

VIA ELECTRONIC FILING

August 15, 2019

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street S.W.
Washington D.C. 20554

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

Dear Ms. Dortch:

Kepler Communications Inc. (“Kepler”) presents this letter in response to the correspondence submitted by Space Exploration Holdings, LLC (“SpaceX”) to the FCC (the “Commission”), in which SpaceX elaborated on its interpretation of the NGSO sharing rules stipulated under 47 C.F.R. §25.261.¹ In its letter, SpaceX reiterates its own reading of the rule with respect to the ‘home spectrum’ selection order determined by §25.261(c)(1) and attempts to support their flawed interpretation by presenting a litany of ineffectual references and false misrepresentations. Put simply, SpaceX selectively interprets §25.261 in such a way as to uniquely identify its own system as the only one within the OneWeb processing round to be “capable of operating”, despite publicly verifiable operations performed in Ku-band by Kepler’s system far in advance of SpaceX’s own authorized deployment. Further, Kepler has already obtained earth station authorizations in the US that would be sufficient to meet the home selection criteria *even under SpaceX’s interpretation*. Therefore, the public record substantiates Kepler’s claim, regardless of whose reading is correct.

Underpinning the entire letter is simply SpaceX’s statement of its own legal opinion: 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.” Of course, nowhere do the Commission’s rules state that NGSO operators need “licensed earth stations on the ground” to support their service.² This is a merely SpaceX’s preferential interpretation of the rule, and was thoroughly discounted in previous letters.³

¹ See Letter from David Goldman to Marlene H. Dortch, IBFS File Nos. SAT-LOA-20161115-00118, *et al.* (Jul. 19, 2019) (“SpaceX Letter”).

² See 47 C.F.R. §25.261.

³ See Letters from Patricia Cooper, Vice President, Satellite Government Affairs, Space Exploration Technologies Corp. to Marlene H. Dortch, IBFS File Nos. SAT-LOA-20161115-00118, SAT-MOD-20181108-00083 (Jun. 12 and Jun. 13 2019); Letter from Joseph A. Godles, Attorney for Telesat Canada to Marlene H. Dortch, IBFS File Nos. SAT-LOA-20161115-00118, *et al.* (Jun. 20, 2019); Letter from William M. Wiltshire, Counsel for SpaceX to Marlene H. Dortch, IBFS File Nos. SAT-LOA-20161115-00118, *et al.* (Jun. 24, 2019); Letters from Henry Goldberg and Joseph A. Godles, Attorneys for Telesat Canada to Marlene H. Dortch, IBFS File Nos. SAT-LOA-20161115-00118, *et al.* (Jun. 27 and Jul. 9, 2019); Letter from Brian D. Weimer, Counsel for WorldVu Satellites Limited to Marlene H.

Interpretation of the Rule

In the Preceding Letters, Kepler and others stressed that a plain reading of the rule in fact discounted SpaceX's flawed interpretation on basic sense. The scope defined by §25.261(a) only *sensibly* applies to the Section's sharing procedure but would be obviously nonsensical if applied to the home spectrum selection order.⁴ To reiterate, the default sharing procedure is implemented either when two US systems experience an in-line event anywhere in the world, or when an authorized Non-US system and any other member of a processing round experience an in-line event within US territory.

SpaceX correctly points out that the other claimants "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". Indeed, these items – which constitute the *sharing procedure* – are governed by the *scope of the sharing procedure*. The *home spectrum selection order* would not be sensibly governed by the *scope of the sharing procedure*, as there is no legal or practical necessity to doing so. In essence, SpaceX contests that the first system to be in orbit and 'capable of operating' should necessarily receive first selection priority. However, it is most sensible that the system that deploys first (not the one to be authorized first in the US) receives choice of home spectrum, as the system that is built and deployed first may not then be able to adapt its characteristics thereafter. Each of the letters that were submitted by operators other than SpaceX clarified *why* these provisions don't apply to the home spectrum selection. Simply stating that there is "no question that these provisions [...] apply" does not refute those arguments.

