 Reform Order*.

⁵² See 47 C.F.R. §§ 25.137(d)(5), 25.159(b).

D. Ownership Information

ViaSat is a Delaware corporation and a publicly traded company headquartered at 6155 El Camino Real, Carlsbad, California 92009. As a publicly traded company, the stock of ViaSat is widely held. Based on SEC filings publicly available as of November 11, 2016, the following entities and their affiliates beneficially own 10 percent or more of ViaSat’s voting stock:

Beneficial Owner	Citizenship	Voting Percentage
The Baupost Group, L.L.C. 10 St. James Avenue Suite 1700 Boston, MA 02116	Massachusetts	23.4%
FPR Partners LLC 199 Fremont Street Suite 2500 San Francisco, CA 94105	Delaware	12.0%

No other stockholders are known by ViaSat to hold 10 percent or more of ViaSat’s voting stock.

The following are the officers and directors of ViaSat, all of whom can be reached c/o ViaSat, Inc., 6155 El Camino Real, Carlsbad, CA 92009.

Directors

Mark D. Dankberg, Chairman, CEO
Richard A. Baldrige
Frank J. Biondi Jr.
Dr. Robert W. Johnson
B. Allen Lay
Dr. Jeffrey M. Nash
John P. Stenbit
Harvey P. White

Officers/Senior Management

Mark D. Dankberg, Chairman, CEO
Richard A. Baldrige, President, COO
Melinda Del Toro, Senior VP, People & Culture
Bruce Dirks, Senior VP, Treasury & Corporate Development
Shawn Duffy, Senior VP, CFO, CAO
Kevin Harkenrider, Senior VP – Commercial Networks
Keven K. Lippert, Executive VP, General Counsel, Secretary
Mark J. Miller, Executive VP and Chief Technical Officer
Ken Peterman, Senior VP – Government Systems
Douglas Abts, VP Strategy Development, Satellite Services
Robert Blair, VP, Deputy General Counsel

V. REQUEST FOR WAIVERS

In addition to the waivers of the United States Table of Frequency Allocations, Section 25.202(a), and applicable Ka and V Band Plans discussed above, ViaSat requests waivers of the following Commission rules and policies.

A. Partial Waiver of Application Acceptance Standard

In recent years, the Commission has processed space station applications under a rigorous standard that requires them to be substantially complete when filed.⁵³ Under this standard, applications may be dismissed if a material element of the application is missing or defective. Although ViaSat understands the Commission's basis for applying this standard, it can have draconian implications where a space station application is complex—*e.g.*, where it involves multiple frequency band segments that are subject to many different and differing requirements. Should the Commission determine that any portion of this application does not satisfy its requirements, ViaSat requests that the Commission limit any consequent action it takes to the particularly frequency band segment(s) and proposed use(s) at issue, and requests a partial waiver of Section 25.112 to the extent necessary to effect this result. Under this approach, the

⁵³ See 47 C.F.R. § 25.112.

Commission would continue to consider the remainder of the application without prejudice.⁵⁴ There is good cause for the requested waiver in that it would avoid unduly harsh results (particularly given that this application is being filed as part of two processing rounds) and would conserve limited Commission resources by allowing any concerns to be addressed on a band-specific basis.

B. Waiver of Section 25.156(d)(5)

Section 25.156(d)(5) of the Commission’s rules provides that where the Commission has not yet adopted band-specific satellite service rules, the Commission will not consider an application seeking authority to operate a NGSO-like satellite network after it has granted an application for GSO-like operations in the same band unless and until the Commission establishes NGSO/GSO sharing criteria for that frequency band segment.⁵⁵ The Commission has not yet adopted band-specific satellite service rules for the 17.8-18.3 GHz, 27.5-28.35 GHz, 37.5-42.0 GHz, 47.2-50.2 GHz, or 50.4-51.4 GHz band segments.⁵⁶ However,

⁵⁴ See V-Band Processing Round PN at 1 (deferring consideration of request for authority to operate in certain band segments while placing remainder of application on public notice).

