

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

In the Matter of	)	
	)	
Space Exploration Holdings, LL	)	File No. SAT-MOD-20200417-00037
	)	
Application for Modification of Authorization	)	Call Sign S2983/S3018
for the SpaceX NGSO Satellite System	)	

**REPLY OF AT&T SERVICES, INC.**

AT&T Services, Inc. (“AT&T”), on behalf of DIRECTV Enterprises LLC (“DIRECTV”) and its other affiliates, hereby replies to Space Exploration Holdings, LLC’s (“SpaceX”) consolidated opposition to comments and petitions to deny its above-referenced application (the “Third Modification”).<sup>1</sup> AT&T requests that the Federal Communications Commission (“Commission” or “FCC”) require SpaceX to demonstrate compliance with internationally-recognized EPFD limits prior to commencing operations pursuant to the Third Modification and impose appropriate license conditions to ensure SpaceX’s continuing compliance with interference protection requirements for Direct Broadcast Satellite (“DBS”) operations.

**I. THE COMMISSION SHOULD REQUIRE SPACEX TO OBTAIN AN ITU FINDING PRIOR TO COMMENCING SERVICE WITH THE SATELLITES THAT WOULD OPERATE AT LOWER ALTITUDE AS PART OF THE THIRD MODIFICATION**

In its Consolidated Opposition, SpaceX asserts that its previous waiver to commence service at its own risk prior to obtaining a favorable finding from the ITU with respect to its compliance with applicable EPFD limits<sup>2</sup> extends to the satellites it now proposes to operate at

---

<sup>1</sup> *Space Exploration Holdings, LLC Application for Modification of Authority*, File No. SAT-MOD-20200417-00037 (filed Apr. 17, 2020) (“Third Modification”).

<sup>2</sup> *Space Exploration Holdings, LLC Request for Modification of the Authorization for the SpaceX NGSO Satellite System*, Order and Authorization, File No. SAT-MOD-20181108-00083,

lower altitudes as part of the Third Modification.<sup>3</sup> SpaceX's claim is contrary to Commission rules and precedent.<sup>4</sup>

Commission rules apply to each application absent a grant or extension of a valid waiver request.<sup>5</sup> SpaceX's existing waiver of Section 25.146(c) applies to the deployment of 1,584 satellites at 550km ("Initial Deployment") and 2,825 satellites at altitudes between 1,100-1,330 km ("Final Deployment").<sup>6</sup> The Third Modification proposes a significant change to the orbital parameters of the Final Deployment satellites requiring adherence to the requirements of Section 25.146(c) absent Commission consideration of a new waiver.

SpaceX protests that applying the Commission's rules to its modified orbital parameters is akin to "withdraw[ing] the waiver."<sup>7</sup> To the contrary, the waiver would still apply to any satellites SpaceX still plans to operate in accordance with the terms and conditions of its first two

---

¶ 28 (Apr. 26, 2019) ("*First Modification Grant*") (granting waiver of Condition 40(n) of the *SpaceX Authorization*); 47 C.F.R. § 25.146(c).

<sup>3</sup> *Consolidated Opposition of Space Exploration Holdings, LLC*, File No. SAT-MOD-20200417-00037, at 31 (filed Jul. 30, 2020) ("*SpaceX Consolidated Opposition*").

<sup>4</sup> Comments of AT&T Services, Inc., File No. SAT-MOD-20200417-00037, at 4-5 (filed Jul. 13, 2020) ("*AT&T Comments*").

<sup>5</sup> The Commission may waive its rules "for good cause shown." 47 C.F.R. § 1.3; *WAIT Radio v. FCC*, 418 F.2d 1153, 1159 (D.C. Cir. 1969). Good cause exists where an applicant demonstrates that "special circumstances warrant a deviation from the general rule and such deviation will serve the public interest" better than adherence to the general rule. *Northeast Cellular Telephone Co. v. FCC*, 897 F.2d 1164, 1166 (D.C. Cir. 1990). In determining whether waiver is appropriate, the Commission should "take into account considerations of hardship, equity, or more effective implementation of overall policy." *WAIT Radio*, 418 F.2d at 1159.

<sup>6</sup> *First Modification Grant* at ¶ 28; *Space Exploration Holdings, LLC Request for Modification of the Authorization for the SpaceX NGSO Satellite System*, Order and Authorization, File No. SAT-MOD-20190830-00087, ¶ 10 (Dec. 19, 2019) ("*Second Modification Grant*"); see also *Space Exploration Holdings, LLC, Application for Approval for Orbital Deployment and Operating Authority for the SpaceX NGSO Satellite System*, File No. SAT-LOA-20161115-00118, Attachment A at 1 (Nov. 15, 2016) ("*2016 SpaceX Technical Annex*") (describing an "Initial Deployment" of 1,600 satellites at 1,150 km followed by a "Final Deployment" of 2,825 satellites between 1,100-1,325 km).