The SpaceX Letter bemoans the apparent exclusion of the Section's scope towards the home spectrum procedure outlined by §25.261(c)(1). To this, they remark that "... 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)". To the contrary, this result is precisely what *must* occur in order to maintain fairness among processing round applicants. In practice, the home spectrum rule *determines the selection order* based on the chronological sequence that processing-round systems are deemed 'capable of operating'. This home spectrum selection can only later be awarded in accordance with said order *on the condition that the applicant receives approval*. To preserve fairness, the FCC cannot be in a position to influence the home spectrum selection order based on the timeliness of its processing of applications.

In its own response letter, Telesat Canada provided a list of arbitrary factors that would materially affect the deployment of earth stations and which – to preserve processing round equity – cannot affect the rulings of a 'first-come-first-serve' style rule such as the one that governs home spectrum selection.⁵

Dortch, IBFS File Nos. SAT-LOA-20161115-00118, *et al.* (Jul. 9, 2019) ("OneWeb Letter"); Letter from Nickolas G. Spina to Marlene H. Dortch, IBFS File Nos. SAT-LOA-20161115-00118, *et al.* (Jul. 10, 2019) (together the "Preceding Letters").

⁴ See OneWeb Letter at 2-3. ("Common sense and principles of statutory and regulatory interpretation demand that Section 25.261(c)(1) means simply what Section 25.261(c)(1) says. [...] SpaceX's interpretation of Section 25.261(a) runs contrary to the public record and common sense").

⁵ Telesat notes that "making the possession of an operating earth station in the United States a determining factor could make who selects frequencies first dependent on more arbitrary factors such as who can complete coordination more quickly with the federal government, whose earth station application is opposed, whose earth station application requires waivers, how long it takes to nail down desired earth station locations, what the weather is like during earth

SpaceX goes on to deride this list of factors, apparently ignorant to the reality that if the Commission were to adopt them, they would cripple the fairness of the processing round mechanic at its core. Calling the listing “strange”, SpaceX asserted its irrelevance with respect to the immediate delivery of service to American consumers and in doing so, overlooked the important fact that the integrity of the processing round procedure itself is already designed to maximize the benefit of the American consumer. Kepler is also demonstrably subject to the very factors that Telesat pointed out in its letter. In fact, Kepler was legally ineligible to receive long-term earth station licenses prior to receiving its market access, and could only apply for temporary, experimental authorization in the intervening period (which it did). Regarding Kepler’s first satellite, SpaceX adds that “[i]t is hard to see how this satellite is capable of operating in the Ku-band in the United States before the Commission granted Kepler access to the market”, thereby illuminating that SpaceX itself is at least aware of the effect that arbitrary barriers (such as approval delays) can have on the deployment of licensee’s systems. This is *precisely why* the home spectrum selection order cannot be based on such processes.

SpaceX reports further difficulty with this understanding, saying that Kepler and others “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”. This is not true, as previous letters clarified that the sentence is exempted expressly *because* of the context of the sharing rule.⁶ Here, SpaceX attempts to apply this same approach towards reading the greater context of the law, but fails to actually do so successfully. The greater context of the law – as stated in the Preceding Letters – is that the scope of the rule designated by §25.261(a) is to act as a trigger for initiating the default coordination procedure, which is clearly the core function of the rule when “read [...] as a whole”.⁷ Citing a number of precedent rulings, SpaceX adds that “[a]pplying t[he Supreme court’s] approach would not support singling out this one sentence as exempt from the scoping provision”. To the contrary, as the application of the Supreme court’s approach would not support erroneously applying the scoping provision to items in which it does not sensibly apply, such as §25.261(c)(1).

Kepler’s claim can be illustrated in two distinct ways.

station construction, and how quickly one’s application is processed”. See Letter from Henry Goldberg and Joseph A. Godles, Attorneys for Telesat Canada, to Marlene H. Dortch, IBFS File Nos. SAT-LOA-20161115-00118, *et al.*, at 3 (Jul. 9, 2019).

