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August 15, 2019

VIA IBFS

Marlene H. Dortch Secretary Federal Communications Commission 445 12th Street SW Washington, DC 20554

Re: WorldVu Satellites Limited, IBFS File No. SAT-LOI-20160428-00041 (Call Sign S2963); Space Exploration Holdings, LLC, IBFS File Nos. SAT-LOA-20161115-00118 and SAT-MOD-20181108-00083 (Call Signs S2983/3018); Kepler Communications Inc., IBFS File No. SAT-PDR-20161115-00114 (Call Sign S2981); Telesat Canada, IBFS File No. SAT-PDR-20161115-00108 (Call Sign S2976)

Dear Ms. Dortch:

WorldVu Satellites Limited ("OneWeb") submits this letter to address the continued efforts of Space Exploration Holdings, LLC ("SpaceX") to claim "home spectrum" priority in direct contradiction of the plain language of Section 25.261 of the Commission's rules.

OneWeb Agrees With SpaceX Regarding the Importance of Good Faith Inter-Operator Coordination

As a threshold matter, OneWeb agrees with SpaceX that successful good faith coordination between operators of NGSO FSS systems may render disputes regarding home spectrum selection moot. OneWeb strongly supports the Commission's requirement that NGSO FSS operators coordinate in good faith.¹ To that end, OneWeb has already begun coordination discussions with numerous other NGSO FSS operators, including SpaceX.² OneWeb looks forward to continuing its ongoing coordination efforts with these operators, but nonetheless feels compelled to address the erroneous arguments SpaceX has put forth on the issue of home spectrum selection.

¹ See 47 C.F.R. § 25.261(b).

² In particular, representatives from OneWeb and SpaceX met to discuss coordination issues at the ITU Conference Preparatory Meeting in Geneva, Switzerland on February 28, 2019.

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Analysis of Relevant Precedent Confirms the Commission's Policy Objectives Regarding Home Spectrum

Section 25.261 of the Commission's rules governs spectrum sharing between NGSO FSS systems in the absence of an inter-operator coordination agreement.³ The rule provides an incentive for NGSO FSS operators to begin launching the satellites in their network as quickly as responsibly possible: the ability to choose which portion of the spectrum band to utilize during "in-line interference events" in order to avoid interfering with other systems. This right to choose home spectrum first may confer certain operational advantages to NGSO FSS operators. For example, some portions of the Ku-band have more terrestrial incumbent users than other portions. Thus, "home spectrum" matters to NGSO satellite operators because it allows an operator to maximize network capacity and, in turn, service to customers by choosing the portion of the frequency band in which it prefers to operate during "in-line interference" events.

SpaceX's most recent submission to the Commission on home spectrum is a lengthy exegesis on the Commission's home spectrum rule in a strained effort to conclude that even though it did not launch satellites in its network before other operators, it can still claim home spectrum priority. SpaceX unsuccessfully argues there is a requirement to communicate with Commission-licensed earth stations in order to satisfy the home spectrum selection order criteria.⁴ The fundamental problem with SpaceX's interpretation is that the home spectrum rule simply does not contain a requirement to communicate with earth stations licensed by the Commission and located in the United States.

As pointed out by Telesat, the Commission has been fully aware of the home spectrum issue since at least the year 2000.⁵ In the Telesat Letter, Telesat demonstrated the Commission's history of using order of launch, with no earth station license requirement, as the basis for home spectrum selection.⁶ As the Commission has stated, and Telesat rightly noted, a home spectrum selection order based on launch order "furthers the Commission's strong policies favoring competition," and "allowing the first system that launches to select its spectrum, and each subsequent system to do so sequentially provides market-based incentives to launch

⁶ Id.

³ See 47 C.F.R. § 25.261.

⁴ See Letter from David Goldman, Director of Satellite Policy, Space Exploration Technologies Corp., to Marlene H. Dortch, Secretary, FCC, IBFS File Nos. SAT-LOA-20161115-00118, *et. al.*, (Jul. 19, 2019) ("July 19 Letter").

