

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
WorldVu Satellites Limited d/b/a OneWeb)	IBFS File No. SAT-LOI-
Petition for Declaratory Ruling Granting)	20160428-00041
Access to the U.S. Market for the OneWeb)	
System)	

REPLY OF VIASAT, INC.

ViaSat, Inc. (“ViaSat”) submits this reply to the Opposition and Response of WorldVu Satellites Limited d/b/a OneWeb (“OneWeb”) filed in connection with OneWeb’s Petition for Declaratory Ruling (“Petition”) seeking U.S. market access for its NGSO satellite constellation.¹

OneWeb’s response to ViaSat’s comments reaffirms the need to analyze the issues raised in OneWeb’s Petition based on a comprehensive picture of the proposed operating environment, which necessarily includes all other NGSO systems proposed in the current processing round.² As such, ViaSat does not take a position regarding the issues in OneWeb’s application within the current comment window. However, ViaSat anticipates engaging with OneWeb in good faith coordination discussions at the appropriate time. Therefore, ViaSat reiterates its request that the Commission defer consideration of issues raised in the Petition until

¹ WorldVu Satellites Limited, Opposition and Response of WorldVu Satellites Limited, File No. SAT-LOI-20160428-00041 (filed Aug. 25, 2016) (“Opposition”).

² *See Satellite Policy Branch Information; OneWeb Petition Accepted for Filing; IBFS File No. SAT-LOI-20160428-00041; Cut-Off Established for Additional NGSO-Like Satellite Applications or Petitions for Operations in the 10.7-12.7 GHz, 14.0-14.5 GHz, 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 Bands, Public Notice, DA 16-804 (July 15, 2016) (“Public Notice”).*

interested parties have the opportunity to evaluate fully the operating environment presented by all of the NGSO systems applied for by November 15, 2016.

ViaSat's comments addressed OneWeb's request for waivers of (i) the band-segmentation procedures set forth in the Commission's NGSO application processing rules, and (ii) requirements to provide information needed to verify compliance with certain Commission and ITU technical limits for NGSO systems established to protect co-frequency GSO systems.³ ViaSat explained that consideration of these waiver requests requires concurrent analysis of the other NGSO applications that may be filed in the processing round.⁴

In response, OneWeb acknowledges that ViaSat's request to defer action on OneWeb's band segmentation waiver pending consideration of all other NGSO applications filed in the processing round would be "fulfilled as a practical matter, because those applications will soon be filed this November."⁵ ViaSat appreciates OneWeb's agreement on this procedural reality. OneWeb cites this aspect of ViaSat's comments, and other comments expressing a preference for spectrum sharing through coordination where possible, to state that there is support for granting a waiver request of the band-segmentation approach in processing NGSO applications. In addressing ViaSat's request to await further information in the NGSO processing round regarding other systems before evaluating the basis for OneWeb's EPFD compliance demonstration, OneWeb suggests that the single-entry EPFD compliance demonstration is separate from the calculation of the aggregate EPFD of multiple systems, and urges the Commission to reject ViaSat's request to consider additional information in the NGSO

³ Comments of ViaSat, Inc., IBFS File No. SAT-LOI-20160428-00041, at 1-2 (Aug. 15, 2016) ("ViaSat Comments").

⁴ *Id.* at 5, 7.

⁵ Opposition at n.11.

processing round regarding information that would be relevant to calculating the aggregate EPFD impact of all NGSO systems into GSO networks.⁶

As an initial matter, OneWeb overstates the level of support in the record for its requested waiver of the band-segmentation rule.⁷ OneWeb cites the lack of opposition to its request for a waiver of this rule to conclude that the Commission should decline to consider this fallback sharing mechanism without evaluating whether sharing under alternative mechanisms would even be achievable.⁸ ViaSat explained that more information is needed before the relevant compatibility assessments can be made to evaluate whether a waiver of the band segmentation approach in the NGSO application processing rules may be warranted. Because these facts are not yet available, ViaSat did not take a position on this waiver request. Similarly, other parties did not expressly or unconditionally support grant of the waiver request. While other comments and petitions to deny OneWeb's Petition express a preference for spectrum sharing by NGSO networks through voluntary coordination, they each recognize that the feasibility of such a sharing mechanism entirely is dependent upon the system designs of the other NGSO systems that have not yet been filed in the processing round.⁹ OneWeb itself

⁶ *Id.* at 25.

⁷ *See id.* at 5.

⁸ *Id.* at 5-6.

