

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of)	
)	
Hughes Network Systems, LLC)	
)	
Application for Authority to Launch)	File Nos. SAT-LOA-20170621-00092 &
and Operate a Ka-band and Q/V-band)	SAT-AMD-20170908-00128
Geostationary Fixed-Satellite Service)	
Satellite at the Nominal 95° W.L.)	Call Sign S3017
Orbital Location)	
To: Chief, Satellite Division		

**REPLY OF
THE BOEING COMPANY**

In its response,¹ Hughes does not dispute that, at the time that it filed its application (and continuing through today), the Commission’s stated policy has been that, in spectrum bands such as the Q/V-bands where no satellite service rules have been adopted,² once an application for an “NGSO-like satellite system” has been filed, the Commission “will dismiss subsequently-filed GSO-like satellite system applications in that band until sharing criteria are established.”³ Hughes’ application is therefore subject to dismissal by the Commission regardless of whether Boeing requested such action in its comments.

¹ See Response of Hughes Network Systems, LLC, IBFS File Nos. SAT-LOA-20170621-00092 and SAT-AMD-20170908-00128 (Nov. 28, 2017).

² See *Hughes Application* at 8 (acknowledging the absence of Q/V-band-specific service rules).

³ See Amendment of the Commission’s Space Station Licensing Rules and Policies, *First Report and Order and Further Notice of Proposed Rulemaking*, 18 FCC Rcd 10760, 10786-87, ¶ 58 (2003).

Hughes argues that the rules that were recently adopted by the Commission in IB Docket 16-408 may effectively replace the Commission’s existing policy.⁴ The new rules, however, have yet to take affect and therefore cannot retroactively cure Hughes’ application.

Hughes also argues that the Commission “should reject Boeing’s request for equal treatment of pending applications for GSO and NGSO FSS systems in the Q/V-band,”⁵ but Hughes does not explain why the Commission should do this. As Boeing acknowledged in its comments, NGSO systems will need to protect co-frequency GSO networks,⁶ but that does not justify treating applications for NGSO FSS systems less expediently than for GSO FSS networks. In fact, the opposite would seem to be true.

As the Commission explained in its recent order, the reason why NGSO FSS systems must protect GSO FSS networks is because the latter “have less flexibility” in their architecture.⁷ In contrast, the more flexible architecture of NGSO FSS systems allows them to employ such spectrum sharing techniques as arc avoidance, satellite diversity, and earth station diversity to facilitate spectrum sharing with all other co-frequency systems.

⁴ See *Hughes Response* at 2 (citing Update to Parts 2 and 25 Concerning Non-Geostationary, Fixed-Satellite Service Systems and Related Matters, IB Docket No 16-408, *Report and Order and Further Notice of Proposed Rulemaking*, FCC 16-170, ¶¶ 37, 39 (Dec. 15, 2016) (“*NGSO FSS Sharing Order*”).

⁵ *Id.* at 3.

⁶ Comments of The Boeing Company, IBFS File Nos. SAT-LOA-20170621-00092 and SAT-AMD-20170908-00128, at 4 (Nov. 13, 2017).

⁷ *NGSO FSS Sharing Order*, ¶ 39 (observing that GSO networks generally “have less flexibility to avoid causing harmful interference to NGSO systems or protecting themselves while operating in the same band”).

The flexible nature of NGSO FSS systems also permits them to adjust their operations – within reason, of course – to comply with the NGSO/GSO protection criteria that is ultimately adopted by the ITU and the FCC. In contrast, less flexible GSO FSS networks may not be able to adjust their operations in the future. Therefore, it would seem inappropriate for the Commission to authorize the launch of GSO FSS networks in the Q/V-band until the protection criteria has been finalized.

Fortunately, ITU Working Party 4A appears to be making progress in developing NGSO/GSO protection criteria that would facilitate more efficient use of the Q/V-bands as compared to the NGSO/GSO protection criteria that were employed for the Ku- and Ka-bands.⁸ The Q/V-band protection criteria still must be adopted by WRC-19 under Agenda Item 1.6. Until that happens, the Commission should require the operator of any GSO FSS network that is authorized to operate in the Q/V-band to incorporate sufficient margin in its link budget to address the range of protection criteria that could ultimately be adopted by WRC-19 for NGSO/GSO spectrum sharing in the Q/V-band.

In addition, the Commission should refuse any suggestion that the licensing of NGSO FSS systems in the Q/V-bands be delayed until the protection criteria are finalized. Any such delay would provide no additional protection for aspiring operators of GSO FSS networks and would

⁸ See Annex 14 to Chairman's Report, ITU-R Working Party 4A, Document 4A/519, *Working Document Towards a Preliminary Draft New Report ITU-R S.[50/40 GSO-NGSO Sharing]*, *Sharing Between 50/40 GHz GSO FSS Networks and Non-GSO FSS Systems*, WRC-19 agenda item 1.6 (6 Nov. 2017), available at https://www.itu.int/dms_ties/itu-r/md/15/wp4a/c/R15-WP4A-C-0519!N14!MSW-E.docx (Ties password required).

invariably delay the use of new NGSO FSS systems to provide highly innovative broadband communications services to consumers using Q/V-band spectrum.

Respectfully submitted,

THE BOEING COMPANY

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December 8, 2017

CERTIFICATE OF SERVICE

I, Bruce A. Olcott, hereby certify that on December 8, 2017, I caused a copy of the foregoing Comments of The Boeing Company to be served by electronic mail and by U.S. first-class mail, postage paid, to the following:

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