

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)
)
Viasat, Inc.)
)
Application for Modification of) File No. SAT-MPL-20200526-00056
Authorization for the Viasat NGSO)
Satellite System)
)

REPLY COMMENTS OF KUIPER SYSTEMS LLC

Kuiper Systems LLC, a wholly owned subsidiary of Amazon.com Services LLC (collectively, “Amazon”), submits the following reply comments on the above-referenced application of Viasat, Inc. (“Viasat”) seeking approval to redesign its non-geostationary orbit (“NGSO”) fixed-satellite service (“FSS”) constellation via a modification of authority (the “Modification”).¹

I. INTRODUCTION AND SUMMARY.

While Viasat acknowledges that the relevant standard for evaluating modification applications is set forth in the Commission’s decision in *Teledesic LLC*,² Viasat’s interpretation of the *Teledesic* standard in its Modification and Opposition³ is inconsistent with that precedent, contrary to the public interest, and would undermine the NGSO FSS processing round framework. Contrary to Viasat’s claims, *Teledesic* requires Viasat to consider the interference impact of its

¹ Viasat, Inc., Application for Modification of Authorization for the Viasat NGSO System, IBFS File No. SAT-MPL-20200526-00056 (filed May 26, 2020) (“*Modification*”).

² See *Teledesic LLC, Minor Modification of License to Construct, Launch and Operate a Non-Geostationary Fixed Satellite Service System*, Order and Authorization, 14 FCC Rcd 2261, ¶ 7 (1999) (“*Teledesic*”).

³ Consolidated Opposition to Petitions and Response to Comments of Viasat, Inc., IBFS File No. SAT-MPL-20200526-00056 (filed Sept. 15, 2020) (“*Opposition*”).

Modification on the Kuiper System. Amazon’s analysis shows that Viasat’s Modification fails the *Teledesic* standard by creating significant interference problems to the Kuiper System; accordingly, the Commission should include the Ka-band portions of the Modification as part of the 2020 Processing Round. Additionally, the Commission should include the V-band portions of the Modification in a future V-band processing round.

II. THE TELEDESIC STANDARD REQUIRES EVALUATING VIASAT’S MODIFICATION’S IMPACT TO ALL KNOWN NGSO FSS LICENSEES AND APPLICANTS, NOT ONLY LICENSEES IN THE 2016 PROCESSING ROUND.

A. In *Teledesic*, the FCC evaluated the proposed modification’s impact to all licensed and pending NGSO FSS systems in shared frequency bands.

The *Teledesic* decision states that a modification is not in the public interest if it would “create any significant interference problems to other systems or make sharing [with] other NGSO FSS systems significantly more difficult.”⁴ Viasat incorrectly interprets the phrase “other NGSO FSS systems” to include only those systems in its own processing round.⁵ The Commission clarified in that decision, “[w]e disagree with *Teledesic* that we should evaluate its modification application only in reference to its impact on the NGSO FSS system on file before *Teledesic* filed its modification application, and not by reference to its impact on other proposed second round Ka-band systems. . . . [W]e will evaluate *Teledesic*’s proposed modifications with respect to all pending NGSO FSS applications, and with licensed systems operating in shared frequency bands.”⁶ The Commission, in other words, explicitly analyzed the interference effects of a modification to *Teledesic*’s earlier-round system with respect to subsequent processing round applicants.

⁴ *Teledesic*, at ¶ 7.

⁵ *See Opposition*, at 21-23.

⁶ *Teledesic*, at ¶ 7.

In attempting to refute this point, Viasat overstates the significance of the phrase “other NGSO FSS system in the same processing round” in the Commission’s grant of SpaceX’s first modification.⁷ Unlike in *Teledesic*, at the time of SpaceX’s first modification, the FCC had not yet opened a subsequent processing round, and thus the phrase “other NGSO system in the same processing round” factually described the group of systems to be considered at that time.⁸ Here, by contrast, Viasat’s Modification was filed at a time when a new processing round had been initiated, and the record demonstrates that the Modification creates significant interference problems to, and makes sharing more difficult with, NGSO FSS systems in shared frequency bands, such as the Kuiper System.⁹ Thus, Viasat defines the *Teledesic* standard much more narrowly than *Teledesic* did.¹⁰

B. Viasat’s proposed reading of the *Teledesic* standard would undermine the Commission’s policy of promoting certainty and competition through the NGSO FSS processing round framework.

