



beyond frontiers

November 20, 2020

VIA ELECTRONIC FILING

Marlene H. Dortch
Secretary
Federal Communications Commission
45 L Street, N.E.
Washington, D.C. 20554

**Re: SES Americom, Inc. and O3b Limited Notice of Oral *Ex Parte* Presentation
Space Exploration Holdings, LLC, Application for Modification
File No. SAT-MOD-20200417-00037; Call Signs S2983 and S3018
Viasat, Inc., Application for Modification
File No. SAT-MPL-20200526-00056; Call Sign S2985**

Dear Ms. Dortch:

On November 19 and 20, 2020, SES representatives spoke with Federal Communications Commission staff regarding the above-referenced applications to modify the SpaceX and Viasat NGSO satellite system authorizations. A list of participants in each discussion is attached.

SES reiterated its arguments in the record regarding the broad scope of the changes SpaceX and Viasat seek to implement, which would adversely affect the operational O3b NGSO system. SES argued that any grant to accommodate SpaceX's near-term launch schedule must include the non-interference condition to which SpaceX has agreed and that ultimately both the SpaceX and Viasat modifications should be treated as part of the 2020 NGSO processing round. The attached talking points formed the basis for the discussions.

Please address any questions regarding this matter to the undersigned.

Respectfully submitted,

/s/ Suzanne Malloy
Suzanne Malloy
Vice President, Regulatory Affairs
1129 20th Street NW, Suite 1000
Washington D.C. 20036
(202) 813-4026

Attachments

cc: Meeting participants

Date	Commission Participants	SES Participants
November 19, 2020	Commissioner Michael O’Rielly Erin McGrath	Suzanne Malloy Zach Rosenbaum Luis Emiliani Karis Hastings, outside counsel to SES
	Sean Spivey	Suzanne Malloy Zach Rosenbaum Karis Hastings, outside counsel to SES
	Bill Davenport	Suzanne Malloy Zach Rosenbaum Luis Emiliani Karis Hastings, outside counsel to SES
November 20, 2020	Mary Claire York	Suzanne Malloy Zach Rosenbaum Luis Emiliani Karis Hastings, outside counsel to SES

To Preserve the Integrity of the NGSO Processing Round Framework, the Commission Must Treat the Redesigned SpaceX and Viasat Systems as Newly Filed

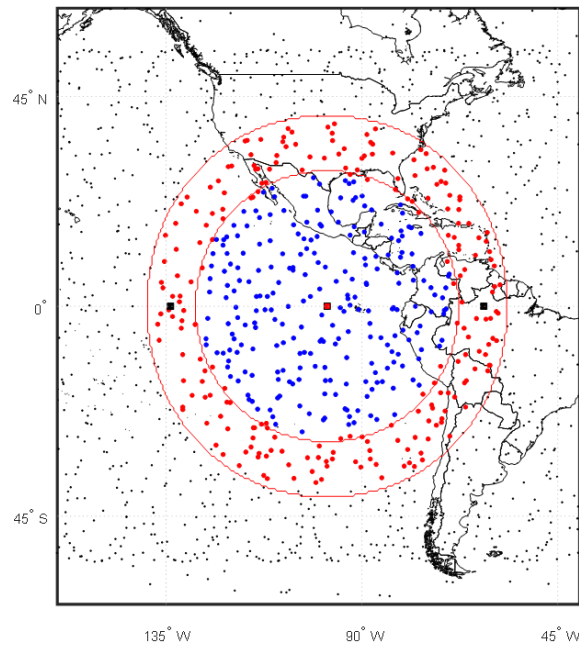
- For SES, the public interest goals of the processing round regime – ensuring the certainty needed to support NGSO investment – are critical and concrete, as the O3b network was the first, and remains the only, commercially operational Ka-band NGSO FSS system.
- To promote those goals, SES urges the Commission to reject the SpaceX and Viasat attempts to have their redesigned systems be treated as part of the 2016 processing round.
 - For SpaceX, any authority granted to accommodate the company’s near-term launch plans must be conditioned as SpaceX has agreed in its commitment letter: “SpaceX would deploy and operate these satellites on a non-harmful interference basis with respect to other licensed spectrum users while the Commission continues to process the application.” SpaceX November 17, 2020 letter at 2.
 - Ultimately, both the SpaceX and Viasat applications should be incorporated into the May 2020 processing round with the same conditions that were placed on Kuiper: a requirement “to prevent harmful interference to operational systems licensed or granted U.S. market access in the previous NGSO FSS processing rounds.” 35 FCC Rcd at 8334, ¶ 34.
- The SpaceX and Viasat modification applications propose networks that bear no meaningful resemblance to the ones for which the companies are currently authorized:
 - The SpaceX redesign involves every aspect of its system: not just lowering the satellites’ altitude, but materially decreasing the elevation angles, multiplying the beam sizes, altering power characteristics, and implementing an undisclosed substitution in antenna technology.
 - Viasat proposes a more than fourteen-fold increase in the number of satellites (from 20 to 288) and to lower the constellation’s altitude from 8200 to 1300 km.
- In each case the changes made would materially degrade the interference environment for O3b and other NGSO systems authorized in the November 2016 processing round.
- Allowing the revamped SpaceX and Viasat systems to retain their first-round status would set an unsustainable precedent, fundamentally undermining the NGSO processing round framework and destroying the certainty the Commission intended to promote.
- In contrast, treating these systems as new filings in the processing round that closed in May would not impede the companies’ service plans.
 - SpaceX’s 2019 observation regarding Kuiper is true here: SpaceX’s and Viasat’s own filings demonstrate that their systems are “fully capable of succeeding as part of a later processing round,” as they have “sophisticated technical capabilities necessary to protect first-round licensees and still provide a robust broadband service.”

