

REQUEST FOR SPECIAL TEMPORARY AUTHORITY

Space Exploration Holdings, LLC (“SpaceX”), pursuant to Section 25.120 of the Commission’s rules, hereby requests Special Temporary Authority (“STA”) for the first tranche of its non-geostationary orbit (“NGSO”) satellites to communicate with seven earth stations operated by its sister company, SpaceX Services, Inc. (“SpaceX Services”). SpaceX has been authorized to launch and operate a constellation of 4,425 (“NGSO”) satellites (call sign S2983/S3018) using Ku- and Ka-band spectrum.¹ It intends to launch its first tranche of satellites in early May 2019, and seeks authority for operations during the orbit-raising phase.

These operations fall into two categories. First, SpaceX would communicate with a TT&C earth station to conduct telemetry, tracking, and control (“TT&C”) functions during orbit raising.² These transmissions would occur in the following frequencies: 12.221 GHz (downlink) and 13.925 GHz (uplink). Second, SpaceX would communicate with six Ku-band gateway earth stations to test the communications payload on each of its satellites.³ These operations would take place throughout the 10.7-12.7 GHz (downlink) and 14.0-14.5 GHz (uplink) bands.

The Commission has good cause to approve this request to enhance the safety of space. Specifically, the requested STA would cover TT&C functions that are essential to commanding the spacecraft and ensuring the health and safety of SpaceX’s nascent constellation. The STA would also allow SpaceX to confirm the operational status of its satellites immediately upon insertion, rather than waiting weeks while the satellites are orbit raising to ensure proper functioning. This testing would yield a number of public interest benefits. For instance, SpaceX could act quickly in the unlikely event of a performance issue with one of its spacecraft to identify and correct the problem even before the satellite reaches operational orbit. Accordingly, the STA will serve the public interest by enhancing space safety and promoting the health and safety of SpaceX’s NGSO constellation.

SpaceX will operate on a non-interference basis. Consistent with its authorization, SpaceX will observe 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,

¹ See *Space Exploration Holdings, LLC*, 33 FCC Rcd. 148 (2018). SpaceX recently filed a modification application in which it proposes to relocate 1,584 satellites previously authorized to operate at an altitude of 1,150 km to an altitude of 550 km, and to make related changes to the operations of the satellites in this new lower shell of the constellation. See Application, IBFS File No. SAT-MOD-20181108-00083 (Nov. 8, 2018). Those applications contain all relevant operational characteristics and are hereby incorporated herein to the extent necessary.

² 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*, FCC 18-159, ¶ 70 (rel. Nov. 19, 2018).

³ 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). See IBFS File Nos. SES-LIC-INTR2019-00877 through -00882, -00966. SpaceX Services is filing complementary STA requests for these earth stations.

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

The first tranche of SpaceX satellites is scheduled to be launched in early May 2019. Accordingly, SpaceX Services requests that the Commission issue an STA structured to begin on the launch date and remain in force for up to 60 days thereafter.