The FCC has explained that the NGSO FSS processing round regime is intended “to establish a sharing environment among NGSO systems, to provide a measure of certainty in lieu

⁷ See *Opposition*, at 21. See also *Space Exploration Holdings, LLC, Request for Modification of the Authorization for the SpaceX NGSO Satellite System*, Order and Authorization, 34 FCC Rcd 2526, ¶ 11 (2019).

⁸ The subsequent processing round was the NGSO FSS processing round initiated on March 24, 2020 (the “2020 Processing Round”), which had not opened at the time SpaceX filed for its first modification in 2018. See *Satellite Policy Branch Information, Cut-Off Established for Additional NGSO FSS Applications or Petitions for Operations in the 10.7-12.7 GHz, 12.75-13.25 GHz, 13.8-14.5 GHz, 17.7-18.6 GHz, 18.8-20.2 GHz, and 27.5-30 GHz Bands*, Public Notice, 35 FCC Rcd 2881 (2020).

⁹ See Comments of Kuiper Systems LLC, IBFS File No. SAT-MPL-20200526-00056, at 7-18 (filed Aug. 31, 2020) (“*Amazon Comments*”); Comments of the Boeing Company, IBFS File No. SAT-MPL-20200526-00056, at 6-7 (filed Aug. 31, 2020); Petition to Deny or Condition of O3b Limited, IBFS File No. SAT-MPL-20200526-00056, at 6-11 (filed Aug. 31, 2020); Petition to Deny or Defer of Space Exploration Holdings, LLC, IBFS File No. SAT-MPL-20200526-00056, at 11-17 (filed Aug. 31, 2020); Petition to Deny or Defer Consideration of Telesat Canada, IBFS File No. SAT-MPL-20200526-00056, at Technical Appendix, 6-8, 11-17 (filed Aug. 31, 2020).

¹⁰ *Opposition*, at i-ii.

of adopting an open-ended requirement to accommodate all future applicants.”¹¹ Viasat stated that because the Kuiper System was licensed as part of a later processing round, the Kuiper System must protect Viasat’s system from interference.¹² It is unreasonable to expect later-round applicants to design their systems to avoid causing interference to earlier authorized systems if those earlier authorized systems significantly change the interference they cause or their susceptibility to interference at any time. Viasat’s interpretation of the *Teledesic* standard would undermine certainty in the interference environment and undercut the rationale for later processing rounds. *Teledesic* addresses this by requiring consideration of the Modification’s impact on all known NGSO FSS systems, even those in subsequent processing rounds. Altering the *Teledesic* standard to exclude effects on participants in other processing rounds would set a dangerous precedent for allowing behavior that stifles future innovation and inhibits coordination.

Finally, Viasat wrongly asserts that including its Modification in the 2020 Processing Round would create an “open-ended” processing round.¹³ The FCC’s stated preference to avoid an “open-ended” processing round was in the context of reviewing whether existing systems should be subject to continuous entry by new systems.¹⁴ It has no relevance to the appropriate treatment of a licensee who makes the decision, wholly within its control, to modify its system in a way that causes a significant impact to the interference environment and limits the possibility for future competitive entry.

¹¹ *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, ¶ 61 (2017) (“2017 NGSO Order”).

¹² *Opposition*, at 21.

¹³ *Id.* at 22.

¹⁴ 2017 NGSO Order, at ¶ 61.

For these reasons, the Commission should not accept Viasat’s incorrect interpretation of the *Teledesic* standard.

C. Viasat offers no analysis to refute Amazon’s showing that the Modification would cause significant interference to and be more susceptible to interference from the Kuiper System.