⁵⁵ 47 C.F.R. § 25.156(d)(5). In adopting this provision, the Commission was clear that “priority” under this rule is determined by which type of application (GSO-like or NGSO-like) is filed first:

“[I]f a GSO-like satellite system application is filed first, we will consider other GSO-like satellite system applications in the order they are filed, and we will dismiss subsequently-filed NGSO-like satellite system applications in that band until sharing criteria are established. This is consistent with our current practice. For example, in the Ku-band, we initially considered only GSO satellite applications because the first applications for licenses in that band were for GSO systems. We did not begin considering Ku-band NGSO applications until we had established sharing criteria for compatible services with GSO applicants in that band.” *Space Station Licensing Reform Order* ¶ 58. The Commission treated previously filed GSO-like and NGSO-like applications in the V Band as having been filed at the same time. See *id.* ¶ 279.

⁵⁶ The service rules regarding earth station operations in the 27.5-28.35 GHz and 37.5-40.0 GHz band segments address coexistence with terrestrial uses of this spectrum, not the

the Commission has granted applications for GSO-like operations,⁵⁷ as well as NGSO-like operations,⁵⁸ in all or part of these band segments other than 50.4-51.4 GHz. The applications for previously authorized GSO and NGSO⁵⁹ systems demonstrate the ability of both types of satellite systems to coexist in these band segments even in the absence of formal sharing criteria adopted by the Commission. And, as demonstrated in the attached Technical Annex, the VIASAT-NGSO network is fully compatible with subsequently granted GSO systems and will not preclude additional entry by GSO applicants in any of the 17.8-18.6 GHz, 18.6-18.8 GHz, 18.8-19.3 GHz, 19.7-20.2 GHz, 27.5-29.1 GHz, 29.5-30 GHz, 37.5-42.0 GHz, 47.2-50.2, or 50.4-51.4 GHz band segments.⁶⁰ ViaSat does not believe that Section 25.156(d)(5) was intended to foreclose NGSO use of such band segments, or preclude future GSO applications in such band segments, under these circumstances. However, out of an abundance of caution ViaSat requests a waiver of Section 25.156(d)(5) to the extent necessary, and a clarification by the Commission to this effect, as appropriate.

C. Waiver of Section 25.210(i) and Section 25.217(b)(1)

Section 25.210(i) specifies certain cross-polarization isolation requirements for space station antennas operating in the 17/24 GHz Broadcasting Satellite Service.⁶¹ Until recently, that section also specified similar requirements for the FSS. However, in the *Part 25*

operation of spacecraft. Section 25.145 addresses NGSO FSS licensing in the 18.3-20.2 GHz and 28.35-30.0 GHz band segments. *See* 47 C.F.R. § 25.145.

⁵⁷ *See, e.g., Inmarsat Mobile Networks, Inc., Order and Authorization and Declaratory Ruling*, 30 FCC Rcd 2770, at ¶ 25 (2015); *see also Northrop Grumman Order*.

⁵⁸ *See, e.g., O3b Limited, IBFS File Nos. SES-LIC-20100723-00952* (granted Sept. 25, 2012); *see also Northrop Grumman Order*.

⁵⁹ *See* n.57 & n.58, *supra*.

⁶⁰ Technical Annex § IV.A.

⁶¹ 47 C.F.R. § 25.210(i).

Reform Order the Commission eliminated such requirements after concluding that they were “unnecessary to protect analog signals” in the FSS bands.⁶² The Schedule S software does not allow the entry of cross-polarization isolation information for an FSS system. Nevertheless, the Commission’s “default” service rules continue to cross-reference Section 25.210(i) with respect to all band segments for which no specific service rules have been adopted and “notwithstanding the frequency bands specified” in that Section 25.210(i).⁶³ Although ViaSat believes that Section 25.210(i) is inapplicable because it applies by its current terms only to the 17/24 GHz Broadcasting Satellite Service (which is a distinct *service* from the FSS), and because of the decision in the *Part 25 Reform Order*, ViaSat requests waivers of Sections 25.217(b)(1) and 25.210(i) to the extent necessary to render that section inapplicable to the VIASAT-NGSO satellite network. There is good cause for such waiver given the Commission’s conclusion, in the *Part 25 Reform Order*, that application of its cross-polarization isolation requirements is no longer appropriate in the FSS context.

