SPACEX

July 19, 2019

BY ELECTRONIC FILING

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

Re: *Space Exploration Holdings, LLC, IBFS File Nos. SAT-LOA-20161115-00118 and SAT-MOD-20181108-00083;*
WorldVu Satellites Limited, IBFS File No. SAT-LOI-20160428-00041;
Telesat Canada, IBFS File No. SAT-PDR-20161115-00108; and
Kepler Communications Inc., IBFS File No. SAT-PDR-20161115-00114

Dear Ms. Dortch,

Space Exploration Holdings, LLC ("SpaceX") submits this letter in response to parallel filings in which Telesat, Kepler, and OneWeb (together, the "Non-US Operators") urged an interpretation of Section 25.261 of the Commission's rules that ignores large sections of that provision's requirements for band-splitting by operators of non-geostationary orbit ("NGSO") satellite systems and its underlying rationale.[1] Contrary to the flawed analysis suggested by the Non-US Operators, the rule by its terms requires that NGSO operators should have both the satellites on-orbit and licensed earth stations on the ground to support service for American consumers before they can secure rights to choose "home" spectrum for use in the United States. Otherwise, an NGSO operator could provide service elsewhere and ignore the U.S. for years, yet still retain the right to demand preferential treatment from operators actually serving U.S. customers when it finally decides to enter this market. The Non-US Operators' arguments fail as a matter of law, as a matter of administrative history, and as a matter of policy.

As an initial matter, the Commission intended its band-splitting provisions only as a default regulatory backstop in the absence of coordination. SpaceX continues to encourage the Non-US Operators and all other NGSO operators included in the initial Ku/Ka-band NGSO processing round to complete good faith coordination expeditiously. Successful coordination among NGSO operators will render moot any dispute about the interpretation of this provision. More importantly, successful coordination will result in

[1] *See* Letter from Henry Goldberg to Marlene H. Dortch, IBFS File Nos. SAT-LOA-20161115-00118, *et al.* (July 9, 2019) ("Telesat Letter"); Letter from Nickolas G. Spina to Marlene H. Dortch, IBFS File Nos. SAT-LOA-20161115-00118, *et al.* (July 10, 2019) ("Kepler Letter"); Letter from Brian D. Weimer to Marlene H. Dortch, IBFS File Nos. SAT-LOA-20161115-00118, *et al.* (July 9, 2019) ("OneWeb Letter").

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the most efficient use of scarce spectrum resources and the best provision of service for American consumers.

A Straightforward Reading of the Entire Text of the NGSO Band-Splitting Procedure Makes Clear that an Operator Must Have an Earth Station Authorized by the Commission.

The Commission updated the NGSO spectrum sharing rules in Section 25.261 in 2017, and in the process clarified the procedures each operator must use to choose the spectrum in which it will operate during in-line events in the absence of coordination. The rule is now constructed with three subsections. Subsection (a) is entitled "Scope," and provides that the rule applies "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."[2] Subsection (b) is entitled "Coordination," and requires NGSO FSS operators to coordinate in good faith. Subsection (c) is entitled "Default procedure," and contains the rules for sharing spectrum in the absence of a coordination agreement. This subsection itself has three subsections which (1) provides for selection of spectrum during in-line events, based on the number of systems involved (1/n), (2) specifies the period during which each NGSO system must operate on its selected spectrum, and (3) specifies when each NGSO system may resume operations throughout its assigned bands.

With respect to the default procedure, each of the Non-US Operators concedes (as they must) that subsection (a) limits the scope of the obligation to operate under the band-splitting requirement.[3] They do not dispute that the selection of 1/n of the assigned spectrum, the duration of the spectrum splitting, and the resumption of full-band operations all apply only within the confines described in the scoping provision. In other words, there is no question that these provisions only apply when operators are using earth stations with directional antennas anywhere in the world under a Commission license or in the U.S. under a grant of market access. Yet the Non-US Operators all identify a single sentence within the rule as uniquely *not* subject to the scoping provisions in subsection (a) – the second sentence of subsection (c)(1), which provides that "[t]he selection order for each satellite network will be determined by the date that the first space station in each satellite system is launched and capable of operating in the frequency band under consideration."[4] Not surprisingly, this one sentence is the crux of the issue of which operator is entitled to select "home" spectrum first.