In its Opposition, Viasat relies on the argument that any interference with respect to the Kuiper System is irrelevant rather than making any affirmative showing.¹⁵ Instead of demonstrating that the modified Viasat system will not cause a significant increase in interference to and from the Kuiper System, Viasat claims that “there is nothing ‘unfair’ about allowing an operator to modify its system and preserve its processing round status where, as here, that modification is within the NGSO FSS technical envelope and operating environment established in that prior processing round.”¹⁶ However, Viasat provides only a vague commitment to operational tools available to keep interference within those levels.¹⁷ This position is in contrast to the Viasat statement regarding SpaceX’s third modification, where it argued, “[t]here no longer is time to rely on bald assertions and unsupported certifications about critical technical matters.”¹⁸ Further, Viasat’s broad assertions about its operational envelope fail to address the technical demonstrations on the record.

Viasat claims that the number and duration of in-line interference events are irrelevant,¹⁹ despite the Commission’s explicit reliance on this metric.²⁰ Amazon has shown that the

¹⁵ *See Opposition*, at 21-23.

¹⁶ *Id.* at 10.

¹⁷ *See id.* at ii.

¹⁸ Petition to Deny or Defer of Viasat, Inc., IBFS File No. SAT-MOD-20200417-00037, at iv (filed July 13, 2020).

¹⁹ *See Opposition*, at 6-7.

²⁰ *See, e.g., Space Exploration Holdings, LLC Request for Modification of the Authorization For the SpaceX NGSO Satellite System*, Memorandum Opinion and Order, 35 FCC Rcd 5649, ¶ 11 (2020) (“Such analysis shows that the proposed modification reduces the duration of in-line events and the total percentage of time during which a given level of interference is exceeded. We

Modification would significantly increase the number and total duration of in-line events between Viasat and Kuiper System gateways.²¹ Further, Amazon's I/N analyses indicated significant increases in downlink and uplink interference levels received by Viasat²² and significant increases in interference levels received by the Kuiper System.²³ Amazon has also shown that these increases in interference will have an operational impact on the Kuiper System by decreasing satellite availability.²⁴ Viasat has not rebutted Amazon's showings.

Other claims by Viasat should also be dismissed. Viasat states it may not be able to provide service if moved to the 2020 Processing Round.²⁵ This statement does not alter the Commission's application of its rules and precedents. Viasat also references the Kuiper System's license condition that requires Amazon to engage in coordination to prevent harmful interference to systems licensed in previous NGSO FSS processing rounds.²⁶ This condition has no bearing on whether or not Viasat's Modification meets the *Teledesic* standard.

III. THE V-BAND PORTIONS OF THE MODIFICATION SHOULD BE DEFERRED TO A FUTURE V-BAND PROCESSING ROUND.

Viasat fails to show that its Modification would not significantly alter the V-band operating environment. Viasat proposes a wholesale redesign of its constellation and includes V-band frequencies at a time when there are several other pending V-band systems. Viasat does not consider its impact to those systems, which for the reasons above should be included when

therefore decline to place a condition on SpaceX's license requiring SpaceX to accept any increased interference to its space stations caused by the reduction in operating altitude. We also decline to condition SpaceX's license to state that increased interference to its space station will not result in band-splitting.”).

²¹ See *Amazon Comments*, at 8.

²² See *id.* at 13.

²³ See *id.* at 15.

²⁴ See *id.* at 16-18.

²⁵ See *Opposition*, at 57.

²⁶ See *id.* at 21-22.

applying the *Teledesic* standard. The Commission should defer consideration of the V-band portions of the Modification to a future V-band processing round to allow interested parties and the Commission the opportunity to fully consider the potential effects of Viasat's redesign.

IV. CONCLUSION.

For the reasons above, Amazon respectfully requests that the Commission include the Ka-band portions of the Modification as part of the 2020 Processing Round and defer the V-band portions of the Modification until a future V-band processing round.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that, on this 25th of September, a true and correct copy of the foregoing pleading was served upon:

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