

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

In the Matter of)	
)	
SES AMERICOM, INC.)	File No. SAT-MOD-_____
)	Call Sign S2180
Application for Modification of AMC-15)	
Fixed-Satellite Space Station License)	

APPLICATION OF SES AMERICOM, INC.

SES Americom, Inc. (“SES”) respectfully requests a modification of its license for the AMC-15 Ku/Ka-band fixed-satellite space station to extend the license term to October 1, 2026 and for authority permitting SES to reorient the satellite to provide coverage of North America, the Caribbean, and Central America. Grant of the requested modification will serve the public interest by allowing SES to continue offering services using AMC-15, thus promoting efficient use of satellite and orbital resources, and to meet customer demand for Ka-band and Ku-band capacity at the 105.05° W.L. orbital location.

A completed FCC Form 312 is attached, and SES incorporates by reference the information previously provided in support of AMC-15.¹ Updated technical information relating to the proposed reorientation of the spacecraft is provided on Schedule S and in narrative form pursuant to Section 25.114 of the Commission’s Rules. SES certifies that apart from the matters addressed herein, no change is proposed to the information previously provided with respect to AMC-15.

¹ The most recent technical information regarding AMC-15 is found in File No. SAT-MOD-20170301-00024, granted May 18, 2017.

REQUEST FOR EXTENSION OF AMC-15 LICENSE TERM

AMC-15 is a hybrid Ku/Ka-band satellite that is located at 105.05° W.L. with a license term that expires May 31, 2020. SES requests an extension of the AMC-15 license term to October 1, 2026. SES has calculated that there is ample fuel onboard AMC-15 for the spacecraft to continue providing reliable service well beyond the proposed extended license term into late 2032 and to deorbit the spacecraft in compliance with the orbital debris mitigation plan approved by the Commission.

The satellite's overall health is good, with all satellite subsystems functioning nominally. There is no single point of failure in the satellite's design; and there is no problem with the satellite's TT&C links, including the back-up TT&C links. As a result, extending the license term for AMC-15 will serve the public interest by allowing SES to continue to use the spacecraft to provide service to customers, promoting the efficient use of satellite and orbital resources.

REQUEST FOR AUTHORITY TO REORIENT AMC-15

SES seeks authority to reorient AMC-15 as needed based on SES's operational judgment and customer requirements. As modified, the Ka-band and Ku-band beams would provide coverage of North America, the Caribbean, and Central America. SES requests limited flexibility in the pointing of the beams to accommodate customer needs when the repointing is implemented. No existing AMC-15 customers will be affected by the reorientation.

Reorientation of AMC-15 as proposed will not adversely affect any other operators. The technical appendix demonstrates that AMC-15 conforms to Commission

requirements for operations at two-degree spacing. AMC-15 will also be operated consistent with applicable existing and future coordination agreements.²

The Commission has generally permitted satellite operators the flexibility to design and modify their networks in response to customer requirements, absent compelling countervailing public interest considerations.³ Here, grant of authority to modify the AMC-15 Ka-band and Ku-band coverage will permit SES to make efficient use of AMC-15 in response to customer requirements. SES will notify the Commission when the repointing occurs.

² SES has previously coordinated the Ka-band operations of AMC-15 with U.S. Federal systems, as required by footnote US 334 to the table of frequency allocations, 47 C.F.R. § 2.106. SES will advise the appropriate U.S. government representative regarding the proposed change in coverage of the AMC-15 Ka-band payload.

³ *See, e.g. AMSC Subsidiary Corporation*, 13 FCC Rcd 12316 at 12318, ¶ 8 (IB 1998) (the Commission generally leaves space station design decisions to the licensee “because the licensee is in a better position to determine how to tailor its system to meet the particular needs of its customers”) (footnote omitted).

CONCLUSION

For the foregoing reasons, SES seeks a modification of the AMC-15 license to extend the satellite's license term through October 1, 2026, and to permit reorientation of the satellite as described in the attached materials.

Respectfully submitted,

SES AMERICOM, INC.

By: /s/ Petra A. Vorwig

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TECHNICAL APPENDIX
REPOINTING AMC-15 AT 105.05° W.L.