The Non-US Operators do not explain why the structure of this rule would result in exempting this sentence – and only this sentence – from the scoping provision of the rule, and why it alone should be read in isolation while every other sentence of the rule is read in context. Indeed, such a reading is inconsistent with long-standing principles of statutory

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2 47 CFR § 25.261(a).

3 *See* Telesat Letter at 2; Kepler Letter at 2; OneWeb Letter at 3.

4 47 C.F.R. § 25.261(c)(1).

interpretation. As the Supreme Court has stated, "[i]n expounding a statute, we must not be guided by a single sentence or member of a sentence, but look to the provisions of the whole law, and to its object and policy."[5] Applying that approach would not support singling out this one sentence as exempt from the scoping provision. For example, under the Non-US Operators' interpretation, the Commission should first determine which system can choose its spectrum and only later decide whether that system actually has earth stations that fall within the rule. Under this contorted interpretation of the rule, an NGSO system could qualify as first to operate even before it falls within the rule's – or even the Commission's – jurisdictional reach. Such a reading cannot be correct.

Nonetheless, the Non-US Operators argue that their construction of the rule is required by the plain reading of the text. As discussed above, their argument fails to acknowledge the full text of the rule. In addition, they overlook another change that the Commission adopted in 2017. Specifically, the Non-US Operators' analysis of the "plain meaning" of the text rests on the words "capable of operating," but overlooks the rest of that provision stating that a system must be capable of operating "*in the frequency band under consideration*."[6] The Commission had previously made clear that to be "operational" for purposes of spectrum selection, an NGSO space station must be capable of transmitting and receiving signals in the relevant frequency band.[7] None of the Non-US Operators explain – nor could they – how a spacecraft can be capable of transmitting and, in particular, *receiving* a signal if it has no licensed earth station with which to communicate. Instead, the operators seem to contend that being capable of operating in a frequency band simply means being in orbit. But just as a phone is not capable of operating without connecting to a network, a space station is not capable of operating without connecting to a system on the ground.

Telesat argues that in two other contexts the Commission adopted a rule in which launch (or even a launch date) is sufficient to secure order for spectrum selection among NGSO systems "without regard to licensing and operation of earth stations."[8] Specifically, 2 GHz MSS operators are allowed to pick their home spectrum "at the time that the first satellite in its system reaches its intended orbit," while in cases of NGSO-NGSO sharing where Section 25.261 does *not* apply a licensee is allowed to select spectrum up to sixty

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5 *United States v. Heirs of Boisdoré*, 49 U.S. 113, 122 (1850). *See also United States v. Morton*, 467 U.S. 822, 828 (1984) ("[w]e do not . . . construe statutory phrases in isolation; we read statutes as a whole"); *Gustafson v. Alloyd Co.*, 513 U.S. 561, 570 (1995) (statutes "should not be read as a series of unrelated and isolated provisions").

6 47 C.F.R. § 25.261(c)(1) (emphasis added).

7 *See Establishment of Policies and Service Rules for the Non-Geostationary Satellite Orbit, Fixed Satellite Service in the Ka-Band*, 18 FCC Rcd. 14708, ¶ 45 n.73 (2003) ("A system is deemed operational when at least one of its satellites reaches its intended orbit and initiates transmission and reception of radio signals."). While the Commission did not define the term "capable of operating" as part of the *NGSO Update Order*, the Commission's previous definition of "operational" further confirms this interpretation. The Non-US Operators do not explain how their satellites could be capable of transmitting and receiving if they have no earth station with which to communicate.

