

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

In the Matter of	)	
	)	
SES AMERICOM, INC.	)	File No. SAT-MOD-_____
	)	Call Sign S2134
Application for Modification of AMC-2 Fixed-	)	
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 permit use of the satellite’s C-band payload at 84.85° W.L. Grant of the requested authority will serve the public interest by allowing SES to use AMC-2 to meet customer demand for C-band capacity at this location.

A completed Form 312 is attached, and SES incorporates by reference the technical information previously provided in support of AMC-2.<sup>1</sup> In addition, SES is providing here technical information relating to the proposed modification to the AMC-2 license on Schedule S and in narrative form pursuant to Section 25.114 of the Commission’s Rules.

**MODIFICATION**

AMC-2 is a U.S.-licensed hybrid C/Ku-band satellite that was relocated last year pursuant to Commission authority to the 84.85° W.L. orbital location, where it operates with an east-west stationkeeping tolerance of +/- 0.1 degrees.<sup>2</sup> At that position, AMC-2 is providing Ku-

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<sup>1</sup> The most recent technical data regarding AMC-2 was submitted in File No. SAT-MOD-20160329-00029.

<sup>2</sup> See File No. SAT-MOD-20160329-00029 (the “AMC-2 Modification”), grant-stamped June 23, 2016 (“AMC-2 2016 Grant”).

band capacity in order to supplement the Ku-band operations of AMC-16. The C-band payload of AMC-2 is currently being used for Telemetry, Tracking and Command (“TT&C”) purposes only.<sup>3</sup>

In response to customer demand, SES seeks authority to activate the AMC-2 C-band communications payload. Grant of the requested authority will serve the public interest and is consistent with Commission precedent. The International Bureau has explained that “the Commission will generally grant a licensee’s request to modify its system, provided there are no compelling countervailing public interest considerations.”<sup>4</sup>

Here, the proposed change will allow SES to make efficient use of AMC-2 in order to provide C-band capacity at the nominal 85° W.L. orbital location. Operating AMC-2 in the C-band spectrum will not adversely affect other operators. 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 C-band satellites adjacent to the nominal 85° W.L. orbital location.

The Commission has granted limited waivers of its rules in connection with the operation of AMC-2 at 84.85° W.L., and SES seeks authority to continue to operate pursuant to those waivers. Specifically, the Commission has waived the requirements of Section 25.114(c)(4) to permit the gain characteristics for the global horn antenna to be presented in an alternative format given that GIMS-readable data is not available for that antenna.<sup>5</sup> The Commission has also waived Section 25.210(j) to allow AMC-2 to operate at 84.85° W.L. with an east-west

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<sup>3</sup> See AMC-2 2016 Grant, Attachment to Grant at 1.

<sup>4</sup> *AMSC Subsidiary Corp.*, Order and Authorization, DA 98-493, 13 FCC Rcd 12316 (IB 1998) at 12318, ¶ 8 (footnote omitted).

<sup>5</sup> See AMC-2 2016 Grant, Attachment to Grant at 2, ¶ 5.

stationkeeping tolerance of +/- 0.1 degrees.<sup>6</sup> For the reasons set forth in the AMC-2 2016 Grant, continued application of these rule waivers is consistent with Commission policy.

### CONCLUSION

For the foregoing reasons, SES seeks modification of the AMC-2 license to permit use of the C-band communications payload at the 84.85° W.L. orbital location, as described in the attached materials.

Respectfully submitted,

SES AMERICOM, INC.

By: /s/ Petra A. Vorwig

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Dated: February 2, 2017

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<sup>6</sup> See *id.*, Attachment to Grant at 1, ¶ 4.

**TECHNICAL APPENDIX**

**AMC-2 C-BAND OPERATIONS AT 84.85° W.L.**

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

This technical appendix is submitted in support of the modification application of SES Americom, Inc. (“SES”) seeking authority to operate the C-band transponders on AMC-2 at 84.85° W.L. SES incorporates by reference the technical information it has already provided with respect to AMC-2,<sup>1</sup> and provides here technical information relating to operation of AMC-2 at 84.85° W.L consistent with the proposed modification.

AMC-2 is equipped with twenty-four 36 MHz C-band transponders and twenty-four 36 MHz Ku-band transponders. The C- and Ku- band transponders will provide coverage of North America, Central America and the Caribbean and will operate pursuant to an International Telecommunication Union (“ITU”) filing of the United States.

## **2.0 Schedule S (§25.114(c))**

The Schedule S database is included with this filing. With respect to the information contained in the associated Schedule S, the new Schedule S rounds the orbital slot to 85° W.L. while the actual orbital position is 84.85° W.L. With respect to its inclination, at the start of its operations at 84.85° W.L., AMC-2 was operating at an inclined orbit of 3.66 degrees, and the inclination is expected to be 4.73 degrees at the satellite’s projected end of life.

## **3.0 Maximum Theoretical Operation Levels**

AMC-2 will be operated consistently with coordination agreements with adjacent satellites. In any case, in the 3.7-4.2 GHz band, the downlink EIRP of the AMC-2 digital carrier will not exceed -30 dBW/Hz; and in the 5.925-6.425 GHz band, the uplink EIRP of the digital carrier will not exceed -38.7 dBW/Hz.

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<sup>1</sup> The most recent technical information regarding AMC-2 is found in File No. SAT-MOD-20160329-00029.

#### **4.0 Two Degree Spacing Certification (§25.114(d)(7) and §25.140(a))**

SES certifies that for the C-band operations of AMC-2 the downlink EIRP density will not exceed 3 dBW/4kHz for digital transmissions or 8 dBW/4kHz for analog transmissions and that associated uplink operation will not exceed applicable EIRP density envelopes in §25.218 or §25.221(a)(1) 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 84.85° W.L.

#### **5.0 Mitigation of Orbital Debris (§25.114(d)(14))**

The information provided in File No. SAT-MOD-20160329-00029 is incorporated by reference herein.

## DECLARATION

I, Donna Wang, hereby certify under penalty of perjury that I am the technically qualified person responsible for 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/ Donna Wang

Donna Wang  
Engineer, Spectrum Development  
SES

Dated: February 2, 2017