



SEP 30 2016

The Honorable Tom Wheeler
Chairman
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

RE: Amendment of Part 2 of the Commission's Rules for Federal Earth Stations Communicating with Non-Federal Fixed Satellite Service Space Stations, Federal Space Station Use of the 399.9-400.05 MHz Band, and Allocation of Spectrum for Non-Federal Space Launch Operations (ET Docket No. 13-115 and RM-11341)

Dear Mr. Chairman:

The National Telecommunications and Information Administration (NTIA) strongly supports the adoption of final rules by the Federal Communications Commission ("FCC" or "Commission") in the above-referenced proceeding. As you are aware, in 2006 NTIA filed a Petition for Rulemaking requesting that the FCC amend the U.S. Table of Frequency Allocations to secure adequate allocation status for federal earth stations communicating with non-federal satellites.¹ In 2013, the FCC released a Notice of Proposed Rulemaking addressing the *NTIA Petition*, as well as proposing rules to provide access to federal spectrum to support commercial space launches.² Finalizing these rules will go a long way toward promoting a number of the key principles and goals set forth in the Administration's statement on the National Space Policy of the United States of America.³

In furtherance of the FCC's consideration of a *Report and Order* in this proceeding and its subsequent development of proposed service rules for commercial space launches, this letter is intended to supplement the record regarding: (1) the adoption of an effective allocation and coordination framework that enables federal agencies to access up to 5.25 gigahertz of spectrum for their satellite earth stations that communicate with non-federal space stations without imposing additional burdens on non-federal entities that operate in the bands; and (2) an

¹ See NTIA, *Petition for Rulemaking*, In the Matter of Amendment to the National Table of Frequency Allocations to Provide Allocation Status for Federal Earth Stations Communicating with Non-Federal Satellites, RM-11341 (Aug. 4, 2006) (*NTIA Petition*).

² Amendment of Part 2 of the Commission's Rules for Federal Earth Stations Communicating with Non-Federal Fixed Satellite Service Space Stations, Federal Space Station Use of the 399.9-400.05 MHz Band, and Allocation of Spectrum for Non-Federal Space Launch Operations, ET Docket No. 13-115, *Notice of Proposed Rulemaking and Notice of Inquiry*, 28 FCC Rcd 6698 (2013) (*Space Policy NPRM*). The *Space Policy NPRM* also addressed NTIA's request to change footnote US319 in the Table of Allocations to allow federal space stations to operate in the 399.9-400.05 MHz Mobile Satellite Service bands. *Id.* at 6720-22.

³ See National Space Policy of the United States of America (June 28, 2010) (*National Space Policy*). See also Letter from Lawrence E. Strickling, Assistant Secretary for Communications and Information, Department of Commerce, to Julius Genachowski, Chairman, FCC (May 3, 2013) (*NTIA 2013 Letter*).

allocation scheme that makes 304 megahertz of spectrum resources available for commercial space launch operations without imposing additional burdens on federal agencies or introducing unnecessary risks of harmful interference to critical federal operations.

Federal Earth Stations

NTIA's proposal furthers the *National Space Policy* in seeking appropriate regulatory treatment of U.S. Government earth stations that communicate with commercially owned satellites, consistent with the regulatory approvals granted to analogous commercial earth stations.⁴ Action on NTIA's proposals will further energize competitive domestic industries to participate in global markets. It will also advance the development of commercial satellite-based services while increasing assurance and resilience of mission-essential functions enabled by commercial spacecraft. Moreover, federal agencies are expected, to the maximum extent possible, to utilize commercial communication satellite systems unless specific mission requirements cannot be met.⁵ NTIA's proposal and the *Space Policy NPRM* identified up to 13.275 gigahertz of spectrum in ten different bands allocated for non-federal fixed or mobile satellite services that could potentially be made available to federal agencies on a shared, interference-protected basis.⁶

NTIA urges the FCC to add primary federal allocations (or remove restrictions) in the following eight bands: 3700-4200 MHz, 5925-6425 MHz, 11.7-12.2 GHz, 13.75-14.5 GHz, 18.3-19.3 GHz, 19.7-20.2 GHz, 28.35-29.1 GHz, and 29.25-30.0 GHz.⁷ This action would enable federal agency access, on a protected basis and in compliance with the FCC's Part 25 rules, to 5.25 gigahertz of new spectrum for federal earth stations communicating with non-federal space stations that are currently authorized and operational. NTIA understands that, taking into account current and projected non-federal fixed satellite operations, it may be premature to reallocate other frequency bands identified in the *Space Policy NPRM*. As noted in the *Space Policy NPRM*, currently commercial satellites do not operate in the 37-42 GHz downlink and 45.5-50.5 GHz uplink bands identified in the *NTIA Petition*.⁸ Other proposed

⁴ See *National Space Policy* at 9 ("The United States Government shall ... Seek appropriate regulatory approval under U.S. domestic regulations for United States Government earth stations operating with commercially owned satellites, consistent with the regulatory approval granted to analogous commercial earth stations.").

