

TECHNICAL APPENDIX

AMC-8 RELOCATION TO 135.0° 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”) and Alascom, Inc. (“Alascom”) (collectively, the “Licensees”) to extend the license term for AMC-8/Aurora-III (“AMC-8”) and to relocate the satellite to 135.0° W.L. from its current orbital position of 139.0° W.L. The Licensees incorporate by reference the technical information already on file with respect to AMC-8,¹ and provide here technical information relating to operation of AMC-8 at 135.0° W.L. as proposed. AMC-8 is equipped with twenty-four 36 MHz C-band transponders and has two C-band beams. At 135.0° W.L., the spacecraft’s C-band transponders will provide coverage of North America, the Caribbean, Central America, and parts of the Pacific Ocean.

2.0 Schedule S (§25.114(c))

The Schedule S database is included with this filing. Consistent with §25.114(c)(4)(vi)(A), the gain characteristics for the global horn antenna (“CMD”) and (“CTM”) are not provided in a GIMS-readable format with the Schedule S 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(a))

SES certifies that the AMC-8 downlink EIRP density will not exceed 3 dBW/4kHz for digital transmissions or 8 dBW/4kHz for analog transmissions in the C-band unless higher levels are coordinated with the operators of authorized co-frequency space stations at assigned locations

¹ The most recent technical information regarding AMC-8 is found in File No SAT-MOD-20151222-00086. *See also* File No. SAT-LOA-19990601-00061.

within six degrees of 135.0° W.L. and except as provided in §25.140(d).² SES also certifies that the associated uplink EIRP density levels in the C-band will not exceed the applicable envelopes in §25.218 unless appropriately coordinated with operators of authorized co-frequency space stations at assigned locations within six degrees of 135° W.L. and except as provided in §25.140(d).

4.0 Mitigation of Orbital Debris (§25.114(d)(14))

The information required under §25.114(d)(14) of the Commission's Rules is already on file with the Commission and is incorporated by reference herein.³ Updates to the information on file are provided below.

SES currently estimates that AMC-8 has a remaining useful life of approximately 7.5 years. SES is not aware of any other FCC- or non-FCC licensed spacecraft that are operational or planned to be deployed at 135° W.L. or to nearby orbital locations such that there would be an overlap with the requested station-keeping volume of AMC-8. SES operates the AMC-4 C/Ku-band satellite at 134.9° W.L. with an east-west stationkeeping tolerance of +/- 0.05 degrees, adjacent to, but not overlapping with, the proposed AMC-8 stationkeeping volume.

² See Letter of Petra A. Vorwig, SES, to Marlene H. Dortch, Secretary, FCC, File Nos. SAT-MOD-20170518-00073 *et al.*, dated Jan. 10, 2018 (notifying the Commission of the non-routine transmission level of -32 dBW/Hz downlink EIRP density in the 3700-4200 MHz band at the nominal 135° W.L. orbital location).

³ See File No. SAT-MOD-20151222-00086, Attachment A

DECLARATION

I, Frederic Portier, 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/ Frederic Portier

Frederic Portier
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Development
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Dated: April 13, 2020