

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

In the Matter of)	
)	
SES AMERICOM, INC.)	
)	File No. SAT-MOD-_____
Application for Modification of AMC-2 Fixed-)	Call Sign S2134
Satellite Space Station License)	

APPLICATION OF SES AMERICOM, INC.

SES Americom, Inc. (“SES”) hereby respectfully requests modification of its license for the AMC-2 C/Ku-band fixed-satellite space station to reassign the spacecraft to 84.85° W.L. +/-0.1 degrees and to further extend the satellite’s license term. Specifically, SES seeks authority to: (1) drift AMC-2 from its current position at 80.85° W.L. to 84.85° W.L. and maintain it at that location using certain C-band and Ku-band frequencies for Telemetry, Tracking and Command (“TT&C”);¹ (2) operate AMC-2 in the conventional Ku-band at 84.85° W.L. +/-0.1 degrees; and (3) extend the AMC-2 license term to December 31, 2017. SES proposes to operate AMC-2 at the nominal 85° W.L. in the Ku-band pursuant to an agreement with EchoStar Satellite Operating Corporation (“EchoStar”), which holds the license for the Ku-band payload of the AMC-16 Ku/Ka-band spacecraft located at 85° W.L.²

¹ The AMC-2 TT&C frequencies and nominal polarizations are as follows:

Command: 6423.5 MHz (horizontal polarization; uplink)
Telemetry: 3700.5 MHz (horizontal polarization; downlink),
4199.5 MHz (vertical polarization; downlink), and
12198.0 MHz (vertical polarization; downlink).

At the nominal 85° W.L. orbital location, SES proposes to operate in the C-band TT&C frequencies pursuant to International Telecommunication Union (“ITU”) filings of the Netherlands Administration.

² See File No. SAT-ASG-20141020-00111.

Reassignment of AMC-2 will serve the public interest by allowing SES to use AMC-2 to supplement Ku-band service being provided by the AMC-16 satellite. In addition, extending the AMC-2 license term as requested will serve the public interest by enabling SES to continue to offer services using AMC-2, thus promoting efficient use of satellite and orbital resources.

A completed Form 312 is attached, and SES incorporates by reference the technical information previously provided in support of AMC-2.³ In addition, SES is providing here technical information relating to the proposed modification to the AMC-2 license on Schedule S⁴ and in narrative form pursuant to Section 25.114 of the Commission's Rules.

MODIFICATION

Re-assignment to 84.85° W.L.: AMC-2 is a U.S.-licensed hybrid C/Ku-band satellite that is assigned to the nominal 81° W.L. location with a license term that expires on May 31, 2016.⁵ At that position, AMC-2 is operating under the ITU satellite network filings of the Argentine Administration and pursuant to an agreement with Empresa Argentina de Soluciones Satelitales S.A. ("AR-SAT"), the Argentine licensee for that orbital location.

³ The most recent technical data regarding AMC-2 was submitted in File Nos. SAT-MOD-20140207-00020 and SAT-MOD-20130225-00024.

⁴ In completing the Schedule S, SES has relied on the most recent Schedule S instructions. Consistent with those instructions, in cases where the Schedule S software requests information that space station applicants are no longer required to provide, SES has omitted data elements, or where necessary to permit validation of the Schedule S file, has entered a "1" or "-1000" as a placeholder. SES specifies that these "1" and "-1000" data entries are outside the scope of the certifications herein regarding accuracy of the information provided with this application.

⁵ See File Nos. SAT-MOD-20130225-00024 (grant-stamped May 9, 2013) & SAT-MOD-20111025-00209 (grant-stamped Feb. 24, 2012) ("AMC-2 2012 Grant").

Because AR-SAT has recently deployed the Arsat 2 spacecraft to 81° W.L., AMC-2 is available for relocation.

SES has entered into an agreement with EchoStar to reposition AMC-2 to 85° W.L. in order to supplement the Ku-band capacity of AMC-16. Reassignment of AMC-2 to the nominal 85° W.L. orbital location will allow expanded Ku-band service from that location. No customers of AMC-2 will be adversely affected, as they will be transferred to other satellites in advance of the planned relocation.

Grant of the requested authority to relocate and operate AMC-2 will serve the public interest and is consistent with Commission precedent. The Commission has repeatedly observed that its policy is to allow “satellite operators to rearrange satellites in their fleet to reflect business and customer considerations where no public interest factors are adversely affected.”⁶ As the International Bureau has explained:

the Commission attempts, when possible, to leave spacecraft design decisions to the space station licensee because the licensee is in a better position to determine how to tailor its system to meet the particular needs of its customers. Consequently the Commission will generally grant a licensee’s request to modify its system, provided there are no compelling countervailing public interest considerations.⁷

Here, the proposed change will allow SES to make efficient use of AMC-2 in order to expand the available capacity at the nominal 85° W.L. orbital location. Because SES is

⁶ *SES Americom, Inc.*, Order and Authorization, DA 06-757 (IB rel. Apr. 7, 2006) at 4, ¶ 8, citing *Amendment of the Commission’s Space Station Licensing Rules and Policies*, Second Report and Order, 18 FCC Rcd 12507, 12509, ¶ 7 (2003).

⁷ *AMSC Subsidiary Corp.*, Order and Authorization, DA 98-493, 13 FCC Rcd 12316 (IB 1998) (“*AMSC Modification Order*”) at 12318, ¶ 8 (footnote omitted).

preparing to transfer customers using AMC-2 at the nominal 81° W.L. orbital location to other satellites, the relocation of AMC-2 will not have any impact on existing services.

