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

Application of	)	
SPACEX SERVICES, INC.	)	File No. SES-LIC-20190211-00151
For Blanket Earth Station Authorization	)	

RESPONSE OF SPACEX SERVICES, INC. TO COMMENTS AND PETITION TO CONDITION

SpaceX Services, Inc. (together with its sister company Space Exploration Holdings, LLC, "SpaceX") hereby responds to the comments and petition filed by EchoStar Satellite Operating Corporation, Hughes Network Systems, LLC, Intelsat License LLC, and AT&T Services, Inc. (collectively, the "GSO Satellite Operators") to condition the grant of the above-referenced application for blanket-licensed user terminal earth stations.[1] Specifically, petitioners urge the Commission to include in any grant of the application a condition that mirrors one placed on SpaceX's space station authorization with respect to the applicable equivalent power flux-density ("EPFD") limits contained in the Commission's rules,[2] but then adds an extra requirement to submit data used to demonstrate compliance with the EPFD limits.

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1 *See* Comments and Petition to Condition of GSO Satellite Operators, IBFS File No. SES-LIC-20190211-00151 (filed July 12, 2019) ("GSO Comments"). The GSO Satellite Operators also submitted their filing as a written ex parte presentation regarding SpaceX's pending applications for gateway earth station authorizations. *Id.* at 1 n.2. Accordingly, SpaceX is also submitting its response into the record of those proceedings, IBFS File Nos. SES-LIC-20190402-00425 through -00427, -00450, -00451, and -00454 and SES-AMD-20190410-00520 through 00525.

2 *See* 47 C.F.R. § 25.146(c).

SpaceX recognizes its obligation to comply with the existing condition contained in its space station license.[3] Accordingly, SpaceX does not object to the portion of the condition proposed by the GSO Satellite Operators that parallels this existing obligation and the requirements of the Commission's rules:

> Under 47 C.F.R. § 25.146(a), 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 and, in case of an unfavorable finding, adjust its operation to satisfy the ITU requirements. Any operation of SpaceX's system prior to the ITU's finding are at SpaceX's own risk.

Indeed, SpaceX has always intended to operate its satellite system in compliance with the relevant EPFD limits and has every confidence that the International Telecommunication Union will render a favorable finding with respect to such compliance.

However, SpaceX does object to the additional requirement that the GSO Satellite Operators would impose. Namely, they would require that "prior to or upon commencement of operation of its system, SpaceX must submit the data used as input to the ITU-approved validation software to demonstrate compliance with applicable EPFD limits."[4] As an initial matter, as part of the modification application for its space station authorization, SpaceX already submitted the input databases for the analysis using ITU-approved software developed by Transfinite Systems to demonstrate compliance with all applicable EPFD single entry validation limits in the Ku- and Ka-bands.[5] Moreover, had it not done so, SpaceX would be patently unable to comply with the proposed condition because it has already begun operation of its NGSO system.

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[3] *See Space Exploration Holdings, LLC*, Order and Authorization, DA 19-342, ¶ 32(n) (rel. Apr. 26, 2019) ("*SpaceX Authorization*").

[4] GSO Comments at 4.

[5] *See* Letter from William M. Wiltshire to Marlene H. Dortch, IBFS File No. SAT-MOD-20181108-00083 (filed Nov. 9, 2018).

But more fundamentally, the GSO Satellite Operators' basis for requesting this additional requirement is conceptually flawed. The apparent purpose of such a submission would be to give the GSO Satellite Operators or others the opportunity to single out SpaceX's terminals and undercut the International Telecommunication Union's ("ITU") determination of EPFD compliance. They justify this new obligation that they contend should be levied solely on SpaceX in its efforts to update the ITU's methodology for determining EPFD compliance to reflect technological advances and more real-world conditions. Yet somehow they reach the conclusion that if the ITU agrees that these updates are proper and applies them to SpaceX's system parameters, GSO satellite operations would be placed in jeopardy by a system "that otherwise may be found noncompliant."[6] This proposed condition would put the Commission in the position of second-guessing the ITU's processes by locking in outdated and inefficient metrics to the detriment of consumers.

