

## REQUEST FOR EXTENSION OF SPECIAL TEMPORARY AUTHORITY

On May 9, 2019, the Commission granted Space Exploration Holdings, LLC (“SpaceX”) Special Temporary Authority (“STA”) for the first tranche of its non-geostationary orbit (“NGSO”) satellites launched on May 24, 2019 to communicate with seven earth stations operated by its sister company, SpaceX Services, Inc. (“SpaceX Services”).<sup>1</sup> The Commission subsequently extended that STA through December 26, 2019.<sup>2</sup> SpaceX respectfully requests that the Commission further extend that STA for an additional 30 days for the reasons discussed below.

SpaceX has been authorized to launch and operate a constellation of 4,409 NGSO satellites (call sign S2983/S3018) using Ku- and Ka-band spectrum. Pursuant to the STA, SpaceX has been communicating with an earth station to conduct telemetry, tracking, and control (“TT&C”) functions during orbit raising, de-orbit, and initial on-station operations,<sup>3</sup> and has also been communicating with six Ku-band gateway earth stations to test the communications payload on each of its satellites.<sup>4</sup> SpaceX has operated with these earth station pursuant to the STA for over six months, and has received no complaints from any other authorized spectrum user.

Allowing continued communications between the SpaceX space stations and SpaceX Services earth stations while applications for the latter are being processed would serve the public interest. The STA covers TT&C functions that are essential to commanding the spacecraft and ensuring the health and safety of SpaceX’s nascent constellation. The STA also allows SpaceX to confirm the operational status of its satellites on an ongoing basis. While much of the orbit-raising phase is now complete, there are still a few satellites that have yet to reach their authorized altitude. In addition, SpaceX may initiate the controlled de-orbit of some additional satellites. Extending the STA would allow SpaceX to continue to provide TT&C functions that are essential to commanding all of these spacecraft and ensuring continuing monitoring of and control over SpaceX’s nascent constellation, as well as maintaining communications with these craft to assess their functionality. Accordingly, extension of the STA will continue serve the public interest by enhancing space safety and promoting the health and safety of SpaceX’s NGSO constellation.

SpaceX will continue to operate on a non-interference basis, and in conformance with the applicable equivalent power flux-density (“EPFD”) limits set forth in Article 22 and Resolution 76 of the ITU Radio Regulations and the applicable power flux-density (“PFD”) limits set forth in the Commission’s rules and Article 21 of the ITU Radio Regulations, which the Commission has found sufficient to protect GSO systems and terrestrial systems, respectively, against harmful

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<sup>1</sup> See Public Notice, Rep. No. SAT-01388 (rel. May 10, 2019).

<sup>2</sup> See Public Notice, Rep. No. SAT-01431 (rel. Dec. 6, 2019).

<sup>3</sup> Although the Commission by rule authorizes TT&C operations for GSO satellites during the orbit-raising phase, it has not yet adopted a similar rule for NGSO systems (though one is currently under consideration). See 47 C.F.R. § 25.282; *Mitigation of Orbital Debris in the New Space Age*, 33 FCC Red. 11352, ¶ 70 (2018). Similarly, the Commission’s rules authorize TT&C for end-of-life disposal of GSO systems but has no parallel rule for NGSO systems. See 47 C.F.R. § 25.283.

<sup>4</sup> SpaceX Services currently has applications pending for six Ku-band gateway earth stations (located in North Bend, WA; Conrad, MT; Merrillan, WI; Greenville, PA; Redmond, WA; and Hawthorne, CA) and one TT&C earth station (located in Brewster, WA). SpaceX Services received complementary STAs for these earth stations to communicate with the SpaceX NGSO satellites.

interference. In the extremely unlikely event that harmful interference should occur due to transmissions to or from its earth station, SpaceX will take all reasonable steps to eliminate the interference. Should an issue arise, SpaceX can be reached at [satellite-operators-pager@spacex.com](mailto:satellite-operators-pager@spacex.com), which links to the pagers of appropriate technical personnel 24/7.

Accordingly, SpaceX requests that the Commission extend the STA for these space stations for up to an additional 30 days.