8 *See* Telesat Letter at 3-4.

days before even launching its first satellite.[9] According to Telesat, these examples somehow strengthen the case for ignoring the more extensive requirements in Section 25.261. But rather than supporting Telesat's position, these examples actually demonstrate just the opposite. The spectrum selection regimes cited by Telesat merely demonstrate the obvious: that the Commission knows how to specify satellite launch as the only criterion when it wants to do so. The Commission conspicuously did *not* use this language in the current version of Section 25.261's band-splitting provision. Under standard canons of construction,[10] the fact that it used a very different formulation in Section 25.261 demonstrates that the Commission requires something more in this instance – *i.e.*, the capability to transmit and receive actual signals with a U.S.-licensed earth station.

The Non-US Operators Misstate the Administrative History of the Commission's Band-Splitting Rules.

Before 2017 and the most recent update to the NGSO band-splitting rule, the Commission did not refer to earth stations at all in Section 25.261 (beyond defining an in-line event). The NGSO operator that could select spectrum first was solely "determined by and bein accordance with the date that the first space station in each satellite network is launched and operating."[11] In 2016, the Commission proposed "to clarify that section 25.261 applies only to NGSO FSS systems communicating with earth stations with directional antennas."[12] The Commission did not propose to exempt any part of the rule from this jurisdictional limitation, contrary to the Non-US Operators proposal to disregard the second sentence in subpart (c)(1). The language of the rule proposed in 2016, which closely tracks the text the Commission ultimately adopted, underscores that the Commission intended that it apply only once an NGSO operator has authorized ground stations, stating explicitly: "This section applies to NGSO FSS satellite systems that communicate with earth stations with directional antennas and that operate under a Commission license or grant of U.S. market access under this part [in specified bands]."[13]

The Commission adopted this proposal in 2017, clarifying "that section 25.261 applies only to NGSO FSS systems using directional earth station antennas, which are

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9 *See Establishment of Policies and Service Rules for the Mobile Satellite Service in the 2 GHz Band*, 15 FCC Rcd. 16127, ¶ 16 (2000) ("*2 GHz MSS Order*"); 47 C.F.R. § 25.157(f)(1).

10 *See, e.g., Persinger v. Islamic Republic of Iran*, 729 F.2d 835, 843 (D.C. Cir. 1984) ("When Congress uses explicit language in one part of a statute to cover a particular situation and then uses different language in another part of the same statute, a strong inference arises that the two provisions do not mean the same thing." (citing *Russello v. United States*, 464 U.S. 16 (1983)).

11 47 C.F.R. § 25.261(c)(1) (2016).

12 *Update to Parts 2 and 25 Concerning Non-Geostationary, Fixed-Satellite Service Systems and Related Matters*, 31 FCC Rcd. 13651, ¶ 23 (2016) ("*NGSO Update NPRM*"). Before the change to the scope of the rule, Section 25.261(a) stated that the "coordination procedures in this section apply to non-Federal-Government NGSO FSS satellite networks operating in [specified] assigned frequency bands." 47 C.F.R. § 25.261(a) (2016).

13 *NGSO Update NPRM*, Proposed Rule 25.261(a).

generally necessary for co-frequency operation."[14] Once again, the Commission applied this requirement to the entire rule, with no carve-out to exclude any particular portion. Such a carve-out would be counterproductive and would undercut the rule; the best way for the Commission to determine that an NGSO operator plans to use earth stations with directional antennas in the United States would be for the operator to apply for and receive authority to operate such earth stations. By contrast, selective exclusion of one portion of the band-splitting rule from the scoping language would result in the nonsensical result that some operators could gain band-splitting priority long before they become subject to the band-splitting rules (precisely the result that threatens to occur here).

The Non-US Operators belatedly claim that the scoping provision in Section 25.261(a) was meant only to limit the geographic reach of the rule in response to comments from SpaceX,[15] a rewriting of history that simply does not hold up. As discussed above, the Commission proposed from the outset that the section would apply only to NGSO FSS satellite systems that communicate with earth stations with directional antennas. Not one of the Non-US Operators objected to this proposal. SpaceX offered comments in the rulemaking proceeding in direct response to the Commission's proposal to limit the scope of the rule – not the other way around.