<sup>7</sup> *SpaceX Consolidated Opposition* at 31.

modifications. SpaceX has launched 595 satellites into orbit since it began deployment in May 2019, leaving roughly a thousand satellites available to launch and operate pursuant to the existing waiver.<sup>8</sup>

Notably, the Commission’s initial waiver decision was taken in the context of a partial modification of the SpaceX NGSO constellation to facilitate expedited Initial Deployment.<sup>9</sup> That same justification no longer exists for operation of additional satellites at lower altitude prior to receiving the requisite ITU finding. SpaceX has not refuted that it will be able to meet its interim service goals—including beta testing and initial commercial service—using these satellites in the previously approved 550 km shell.<sup>10</sup> As such, SpaceX will not be “unfairly prejudiced” by application of the FCC’s rules meant to ensure that NGSO FSS systems do not introduce harmful interference into DBS systems.<sup>11</sup>

Moreover, there is ample time for SpaceX to seek and obtain an ITU determination prior to commencing deployment of the satellites proposed to operate at lower altitude in the Third Modification. SpaceX’s previous determination was obtained within thirteen months of application.<sup>12</sup> Although SpaceX has yet to file an application for this modification at the ITU, it could still reasonably expect to receive a determination on the modification prior to completing

---

<sup>8</sup> Amy Thompson, *SpaceX launches 57 more Starlink satellites, lands rocket at sea*, SPACE.COM (Aug. 8, 2020).

<sup>9</sup> *First Modification Grant* at ¶ 28.

<sup>10</sup> *See* AT&T Comments at 5.

<sup>11</sup> *See Second Modification Grant* at ¶ 11.

<sup>12</sup> SpaceX applied on April 11, 2019 and received a determination on its Ku-band frequencies on May 12, 2020. *See* ITU BR, STEAM 1, CR/C/3739 MOD 5 (May 12, 2020).

deployment of the satellites in its 550 km shell.<sup>13</sup> At its current cadence, SpaceX will still need another 27 months to deploy the remainder of its 550 km shell. Even if SpaceX doubles its current launch cadence, it will still take at least another year before all of the satellites authorized by the first two SpaceX modifications are placed into their orbital configuration.

Application of Section 25.146(c) to the Third Modification would be consistent with precedent. For example, in its grant of O3b Network's modification request during the 2016 processing round, the Commission similarly required O3b to demonstrate compliance with Article 22 prior to commencing service with its modified system, even though O3b was already providing commercial service from its Medium Earth orbit constellation.<sup>14</sup> Thus, the Commission should impose its standard condition requiring SpaceX demonstrate compliance with ITU Article 22 prior to commencing service pursuant to any grant of the Third Modification.<sup>15</sup>

---

<sup>13</sup> As SpaceX has never indicated that its two-tiered deployment plan has changed since its initial application, AT&T relies on the information SpaceX has provided in the record. *See supra* n.6.

<sup>14</sup> *O3b Limited*, Request for Modification of U.S. Market Access for O3b Limited's Non-Geostationary Satellite Orbit System in the Fixed-Satellite Service and in the Mobile-Satellite Service, Order and Declaratory Ruling, IBFS File Nos. SAT-MOD-20160624-00060 et. al., Condition 48 (Jun. 6, 2018) ("It is further ordered that prior to initiation of service, O3b must receive a favorable or "qualified favorable" finding in accordance with Resolution 85 with respect to its compliance with applicable EPFD limits in Article 22 of the ITU Radio Regulations. O3b must communicate the ITU finding to the Commission and submit the files containing the data used as input to the ITU validation software.")

<sup>15</sup> The same language that was applied to SpaceX's original authorization would be appropriate in this instance: "Prior to initiation of service, SpaceX must receive a favorable or "qualified favorable" finding in accordance with Resolution 85 (WRC-03) with respect to its compliance with applicable equivalent power flux-density limits in Article 22 of the ITU Radio Regulations." *See Space Exploration Holdings, LLC, Application For Approval for Orbital Deployment and Operating Authority for the SpaceX NGSO Satellite System*, Memorandum Opinion, Order and Authorization, File No. SAT-LOA-20161115-00118, Condition 40(n) (rel. Mar. 29, 2018).

## II. SPACEX CANNOT SHIFT THE BURDEN TO DEMONSTRATE COMPLIANCE WITH APPLICABLE EPFD LIMITS ONTO OTHER SATELLITE OPERATORS

Throughout its series of modification applications, SpaceX has deflected its obligation to provide an ITU determination prior to commencing service by offering to provide other operators with information that could be used to validate its EPFD analysis.<sup>16</sup> SpaceX asserts that this offer to share information goes “above and beyond the Commission’s requirements.”<sup>17</sup> To the contrary, SpaceX’s offer to provide its EPFD data inputs merely seeks to shift its obligation to demonstrate compliance to other operators. Other operators are not required to conduct their own analysis. The burden of demonstrating EPFD compliance squarely falls on the applicant to demonstrate its compliance through a two-step process of (i) certification and (ii) receipt of an ITU determination.<sup>18</sup>

SpaceX’s further suggestion that its certification “is sufficient under the Commission’s rules”<sup>19</sup> is incorrect. The certification process is not a replacement for receipt of an ITU finding. When the Commission adopted the streamlining provisions in the *2017 NGSO FSS Order* to permit an NGSO licensee to certify compliance with applicable ITU EPFD standards, it explained that the certification was in lieu of a redundant process of FCC validation prior to submission to the ITU.<sup>20</sup> The certification was never intended to assure other operators of the validity of the analysis, nor was it meant to stand in place of an actual ITU determination.

