

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

In the Matter of)	
)	
SES AMERICOM, INC.)	File No. SAT-MOD-_____
)	Call Sign S2135
Application for Modification of AMC-4)	
Fixed-Satellite Space Station License)	

APPLICATION OF SES AMERICOM, INC.

SES Americom, Inc. (“SES Americom,” doing business as “SES”) hereby respectfully requests a modification of its license for the AMC-4 fixed-satellite space station to extend the satellite’s license term to at least January 31, 2022. The requested extension will serve the public interest by enabling SES Americom to continue to offer services using AMC-4, thus promoting efficient use of satellite and orbital resources. In addition, SES seeks any necessary further authority for deorbit of the satellite at end of life. Grant of deorbit authority for AMC-4 is consistent with Commission precedent and will facilitate orderly removal of AMC-4 to a disposal orbit at its end of life. A completed FCC Form 312 is attached, and SES incorporates by reference the technical information previously provided in support of AMC-4.¹

AMC-4 is a hybrid C/Ku-band satellite that is licensed to operate pursuant to FCC authority at 67° W.L. with a license term that expires on December 22, 2014.² SES requests an extension of the AMC-4 license term to at least January 31, 2022. SES has calculated that there

¹ The most recent technical information submitted relating to AMC-4 is found in File Nos. SAT-AMD-20110802-00142; SAT-MOD-20110510-00086; & SAT-MOD-20100623-00144.

² See File No. SAT-MOD-20100623-00144, grant-stamped Nov. 4, 2010, Attachment to Grant at 2, ¶ 13.

is sufficient fuel onboard the AMC-4 spacecraft for the spacecraft to continue providing reliable service during the proposed extended license term and to deorbit the spacecraft to a disposal altitude of 150 km above geostationary orbit (see below).³ In making these calculations, SES has assumed that standard stationkeeping maneuvers will be performed to maintain AMC-4 within its existing east-west and north-south stationkeeping tolerances.⁴ Furthermore, although SES does not currently contemplate relocating AMC-4 to another orbital location, SES has made allowance in its fuel life calculations for the possibility of a single relocation during the requested extension term of the AMC-4 license.⁵

As SES has previously reported to the Commission, the AMC-4 satellite has experienced solar array circuit failures that have affected the total power available to the spacecraft. Apart from these issues, the satellite's overall health is good, with all other 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 telemetry, tracking and command ("TT&C") links, including the back-up TT&C links.

SES also seeks any necessary Commission authority to relocate AMC-4 at its end of life to a disposal orbit with a minimum perigee altitude of at least 150 km above the

³ SES developed the nominal lifetime prediction by estimating future fuel consumption, including for the planned 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.

⁴ The calculations do not assume that the spacecraft will be placed into inclined orbit during the requested extension term. If AMC-4 is placed into inclined orbit during this time, the lifetime of the satellite will be extended.

⁵ Depending on whether there are any relocations during this time, and the distance and speed of any such relocations, the expected lifetime of the satellite may be longer or shorter than estimated. In any case, SES will de-orbit the spacecraft to at least 150 km above the geostationary arc (as discussed below), regardless of the remaining term of the AMC-4 license.

geostationary arc.⁶ Because AMC-4 was launched before March 18, 2002, the spacecraft is not subject to the minimum perigee requirements of Section 25.283(a).⁷ The Commission has previously authorized the use of a 150-km deorbit altitude for spacecraft launched prior to March 18, 2002.⁸ Calculations performed by SES indicate that at the conclusion of the requested extension period, the spacecraft will have sufficient fuel to reach the proposed deorbit altitude, barring a catastrophic failure of satellite components.

Thus, extending the license term for AMC-4 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. Grant of the requested deorbit authority is consistent with Commission precedent and will facilitate placement of AMC-4 in a disposal orbit at its end of life.

⁶ No change has occurred in the post-mission disposal plan previously filed with respect to AMC-4, most recently in a 2010 modification application. *See* File No. SAT-MOD-20100623-00144, Technical Appendix at 18-19 (describing target minimum perigee of 150 km above the normal operational altitude and providing information regarding the fuel reserve for post-mission disposal). When it acted on that modification, the Commission granted a waiver of the venting requirements of Section 25.283(c) subject to the requirement that SES supply additional information regarding oxidizer tank volume and pressure. *See* File No. SAT-MOD-20100623-00144, grant-stamped Nov. 4, 2010, Attachment to Grant at 3, ¶ 16. Perhaps because that information was not yet in the record, the modification grant stated that the Commission was not approving the AMC-4 post-mission disposal plan at that time. *See id.* at ¶ 17. SES subsequently filed the oxidizer tank information as required by the Commission. *See* Letter of Karis A. Hastings, Counsel to SES Americom, Inc., to Marlene H. Dortch, Secretary, FCC, File No. SAT-MOD-20100623-00144, dated Nov. 30, 2010. A later filing seeking modification to the AMC-4 license cross-referenced the previously-filed disposal plan, and the Commission granted that modification without expressly addressing disposal matters. *See* File No. SAT-MOD-20110510-00086, grant-stamped Sept. 21, 2011. Given this history and to avoid uncertainty, SES is seeking here any further authority required for its plan for post-mission disposal of AMC-4.

⁷ *See* 47 C.F.R. § 25.283(d).

⁸ *See, e.g., SES Americom, Inc., Application for Modification of Satcom SN-4 Fixed Satellite Space Station License*, DA 05-1812, 20 FCC Rcd 11542 (Sat. Div. 2005) at ¶ 15.

For the foregoing reasons, SES seeks an extension of the AMC-4 license term and any necessary additional authority to deorbit the satellite at its end of life.

Respectfully submitted,

SES AMERICOM, INC.

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Technical Certification

I, Mike Pritchard, hereby certify under penalty of perjury that I am the technically qualified person responsible for the technical information contained in the foregoing 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/

Mike Pritchard

Vice President, Payload Operations and Customer Support
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Dated: June 6, 2014