Moreover, in 2017, in tandem with adopting its limitation to the rule's scope in Section 25.261(a), the Commission also explicitly changed the qualifying steps in Section 25.261(c)(1) required for an NGSO operator to be first to select spectrum. While the rule originally stated that a network must be first to "operate," the Commission clarified that operating referred not just to launching a satellite and reaching operational orbit, but specifically to the ability to operate "in the frequency band under consideration." A satellite system simply cannot be capable of transmitting and receiving in the frequency band under consideration without a corresponding earth station with which to communicate. The Commission made these two changes to the first-to-operate criteria in conjunction because together they further the Commission's larger goals of increasing co-frequency operation and improving competition for U.S. consumers.

Requiring Operators to Have Earth Stations Advances the Commission's Goal of Providing Service to American Customers.

The Commission has repeatedly stated its objectives for NGSO FSS satellite constellations to provide broadband service to American consumers as quickly as possible and has sensibly designed its rules to encourage not just deployment of satellites, but actual provision of service.[16] Launching satellites without being able to connect to the ground is simply insufficient to achieve this goal. The Commission updated its band-splitting

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[14] *See Update to Parts 2 and 25 Concerning Non-Geostationary, Fixed-Satellite Service Systems and Related Matters*, 32 FCC Rcd. 7809, ¶ 52 n.118 (2017) ("*NGSO Update Order*").

[15] *See, e.g.,* Telesat Letter at 2; Kepler Letter at 2; OneWeb Letter at 3.

[16] *See, e.g., NGSO Update Order*, ¶ 1 ("The Commission continues to encourage the development of new broadband services to the American public, including satellite broadband internet access.").

procedures to address situations in which NGSO systems that have not yet completed operator-to-operator coordination encounter in-line interference when using spectrum assigned through a processing round to provide service to American consumers. An 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. As Telesat's quotation of the *2 GHz MSS Order* itself points out, the spectrum selection process "furthers the Commission's strong policies favoring competition, efficient use of spectrum resources and quick deployment of services *for the benefit of U.S. consumers*."[17] It strains credulity to posit that a satellite system unable to provide service within the United States can nonetheless provide such a benefit to American consumers.

In fact, the Non-US Operators' attempt to read the jurisdictional requirements selectively out of the rule could actually deny benefits to American consumers. A few examples clearly illustrate how this contorted application of the band-splitting procedures could yield outcomes contrary to the Commission's objectives.

> ***Example 1:*** An NGSO system (especially one licensed in a foreign country) could launch satellites for a constellation designed primarily to provide service to sites outside the United States, with no regard to American consumers. Meanwhile, another NGSO system could launch and provide both service and competition for served and otherwise unserved Americans. Under the Non-US Operators' interpretation of Section 25.261(c)(1), if the foreign operator then decides years later to begin service in the United States, it could claim first-to-operate primacy and force the other system to degrade service to its existing American customers.

In fact, Kepler's and Telesat's own systems demonstrate how this could happen. Each of those operators launched its first NGSO satellite well before the Commission even granted its request for access to the United States market. Kepler has explicitly claimed that the prototype satellite it launched ten months before the Commission granted it market access should be considered capable of operating in the Ku-band for purposes of the rule.[18] It is hard to see how this satellite was capable of operating in the Ku-band in the United States before the Commission granted Kepler access to the market.[19] The Commission cleared

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17 *See* Telesat Letter at 3 (quoting *2 GHz MSS Order*, ¶ 28) (emphasis added).

18 *See* Letter from Nickolas G. Spina to Marlene H. Dortch, IBFS File No. SAT-LOI-20160428-00041 (May 13, 2019) (claiming that operation of KIPP 3U spacecraft launched on January 19, 2018 entitled Kepler to first priority in selection of home spectrum in the Ku-band). The Commission granted Kepler access to the U.S. market on November 19, 2018. *See Kepler Communications Inc.*, 33 FCC Rcd. 11453 (2018).