⁵ See Letter from Henry Goldberg and Joseph Godles, Counsel to Telesat Canada, to Marlene H. Dortch, Secretary, FCC, IBFS File Nos. SAT-LOA-20161115-00118, *et. al.*, at 3-4 (Jul. 9, 2019) ("Telesat Letter").

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systems."⁷ In a related Public Notice proposing a home spectrum selection sharing process in the 2 GHz band, the Commission similarly stated that "each operator would be permitted to select from the then-available spectrum segments by submitting a request for its desired assignment once the first satellite in its system reaches its intended orbit."⁸ That Public Notice contained no reference to earth stations as a part of any requirement for home spectrum selection.

The home spectrum selection rule in Section 25.261(c)(1) is consistent with the Commission's long and well-established history of determining home spectrum selection priority by launch date. Like those other Commission iterations of home spectrum selection priority, Section 25.261(c)(1) contains no requirement for communication with a Commission-licensed earth station. As such, SpaceX's attempt to read a requirement of "the capability to transmit and receive actual signals with a U.S.-licensed earth station" into the rule is simply incorrect.⁹

SpaceX's Example Purportedly Showing How NGSO FSS Operators Could Abuse the Home Spectrum Rule Does Not Stand Up to Critical Analysis

In its "Example 1," SpaceX crafts an implausible scenario involving two NGSO FSS operators foregoing service offerings in the United States in an attempt to illustrate the policy behind the flawed premise that Section 25.261 requires a Commission-licensed earth station.¹⁰ SpaceX posits that any "NGSO operator that does not have earth stations authorized by the Commission -- either gateways or user terminals -- is patently unable to provide service for American consumers *and has no need to choose its home spectrum unless or until that authorization and capability exist.*"¹¹ This statement is demonstrably false, as illustrated in the following example:

Example A: Two NGSO FSS operators obtain Commission licenses (as opposed to grants of U.S. market access, which OneWeb has obtained) for their respective constellations, proposing thousands of satellites each. Both operators launch satellites

⁸ International Bureau Requests Further Comment on Selected Issues Regarding Authorization of 2 GHz MSS Systems, Public Notice, 15 FCC Rcd 2696, 2697 (Feb. 7, 2000).

⁹ See July 19 Letter at 4.

¹⁰ See *id.* at 6. As an initial matter, SpaceX's underlying assumption that an NGSO FSS operator would seek a Commission license or U.S. market access and then forego service to the United States is an unrealistic portrayal of the competitive environment satellite operators must navigate. Simply put, the United States remains an enormously important marketplace for satellite-based connectivity services to which NGSO FSS operators (including OneWeb) are well-incentivized to provide innovative services and applications.

¹¹ *Id.* (emphasis added).

⁷ Establishment of Policies and Service Rules for the Mobile Satellite Service in the 2 GHz Band, Report and Order, 15 FCC Rcd 16127, ¶ 28 (2000).

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> that are part of a constellation capable of providing service to sites inside and outside the United States. However, the two U.S.-licensed operators commence initial service in Europe in common frequency bands and using earth stations with directional antennas. Neither U.S.-licensed operator has an earth station licensed by the Commission. The two U.S.-licensed operators have not yet completed their interoperator coordination when both commence service, and subsequently experience inline interference events that trigger Commission-mandated band-splitting under Section 25.261. Which U.S.-licensed operator will choose home spectrum in this case?