⁶ See OneWeb Letter at 4. (“The Commission’s language describing the reasoning behind the revisions to Section 25.261 establishes that Section 25.261(a) applies to *when* and *where* the Commission’s spectrum-sharing regime applies and imparts no qualifications on 25.261(c)(1)’s home spectrum selection order determination related to the operation of or communication with U.S.-licensed earth stations”). SpaceX cites a number of prior discussions related to the recent update to the Commission’s NGSO sharing procedures that ultimately fall short of providing any dependable support for its view. Nowhere within this effort does SpaceX reveal any new proof or clarification that its reading is in fact aligned with what is intended by the scope of the rule. See also *Update to Parts 2 and 25 Concerning Non-Geostationary, Fixed-Satellite Service Systems and Related Matters*, 31 FCC Rcd. 13651, 23 (2016).

⁷ SpaceX cites a number of Supreme Court precedent rulings to justify the reading of rules in their greater context, yet fails to actually do so by focusing minutely on the isolated provisions. See *Unites States v. Heirs of Boisdoré*, 49 U.S. 113, 122 (1850) (“[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”). 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”).

Scenario 1. Consider a case in which the FCC had not yet provided a ruling on Kepler's request for market access (under the current rules there is no strict service standard for such rulings). In this scenario, Kepler would be *legally barred* from "licensing earth stations on the ground to support service for American consumers" using anything other than a special temporary authorization. Therefore to preserve fairness, the home spectrum selection cannot rely on the deployment of something (i.e. US earth stations) that is not necessarily accessible to all members of the processing round. Furthermore, a Non-US member of the processing round should, in principle, be able to satisfy the home spectrum requirements before its market access is formally granted. Otherwise the inherent delay associated with the processing of each application would act arbitrarily to deprive operators of equal opportunity to fulfill the home spectrum selection requirement.

Scenario 1 clearly illustrates a core flaw with SpaceX's interpretation, demonstrating that the reading offered by Kepler and others must in fact be correct. In this case, Kepler remains the first processing round applicant to launch and deploy an active, authorized satellite capable of operating in the frequency bands under consideration. Secondly:

Scenario 2. A Non-US operator could simply obtain the license for a single earth station to fulfill SpaceX's desired condition. This would do virtually nothing to support service for American consumers broadly. For what it is worth Kepler has already met this condition, as it was granted special temporary authority for four experimental Ku-band earth stations to operate between November 2018 and May 2019 (File No. 0748-EX-ST-2018, Callsign WN9XRA). Kepler has continued to apply for additional earth station authorizations in the intervening period.⁸

Kepler notes that as early as November 26th, 2018 it held its grant of US market access, an authorized space station in orbit and operating in Ku-band, and an authorization for multiple earth stations within the United States. Therefore, even under SpaceX's interpretation, Kepler would still retain the highest claim to home spectrum.

Specific Criticisms

In reference to the systems of other claimants, SpaceX openly contemplates "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". This comment is extremely odd, as Kepler has maintained a steadily growing number of authorized Ku-band stations since before the launch of its first spacecraft in January 2018. Here SpaceX simply *assumes* that its own interpretation is correct (that said earth stations must be US-licensed) before lambasting others on the incredulity of their claims. Unlike those claims however (which are based only on

⁸ Kepler's NGSO constellation was added as a point of communication to an earth station authorization owned by ViaSat Inc. ("ViaSat") under the callsign WE2XBE in an application filed on April 9, 2019 (File No. 0085-EX-CM-2019). Prior to this, Kepler completed receive-only tracking tests with one of the ViaSat stations in Duluth, Georgia in accordance with §25.131(j)(2). Kepler also has several applications presently awaiting Commission approval: *see* IBFS File Nos. SES-STA-20190606-00735, SES-LIC-20190627-00861 and OET File No. 1129-EX-ST-2019.

a straightforward reading of the rule), SpaceX's statements continue to lack the showing necessary to substantiate its own position.

