

**Before the  
Federal Communications Commission  
Washington, D.C. 20554**

|  |   |                                 |
|--|---|---------------------------------|
| In the Matter of                                   | ) |                                 |
|  | ) |                                 |
| New Spectrum Satellite, Ltd                        | ) | File No. SAT-PDR-20170726-00111 |
|  | ) | Call Sign S3019                 |
| Petition for Declaratory Ruling Seeking U.S.       | ) |                                 |
| Market Access for the New Satellite Spectrum, Ltd. | ) |                                 |
| Non-Geostationary Satellite System                 | ) |                                 |

**REPLY OF SES AMERICOM, INC. AND O3B LIMITED**

SES Americom, Inc. (“SES Americom”) and O3b Limited (“O3b,” and collectively, “SES”) hereby submit this reply regarding the above-referenced request by New Satellite Spectrum, Ltd. (“NSS”) for U.S. market access for its proposed non-geostationary satellite orbit (“NGSO”) system (the “NSS System”).<sup>1</sup> The initial SES submission regarding the NSS Application highlighted significant flaws, including the failure by NSS to demonstrate that its proposed system could successfully operate on a non-conforming basis in the 17.8-18.3 GHz frequencies and the lack of any analysis regarding protection of the orbit used by the O3b NGSO constellation.<sup>2</sup>

In its response,<sup>3</sup> NSS belatedly addresses the latter issue, submitting an assessment of the risk that one of the proposed NSS satellites would collide with O3b’s existing or future equatorial orbit spacecraft or with O3b’s authorized inclined orbit satellites. However, NSS

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<sup>1</sup> New Satellite Spectrum, Ltd., Call Sign S3019, File No. SAT-PDR-20170726-00111 (the “NSS Application”).

<sup>2</sup> Petition to Dismiss or Defer of SES Americom, Inc. and O3b Limited, File No. SAT-PDR-20170726-00111 (filed Nov. 13, 2018) (the “SES Petition”).

<sup>3</sup> Opposition of New Satellite Spectrum, Ltd., File No. SAT-PDR-20170726-00111 (filed Nov. 23, 2018) (the “NSS Opposition”).

continues to improperly downplay its regulatory obligations with respect to protecting other authorized users of the 17.8-18.3 GHz frequencies.

As a threshold matter, the excuse that NSS provides for having failed to timely request a waiver of the U.S. Table of Allocations and the Commission’s Ka-band Plan in order to use the 17.8-18.3 GHz frequencies for uplinks to its planned NGSO system is simply wrong. NSS asserts that its application did not address “the non-conforming use of the 17.8-18.3 GHz band for the simple reason that it was not a non-conforming use at the time the Application was filed.”<sup>4</sup> NSS goes on to observe that its application was filed in July of 2017, before the September 2017 NGSO Order that revised the Commission rules regarding the 17.8-18.3 GHz band segment.<sup>5</sup> The NGSO Order specified that fixed-satellite service (“FSS”) networks could operate in the 17.8-18.3 GHz frequencies, but limited that authorization to use in the space-to-Earth direction.<sup>6</sup>

The problem with the NSS argument is that before the Commission adopted the NGSO Order, there was no allocation for commercial FSS in the 17.8-18.3 GHz band at all – only terrestrial fixed service (“FS”) operations were permitted.<sup>7</sup> Thus, the proposal by NSS to use that band segment was non-conforming under the U.S. Table of Allocations and the Ka-band Plan at the time the NSS Application was filed because NSS sought to use spectrum solely allocated to FS services for an FSS network. The proposal remains non-conforming today because NSS seeks

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<sup>4</sup> *Id.* at 1-2 (footnote omitted).

<sup>5</sup> *Id.* at 2 n.1, citing *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 (2017) (the “NGSO Order”).

<sup>6</sup> NGSO Order, 32 FCC Rcd at 7811-12, 7840, & 7850.

<sup>7</sup> *See id.* at 7811, ¶ 4.

to use the FSS space-to-Earth allocation adopted in the NGSO Order for Earth-to-space transmissions instead.

