

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

In the Matter of)
)
SES AMERICOM, INC.) File No. SAT-AMD-_____
)
Amendment to Application for Modification of)
AMC-2 Fixed-Satellite Space Station License)

AMENDMENT OF SES AMERICOM, INC.

SES Americom, Inc. (“SES Americom”) hereby amends its pending request for a modification of the AMC-2 fixed-satellite space station license. The modification sought authority to reassign AMC-2 to 101° W.L. and collocate it there with AMC-4. *See* File No. SAT-MOD-20080124-00030 (“AMC-2 Modification”). SES Americom amends its request by requesting assignment of AMC-2 to 100.95° W.L. and seeking authority to operate AMC-2 within both its requested stationkeeping volume at 100.95° W.L. +/-0.05 degrees and within the adjacent stationkeeping volume of AMC-4 at 101.0° W.L. +/-0.05 degrees.¹ Grant of this authority will serve the public interest by giving SES Americom the flexibility to operate AMC-2 and AMC-4 in formation within a total 0.15 degree East/West stationkeeping volume, thereby optimizing fuel efficiency.

¹ SES Americom is simultaneously seeking authority to operate AMC-4 within its own licensed stationkeeping authority and that proposed for AMC-2.

A completed FCC Form 312 and a technical appendix are attached in support of this amendment. SES Americom also incorporates by reference the technical information previously provided in support of AMC-2.²

AMENDMENT

The AMC-2 Modification sought authority to relocate AMC-2 to 101° W.L. in order to allow AMC-2 to provide back-up capacity for AMC-4, which has experienced a number of failures affecting circuits on the satellite's solar arrays. Pursuant to special temporary authority granted in File No. SAT-STA-20080214-00046, AMC-2 is now being drifted to 101° W.L. and is scheduled to arrive at that location by March 13.

To accommodate SES Americom's need to relocate AMC-2 to 101° W.L., Mobile Satellite Ventures ("MSV"), which is authorized to operate MSAT-2 at 100.95° W.L., agreed to seek reassignment to 101.3° W.L. MSV has been granted special temporary authority to move MSAT-2 to 101.3° W.L. (File No. SAT-STA-20080221-00050, granted Feb. 28, 2008), and has an application pending for permanent reassignment of the spacecraft (File No. SAT-MOD-20080303-00055).

Relocation of MSAT-2 creates additional unoccupied stationkeeping volume adjacent to AMC-4's current assignment at 101.0° W.L. +/-0.05 degrees. To optimize the efficiency of the joint operations of AMC-2 and AMC-4 once AMC-2 arrives at the nominal 101° W.L. orbital location, SES Americom would like the ability to operate both AMC-2 and AMC-4 in formation, with the joint stationkeeping volume bounded by 100.90° W.L. to the East and 101.05° W.L. to the West.

² See AMC-2 Modification; see also File Nos. SAT-LOA-19940310-00008 (18-DSS-P/LA-94); SAT-AMD-19941114-00065 (30-SAT-AMEND-95); & SAT-MOD-20050527-00110.

Accordingly, SES Americom amends the AMC-2 Modification to seek assignment of AMC-2 to 100.95° W.L. and requests authority to operate AMC-2 within both the proposed assigned stationkeeping volume for AMC-2 at 100.95° W.L. +/-0.05 degrees and the current assigned stationkeeping volume for AMC-4 at 101.0° W.L. +/-0.05 degrees. SES Americom seeks any necessary waiver of Section 25.210(j) of the Commission's Rules, 47 C.F.R. § 25.210(j), to permit AMC-2 to operate in the portion of the AMC-4 stationkeeping volume that is greater than .05 degrees from the requested orbital assignment for AMC-2.

Grant of the requested authority will serve the public interest by facilitating efficient operation of AMC-2 and AMC-4 and will not adversely affect any other authorized operator. As described in the AMC-2 Modification, relocation of AMC-2 to the nominal 101° W.L. orbital location is required in order to ensure that capacity is available to decrease the load on AMC-4 given its solar array circuit failures. Flying AMC-2 and AMC-4 in formation within a total stationkeeping volume of 0.15 degrees will result in fuel savings that will extend the time during which AMC-2 can provide back-up for AMC-4.

The proposed stationkeeping volume of AMC-2 does not overlap with that of any spacecraft other than AMC-4. DIRECTV holds Commission licenses for operations in the positions adjacent to the requested stationkeeping volume on either side. Specifically, D-8 is assigned to operate at 100.85° W.L. +/-0.05 degrees, and D-9S is assigned to operate at 101.1° W.L. +/-0.05 degrees. Thus, DIRECTV does not operate in the stationkeeping volume between 100.90° W.L. and 101.05° W.L. within which SES Americom seeks to operate AMC-2. As discussed above, MSV has been authorized to move MSAT-2 to 101.3° W.L.

Furthermore, as demonstrated in the attached technical appendix, the proposed slight offset of AMC-2 from the nominal 101° W.L. orbital location will not result in harmful

interference to adjacent operations. The nearest operational FSS C/Ku-band satellites to AMC-2's requested location are Intelsat's Galaxy 16 at 99° W.L. and SES Americom's AMC-1 at 103° W.L. The small proposed shift in AMC-2's orbital location will have a *de minimis* effect on the interference environment in which adjacent satellites operate.

