

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

In the Matter of)	
)	
Application of Theia Holdings A, Inc. for Authority to Launch and Operate a Non-Geostationary Satellite Orbit System in the Fixed-Satellite Service, Mobile-Satellite Service and Earth-Exploration Satellite Service)	File No. SAT-AMD-20170301-00029
)	
Audacy Corporation, Application for Authority to Launch and Operate a Non-Geostationary Low Earth Orbit Satellite System in the Fixed Satellite Service)	File No. SAT-LOA-20161115-00117
)	
WorldVu Satellites Limited Petition for Declaratory Ruling Granting Access to the U.S. Market for the OneWeb V-Band System)	File No. SAT-LOI-20170301-00031
)	
ViaSat Inc. Petition for Declaratory Ruling Granting Access to the U.S. for a Non-U.S.-Licensed Nongeostationary Orbit Satellite Network)	File No. SAT-PDR-20161115-00120
)	

CONSOLIDATED COMMENTS OF TELESAT CANADA

In the above-captioned Applications and Petitions, Theia Holdings A, Inc. (“Theia”), Audacy Corp. (“Audacy”), WorldVu Satellites Ltd. (“OneWeb”), and ViaSat, Inc. (“ViaSat”) seek a license or authority to serve the U.S. market using planned non-geostationary satellite orbit (“NGSO”) satellite systems operating in the V-Band. Telesat Canada (“Telesat”) files these Consolidated Comments addressing the potential for

these satellite systems to interfere with Telesat's planned V-band NGSO operations and the need to condition any grant of the above-captioned NGSO system applications on the development of appropriate V-band spectrum sharing rules.

The frequencies proposed by Theia, Audacy, OneWeb, and ViaSat for their respective operations overlap with the following V-band frequency bands that Telesat has proposed to use for its NGSO network: 37.5 – 42.0 GHz (space-to-Earth), 47.2-50.2 GHz, and 50.4-51.4 GHz (Earth-to-space).¹ Theia, Audacy, OneWeb, and ViaSat's NGSO systems would interfere with Telesat's planned NGSO operations because the two systems would operate in overlapping geographical areas on overlapping V-band frequencies. Telesat files these comments to emphasize the need for the Commission to develop appropriate band sharing rules for V-band NGSO systems and to condition any grant of the above-captioned applications on the outcome of any proceeding in which such rules are developed.²

In its pending NGSO rulemaking proceeding, the Commission is developing rules to address spectrum sharing for NGSO systems and the process for ensuring

¹ Telesat Canada Petition for Declaratory Ruling to Grant Access to the U.S. Market for Telesat's V-Band NGSO Constellation, File No. SAT-LOI-20170301-00023 (filed Mar. 1, 2017).

² Telesat notes that the ITU is now in the process of developing a framework for NGSO operations in the V-band, see WRC-19 Agenda Item 1.6, but does not currently have rules to govern such operations. Telesat will of course comply with such ITU rules that are promulgated to govern NGSO operations in the V-band that are applicable to Telesat's operations.

mitigation of in-line interference events among such satellite systems.³ However, the Commission's proposals in the pending rulemaking proceeding do not address the V-band frequencies proposed for use by Theia, Audacy, OneWeb, and ViaSat. Thus, the Commission should expand the scope of the pending proceeding to cover V-band sharing issues or initiate a new V-band sharing proceeding. Grants of the above-captioned applications/petitions should be conditioned on the outcome of the expanded or new proceeding.

In the pending NGSO rulemaking proceeding, Telesat has demonstrated that the Commission's proposed approach for avoiding interference during in-line events based on an avoidance angle is unworkable.⁴ In particular, Telesat has demonstrated that neither the default angle specified in the rules – 10 degrees – nor any other single, fixed angle can be specified that would adequately demark the avoidance angle to avoid harmful interference. Indeed, a specified trigger angle cannot work because the actual angle will vary widely on both the uplink and downlink as a function of the many

³ *Update to Parts 2 and 25 Concerning Non-Geostationary, Fixed-Satellite Service Systems and Related Matters*, IB Docket No. 16-408, Notice of Proposed Rulemaking, FCC 16-170, at 10-12, paras. 22-27 (rel. Dec. 15, 2016).

⁴ Comments of Telesat Canada, IB Docket No. 16-408, at 3-15 (filed Feb. 27, 2017); Reply Comments of Telesat Canada, IB Docket No. 16-408, at 2-12 (filed April 10, 2017).

variables in the relevant system parameters. The same principles Telesat identified in Ka-band apply to NGSO systems operating in the V-band and should be taken into consideration by the Commission as it develops rules for mitigating in-line interference in V-band systems.

Respectfully submitted,

TELESAT CANADA

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CERTIFICATE OF SERVICE

I hereby certify that on this 17th day of July, 2017, a copy of the foregoing Consolidated Comments of Telesat Canada was sent by first-class, United States mail to the following:

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