

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

In the Matter of)	
)	
)	
UPDATE TO PARTS 2 AND 25 CONCERNING)	IB Docket No. 16-408
NON-GEOSTATIONARY, FIXED-SATELLITE)	
SERVICE SYSTEMS AND RELATED MATTERS)	
)	

REPLY COMMENTS OF SPACE EXPLORATION TECHNOLOGIES CORP.

Space Exploration Technologies Corp. (“SpaceX”) hereby replies to comments filed on the Further Notice of Proposed Rulemaking (“*FNPRM*”)¹ in which the Commission has proposed to remove the domestic coverage requirement for non-geostationary satellite orbit (“NGSO”), Fixed-Satellite Service (“FSS”) systems operating in all permitted spectrum bands. Three other commenters – Boeing, SES/O3b, and Space Norway – joined SpaceX in supporting the Commission’s conclusion that elimination of this requirement will afford NGSO operators greater flexibility in their system designs without compromising widespread services offerings.² Eliminating the rule will ensure that the Commission does not retain outmoded regulations that may effectively preclude an innovative NGSO design that would meet an identifiable market need.

Two other comments took a different view. WorldVu Satellites Limited and two of its investors, Hughes Network Systems and Intelsat (collectively referred to as “OneWeb”), opposed

¹ *Update to Parts 2 and 25 Concerning Non-Geostationary, Fixed-Satellite Service Systems and Related Matters*, 32 FCC Rcd. 7809, ¶¶ 73-76 (2017) (“*FNPRM*”).

² *See* Comments of Space Exploration Technologies Corp. (Jan. 2, 2018) (“SpaceX Comments”); Comments of The Boeing Company (Jan. 2, 2018) (“Boeing Comments”); Comments of SES S.A. and O3b Limited (Jan. 2, 2018) (“SES/O3b Comments”); and Comments of Space Norway AS on the Further Notice of Proposed Rulemaking (Jan. 2, 2018) (“Space Norway Comments”). Unless otherwise noted, all filings cited in these reply comments were filed in IB Docket No. 16-408.

the Commission's proposal, as did the Governor of Alaska.³ They assert that if the Commission eliminates the domestic coverage requirement, the incentive to serve rural and underserved areas would disappear.⁴

The record makes clear, however, that the Commission's domestic coverage requirement is no longer necessary to provide this incentive. As Boeing points out,

Significant technical justifications and business reasons will remain as incentives for some NGSO FSS system operators to employ polar and near-polar orbits, as evidenced by the number of existing and proposed NGSO FSS systems that incorporate polar orbits in their constellations. For example, polar orbits can support NGSO FSS systems serving the energy, shipping, and aviation industries, all of which are increasing operations in very northern latitudes.⁵

Additionally, the fact that Space Norway designed its NGSO system specifically to provide service in the Arctic region bears out Boeing's observation that such regulations are not needed in the presence of working market forces and compelling market demand for connectivity in higher latitudes.

Moreover, the active NGSO sector itself reinforces the conclusion that competition and the evolution of diverse space architectures and business plans are outpacing the need for proscriptive geographic coverage requirements. As OneWeb itself notes, "the Commission has never been closer to seeing the emergence of at least one NGSO FSS constellation utilizing state-of-the-art satellite technology to facilitate universal access and deliver high-speed broadband connectivity to previously unserved or underserved areas."⁶ The recent NGSO processing rounds include eighteen

³ See Comments of WorldVu Satellites Limited, Hughes Network Systems, LLC, and Intelsat Corporation (Jan. 2, 2018) ("OneWeb Comments"); Letter from Bill Walker to Marlene H. Dortch (Dec. 20, 2017) ("Walker Letter").

⁴ See OneWeb Comments at 4; Walker Letter at 1.

⁵ Boeing Comments at 3.