As discussed above, operation of AMC-2 at the nominal 101° W.L. orbital location is necessary due to events beyond SES Americom's control in order to avoid potential interruptions of service for AMC-4 customers. The Commission has consistently recognized that ensuring continuity of service is an important public interest objective.³ The requested amendment will allow SES Americom to operate AMC-2 in formation with AMC-4 in the stationkeeping volume bounded by 100.90° W.L. and 101.05° W.L. and will serve the public interest by permitting SES Americom to optimize use of its satellite assets and respond to the unanticipated technical problems with the AMC-4 solar arrays.

WAIVER REQUEST

SES Americom requests any necessary waiver of Section 25.210(j) of the Commission's rules in connection with the proposed AMC-2 modification. Grant of the waiver is consistent with Commission policy:

The Commission may waive a rule for good cause shown.
Waiver is appropriate if special circumstances warrant a

³ See, e.g., *DIRECTV Enterprises, LLC, Request for Special Temporary Authority to Conduct Telemetry, Tracking and Control During the Relocation of DIRECTV 1 to the 72.5° W.L. Orbital Location*, Order and Authorization, DA 05-1890 (Sat. Div. rel. July 14, 2005) at ¶ 18 (granting STA to relocate spacecraft to a location where it will replace a satellite with failing solar panels "will enable DIRECTV to maintain continuity of DBS service to its customers"); *DIRECTV Enterprises, LLC, Application for Authorization to Operate DIRECTV 5, a Direct Broadcast Satellite, at the 109.8° W.L. Orbital Location*, Order and Authorization, DA 05-2654 (Sat. Div. rel. Oct. 5, 2005) at ¶ 8 ("DIRECTV's proposal to provide DBS service from this location will serve the public interest, convenience and necessity in that it will ensure continuity of service to DIRECTV subscribers").

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.⁴

Section 25.210(j) of the Commission's rules specifies that geostationary FSS 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 the requirements of 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."⁵

The facts here fit squarely within this precedent. As discussed herein, allowing AMC-2 to operate within the combined authorized stationkeeping volume of AMC-4 and that requested for AMC-2 will not harm other operators. The only satellite with which AMC-2's stationkeeping volume would overlap is AMC-4, and SES Americom will closely control the two satellites' flight to ensure their safe joint operation. SES Americom's affiliate, SES ASTRA, has significant experience in flying multiple spacecraft in formation within a single stationkeeping volume, and SES Americom will draw on that experience in managing AMC-2 and AMC-4.

Furthermore, the proposed operations will not materially affect the interference environment for adjacent co-frequency spacecraft. As shown in the Technical Appendix, the proposed offset for AMC-2 will have a minimal impact on adjacent operations.

⁴ *PanAmSat Licensee Corp.*, 17 FCC Rcd 10483, 10492 (Sat. Div. 2002) (footnotes omitted).

⁵ *SES Americom, Inc. Application for Modification of Satcom SN-4 Fixed Satellite Space Station License*, 20 FCC Rcd 11542, 11545 (Sat. Div. 2005).

Finally, allowing AMC-2 and AMC-4 to operate in a combined stationkeeping volume will result in fuel savings for both spacecraft. This factor is important to prolong the time during which AMC-2 is available to provide needed back-up capacity for AMC-4. Under these circumstances, SES Americom submits that grant of any necessary waiver of Section 25.210(j) will serve the public interest.

CONCLUSION

For the foregoing reasons, SES Americom amends the AMC-2 Modification to seek assignment of AMC-2 to 100.95° W.L. and requests authority to operate AMC-2 within the adjacent stationkeeping volume of AMC-4 as well.

Respectfully submitted,

SES Americom, Inc.

By: /s/ Nancy J. Eskenazi

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Technical Appendix

1. Introduction

This technical appendix is submitted in support of the amendment of SES Americom, Inc. (“SES Americom”) to its pending request for a modification of its license for the AMC-2 C/Ku-band spacecraft. SES Americom seeks assignment of AMC-2 to 100.95° W.L. instead of 101.0° W.L. and requests authority to operate AMC-2 within the adjacent stationkeeping volume of AMC-4 at 101.0° W.L. as well. SES Americom incorporates by reference herein the technical information it has already provided with respect to AMC-2,¹ and provides here technical information that is changing as a result of the instant amendment.

2. Gain Contours

SES Americom is not submitting new contour maps with this application. The proposed shift in orbital location from 101.0° W.L. to 100.95° W.L. and use of the combined AMC-2 and AMC-4 stationkeeping volume will produce no visible change in the gain contours from the maps already on file.

3. Interference Analysis

The nearest operational C/Ku-band satellites to 101° W.L. are SES Americom’s AMC-1 at 103° W.L. and Intelsat’s Galaxy 16 at 99° W.L.