Section 25.261(a) states that the Commission's spectrum sharing rules apply "to NGSO FSS operation with earth stations with directional antennas *anywhere in the world under a Commission license, or in the United States under a grant of U.S. market access.*"¹² This "Scope" provision clearly anticipated and explicitly applies to a situation such as "Example A": two U.S.-licensed operators experiencing in-line interference events "anywhere in the world," not just in the United States. The Commission detailed this very scenario in the 2017 NGSO Order: "[b]ecause ITU coordination procedures do not apply between two U.S. systems, our spectrum splitting sharing mechanism triggered when a Δ T/T threshold of 6 percent is exceeded will govern such operations *both within and outside the United States.*"¹³ Given that both operators in "Example A" are operating under a Commission license, it is clear that Section 25.261's spectrum sharing rules would apply to these in-line interference events.

Therefore, an interpretation of Section 25.261 based on the assumption that the two U.S.licensed operators in "Example A" would have "no need" to choose home spectrum cannot be correct.¹⁴ SpaceX consistently asserts a proper interpretation of Section 25.261 must be guided by the context of the entire rule in question.¹⁵ As "Example A" illustrates, such a comprehensive and holistic analysis of Section 25.261 demonstrates the proper interaction between 25.261(a) and 25.261(c)(1). Section 25.261(a) sets out the jurisdictional limits of when the Commission's spectrum sharing rules apply. Section 25.261(c) outlines the requirements for determining the

¹² 47 C.F.R. § 25.261(a) (emphasis added).

¹³ See In re 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, at ¶ 53 (2017) ("NGSO Order") (emphasis added). SpaceX advocated for the Commission's spectrum sharing rules to apply to "non-U.S. licensed systems that choose to serve the U.S. market…no matter where they are operating," but the Commission soundly rejected this notion in a paragraph titled "Geographic Area," in which the Commission clarified its spectrum sharing rules would apply to U.S. market access grantees only in the United States. See Reply Comments of Space Exploration Technologies, IB Dkt. No. 16-408 at 9-11 (filed Apr. 10, 2017); see also NGSO Order at ¶ 53.

¹⁴ July 19 Letter at 6.

¹⁵ See id. at n. 5.

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selection order for home spectrum. Example A thus sheds light on the incoherence of SpaceX's misinterpretations of both Section 25.261(a) and Section 25.261(c)(1). Under any reasonable interpretation of the scope of the Commission's rules, the two U.S.-licensed operators in "Example A" would be subject to the Commission's spectrum sharing rules. However, SpaceX would apparently contend that neither operator would be qualified to select home spectrum because neither operator had U.S.-licensed earth stations. The SpaceX interpretation of Section 25.261 would therefore lead to an unworkable rule. Section 25.261 of the Commission's rules contains no requirement for Commission-licensed earth stations, and Example A illustrates why such a requirement cannot be consistent with the structure and scope of the rule.

Conclusion

In the July 19 Letter, SpaceX reiterates its flawed interpretation of Section 25.261 and adds a layer of faulty policy arguments in an attempt to distract from the common-sense reading of Section 25.261 that OneWeb and other NGSO FSS operators have demonstrated is self-evidently correct. However, the Commission has consistently articulated its policy objectives in determining home spectrum selection—incentivizing operators to launch satellites as quickly as they responsibly can. Moreover, SpaceX's own handcrafted example, when applied to U.S.-licensed operators, illustrates why SpaceX's interpretation of Section 25.261 cannot be correct. OneWeb, Telesat, and Kepler have previously demonstrated there is no earth station license requirement in Section 25.261(c), although SpaceX attempts to conjure language from Section 25.261(a) to create such a requirement. A common-sense reading of Section 25.261(a) demonstrates there is no mention of Commission-licensed earth stations anywhere, even in the section SpaceX claims contains such a requirement.

Therefore, the Commission should reject SpaceX's home spectrum arguments as inconsistent with the Commission's applicable precedent, policy objectives, and codified rules.

Kindly contact the undersigned with any questions regarding this submission.

Very truly yours,

/s/ Brian D. Weimer

Brian D. Weimer for SHEPPARD, MULLIN, RICHTER & HAMPTON LLP

cc. Jose Albuquerque, Chief, Satellite Division Stephen Duall, Satellite Division