Reassignment of AMC-2 to 84.85° W.L. +/-0.1 degrees will not adversely affect other operators. The proposed stationkeeping volume will not overlap with that of any other spacecraft. SES will operate only the TT&C frequencies of AMC-2 during the drift and will follow standard industry practices for coordination of TT&C transmissions during the relocation process. The Technical Appendix demonstrates that the AMC-2 network is compliant with Commission rules for operation in a two-degree spacing environment and is compatible with co-frequency satellites adjacent to the nominal 85° W.L. orbital location.

SES proposes to operate AMC-2 upon arrival at 84.85° W.L. with an east-west stationkeeping tolerance of +/- 0.1 degrees. The stationkeeping volume proposed for AMC-2 will not overlap with that of any other spacecraft. This relaxed stationkeeping tolerance will extend the fuel life of AMC-2 and will not adversely affect any other operators. SES herein seeks a waiver of Section 25.210(j) of the Commission's rules to permit AMC-2 to operate with a +/- 0.1 degree stationkeeping tolerance at 84.85° W.L.

Extension of License Term. SES also requests extension of the AMC-2 license term to December 31, 2017. SES has calculated that there is sufficient fuel onboard the AMC-2 spacecraft for the spacecraft to continue providing reliable service during the proposed extended license and to deorbit the spacecraft to a disposal altitude of 150 km above geostationary orbit, as previously authorized.⁸ As a result, extending the license term for AMC-2 will serve the public

⁸ See AMC-2 2012 Grant. SES developed the nominal lifetime prediction by estimating future fuel consumption, including for the planned AMC-2 relocation and deorbiting maneuvers, and taking into account fuel usage predictions based on data from previous maneuvers. SES's calculations use lifetime models that incorporate uncertainty in a number of variables including initial tank loading, fuel usage efficiency and the oxidizer to fuel ratio. AMC-2 will continue to

interest by allowing SES Americom to continue to use the spacecraft to provide service to customers, promoting the efficient use of satellite and orbital resources.

WAIVER REQUESTS

SES requests limited waivers of the Commission's requirements in connection with the instant modification application. Grant of the waivers is consistent with Commission policy:

The Commission may waive a rule for good cause shown. Waiver is appropriate if special circumstances warrant a deviation from the general rule and such deviation would better serve the public interest than would strict adherence to the general rule. Generally, the Commission may grant a waiver of its rules in a particular case if the relief requested would not undermine the policy objective of the rule in question and would otherwise serve the public interest.⁹

Section 25.114(c)(4): SES requests a limited waiver of Section 25.114(c)(4) of the Commission's rules. That provision requires submission of predicted antenna gain contours for each transmit and receive antenna beam and specifies that for geostationary orbit satellites, the information must be provided in a GIMS-readable format. As discussed in the Technical Appendix, SES has provided antenna gain information in the required format with one exception. The gain characteristics for the global horn antenna are not provided in a GIMS-readable file because the data is not available in that format from the spacecraft manufacturer. Instead, gain versus off-set angle information is provided as a figure in Annex 1 to the Technical Appendix.

operate in inclined orbit at 84.85° W.L. See Letter of Karis A. Hastings, Counsel to SES Americom, Inc., to Marlene H. Dortch, Secretary, Federal Communications Commission, dated Sept. 8, 2011.

⁹ *PanAmSat Licensee Corp.*, 17 FCC Rcd 10483, 10492 (Sat. Div. 2002) (footnotes omitted).

The Commission has previously waived the requirement to provide data in a GIMS-readable format in similar factual circumstances, including with respect to AMC-2.¹⁰ The same rationale supports grant of a waiver in this instance.

Section 25.210(j): Section 25.210(j) specifies that geostationary space stations “must be maintained within 0.05° of their assigned orbital longitude in the east/west direction, unless specifically authorized by the Commission to operate with a different longitudinal tolerance.” 47 C.F.R. § 25.210(j). The Commission has previously waived this rule based on a finding that allowing an increased stationkeeping volume would “not adversely affect the operations of other spacecraft, and would conserve fuel for future operations.”¹¹

The facts here fit squarely within this precedent. As discussed above, allowing AMC-2 to be maintained within an increased stationkeeping volume will not harm other operators. AMC-2’s stationkeeping volume will not overlap with that of any other satellites. Allowing AMC-2 to be flown at 84.85° W.L. in an expanded east-west stationkeeping volume of +/-0.1 degrees will result in fuel savings for the spacecraft. This will prolong the time during which AMC-2 will be available to provide service in response to customer requirements. Under these circumstances, grant of any necessary waiver of Section 25.210(j) will serve the public interest.

¹⁰ See, e.g., *SES Americom, Inc.*, File No. SAT-MOD-20140207-00020, grant stamp dated April 10, 2014, Attachment at ¶ 7.

¹¹ See, e.g., *SES Americom, Inc. Application for Modification of Satcom SN-4 Fixed Satellite Space Station License*, 20 FCC Rcd 11542, 11545 (Sat. Div. 2005).

CONCLUSION

For the foregoing reasons, SES seeks modification of the AMC-2 license to reassign the spacecraft to 84.85° W.L. +/- 0.1 degrees for operations in the conventional Ku-band, as described in the attached materials. SES also requests a brief extension of the AMC-2 license term.

Respectfully submitted,

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Dated: March 29, 2016