⁵ See, NTIA, *Manual of Regulations and Procedures for Federal Radio Frequency Management* at § 2.3.3 ¶ 4 (Sept. 2015 Rev. of May 2013 Ed.) (*NTIA Manual*) ("The Federal Government shall establish separate communication satellite systems only when they are required to meet unique governmental needs, or are otherwise required in the national interest."). See also, Office of Management and Budget, *Preparation, Submission, and Execution of the Budget*, Circular No. A-11 at §§ 31.12(a) and 51.18 (July 2016) (requiring agencies to include in their budget justifications for procurement of major spectrum-dependent communications systems a certification of consideration of non-spectrum dependent or commercial alternatives to meet mission/operational requirements.)

⁶ See *Space Policy NPRM* at ¶¶ 13, 25 (Table 1); see also Memorandum for the Heads of Executive Departments and Agencies, *Expanding America's Leadership in Wireless Innovation* at § 7(b) (June 2013); Institute for Defense Analyses, Science and Technology Policy Institute, *A Summary of Recent Federal Government Activities to Promote Spectrum Sharing* at 32 and 55 (Sept. 2015) ("Federal users, as well as non-Federal users, have unmet needs for spectrum").

⁷ See *Space Policy NPRM* at ¶ 43.

⁸ See *id.* at ¶ 32.

bands have been the subject of regulatory developments that post-date the *NTIA Petition*. For example, the FCC designated portions of these for wireless terrestrial use, including those subject to the FCC's recent action in the *Spectrum Frontiers* proceeding – supported by NTIA – that authorizes mobile operations in the 27.5-28.35 GHz band.⁹

The 5850-5925 MHz and 12.7-13.25 GHz bands are limited to international inter-continental satellite systems and, as such, currently are not accessible to federal earth stations within the United States.¹⁰ Meanwhile, existing terrestrial use of certain proposed bands (*e.g.*, 6425-6725 MHz and 29.1-29.25 GHz) likely makes sharing with federal earth stations infeasible. Accordingly, given these existing operational constraints and recent actions affecting the ability of federal earth stations to operate in these frequencies under the same terms and conditions as non-federal earth station users in the foreseeable future, NTIA agrees that it is not necessary at this time to add primary federal fixed or mobile satellite allocations to the 5850-5925 MHz, 6425-6725 MHz, 10.7-11.7 GHz, 12.7-13.25 GHz, 27.5-28.35 GHz, and 29.1-29.25 GHz bands.

NTIA appreciates the concerns raised in the *Space Policy NPRM* and by some commenters about the potential for increased burdens associated with the coordination of FCC licenses.¹¹ However, as NTIA has previously conveyed, the proposed co-primary regulatory status of federal earth stations should not add any complexity or delay to the licensing of non-federal stations.¹² The FCC should not adopt any rules or procedures that would directly or indirectly increase the burdens placed on non-federal users or impose requirements that would treat federal agencies differently than non-federal users. For example, except for existing coordination requirements in the 13.75-13.8 GHz band,¹³ the FCC need not impose additional coordination requirements on non-federal licensees or applicants nor coordinate these applications with NTIA. Federal agencies would follow a substantially similar process to obtain their authorizations as is used for non-federal earth stations. At the same time, the FCC should affirmatively reject calls by some parties to modify the long-standing “shared jurisdiction” exemption to its *ex parte* rules.¹⁴

⁹ See Use of Spectrum Bands Above 24 GHz for Mobile Radio Services, *Report and Order and Further Notice of Proposed Rulemaking* in GN Docket No. 14-177 *et al.*, FCC 16-89 (Jul. 14, 2016).

¹⁰ See 47 C.F.R. § 2.106 US245.

¹¹ See *Space Policy NPRM* at ¶¶ 22, 37-41; *see also, e.g.*, Comsearch Comments in ET Docket No. 13-115 and RM-11341 at 6 (filed Aug. 30, 2013); Lockheed Martin Comments in ET Docket No. 13-115 and RM-11341 at 2 (filed Aug. 30, 2013); Fixed Wireless Communications Coalition Comments in ET Docket No. 13-115 and RM-11341 at 2 (filed Aug. 30, 2013).

¹² See *NTIA 2013 Letter*; *see also NTIA Petition* at 2.

¹³ See 47 C.F.R. § 2.106 US337.

¹⁴ See *Space Policy NPRM* at ¶¶ 40 (nn. 89-90) and 53 (nn. 107-108), *citing* and discussing, *inter alia*, 47 C.F.R. § 1.1204(a)(5); EchoStar and Hughes Comments in ET Docket No. 13-115 and RM-11341 at 5 (filed Aug. 30, 2013); Marcus Spectrum Solutions Comments in ET Docket No. 13-115 and RM-11341 (filed Jun. 19, 2013).