⁶ OneWeb Comments at 3.

systems capable of delivering such connectivity to customers in virtually every corner of the Earth – including remote areas in northern Alaska. It is precisely because NGSO operators such as SpaceX and OneWeb will cover the entire United States that others, such as O3b and Space Norway, should be allowed to pursue a different business model that addresses different customer needs. Indeed, the Commission recognized the power of a competitive NGSO environment when it granted a waiver of the domestic coverage rule to Space Norway’s proposed Arctic-centered NGSO system, based in part upon the recognition that “several of the other NGSO FSS applicants intend to provide communications coverage to all U.S. states and territories, thereby mitigating concerns about Space Norway’s lack of coverage to other regions of the United States.”⁷ In addition, by adopting rules that encourage efficient spectrum sharing among NGSO systems, the Commission has ensured that one NGSO system’s use of spectrum to serve one region of the world will not prevent other NGSO systems from using that same spectrum to serve other areas.⁸

OneWeb also argues that NGSO system applicants whose business models do not include coverage of the entire United States can seek relief through waivers of the domestic coverage requirement.⁹ But sole reliance upon waivers imposes its own costs, adding unnecessary uncertainty for those NGSO operators that are seeking to finalize system designs or trying to raise funds for an innovative NGSO service offering during the processing round. It has been the Commission’s practice to act on requested waivers of these rules at the conclusion of an application processing round. However, an applicant must invest significant resources to develop its system

⁷ See *Space Norway AS*, 32 FCC Rcd. 9649, ¶ 20 (2017).

⁸ See SpaceX Comments at 2-3 and n.6.

⁹ See OneWeb Comments at 5-6. OneWeb also continues to insist that NGSO applicants should be required to deploy their systems within a six-year time frame. *Id.* at 2, 4, 6. OneWeb’s focus on this timeframe is entirely misplaced, as the Commission made clear that its new nine-year deployment rule applies to pending applications. See *FNPRM*, ¶¶ 67, 71.

design to the degree necessary to participate in that processing round in the first place, and anticipated geographic coverage is a major factor in developing system design. Given the typical length of the application process and processing rounds, prospective NGSO operators must make design decisions that progress towards eventual deployment during their regulatory pendency, without knowing how the Commission will ultimately act on any requested waiver. Although the application process itself creates a certain degree of unavoidable uncertainty, this uncertainty is unnecessarily compounded by overloading applicants with waiver requests of Commission rules. Therefore, if, as the pending NGSO applications demonstrate, the rule is no longer necessary to achieve the goal of universal connectivity, there is no reason to maintain this potential deterrent to new entry.¹⁰

A majority of the commenters favor the Commission's proposal to eliminate the domestic coverage requirement. They recognize that NGSO satellite system operators should be free to design and implement satellite constellations in a manner that is optimized to correspond both to the type of communications services they plan to offer and the marketplace demand they identify for their specific project, allowing the flexibility to build against opportunities that arise in the future. A geographic coverage requirement imposes an artificial constraint on such technological innovation at a time when the policy goals are better met through light-touch regulation, and risks chilling developments that would better serve the nation in the future. Moreover, such a regulatory constraint is unnecessary given the number of existing and proposed satellite systems available to serve customers throughout the United States and their ability to do so using shared spectrum.

¹⁰ See *Establishment of Policies and Service Rules for the Broadcasting-Satellite Service at the 17.3-17.7 GHz Frequency Band*, 22 FCC Rcd. 17951, ¶ 20 (2007) (adopting an orbital spacing plan while rejecting reliance upon waivers, since “[t]here is no public policy benefit from resolving this issue in a piecemeal fashion through individual waiver requests. Acting here, rather than through individual waiver requests, provides regulatory certainty now to all parties.”).

Accordingly, although the SpaceX NGSO constellation itself is designed to provide broadband service on a full-time basis to customers located virtually anywhere on the entire planet, SpaceX nonetheless agrees with the Commission on the policy perspective that there is no need to require all NGSO FSS systems to cover all U.S. states and territories. SpaceX therefore joins Boeing, SES/O3b, and Space Norway in urging the Commission to implement its proposal to remove the domestic coverage requirement for NGSO FSS systems operating in all permitted spectrum bands.

Respectfully submitted,

SPACE EXPLORATION TECHNOLOGIES CORP.

William M. Wiltshire
Paul Caritj
HARRIS, WILTSHIRE & GRANNIS LLP
1919 M Street, N.W.
Suite 800
Washington, DC 20036
202-730-1300 tel
202-730-1301 fax

Counsel to SpaceX

By: /s/ Tim Hughes
Tim Hughes
Senior Vice President

Patricia Cooper
Vice President, Satellite Government
Affairs
SPACE EXPLORATION TECHNOLOGIES
CORP.
1030 15th Street, N.W.
Suite 220E
Washington, DC 20005
202-649-2700 tel
202-649-2701 fax

January 29, 2018