1.0 Overall Description (§25.114(d)(1))

This technical appendix is submitted in support of the application of SES Americom, Inc. (“SES”) to extend the license term for AMC-15 at 105.05° W.L. and for authority to re-orient the satellite. SES incorporates by reference the technical information it has already provided with respect to AMC-15¹ and provides here technical information relating to the proposed modification. In the Ka-band frequencies (downlink frequencies from 18.58-18.8 GHz and 19.7-20.2 GHz and uplink frequencies from 28.4-28.6 GHz and 29.5-30 GHz), the satellite will operate using 12 spot beams providing coverage of North America, the Caribbean, and Central America. In the Ku-band frequencies (downlink frequencies from 11.7 to 12.2 GHz and uplink frequencies from 14.0 to 14.5 GHz), the satellite will operate using a shaped beam antenna providing coverage of North America, the Caribbean, and Central America.

2.0 Schedule S (§25.114(c))

The Schedule S database is included with this filing. In the Geostationary Satellite Orbital Information Section, the Schedule S software rounds the orbital location to the nearest whole number; however, as noted above, the actual orbit location is 105.05° W.L.

Considering the large number of spot beams utilized in the Ka-band payload, SES is providing information in the Schedule S regarding two representative user beam groups for Transmitting Beams and Receiving Beams. Two representative beams are provided because the Schedule S software will not allow two non-contiguous spectrum segments to be associated with a single beam. The worst case G/T, EIRP, SFD and PFD values are provided. In accordance with Section 25.114(c)(4)(vii), the predicted antenna gain contours of the two representative transmit

¹ The most recent technical information regarding AMC-15 is found in File No. SAT-MOD-20170301-00024, granted May 18, 2017.

and receive antenna beams are provided in Schedule S. In accordance with Section 25.114(c)(4)(vii)(B), Table 1 below provides the latitude and longitude of each Ka-band spot beam's maximum gain point.

Table 1

Beam	Longitude	Latitude
Ka1 Downlink	-77.8	41.3
Ka1 Uplink	-79.2	40.4
Ka2 Uplink	-102.2	34.8
Ka2 Downlink	-102.3	31.4
Ka3 Uplink	-77.2	28.9
Ka3 Downlink	-76.4	28.9
Ka4 Uplink	-100.8	45
Ka4 Downlink	-100.9	45
Ka5 Uplink	-149.7	20.9
Ka5 Downlink	-149.1	19.6
Ka6 Uplink	-88.8	42.5
Ka6 Downlink	-89.6	42.5
Ka7 Uplink	-113	36.4
Ka7 Downlink	-112.3	36.4
Ka8 Uplink	-65.8	41.3
Ka8 Downlink	-65.8	41.3
Ka9 Uplink	-92.8	31.2
Ka9 Downlink	-92.8	31.2
Ka10 Uplink	-140	65
Ka10 Downlink	-136.7	62.8
Ka11 Uplink	-82.9	33
Ka 11 Downlink	-81.8	33.8
Ka12 Uplink	-111.8	45.1
Ka12 Downlink	-111.6	44.1

Due to uncertainty regarding when the satellite will be reoriented, SES seeks limited flexibility to depart from the nominal beam pointings above in order to address changing customer requirements. Specifically, SES seeks authority to repoint the Ka-band beams within the

envelope defined by Figure 1, which provides a composite isoline of the 8 dB below peak contour of all prospective pointings of the Ka-band beams.