19 In contrast, SpaceX's Microsats 2a and 2b, which launched in February 2018, not only were permitted to operate in the United States but were in fact transmitting to and receiving from American government customers using earth stations authorized by the Commission by the fall of 2018. *See* File No. 0298-EX-CN-2016. These satellites were the first SpaceX space stations to have launched and been capable of operating in the Ku-band.

up this problem by defining the scope of the band-splitting rule: an NGSO system is not capable of operating in the frequency bands under consideration until the Commission authorizes its earth stations with directional antennas.

> ***Example 2:*** Following the Non-US Operators' interpretation of the rule, an operator could launch only a small number of "dummy satellites" out of a constellation of hundreds or thousands, with the express intent to claim that it is entitled to select "home" spectrum first. It could even launch a few "dummy payloads" on spacecraft designed primarily to communicate in another band. If interpreted in this way, the rule would be rendered essentially unenforceable. Without earth stations, the Commission could rely only on self-serving claims that the satellites are capable of operating in a band. Without ground equipment, the Commission would not be able to determine whether the satellites in orbit even have communications antennas on board. For instance, OneWeb baldly asserts that its satellites are capable of operating in Ku- and Ka-band frequencies but, absent any authorized earth stations, has offered no evidence for the Commission or anyone else to corroborate its claim. In contrast, when an operator deploys both operational satellites and the ground equipment necessary to serve consumers, the Commission could observe for itself at any time whether the satellites are capable of operation in the United States.

To support its position, Telesat lists a parade of supposedly arbitrary factors that can affect the timing for deployment of earth stations, such as completion of required coordination, how fast the Commission processes an application, construction of the earth station, and others.[20] This critique is strange, given that Telesat has not even bothered to submit an earth station application to the Commission – rendering moot all of the factors it has cited. Moreover, far from being arbitrary, these factors are necessary preconditions to achieving the Commission's goal of delivering service to Americans. More to the point, all these same factors and more would apply to Telesat's proposed solution of tying selection of home spectrum simply to the launch of a satellite, making the proposed determination even more arbitrary from this perspective. For instance, the cost of contracting for satellite launch, managing integration, and actually deploying is substantial, and the factors influencing whether one satellite reaches orbit before another range widely, potentially determined by factors as random as the speed of high-level winds at a given launch site on a given day. In contrast, the cost and complexity of licensing and installing a gateway or user terminal is far more under the control of the operator itself, and more importantly, it is also far more directly related to the operator's ability to actually serve consumers in a given country. It is hard to take seriously Telesat's assertion that the factors affecting deployment of earth stations is more daunting than the factors affecting execution of a satellite's launch and orbit-raise to achieve operational status.

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[20] *See* Telesat Letter at 3.

As demonstrated above, the Commission's default band-splitting procedures clearly are triggered only when an NGSO operator has both launched its satellites and deployed the earth stations necessary to communicate and to provide service in the United States. The arguments of the Non-US Operators have omitted crucial aspects as a matter of law, but have also lost track of the administrative history and policy objectives that underlie the Commission's formulation of band-splitting rules. Despite the clarity of the criteria for first-to-operate status, SpaceX continues to believe that the greatest spectrum efficiency and the best outcome for American consumers will come from all sophisticated NGSO systems investing in technology that will allow spectrum sharing and lead to operator-to-operator driven coordination agreements, rather than relying on this regulatory backstop. SpaceX therefore will continue to welcome productive discussions with those Non-US Operators with which it has already been coordinating, and hopes that those NGSO operators that otherwise have been unresponsive to date will engage now in good faith. Operator-driven coordination will ensure the most efficient use of the spectrum, ultimately resulting in the most choices and best services for American consumers.

Sincerely,

/s/ David Goldman

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