---

<sup>16</sup> See e.g., *SpaceX Consolidated Opposition* at 30.

<sup>17</sup> *Id.* at 30.

<sup>18</sup> 47 C.F.R. § 25.146(a), (c).

<sup>19</sup> *SpaceX Consolidated Opposition* at 30.

<sup>20</sup> *Update to Parts 2 and 25 Concerning Non-Geostationary, Fixed-Satellite Service Systems and Related Matters*, Report and Order and Further Notice of Proposed Rulemaking, 32 FCC Rcd 7809, 82 FR 59972, ¶ 42 (Dec. 18, 2017) (“*2017 NGSO FSS Order*”).

Moreover, the fact that SpaceX's previous modifications have received "favourable" determinations from the ITU, have no bearing on the Third Modification. A finding that the NGSO system complies with international standards is not an "implicit endorsement" of SpaceX's methodology;<sup>21</sup> rather it is an assessment of the facts before it that happen to align in outcome. This does not mean that any further, more comprehensive modifications to the SpaceX NGSO constellation can be presumed to comply with rules that were "adopted for the benefit of DBS systems."<sup>22</sup> Rather, each modification must be individually assessed for compliance with Article 22, prior to commencement of service in order to ensure the adequate protection of DBS services.

### **III. IMPOSING A LICENSE CONDITION REQUIRING SPACEX TO REMEDY INTERFERENCE TO DBS IS A REASONABLE CODIFICATION OF SPACEX'S COMMITMENT TO COMPLY WITH EPFD LIMITS**

In its Comments, AT&T recommended that the Commission adopt a condition that requires SpaceX to take immediate action to protect DBS licensees in the event of actual interference.<sup>23</sup> SpaceX mischaracterizes this request as an attempt to have the Commission "second-guess" international interference protection standards.<sup>24</sup> To the contrary, AT&T is requesting that the Commission condition any grant of the Third Modification consistent with SpaceX's certification that its system complies with the EPFD limits designed to protect DBS systems.<sup>25</sup> Should any DBS operator notify SpaceX that its system is causing actual interference

---

<sup>21</sup> *SpaceX Consolidated Opposition* at 31.

<sup>22</sup> *Id.*

<sup>23</sup> *AT&T Comments* at 6.

<sup>24</sup> *SpaceX Consolidated Opposition* at 32.

<sup>25</sup> *Id.* at 31.

in excess of the certified limit, SpaceX should be required to immediately remedy the interference.

AT&T also asked the Commission to consider any determination of SpaceX's "fair share" of the aggregate NGSO emissions for its redesigned constellation alongside all of the pending applications in its latest NGSO FSS processing round.<sup>26</sup> SpaceX responded that it is already subject to a condition requiring it to cooperate with NGSO operators to jointly comply with applicable limits on aggregate EPFD.<sup>27</sup> As these conditions are intended to protect DBS operations, the Commission should condition any further modification grant on SpaceX demonstrating how it has "cooperated" with other U.S. licensees and market access grantees to determine if the aggregate limit has been met.

---

<sup>26</sup> *AT&T Comments* at 7.

<sup>27</sup> *SpaceX Consolidated Opposition* at n. 96.

#### IV. CONCLUSION

AT&T respectfully sustains its request that the FCC require SpaceX to receive a “favourable” or “qualified favourable” determination from the ITU-BR *prior* to commencing service pursuant to any grant of the Third Modification, as well as impose appropriate conditions requiring SpaceX to demonstrate cooperation towards establishing “fair shares” of the EPFD aggregate, and take immediate action to protect DBS receivers upon notification of actual interference.

Respectfully submitted,

By: /s/ Jessica B. Lyons.

Jessica B. Lyons  
Michael P. Goggin  
Gary L. Phillips  
David L. Lawson  
AT&T Services, Inc.  
1120 20th Street NW, Suite 1000  
Washington, DC 20036

August 7, 2020



CERTIFICATE OF SERVICE

I hereby certify that, on this 7th day of August 2020, a copy of the foregoing Reply Comments  
was served via First Class mail upon:

William M. Wiltshire  
Paul Caritj  
Harris, Wiltshire & Grannis LLP  
1919 M Street, NW, Suite 800  
Washington, DC 20036

Patricia Cooper  
David Goldman  
Space Exploration Technologies Corp.  
1155 F Street, NW, Suite 475  
Washington, DC 20004

*Counsel to Space Exploration  
Technologies Corp.*

/s/Robin Walker  
Robin Walker