Access to Federal Bands for Commercial Space Launch Operations

The President's *National Space Policy* is aimed at facilitating a robust and competitive commercial space sector that advances U.S. leadership in generating new markets and fostering innovation-driven entrepreneurship in the sector.¹⁵ It also directs federal agencies to purchase space services from commercial enterprises to the maximum extent practical.¹⁶ Accordingly, NTIA strongly agrees with the proposals in the *Space Policy NPRM* to modify the Table of Frequency Allocations to enable non-federal access to the 420-430 MHz band on a co-primary basis, portions of the 2200-2290 MHz band on a secondary basis, and the 5650-5925 MHz band on a co-primary basis in support of commercial space launch operations. The addition of these non-federal allocations on a shared basis is a necessary and important initial milestone in providing protected spectrum access for commercial launch operations. At the same time, NTIA advises the Commission to ensure that these allocations, as well as future proposed licensing and technical service rules, continue to adequately protect vital federal operations in these bands. In this light, we offer the following recommendations.

420-430 MHz. This band is currently available at certain federal launch facilities to transmit self-destruct signals to a launch vehicle if, for example, it goes off course and poses a danger to a populated area. Commercial launches occurring at other U.S. launch sites will also require access to protected frequency bands in the event self-destruct signals are necessary, and NTIA therefore supports the *Space Policy NPRM's* proposal to accommodate the transmission of such signals during commercial launches with a co-primary non-federal allocation.¹⁷

When developing the proposed service rules for this band, the FCC should consider the restriction currently contained in Section 8.2.54 of the *NTIA Manual*, which limits frequency assignments in this band to 1 kW of transmit power at most locations. In addition, while specific frequency assignments will continue to require coordination with federal users, especially at certain launch sites, the FCC should seek comment on the most appropriate frequency or frequencies in the 420-430 MHz range for each designated launch facility based on which frequencies can be supported for sending command destruct/flight termination signals.

2200-2290 MHz. This frequency band is heavily used by the Department of Defense and other agencies for vital, mission-critical systems and, if allocated for use during commercial space launches, must continue to be carefully coordinated. Moreover, in order to protect these existing and projected federal operations and facilitate coordination, non-federal access should be limited to four discrete, 5 megahertz channels on a secondary basis with center frequencies of 2211 MHz, 2215 MHz, 2272.5 MHz, and 2287.5 MHz. While these channels vary slightly from those proposed in the *Space Policy NPRM*,¹⁸ these portions of the band have been successfully coordinated in advance of recent launches and align with restrictions on necessary bandwidths

¹⁵ See *National Space Policy* at 3.

¹⁶ See *id.* at 10.

¹⁷ See *Space Policy NPRM* at ¶ 78.

¹⁸ See *id.* at ¶¶ 79 and 82.

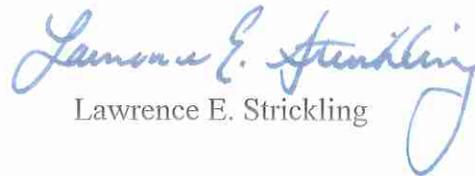
set forth in Section 8.2.41 of the *NTIA Manual*. Non-federal use of these channels must also be restricted to pre-launch testing and launches only at federal ranges and FAA-licensed launch sites.

As the FCC considers proposed service rules for licensing non-federal launch telemetry operations in this band, NTIA will continue to work with industry and federal stakeholders to ensure that the rules, coordination procedures, and compliance measures provide adequate certainty, predictability, and protected bandwidth. For example, streamlined coordination procedures will benefit commercial space launch operators and the agencies with which NTIA must coordinate. With additional experience and once other alternatives are exhausted, NTIA would encourage the FCC to explore whether a co-primary, non-federal allocation for this band is appropriate and necessary. In the meantime, negotiated coordination arrangements, alternative frequencies, automated compliance monitoring and enforcement mechanisms, relaxed technical restrictions, and other parameters can be considered.

5650-5925 MHz. NTIA supports the addition of a primary non-federal allocation for the radiolocation service in the 5650-5925 MHz band so long as such use is limited to space launches and pre-launch testing at federal ranges and FAA-licensed launch sites, subject to appropriate frequency coordination procedures. As with the other two bands discussed above, we look forward to working with the FCC and launch industry stakeholders to develop service rules that will provide a more streamlined and predictable process that facilitates the development of a healthy commercial space industry.

NTIA looks forward to the completion of these important regulatory milestones in this long-pending proceeding. If you have any questions, please contact me or Peter Tenhula, Office of Spectrum Management, at ptenhula@ntia.doc.gov or (202) 482-9142.

Sincerely,


Lawrence E. Strickling