Contrary to the GSO operators' arguments, a decision by the ITU to revise its EPFD rules and procedures would reflect an international consensus that the updated provisions improve the ITU's ability to protect GSO satellite operations while allowing NGSOs to bring new services to consumers. GSO operators themselves will no doubt participate in this consensus building process. Indeed, the ITU has regularly revised its EPFD limits at World Radio Conferences,[7] as well as the inputs to the ITU-approved validation software to be used with the input files requested

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6 GSO Comments at 3.

7 *See, e.g.,* Int'l Telecomm. Union [ITU], *Final Acts WRC-15*, at 65-68 (2015), available at https://www.itu.int/dms_pub/itu-r/opb/act/R-ACT-WRC.12-2015-PDF-E.pdf; ITU, *Final Acts WRC-07*, at 72-74 (2007), available at https://www.itu.int/dms_pub/itu-r/opb/act/R-ACT-WRC.8-2007-PDF-E.pdf; ITU, *Final Acts WRC-03*, at 72-80 (Geneva 2003), available at https://www.itu.int/dms_pub/itu-r/opb/act/R-ACT-WRC.7-2003-PDF-E.pdf; ITU, *Final Acts WRC-2000*, at 73-91 (2000), available at https://www.itu.int/pub/R-ACT-WRC.6-2000.

by the GSO Satellite Operators.[8] These revisions represent a necessary and laudable effort to reflect improved modelling and account for newer technology, not a retreat from the ITU's responsibility to make rules to protect GSO operators from harmful interference.

The Commission has incorporated the ITU EPFD limits into its own rules to "harmonize our rules with international regulations and provide greater certainty for NGSO FSS operators."[9] It has also authorized SpaceX to operate its NGSO constellation up to the applicable EPFD limits in Article 22 of the ITU Radio Regulations.[10] Accordingly, if and to the extent the ITU may revise its EPFD rules and procedures, those updates will necessary flow through the Commission's rules and SpaceX's license to establish the limits under which SpaceX must operate. The GSO Satellite Operators' insinuation that this process would somehow render a future EPFD compliance showing illegitimate reflects a fundamental misunderstanding of the ITU's processes and the Commission's rules.

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[8] Recommendation ITU-R S.1503 was first promulgated in 2000, then revised in 2005, 2013, and 2018. *See* Functional description to be used in developing software tools for determining conformity of non-geostationary-satellite orbit fixed-satellite service systems or networks with limits contained in Article 22 of the Radio Regulations, Rec. ITU-R S.1503, available at https://www.itu.int/rec/R-REC-S.1503/en.

[9] *Update to Parts 2 and 25 Concerning Non-Geostationary, Fixed Satellite Service Systems and Related Matters*, 32 FCC Rcd. 7809, ¶ 35 (2017); 47 C.F.R. § 25.108(c)(3).

[10] *See SpaceX Authorization*, ¶ 32.

Respectfully submitted,

SPACEX SERVICES, INC.

By: */s/ Patricia Cooper*
Patricia Cooper
Vice President of Satellite Government Affairs
David Goldman, Director, Satellite Policy

SPACE EXPLORATION TECHNOLOGIES CORP.
1155 F Street, NW
Suite 475
Washington, DC 20004
202-649-2700 tel
202-649-2701 fax

William M. Wiltshire
Paul Caritj
HARRIS, WILTSHIRE & GRANNIS LLP
1919 M Street, N.W.
Suite 800
Washington, DC 20036
202-730-1300 tel
202-730-1301 fax

Counsel to SpaceX

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CERTIFICATE OF SERVICE

I hereby certify that, on this 25th day of July, 2019, a copy of the foregoing pleading was served via First Class mail upon:

Jennifer A. Manner
Kimberly M. Baum
EchoStar Satellite Operating Corporation
Hughes Network Systems, LLC
11717 Exploration Lane
Germantown, MD 20876

Susan H. Crandall
Cynthia J. Grady
Intelsat License LLC
7900 Tysons One Place
McLean, VA 22101

Jessica B. Lyons
AT&T Services, Inc.
1120 20th Street, N.W.
Suite 1000
Washington, DC 20036

Mariah Dodson Shuman
WorldVu Satellites Limited
1785 Greensboro Station Place, Tower 3
McLean, VA 22102

Brian Weimer
Douglas Svor
Samuel Swoyer
Sheppard Mullin Richter & Hampton LLP
2099 Pennsylvania Avenue, N.W.
Suite 100
Washington, DC 20006

/s/ *Madeline Shaw*
Madeline Shaw