SES Americom has previously submitted interference analyses to the FCC demonstrating that operation of AMC-2 in the C-band and Ku-band was compatible with adjacent satellites and with the Commission’s two-degree spacing requirements.² The proposed offset operation of AMC-2 will not cause any material change to the interference environment. The proposed offset would result in AMC-2 moving slightly closer to Galaxy 16, but the resulting change in the interference environment will be negligible.

Specifically, as shown in the table below, SES Americom has calculated that implementation of the proposed offset would result in a change of approximately 0.3 dB in the interference environment of two-degree compliant earth stations communicating with Galaxy 16 at 99° W.L. in the C-band and 0.7 dB in the Ku-band.

¹ See File No. SAT-MOD-20080124-00030 (“AMC-2 Modification”); see *also* File Nos. SAT-LOA-19940310-00008 (18-DSS-P/LA-94); SAT-AMD-19941114-00065 (30-SAT-AMEND-95); & SAT-MOD-20050527-00110.

² AMC-2 Modification, Technical Appendix at Annexes 3 and 4.

<u>Original Orbital Position Requested (101.0)</u>	<u>99.0</u>
Closest Offset Angle, taking into account 0.05 degree stationkeeping	1.9 deg
Gain (1) of 1.0 m antenna at 12.0 GHz @ Offset angle 1.9 deg	25.7 dB
Gain (1) of 4.5 m antenna at 4.0 GHz @ Offset angle 1.9 deg	22.03 dB
<u>Proposed Orbital Position (100.95)</u>	
Closest Offset Angle, taking into account 0.05 degree stationkeeping	1.85
Gain (2) of 1.0 m antenna at 12.0 GHz @ Offset angle 1.85 deg	26.4 dB
Gain (2) of 4.5 m antenna at 4.0 GHz @ Offset angle 1.85 deg	22.33 dB
<u>Δ (Gain(1) - Gain (2)) in Ku-band downlinks</u>	<u>- 0.7 dB</u>
<u>Δ (Gain(1) - Gain (2)) in C-band downlinks</u>	<u>-0.3 dB</u>

Given that the proposed offset operation of AMC-2 will not result in any material change to the interference environment with respect to AMC-2 and existing or future adjacent satellites, no link budget analysis is provided herein. In the unlikely event that any future concerns arise regarding operations of AMC-2 at the proposed offset location, SES Americom will coordinate with the adjacent operators in order to arrive at a mutually satisfactory solution.

4. Orbital Debris Mitigation

This section provides limited revisions to the information provided in the AMC-2 Modification concerning the elements required under Section 25.114(d)(14) of the Commission's Rules.

§ 25.114(d)(14)(i): SES Americom has assessed and limited the amount of debris released in a planned manner during normal operations of AMC-2. No debris is generated during normal on-station operations, and the spacecraft will be in a stable configuration. On-station operations as proposed require stationkeeping within the +/- 0.05 degree N-S control box and within an E-W control box bounded by 100.90° W.L. and 101.05° W.L.

§ 25.114(d)(14)(iii): The instant application seeks authority for operation of AMC-2 at the 100.95° W.L. orbital location and requests that AMC-2 be allowed to operate within the adjacent assigned stationkeeping volume of AMC-4 as well. SES Americom proposes to operate AMC-2 and AMC-4 in formation at the nominal 101° W.L. orbital location.

Mobile Satellite Ventures Subsidiary LLC (“MSV”), which was licensed to operate the MSAT-2 spacecraft at 100.95° W.L. +/- .05 degrees, has been granted special temporary authority to relocate that spacecraft to 101.3° W.L., and has a pending modification application for permanent assignment to 101.3° W.L.

DIRECTV is also assigned to the nominal 101° W.L. orbital location for DBS operations. On the east and west sides of 101° W.L., the stationkeeping volume of the adjacent DIRECTV spacecraft abuts but does not overlap with the requested stationkeeping volume of AMC-2. SES Americom is not aware of any other FCC- or non-FCC licensed spacecraft that are operational or planned to be deployed at 101° W.L. or to nearby orbital locations such that there would be an overlap with the requested stationkeeping volume of AMC-2.

5. Schedule S

As discussed above, the amendment to the pending application for modification of the AMC-2 license to assign the satellite to 100.95° W.L. rather than 101.0° W.L. will not result in any material changes to the spacecraft’s operating characteristics or to the interference environment. As a result, the information requested in Schedule S duplicates information that is already on file with the Commission concerning the technical parameters of AMC-2’s operation. In similar cases involving requests for slight offsets from the nominal orbital position, the Satellite Division has not required the submission of a new Schedule S.³ Accordingly, SES Americom is not filing a new Schedule S with this application. SES Americom will nevertheless prepare and submit a Schedule S if requested to do so by the Satellite Division.

³ See, e.g., File No. SAT-MOD-20040405-00076 (PanAmSat request for authority to operate SBS-6 at 74.05° W.L. rather than 74.0° W.L.).

DECLARATION OF KRISH JONNALAGADDA

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

/s/ Krish Jonnalagadda
Spectrum Development Manager
SES Americom, Inc.

Dated: March 11, 2008