SpaceX makes another attempt to apply circular reasoning to its arguments when it later states that “[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.” Despite the fact that the requirement in dispute only asks that a system be “capable of operating” and – as stated previously – says nothing about setting up US licensed earth stations, the public record reflects that Kepler has indeed operated *both* of its presently authorized spacecraft with a number of ground stations “in the frequency band under consideration”, and that it had begun doing so long before SpaceX had launched any of its own spacecraft at all.⁹ SpaceX attempts to support this using an analogy for cellular networks.¹⁰ To this, Kepler notes that a Non-US cell phone would be *capable* of operating in the US with roaming agreements, just as a Non-US satellite would be *capable* of operating in the US regardless of where its earth stations are presently installed. Notably, SpaceX's interpretation does not appropriately deal with the case of a *US system* that is capable of transmitting to a US station but *elects not to* due to, for example, a business case that is centered around a foreign market. A digression here is necessary however, as these points have all been raised in the previous letters.

SpaceX adds that if earth station licensing is not required then “an NGSO operator could provide service elsewhere and ignore the US for years, yet still retain the right to demand preferential treatment from operators actually serving US customers when it finally decides to enter this market”. SpaceX's narrow perspective continually betrays the objective state of affairs for Non-US NGSO operators. See *Scenario 2* above.

Further, SpaceX asserts that “[u]nder th[e plain] 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”. This reading in fact *must* be correct, otherwise the FCC could not guarantee an equitable process for Non-US members of a processing round.

Rather strikingly, SpaceX seems to suggest that the claims made by Kepler and others are invalid because they “overlooked the rest of [§25.261] stating that a system must be capable of operating ‘in the frequency band under consideration’”, adding that “[t]he 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”. Kepler is not aware of any operator that has claimed

⁹ See Phasor Solutions, *Phasor and Kepler Usher in New Era of Satellite Communications*, <http://www.phasorsolutions.com/news-1/phasor-and-kepler-usher-in-new-era-of-satellite-communications> (Sep. 10, 2018); SpaceNews, *Kepler, Phasor test flat panel antenna with LEO cubesat*, <https://spacenews.com/kepler-phasor-test-flat-panel-antenna-with-leo-cubesat/> (Sep. 18, 2018). See also MarketWatch, *C-COM Successfully Tracks Kepler LEO Satellites*, <https://www.marketwatch.com/press-release/c-com-successfully-tracks-kepler-leo-satellites-2019-04-02> (Apr. 2, 2019). Oddly, SpaceX cites their Microsat systems as having fulfilled the §25.261 criteria, despite the fact that these satellites were not authorized under their processing round grant (thereby precluding them from qualifying for the home spectrum selection order with processing round entrants). See Microsats 2a and 2b, File No. 0298-EX-CN-2016. See also Space Exploration Holdings, LLC, *Application For Approval for Orbital Deployment and Operating Authority for the SpaceX NGSO Satellite System*, Memorandum Opinion, Order and Authorization, 33 FCC Rcd. 3391 (2018).

¹⁰ SpaceX claims that “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”. See SpaceX Letter at 3.

a fulfillment of the home spectrum requirement in frequency bands other than those that they have claimed to be capable of operating in, which in Kepler's case is the Ku-band.

SpaceX continues to frame its position in the context of what it believes the rules should be, rather than what they are. It asserts that operators who have not yet been authorized to begin construction of their ground station network simply have “no need to choose [their] home spectrum unless or until that authorization and capability exist” because without authorization, they are “patently unable to provide service for American consumers”. Ironically, SpaceX itself remains distant from being able to provide any serviceable capacity to consumers, having admitted that it will require at least six more launches before being able to do so.¹¹ It is strange then that SpaceX chooses to remark how “[i]t strains credulity to posit that a satellite system unable to provide service within the United States can nonetheless provide [...] a benefit to American consumers”. Regardless, SpaceX's concern is a non-argument as §25.261(c)(1) does not require service to be delivered to consumers to qualify for home spectrum selection.

