S2445

SAT-MOD-20140730-00089

IB2014001555

SES Americom, Inc.

AMC-1

From 05/28/15 International Bureau

File# SAT-MOD-20140730-00089

Call Sign S2445 Grant Date 05/28/15

(or other identifier)

conditions

Approved by OMB 3060-0678

SAT-AMD-20150219-00006

to see also

Date & Time Filed: Jul 30 2014 3:07:15:083PM

File Number: SAT-MOD-20140730-00089

+ with conditions

Approved:

Satellite Policy Branch

FCC APPLICATION FOR SPACE AND EARTH STATION:MOD OR AMD - MAIN FORM

FCC 312 MAIN FORM FOR OFFICIAL USE ONLY

FCC Use Only

APPLICANT INFORMATION

Enter a description of this application to identify it on the main menu: Modification to reassign AMC-1 (call sign S2445) to 47.5 WL

1-8	Legal	Name	of An	olicant
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SES Americom, Inc.

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DBA

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Attention: Mr Daniel C.H. Mah

The application of SES Americom, Inc. (SES Americom), IBFS File No. SAT-MOD-20140730-00089, as amended by IBFS File No. SAT-AMD-20150219-00006, and as supplemented, to modify the authorization for its geostationary-satellite orbit space station, AMC-1 (Call Sign S2445), to specify operations at the 129.15° W.L. orbital location, rather than at the 103.0° W.L. orbital location, is GRANTED. Accordingly, SES Americom is authorized to conduct Telemetry, Tracking, and Command (TT&C) operations necessary to drift AMC-1 to, and maintain it at, the 129.15° W.L. orbital position using the following center frequencies: 3700.5 MHz (space-to-Earth), 4199.5 MHz (space-to-Earth), 12.198 GHz (space-to-Earth), and 6423.5 MHz (Earth-to-space). In addition, SES Americom is authorized to operate AMC-1, in inclined orbit, at 129.15° W.L. to provide Fixed-Satellite Service (FSS), including direct-to-home service, in the conventional Ku-band frequencies of 11.7-12.2 GHz (space-to-Earth) and 14.0-14.5 GHz (Earth-to-space). This authorization is subject to the technical specifications set forth in SES Americom's application, Federal Communication Commission (Commission) rules not waived herein, and the conditions set forth below.

1. All operations of AMC-1 during drift from the 103.0° W.L. orbital location to the 129.15° W.L. orbital location must be on an unprotected and non-harmful interference basis, *i.e.*,

¹ This application was placed on Public Notice as Accepted for filing on September 19, 2014. See Policy Branch Information, Satellite Space Applications Accepted for Filing, Public Notice, Report No. SAT-01041 (IBFS File No. SAT-MOD-20140730-00089)(AMC-1 47.5° W.L Mod). In this application, SES American sought to modify the authorization for its AMC-1 space station in order to specify operations at the 47.5° W.L. orbital location, rather than its currently licensed location at 103° W.L. Both Intelsat and DIRECTV filed comments to this application. See Comments of Intelsat License LLC, File No. SAT-MOD-20140730-00089, dated Oct. 20, 2014 (Intelsat 47.5 WL Comments) and Comments of DIRECTV, LLC, File No. SAT-MOD-20140730-00089, dated Oct. 20, 2014 (DIRECTV Comments). SES Americom filed a response to the Intelsat and DIRECTV comments. See Response of SES Americom, Inc., File No. SAT-MOD-20140730-00089, dated November 4, 2014. On February 19, 2015, SES Americom filed an amendment to this modification application that specifies operations at the 129.15° W.L. orbital location, instead of the 47.5° W.L. orbital location that was previously requested. File No. SAT-AMD-20150219-00006. This amendment was put on Public Notice as Accepted for filing on March 6, 2015. See Policy Branch Information, Satellite Space Applications Accepted for Filing, Public Notice, Report No. SAT-01068 (IBFS File No. SAT-AMD-20150219-00006) (AMC-1 129.15° W.L. Amendment). Intelsat filed comments to this amendment. See Comments of Intelsat License LLC, File No. SAT-AMD-20150219-00006, dated April 6, 2015 (Intelsat 129.15 WL Comments). SES Americom filed a response to Intelsat's comments. See Response of SES Americom, dated April 17, 2015. See also Supplement to AMC-1 Amendment, File No. SAT-AMD-20150219-00006, Call Sign S2445. filed by Karis A. Hastings, Counsel for SES Americom, Inc., dated April 17, 2015. (AMC-1 Supplement). On May, 6, 2015, SES Americom filed a letter advising the Commission that on May 4, 2015 SES Americom and Intelsat License LLC executed a coordination agreement addressing the proposed use of the C-band TT&C carriers on AMC-1 at 129.15° W.L. in close proximity to Intelsat's Galaxy 12 spacecraft. See Letter from Karis A. Hastings, Counsel for SES Americom, Inc. and Jennifer Hindin, Counsel for Intelsat License LLC, to Marlene H. Dortch, Secretary, Federal Communications Commission, dated May 6, 2015.