⁹ *See, e.g.*, Petition to Deny of Telesat Canada, IBFS File No. SAT-LOI-20160428-00041, at 3-4 (Aug. 15, 2016) (agreeing that band splitting is not the right approach but acknowledging that other sharing mechanisms depend on coordination and compatibility of NGSO networks); Comments of Space Exploration Technologies Corp., IBFS File No. SAT-LOI-20160428-00041, at 15 (Aug. 15, 2016) (preferring an approach based on coordination and avoidance of in-line interference over band segmentation, but acknowledging that the feasibility of such an approach depends on other NGSO systems in the processing round); Comments of The Boeing Company, IBFS File No. SAT-LOI-20160428-00041, at 2 (Aug. 15, 2016) (indicating that “it *may* be possible for system

acknowledges that any determination regarding its request for a waiver of the band-splitting approach established in the Commission’s rules would impact other NGSO applications and, as a practical matter, would need to take into consideration other NGSO applications that will soon be filed in the processing round.¹⁰

As to the second concern that ViaSat raised, OneWeb does not address the need to ensure that GSO networks are protected from the aggregate impact of multiple NGSO networks operating in overlapping frequencies.¹¹ In addition to the single-entry EPFD limits in Article 22 of the ITU Radio Regulations,¹² the Commission must also determine whether all of the planned and operating NGSO systems in the aggregate meet the EPFD limits in Resolution 76, which are established to protect GSO FSS and GSO BSS networks from harmful interference.¹³ As ViaSat noted in its comments, information regarding the underlying calculation of individual system EPFD levels likely will form the basis for determining and evaluating the aggregate EPFD levels for all NGSO systems proposed in the processing round.¹⁴ While ViaSat agrees that access to the source code for the software used to demonstrate compliance with the single-entry EPFD validation limits is unnecessary,¹⁵ evaluation of OneWeb’s Petition still requires an assessment

proponents to enter voluntary arrangements that would obviate the need for the one-third rule” (emphasis added)).

¹⁰ Opposition at 5-6, n.11.

¹¹ See ViaSat Comments at 7.

¹² See International Telecommunication Union, Radio Regulations, Art. §§ 22.5I, 22.5K (2012).

¹³ See International Telecommunication Union, Radio Regulations, Resolution 76 (WRC-2000) (2012).

¹⁴ ViaSat Comments at 7.

¹⁵ Based on discussions between ViaSat and OneWeb, ViaSat is comfortable that the EPFD validation software tested and approved by the ITU will adequately verify conformance with the single-entry EPFD limits.

of the impact on GSO systems of aggregate EPFD from all NGSO systems in the processing round. In the Opposition, OneWeb merely responds that there currently is no defined methodology for calculating aggregate EPFD from multiple systems, and suggests that the Commission should simply assess OneWeb's compliance with the single-entry EPFD limit.¹⁶

OneWeb's single-entry EPFD compliance demonstration cannot be evaluated in a vacuum. OneWeb's individual-system EPFD levels are a necessary input into any determination of aggregate EPFD levels of all NGSO systems in the processing round. Therefore, it is crucial to afford interested parties the opportunity to evaluate OneWeb's EPFD compliance demonstration concurrently with other NGSO systems expected to be proposed in the processing round. Indeed, a number of important public interest considerations must be evaluated concurrently for OneWeb's Petition and the other proposed NGSO systems in the processing round. For instance, assessing the compatibility of the proposed NGSO systems with co-frequency GSO FSS systems requires consideration of adequate protection of GSO FSS systems in the Ka band, in addition to those in the Ku band,¹⁷ and (at the appropriate time) single-entry operational limits and additional operational limits.¹⁸ The consideration of these issues necessarily will require evaluation of each of the proposed NGSO systems using a consistent and uniform methodology. Thus, it would be inappropriate to base any such determinations on OneWeb's Petition alone.

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¹⁶ See Opposition at 25.

¹⁷ Section 25.208 provides single-entry and aggregate EPFD limits in the Ku band, but not the Ka band.

¹⁸ See 47 C.F.R. § 25.146(b).

For the foregoing reasons and as discussed in its comments, ViaSat respectfully requests that the Commission afford interested parties the opportunity to comment on OneWeb's application within the context of the operating environment presented by all of the applications that are filed in the current processing round. Therefore, ViaSat urges the Commission to defer consideration of OneWeb's Petition until after the close of the NGSO application processing round to enable a full and complete assessment of the sharing environment.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I, Kayla Ernst, hereby certify that on this 1st day of September, 2016, I served a true copy of the foregoing Reply of ViaSat, Inc. via first-class mail upon the following:

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