O3b and others who sought rule waivers for FSS downlink operations in the 17.8-18.3 GHz band prior to issuance of the NGSO Order supplied detailed technical showings regarding their ability to operate on an unprotected, non-interference basis,<sup>8</sup> but NSS has not provided any comparable analysis here. Instead, NSS simply asserts that it will be able to “choose ground entry sites and operate its transmitters using [the 17.8-18.3 GHz] band so as to protect other FS and downlink FSS services operating in the band by using terrain shielding to isolate its sites and elevation angles at 20 degrees or above to minimize horizon-oriented emissions.”<sup>9</sup> NSS also claims that it will be able to implement “supplemental shielding” on its gateway earth stations if needed “to avoid potential interference to terrestrial receivers if new operations are deployed near” the planned NSS gateways.<sup>10</sup>

But NSS makes no attempt to quantify the effectiveness of these measures in eliminating the risk that current or future conforming FS or FSS facilities will experience harmful interference from the NSS gateway transmissions. Because the NSS statements provide no concrete evidence of the compatibility of the planned NSS operations with systems authorized to use the relevant spectrum allocations, the Commission must conclude that NSS has failed to

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<sup>8</sup> See, e.g., O3b Limited, Call Sign S2935, File No. SAT-LOI-20141029-00118, Legal Narrative at 9-10 and Technical Statement, Section A.7 (demonstrating O3b’s compliance with power flux density limits to protect terrestrial FS operations and committing that O3b will accept interference from FS operations in the 17.8-18.3 GHz band); *WorldVu Satellites Limited*, Order and Declaratory Ruling, 32 FCC Rcd 5366 (2017) (“OneWeb Order”) at ¶ 15 (noting that OneWeb “provided technical demonstrations” showing that it would protect FS operations in the 17.8-18.3 GHz band).

<sup>9</sup> NSS Opposition at 4.

<sup>10</sup> *Id.* at 3.

establish good cause for a waiver of the U.S. Table of Allocations and Ka-band Plan to permit NSS to use the 17.8-18.3 GHz band for FSS uplinks.

If the Commission nevertheless decides to authorize the NSS System, any grant must explicitly outline the obligations applicable to NSS use of the 17.8-18.3 GHz frequencies, consistent with precedent for non-conforming operations. The following condition language, based on paragraph 23(f) of the OneWeb Order with revisions to reflect the specifics of the proposed NSS spectrum use, would be appropriate here:

Earth-to-space communications in the 17.8-18.6 GHz frequency band are on a non-conforming basis. Such communications are on an unprotected basis, and operations must immediately terminate upon notification of harmful interference.

In short, the Commission must make clear that any authorization for NSS to use the 17.8-18.6 GHz band is unprotected and subject to the condition that NSS must immediately cease such use if it causes harmful interference to conforming operations by O3b or other FSS or FS networks.

Respectfully submitted,

/s/ Petra A. Vorwig  
Senior Legal and Regulatory Counsel  
SES Americom, Inc.  
1129 20th Street, NW, Suite 1000  
Washington, DC 20036  
(202) 478-7143

Of Counsel  
Karis A. Hastings  
SatCom Law LLC  
1317 F Street, N.W., Suite 400  
Washington, D.C. 20004  
karis@satcomlaw.com

/s/ Suzanne Malloy  
Vice President, Regulatory Affairs  
O3b Limited  
900 17th Street, NW, Suite 300  
Washington, DC 20006  
(202) 813-4026

/s/ Will Lewis  
Will Lewis  
Senior Legal Counsel  
O3b Limited  
900 17th Street, NW, Suite 300  
Washington, DC 20006  
(202) 813-4033

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CERTIFICATE OF SERVICE

I hereby certify that on this 5th day of December, 2018, I caused a true and correct copy of the foregoing “Reply of SES Americom, Inc. and O3b Limited” to be sent by first class mail, postage prepaid, to the following:

Stephen Goodman  
Butzel Long  
1909 K Street, NW Suite 500  
Washington, D.C. 20006  
*Counsel to New Satellite Spectrum, Ltd.*

/s/ Will Lewis  
Will Lewis