² SES indicates that AMC-1 will commence inclined orbit operation upon its arrival at the 129.15° W.L. orbital location. The initial inclination will be 0.13 degrees, and the rate of change in inclination per year will be 0.8 degrees. *See AMC-1 129.15° W.L. Amendment* at 6 and n.4.

³ While the AMC-1 space station is capable of operating in both the C- and Ku-band, SES does not propose to operate the AMC-1 C-band communications payload frequencies while the spacecraft is located at 129.15° W.L., but does propose to use limited C-band frequencies for TT&C. See AMC-1 129.15° W.L. Amendment, Technical Appendix at 2-4.

the AMC-1 space station must not cause harmful interference to, and must not claim protection from interference caused to it by, any other lawfully operating station. In the event of any harmful interference, SES Americom must cease operations immediately upon notification of such interference, and must inform the Commission, in writing, immediately of such an event.

- 2. SES Americom must only operate AMC-1 in its authorized TT&C frequencies during drift of the space station from the 103.0° W.L. orbital location to the 129.15° W.L. orbital location.
- 3. SES must coordinate operations of AMC-1 with existing geostationary space stations to ensure that no unacceptable interference results from the use of the TT&C frequencies during drift to the 129.15° W.L. orbital location.
- 4. All operations at the 129.15° W.L. orbital location must be on an unprotected and non-harmful interference basis, *i.e.*, SES Americom must not cause harmful interference to, and must not claim protection from interference caused to it by, any other lawfully operating station. In the event of any harmful interference, SES Americom must cease operations immediately upon notification of such interference, and must inform the Commission, in writing, immediately of such an event.
- 5. In connection with the provision of service in any particular country, SES Americom is obliged to comply with the applicable laws, regulations, rules, and licensing procedures of that country.
- 6. SES Americom must maintain the AMC-1 space station within an east/west longitudinal station-keeping tolerance of \pm 0.05 degrees of the 129.15° W.L. orbital location.
- 7. SES Americom must operate AMC-1 at the 129.15° W.L. orbital location in accordance with any existing and future coordination agreements for this location.
- 8. This authorization is issued with the understanding that, to the extent SES Americom and its affiliated companies, pursuant to any arrangement with the Gibraltar Regulatory Authority, conforms its operations to any parameters agreed to in coordination agreements between the Gibraltar Regulatory Authority and other Administrations, responsibility for both compliance with, and enforcing compliance with, those arrangements and agreements is a matter that would arise under private law.
- 9. This authorization is issued with the understanding that the United States remains the licensing Administration of the AMC-1 space station and its communications payloads for purposes of ITU Radio Regulation 18.1, and is the administration responsible for the operations of AMC-1. Any operations of AMC-1 at the 129.15° W.L. orbital location outside of the United States are pursuant to ITU Radio Regulation 4.4. The U.S. Administration will not object to use of the AMC-1 satellite by the Gibraltar Regulatory Authority for claiming bringing into use or continuing the use of orbital assignments at 129.15° W.L. This grant does not in any way express a view concerning, or agreement as to, the validity or lack of validity of any ITU filing at or in the vicinity of the 129.15° W.L. orbital location.