Commission Decisions Emphasize the Need to Strictly Apply Processing Round Standards

- The 2017 NGSO Order highlighted the role of processing rounds in establishing the rights of applicants, stating that the Commission intended to “provide a measure of certainty” in lieu of a requirement to accommodate all future applicants. 32 FCC Rcd at 7829, ¶ 61.
- Under this framework, participants in a round are treated on an equal basis, and that equality is intended to “form the basis of the necessary coordination discussions” among operators. *Id.* at 7825-26, ¶ 50.
- The Order makes clear that adding satellites to a constellation after a processing round cut-off date requires deferral to a later round. *Id.* at 7831 n.150.
- The Commission reconfirmed its processing round policies earlier this year when it rejected Kuiper’s request for processing round waivers and required Kuiper to coordinate so as not to cause harmful interference to previously authorized systems.
- The Kuiper order emphasized that “where multiple operators plan to share scarce spectrum resources, an open processing round approach would result in deteriorating investment environment resulting from uncertainty regarding spectrum availability.” 35 FCC Rcd at 8338, ¶ 42.
- The same considerations are relevant to the SpaceX and Viasat modifications, given how different the proposed constellations are from the prior authorizations.
 - Viasat seeks to add 268 satellites, and the SpaceX constellation changes would create conjunction events with the O3b system where such events could not occur today – in each case affecting O3b the same way a wholly new system proposal would.
 - Allowing either SpaceX or Viasat to retain its November 2016 round status would lay the groundwork for other parties to make significant modifications and encourage future applicants to submit placeholder filings to provide the widest possible latitude for subsequent changes.
- Placing SpaceX and Viasat in the May 2020 round is consistent with the Commission’s treatment of O3b and Teledesic, both of which were required to accommodate later applicants.

SpaceX Modification: Interference Geometry and Geography

- O3b's analysis disproves SpaceX's claim that its proposed design changes would not adversely affect O3b's authorized and operational Ka-band NGSO system.
- By altering the geometry, the extensive SpaceX changes would create new conjunction events with O3b's equatorial satellites over a substantial portion of CONUS where such events would have been impossible, as illustrated by the map included in SES's filings.



- These changes would raise both the number and persistence of inline events with O3b, yielding a 434% increase in total duration of conjunction events experienced by the O3b link.
- Given this impact, any grant to accommodate SpaceX's launch schedule must include the non-interference condition SpaceX specified in its commitment letter, and ultimate action on the modification should incorporate the conditions imposed in the Kuiper authorization, treating the redesigned SpaceX constellation as part of the 2020 processing round.

Viasat Modification: Distorting Precedent and Gaming the System

- Viasat’s request to increase its constellation size from 20 to 288 is ineligible for consideration as part of the November 2016 processing round under Commission precedent.
 - As noted above, the 2017 NGSO Order stated that requests to add satellites after a processing round cut-off would be addressed on a case-by-case basis: the same treatment prescribed for new system applications.
 - This holding conforms to the Commission’s observation that NGSO parties can more easily coordinate with a constellation that has “30 satellites instead of 288.” 18 FCC Rcd at 14717.
 - Viasat’s reliance on the Teledesic line of cases is misplaced, as the Commission denied Teledesic’s claim of coordination priority over later filed systems – even though Teledesic was reducing, not increasing, the number of its satellites.
- O3b has shown that the systemic Viasat system changes, which include not only a fourteen-fold increase in the number of satellites but also a major change in orbital altitude, would adversely affect the interference environment:
 - For downlink interference into O3b, the changes would more than double the total duration of inline events that cause the band-splitting threshold to be exceeded.
 - Uplink interference from O3b to Viasat would also increase substantially due to the lower altitude requested for the Viasat fleet.
- Viasat’s response to claims of a worsened interference environment for November 2016 round participants is to argue that petitioners failed to consider the undisclosed “tools” Viasat plans to use to mitigate interference. But this contention has significant flaws:
 - Viasat’s refusal to explain how it will prevent increased interference to first round systems makes it impossible for other parties to confirm the results of the analysis or to understand when band splitting would be triggered during operations.
 - Accepting Viasat’s “trust me” approach would allow any party to modify its system without a change in processing round status based on the bare assertion that interference to other parties would be controlled – such a result would nullify Commission processing round deadlines.
- Moreover, Viasat’s concession that it must operate on a non-interference basis to November 2016 round participants is equivalent to accepting second round status vis-à-vis those entities, highlighting that Viasat’s true purpose is to avoid being treated on the same basis as the applications of O3b and others in the May 2020 processing round.
 - Such an outcome would not only be unfair to O3b, it would set a disastrous precedent, encouraging future applicants faced with a processing round deadline to submit speculative placeholder applications with the intention of modifying their proposals once they develop more concrete plans.