VI. SCHEDULE S MATTERS

The Instructions to Schedule S direct applicants to provide certain orbital plane information, including the “begin” and “end” angles of the active service arc for each such plane.⁶⁴ In certain cases (*i.e.*, satellites in polar orbits or with orbits inclined between 0 and 180 degrees), the Instructions seemingly direct applicants to enter negative values for one or both of these angles.⁶⁵ However, the Commission’s online Schedule S interface does not allow entry of

⁶² *Part 25 Reform Order* ¶ 333.

⁶³ See 47 C.F.R. 25.217(b)(1) (cross-referencing 47 C.F.R. § 25.210(i)).

⁶⁴ See *Specific Instructions for Schedule S* (Apr. 2016), at 4, available at <https://enterpriseefiling.fcc.gov/schedules/resources/Instructions%20for%20Schedule%20S%20vApr2016.pdf> (“Instructions to Schedule S”).

⁶⁵ *Id.*

negative values in this fashion. ViaSat therefore has entered “0” for “begin” angles and “360” for “end” angles, to indicate that the satellites would be active during the entirety of their orbits.⁶⁶

The Instructions to Schedule S also direct applicants to specify whether each communications channel would be used by the satellite network being described for feeder link, service link, or TT&C purposes (using a drop-down list that limits responses to those three options alone).⁶⁷ As discussed above, Section 25.103 of the Commission’s rules defines “feeder links” to exclude radio links for the FSS.⁶⁸ Because ViaSat seeks authority to provide FSS, none of the channels to be used by the VIASAT-NGSO satellite network is properly characterized as a “feeder link,” and ViaSat has designated its frequency channels as being for “service links” regardless on the nature of the associated earth station that may be authorized to communicate over that channel.⁶⁹ The VIASAT-NGSO design allows all service link channels to be used to communicate with “gateway-type” earth stations as well as earth stations for end users. ViaSat acknowledges that, in many instances, a given band segment for which market access is sought currently is available under existing Commission practices to serve both “gateway-type” earth stations as well as end users; in others, that currently is not the case.⁷⁰ Similarly, the Commission’s online Schedule S interface does not allow entry of an answer to the “polarization switchable” data field for the specified transmitting and receiving beams. The beams specified in Schedule S are not polarization switchable.

⁶⁶ See Technical Annex § V.

⁶⁷ Instructions to Schedule S at 8, 12.

⁶⁸ See 47 C.F.R. § 25.103.

⁶⁹ See Technical Annex § V.

⁷⁰ See n.17, *supra*.

In addition, ViaSat has been unable to enter into the Schedule S information with respect to its proposed satellite-to-satellite links (*i.e.*, the MEO-to-GSO payload) due to limitations in the Commission’s Schedule S interface. Moreover, beam files for the RG1B, RG2B, TG1B, and TG2B beams on the MEO-to-GSO payload are not able to be generated in the GXT/GIMS format because that software produces beams that fall on the Earth’s surface, and does not allow the generation of beams directed toward GSO spacecraft. In this case, the MEO-to-GSO beams always point into space—toward a designated GSO spacecraft when the intended satellite is in view and communications with that GSO satellite are occurring.

To provide the analog of the data provided by GXT beam files that are used for interference analyses, ViaSat has explained in the Technical Annex that it will use antenna and transmitting facilities on the MEO-to-GSO payload that are compliant with the Section 25.138 off-axis equivalent isotropically radiated power (“EIRP”) density mask.⁷¹ By complying with the off-axis EIRP density mask and by also ensuring that the 3-sigma antenna pointing error is less than 0.2 degrees, compatibility with the two-degree spacing environment in the GSO arc is ensured, much in the same way that it is for GSO operations more generally. Thus, ViaSat submits that the provided information about each MEO-to-GSO antenna beam’s compliance with Section 25.138 of the Commission’s rules, and the intention to communicate with spacecraft on the GSO arc at various longitudes, is a suitable substitute for beam data otherwise provided in GXT/GIMS format.

For these reasons, ViaSat is providing in narrative format in the Technical Annex all material information specified in Section 25.114 with respect to the proposed MEO-to-GSO

⁷¹ See 47 C.F.R. § 25.138.

payload. ViaSat also is prepared to submit this type of data through the Schedule S form based on instructions from the FCC staff.

