

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of)	
)	
SpaceX Services, Inc.)	IBFS File Nos. SES-LIC-20190816-01062;
)	SES-LIC-20190816-01063; SES-LIC-
Application for Gateway)	20190827-01110; SES-LIC-20190906-
Earth Stations)	01170; SES-LIC-20190906-01171

COMMENTS OF WORLDTVU SATELLITES LIMITED

WorldVu Satellites Limited (“OneWeb”), pursuant to the Federal Communications Commission’s (the “Commission”) rules,¹ submits these comments on the above-referenced applications (the “Gateway Applications”) filed by SpaceX Services, Inc. (“SpaceX”) seeking authority to operate gateway earth stations in the Ka-band.²

I. THE COMMISSION SHOULD REQUIRE SPACEX TO CLARIFY THE NUMBER OF SATELLITES EACH GATEWAY EARTH STATION WILL COMMUNICATE WITH SIMULTANEOUSLY

OneWeb focuses its comments on the Gateway Applications on a single issue: namely, the number of spacecraft SpaceX intends to communicate with simultaneously via its proposed Ka-band gateway earth stations. Absent clarification, OneWeb and other interested parties are unable to accurately determine the interference impacts that grant of the Gateway Applications would have on the non-geostationary, fixed-satellite service (“NGSO FSS”) sharing environment.

¹ See 47 C.F.R. § 25.154(a).

² SpaceX Services, Inc., Application for Gateway Earth Station, IBFS File Nos. SES-LIC-20190816-01062, *et. al.* (filed Aug. 15, Aug. 26, Sep. 5, 2019); *see also Satellite Communications Services, Satellite Radio Applications Accepted for Filing*, Public Notice, Report No. SES-02203 (Sep. 25, 2019).

In its initial space station license application and a subsequent application seeking to modify its space station license, SpaceX provided parameters for expected Ka-band gateway earth station operations.³ These parameters specifically contemplated a maximum of four satellites communicating with a Ka-band gateway at a single time; SpaceX stated that “[u]p to four satellites can beam transmissions to the gateway location, for a maximum of eight co-frequency beams.”⁴ The parameters of the Initial SpaceX Application and First SpaceX Modification Application therefore specified a maximum of four satellites communicating with a single Ka-band gateway earth station at any single point in time.⁵

However, the Gateway Applications appear to be inconsistent with the parameters set forth in the Initial SpaceX Application and First SpaceX Modification Application and instead seek authority for *eight* identical antennas at each location.⁶ SpaceX’s apparent request for authority to communicate with eight satellites from a single gateway location at a single time constitutes a significant departure from the parameters of SpaceX’s previously authorized NGSO FSS system.

³ See Application of Space Exploration Holdings, LLC, for Approval for Orbital Deployment and Operating Authority for the SpaceX NGSO Satellite System, IBFS File No. SAT-LOA-20161115-00118 (filed Nov. 11, 2016) (“Initial SpaceX Application”); see also Application of Space Exploration Holdings, LLC, for Modification of Authorization for the SpaceX NGSO Satellite System, IBFS File No. SAT-MOD-20181108-00083 (filed Nov. 8, 2018) (“First SpaceX Modification Application”).

⁴ Initial SpaceX Application, Attachment A at 13; First SpaceX Modification Application, Attachment A at 8.

⁵ OneWeb notes SpaceX’s plans for Ka-band gateway earth stations have been inconsistent with this applied-for authority almost from the start—in its Further Consolidated Opposition to OneWeb’s Petition to Deny the First SpaceX Modification Application, SpaceX stated there would be “eight interfering SpaceX satellites” for each Ka-band gateway earth station. See Further Consolidated Opposition to Petitions and Response to Comments of Space Exploration Holdings, LLC, IBFS File No. SAT-MOD-20181108-00083 at A-1 (filed Feb. 21, 2019).

⁶ Gateway Applications, Narrative at 1.

Critically, these departures impact other NGSO FSS operators and may negatively impact the NGSO interference environment. For example, such a scenario would be expected to result in a 100% increase in short-term inline interference events. Furthermore, the doubling of satellites communicating with each SpaceX Ka-band gateway earth station would be expected to result in a 3 dB increase in long-term interference to OneWeb and other NGSO FSS operators in the Ka-band.

The Commission should require SpaceX to supplement the Gateway Applications to clarify the maximum number of satellites that will communicate with each of its proposed Ka-band gateway earth stations at a time. As SpaceX has pointed out, if the Commission grants earth station applications that are inconsistent with the parameters of a related space station authorization, such a grant would “implicitly change the parameters” and represent a “de facto modification” of SpaceX’s existing space station authorization.⁷

II. CONCLUSION

To ensure a complete and accurate Commission review of the interference impacts of the Gateway Applications, OneWeb respectfully requests the Commission require SpaceX to supplement the Gateway Applications with the information specified above. Requiring such information is the first step to confirm that SpaceX’s proposed Ka-band gateway earth stations will not degrade the NGSO interference environment and provide other NGSO operators with sufficient information to determine the impact SpaceX’s proposed Ka-band gateway earth stations will have on the NGSO FSS sharing environment.

⁷ See Comments of Space Exploration Holdings, LLC, IBFS File No. SES-LIC-20190422-00538 at 4 (filed Aug. 23, 2019).

Respectfully submitted,

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CERTIFICATE OF SERVICE

I, Samuel Swoyer, hereby certify that on this 25th day of October 2019, a copy of these

Comments are being sent via first class, U.S. Mail, postage paid, to the following:

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