

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

In the Matter of)	
)	
O3b Limited)	File No. SAT-AMD-20161115-00116
)	
Amendment to Amendment to Modify)	
U.S. Market Access Grant for the)	
O3b Medium Earth Orbit Satellite System)	

PETITION TO DENY

In the above-captioned “Amendment,” O3b Limited (“O3b”) amends its pending application to modify its authority to serve the U.S. market using a system of satellites in medium earth orbit. The Amendment has been accepted for filing for consideration as part of the Commission’s non-geostationary satellite orbit (“NGSO”) processing round.¹ Telesat Canada (“Telesat”) files this Petition to Deny for the reasons set out below.

In its Amendment, O3b seeks authority (among other things) to operate satellites in inclined orbit (“O3bI satellites”) both on frequencies already employed by O3b for its current equatorial orbit fleet and on additional Ka-band frequencies.² The frequencies proposed by O3b for its operations overlap with the following frequency bands

Innovation, Science and Economic Development Canada (“ISED”) has authorized

¹ See *Public Notice, Applications Accepted For Filing, Cut-Off Established for Additional NGSO-Like Satellite Applications or Petitions For Operations in the 12.75-13.25 GHz, 13.85-14.0 GHz, 18.6-18.8 GHz, 19.3-20.2 GHz, and 29.1-29.5 GHz Bands*, DA 17-524, File No. SAT-LOI-20161115-00121 (May 26, 2017).

² See O3B Amendment, at 2.

Telesat to use for its NGSO network: 17.8-18.6 GHz, 18.8-19.3 GHz, and 19.7-20.2 GHz (space-to-Earth) and 27.5-29.1 GHz and 29.5-30.0 GHz (Earth-to-space).³

O3b's NGSO system would interfere with Telesat's NGSO operations because the two systems would operate in overlapping geographical areas on overlapping Ka-band frequencies. O3b itself acknowledges that in-line interference events will occur between its NGSO system and other NGSO systems; noting that "[i]n the case of the O3bI satellites, there is a potential for more in-line interference events with other inclined NGSO systems."⁴ Because O3b's NGSO system would interfere with Telesat's NGSO operations, Telesat hereby opposes O3b's Amendment.⁵

When coordination agreements with other NGSO operators cannot be reached, O3b proposes to fall back on the angular separation/band segmentation scheme the Commission is reexamining in its NGSO rulemaking.⁶ Under these procedures, affected NGSO operators would divide their spectrum equally during in-line interference events.⁷

³ Telesat Approvals in Principle, ISED file 3150-1 (557203 AT) dated June 26, 2015, and ISED file 3150-1 (565832 SS) dated June 26, 2015, for the 27.5 - 29.1, 29.5 - 30, 17.8 - 19.3, and 19.7 - 20.2 GHz bands.

⁴ O3b Amendment, Attachment A Technical Annex ("O3B Technical Annex"), at 20.

⁵ Telesat is filing this Petition to Deny or Impose Conditions to preserve its rights. Telesat recognizes that the Commission is still developing rules to address constellations of NGSO-like satellites and has stated that applicants will be given an opportunity to amend their filings to conform to the new requirements. *Update to Parts 2 and 25 Concerning Non-Geostationary, Fixed-Satellite Service Systems and Related Matters*, Notice of Proposed Rulemaking, 31 FCC Rcd 13651 (2016) ("NGSO NPRM"). Telesat also recognizes that if O3b's Amendment is granted before the Commission's rulemaking is completed, the Amendment likely will be conditioned on the outcome of the rulemaking, as was done with OneWeb's application. See *WorldVu Satellites Limited, Petition for a Declaratory Ruling Granting Access to the U.S. Market for the OneWeb NGSO FSS System*, IBFS File No. SAT-LOI-20160428-00041 (rel. June 23, 2017) ("*OneWeb Grant*"), at ¶¶ 12 and 26. If the rules the Commission adopts or a future O3b amendment resolve Telesat's interference concerns, it will withdraw its objection.

⁶ See O3b Amendment, at 6 and Technical Narrative, at 20.

⁷ See 47 C.F.R. § 25.261(c).

As demonstrated by Telesat in its filings in connection with the Commission's pending *NGSO NPRM*, however, these mechanisms are unworkable.⁸ No single avoidance angle will address in-line interference events. For any specific interference level, there will be a wide variety of angles that vary based on the ever-changing relative positions of satellites and ground terminals. Relying on these default procedures, therefore, would expose Telesat's operations to harmful interference.

In addition, O3b's Amendment is ambiguous on the subject of ITU priority. On the one hand, O3b acknowledges that "for all of the Ka-band frequency ranges to be used by O3b, coordination among NGSO systems is based on a first-come, first-served basis, depending on the ITU date priority of the relevant ITU filings."⁹ O3b then states, however, that it would rely upon band segmentation in circumstances in which interference cannot be avoided, with no indication as to the role that ITU priority would play.¹⁰ O3b identifies ITU filings for its existing and proposed system, as early as 2008 and as late as 2016, but offers no recognition that the Canadian ITU filings that are associated with Telesat's NGSO system have date priority over several of the later ITU filings that are associated with O3b's system.¹¹

In granting OneWeb's NGSO application, the Commission recognized that "[c]ompliance with ITU coordination procedures is a requirement of the ITU Radio

⁸ See *Comments of Telesat Canada, NGSO NPRM*, at 6-15 (Feb. 27, 2017); *Reply Comments of Telesat Canada, NGSO NPRM*, at 4-12.

⁹ O3B Technical Annex, at 20.

¹⁰ *Id.*

¹¹ See *COMMSTELLATION network* published as CR/C/3313 and CR/C/3313 MOD-2, and *CANPOL-2 network* published as CR/C/3474 MOD-1.

Regulations, which hold the force of treaty to which the United States is a party,” and that “[s]uch compliance is a typical condition of both U.S. space station licenses and grants of U.S. market access.”¹² Based on this requirement, and in response to concerns raised by Telesat, the Commission conditioned the grant of OneWeb’s NGSO application on compliance with ITU requirements.¹³ The same considerations apply here, and so the same condition should apply to any grant of O3b’s Amendment.

In view of the potential for O3b’s system to interfere with Telesat’s NGSO operations, O3b’s Amendment should not be granted in its present form. At a minimum, any grant should be conditioned on the outcome of the NGSO rulemaking, as the Commission did in granting OneWeb’s NGSO application.¹⁴ Finally, in recognition of U.S. treaty obligations, any grant should be conditioned on compliance with ITU requirements.

Respectfully submitted,

TELESAT CANADA

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¹² *OneWeb Grant*, n. 35.

¹³ *OneWeb Grant*, ¶ 23(a).

¹⁴ *OneWeb Grant*, ¶¶ 12 and 26.

CERTIFICATE OF SERVICE

I hereby certify that on this 26th day of June, 2017, a copy of the foregoing
Petition to Deny of Telesat was sent by electronic mail to the following:

Karis Hastings
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/s/ _____
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