Oddly, the Letter posits that the reading of the rule by Kepler and others “could actually deny benefits to American consumers” and provides two flawed examples to illustrate its idea. The first suggests that because an authorized Non-US operator could delay its US service offering for a time, it could upon later entering the market “claim first-to-operate primacy and force [commercially active operators] to degrade service to [their] existing American customers”. This statement is merely a complaint regarding the realities of spectrum sharing in general. The introduction of the Non-US system into the US market will carry its own benefits to American consumers by virtue of the delivery of its service. Up until the Non-US operator enters the market, the existing operator would enjoy privileged, unbridled access to the entire unshared spectrum. During this time, user terminals operated by American consumers would not experience in-line events with Kepler's network because it would not be transmitting over the United States, which by necessity would require it to have authorized earth stations. It is not that SpaceX's service would be degraded by the Non-US operator's entry, but rather that SpaceX's service is temporarily augmented during the period with which it need not share spectrum.

The second example is simply a veiled accusation that Kepler and others could have technically deceived or misled the Commission regarding their claims of operation.¹² Once again, Kepler's operation in the Ku-band is a matter of public record.¹³ Further, it could not economically justify the construction, assembly, testing and launch of “dummy satellites” equipped with “dummy payloads” to simply meet the criteria of the home spectrum rule. Kepler notes that the Commission has not asked for anything more than a self-reported claim, one made in good faith and in accordance with the conditions of both the Commission's rules and those given in the respective operator's license. Such claims can always be verified indirectly through the accounts of third parties, such as media, partners, or customers. SpaceX's concern of Kepler acting as an ‘authorized-but-absent’ Non-US operator is ultimately unfounded, as Kepler has already

¹¹ See statement from Elon Musk, CEO of SpaceX at <https://twitter.com/elonmusk/status/1128840713783791619> (May 5, 2019) (“6 more launches of 60 [satellites] for initial activation, 12 for significant coverage”).

¹² SpaceX points out that “[w]ithout earth stations, the Commission could rely only on self-serving claims that the satellites are capable of operating in a band [...] [and] would not be able to determine whether the satellites in orbit even have communications antennas on board”. See SpaceX Letter at 7. One does not require earth stations to be located in the US to verify the capability of satellite operations. As stated previously, Kepler's operations in Ku-band are a matter of public record and, if necessary, can be formally verified by Innovation, Science and Economic Development Canada (ISED). Further, Kepler obtained its first US earth station authorization on November 26, 2018, long before SpaceX's first tranche of satellites were launched.

¹³ See *supra*, note 9.

filed several earth station applications in the US, some of which have been granted and some of which are awaiting Commission approval.¹⁴

To address perhaps the strangest claim of all, the SpaceX Letter asserts that Kepler and other operators somehow contest the reading of §25.261(a) that describes how “the section would apply only to NGSO FSS satellite systems that communicate with earth stations with directional antennas”. This is patently false; no claims of this nature were ever made by Kepler nor, to Kepler’s knowledge, by others.

Conclusion

SpaceX’s reading of the law is both forced and flawed. For the reasons mentioned here and within the Preceding Letters, Kepler’s system remains the first to fulfill the criteria stipulated under §25.261 for home spectrum selection order. Despite this, Kepler continues to work in good faith towards mutually beneficial coordination agreements between itself and the other processing round licensees. In this way, Kepler is in agreement with SpaceX: that direct coordination remains the best pathway to maximize the efficacy of all licensee’s services and thereby provide the maximal benefit to the American consumer.

Sincerely,

/s/ Nickolas G. Spina

Nickolas G. Spina
Director, Launch and Regulatory Affairs
Kepler Communications Inc.

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

¹⁴ See *supra*, note 8.