To the extent necessary, ViaSat requests a waiver of the Instructions to Schedule S to accommodate the approach to providing the Schedule S data discussed above. There is good cause for such waiver as: (i) any departure from the Instructions is due to limitations imposed by the structure of Schedule S and/or the Commission's online interface; (ii) the Commission and other interested parties have full access to accurate information with respect to the propose VIASAT-NGSO satellite network.

VII. PROCESSING OF THIS PETITION

As discussed above, the VIASAT-NGSO satellite network would provide service in both the Ka Band and the V Band. The Commission has explained that it favors applications for “hybrid” networks of this type and “tr[ies] to encourage deployment of hybrid satellites because there are cost benefits in implementing several service bands on a single space platform.”⁷² That certainly is the case with the proposed VIASAT-NGSO satellite network.

Almost all of the band segments covered by this Petition are the subject of one of two recent cut-off notices.⁷³ The remaining band segments covered by this Petition—the 18.6-18.8 GHz and 19.7-20.2 GHz band segments—are not covered by any existing cut-off notice. Although the Commission has not expressly addressed what procedures it will use where a single application covers band segments that are the subject of multiple processing rounds, ViaSat believes it would be appropriate for the Commission to simultaneously consider the entirety of

⁷² *Space Station Licensing Reform Order* ¶ 146.

⁷³ *See* n.3, *supra*.

its application.⁷⁴ Among other things, this approach would be consistent with the Commission’s stated policy of simultaneously considering all service bands covered by applications for authority to operate GSO-like networks.⁷⁵ Accordingly, ViaSat requests that the Commission consider simultaneously the requests for all of the spectrum band segments contained in this Petition.⁷⁶

VIII. WAIVER PURSUANT TO SECTION 304 OF THE COMMUNICATIONS ACT

In accordance with Section 304 of the Communications Act of 1934, as amended, ViaSat hereby waives any claim to the use of any particular frequency or of the electromagnetic

⁷⁴ ViaSat submits that this is not a case governed by either Section 25.156(d)(3) or Section 25.156(d)(4). Section 25.156(d)(3) provides that where an application seeks GSO-like and NGSO-like service-link authority in different bands, the GSO-like service band request will be considered under the first-come procedures of Section 25.157, and the NGSO-like service band request will be considered under modified processing round procedures of Section 25.158. *See* 47 C.F.R. § 25.156(d)(3); 47 C.F.R. §§ 25.157 and 25.158. Section 25.156(d)(4) provides that the Commission will review requests for feeder-link spectrum or inter-satellite link spectrum for a satellite network in a given band separately from a request for service-link spectrum for that network *in a different band*. *See* 47 C.F.R. § 25.156(d)(4); *Space Station Licensing Reform Order* ¶¶ 125 *et seq.* In this case, ViaSat is seeking to use specified Ka-Band and V-Band frequency segments for the same purposes—FSS radio links—under the same system architecture. Moreover: (i) none of ViaSat’s proposed operations can be characterized as “feeder links,” as defined by the Commission, *see* 47 C.F.R. § 25.103 (excluding communications in support of the FSS from the definition of “Feeder Link”); and (ii) the proposed satellite-to-satellite links would communicate with spacecraft outside the VIASAT-NGSO network, and thus are not the *intra-system*, inter-satellite links the Commission identified in adopting Section 25.156(d)(4), which are described as links “by which satellites in a constellation may communicate with each other.” *Space Station Licensing Reform Order* ¶ 125.

⁷⁵ *Space Station Licensing Reform Order* ¶ 147 (explaining that the Commission “will consider together both frequency band requests in a hybrid satellite application for purposes of the first-come, first-served procedure”).

⁷⁶ To the extent the Commission concludes that ViaSat’s proposed satellite-to-satellite links are not compatible with the operations of the other NGSO networks subject to the Ka-Band Processing Round PN, ViaSat’s proposed spectrum use should be considered a “competing” application and simultaneously considered under Section 25.157’s modified processing round procedures.

spectrum as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise.

IX. CONCLUSION

For the foregoing reasons, granting ViaSat's Petition seeking to access the United States using the VIASAT-NGSO satellite network would serve the public interest, convenience, and necessity. ViaSat respectfully requests that the Commission promptly grant this Petition.

Respectfully submitted,

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November 15, 2016