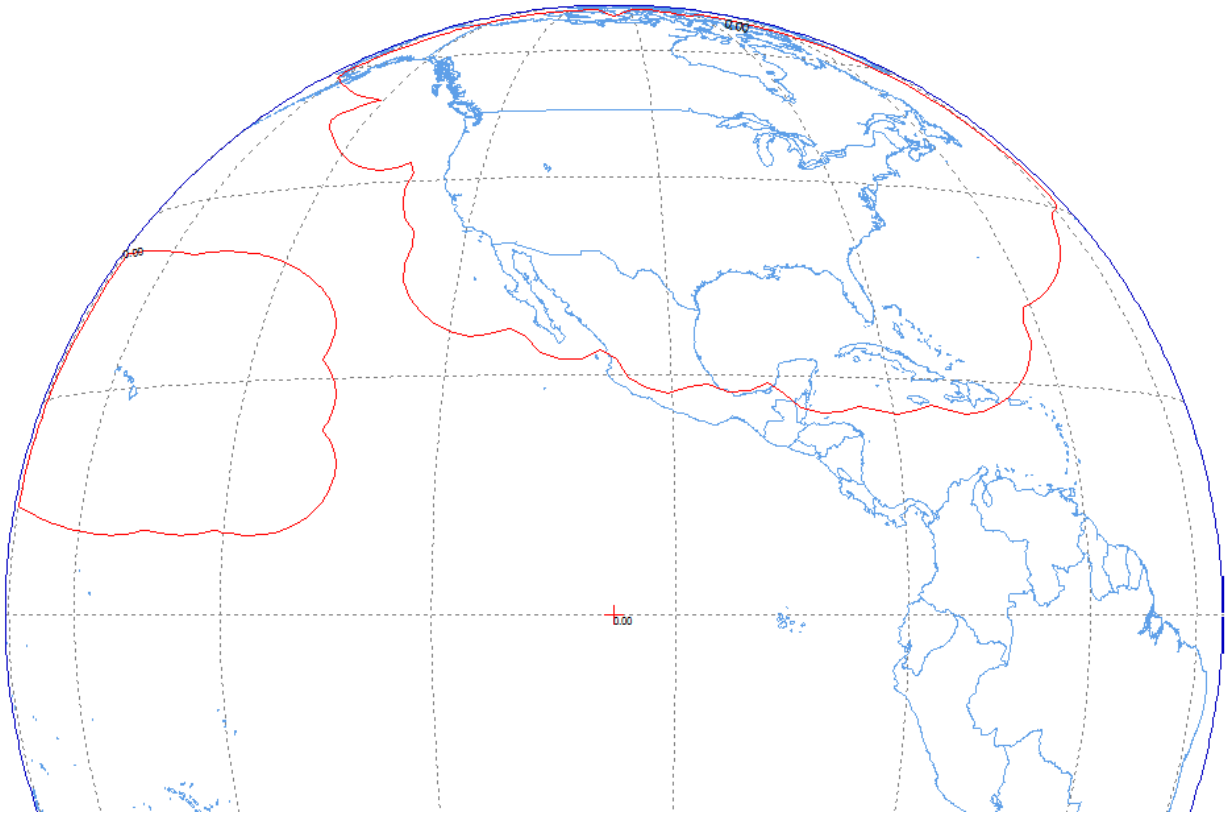


Figure 1

Similarly, SES seeks limited flexibility to depart from the Ku-band coverage shown in the Schedule S. Specifically, SES seeks authority to reorient the Ku-band beam within the envelope defined by Figure 2, which provides a composite isoline of the 8 dB below peak contour of all prospective orientations of the Ku-band beam.



Figure 2

Pursuant to 25.114(c)(4)(v), the gain-to-temperature ratio at beam peak and saturated flux density are not required for the command beam; however, the Schedule S requires an entry for this parameter so we submitted dummy values (of 0 and -1). The beam peak flux density at the command threshold is $-143.8 \text{ dBW/m}^2/1 \text{ MHz}$. Pursuant to 25.114(c)(4)(vi)(A), GXT files are not provided for the TC1, TM1, TM2, and TM3 beams because the contour at 8 dB below peak of these beams falls entirely beyond the visible Earth.

3.0 Certification with respect to two degree spacing levels (§25.140)

SES certifies that AMC-15 will not generate a power flux-density at the Earth's surface in excess of -118 dBW/m²/MHz in the Ka-band, that the satellite's Ku-band downlink EIRP density will not exceed 14 dBW/4kHz, and that associated Ka-band and Ku-band uplink operations will not exceed applicable EIRP density envelopes in §25.218, unless the non-routine uplink and/or downlink operation is coordinated with operators of authorized co-frequency space stations at assigned locations within six degrees of the orbital location and except as provided in §25.140(d).

DECLARATION

I, Frederic Portier, hereby certify under penalty of perjury that I am the technically qualified person responsible for the technical information contained in this application; that I am familiar with the technical requirements of Part 25; and that I either prepared or reviewed the technical information contained in the application and that it is complete and accurate to the best of my knowledge, information and belief.

/s/ Frederic Portier

Frederic Portier
Senior Manager, Spectrum Management and Development
SES

Dated: February 27, 2020