⁴ Specifically the International Telecommunication Union (ITU) GIBSAT-129W filing . See AMC-1 Supplement.

- 10. This authorization is issued with the understanding that, with respect to its filings with the International Telecommunication Union (ITU) for the 129.15° W.L. orbital location, the Administration of Gibraltar is not acting pursuant to Article 9 of the Radio Regulations on behalf of the United States Administration.
- 11. This authorization is issued with the understanding that this grant is not an approval of any specific arrangement entered into by SES Americom, its subsidiaries and affiliates, nor of any specific provision of any such arrangement concerning operation of the AMC-1 space station, nor is this grant an approval of an arrangement/agreement concerning any related matter, nor of any specific provision of any such arrangement/agreement concerning any related matter.
- 12. Grant of this authorization does not convey to SES Americom any authority to operate a space station at the 129.15° W.L. orbital location beyond the term granted herein, nor any status in the United States satellite licensing process relative to applications for authority to operate a regularly authorized satellite at this orbital position.
- 13. The operations of AMC-1 and associated earth stations must comport with the applicable uplink limits in 47 C.F.R. §§ 25.211, 25.212, 25.218, 25.222, 25.226, and/or 25.227, and the downlink limit in 47 C.F.R. § 25.212(c)(2). These limits cannot be exceeded unless SES Americom coordinates any non-conforming operation with the operations of U.S.-licensed GSO space stations within 6 degrees of 129.15° W.L. Non-conforming operation must also be coordinated with respect to those operations of non-U.S.-licensed space stations within 6 degrees of 129.15° W.L. involving approved communications with U.S.-licensed earth stations.
- 14. SES Americom's request for a waiver of Section 25.114(c)(vi)(A) of the Commission's rules, 47 C.F.R. § 25.114(c)(vi)(A), is granted. Section 25.114(c)(vi)(A) requires applicants to provide predicted space station antenna gain contour(s) for each transmit and each receive antenna beam and nominal orbital location requested. The main purpose of the contour map is to allow evaluation of the potential for harmful interference with other operators and services in the frequency band. SES Americom states that it did not provide gain information for the global horn antenna in accordance with Section 25.114(c)(vi)(A) because the space station manufacturer did not provide data for this antenna in the required format. We find that the gain vs. off-set angle information is provided as Figure A-8 in Annex A of the Technical Appendix, together with the descriptive characterization provided on page 4 of the Technical Appendix, provide a sufficiently complete description of the global horn antenna on the AMC-1 space station to enable the Commission to determine whether the AMC-1 space station meets the Commission's technical requirements.⁵
- 15. SES Americom's request for a waiver of Section 25.202(g) of the Commission's rules, 47 C.F.R. § 25.202(g), is granted. Section 25.202(g) requires "telemetry, tracking and command (TT&C) functions for U.S. domestic satellites must be conducted at either or both edges of the allocated band(s). Frequencies, polarization and coding must be selected to minimize interference into other satellite networks and within their own satellite system." SES Americom requests this waiver for the proposed use of command carriers in the C-band center frequency of 6423.5 MHz and telemetry carriers in the C-band center frequencies of 3700.5 MHz

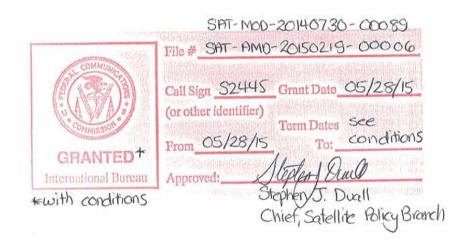
3

⁵ See AMC-1 129.15° W.L. Amendment, Technical Appendix at 4 and Annex A, Figure A-8.

and 4199.5 MHz (space-to-Earth) because these TT&C operations occur at the band edges of an FSS band other than the Ku-band in which it is providing service. This waiver is based upon the following findings: (a) AMC-1 was designed to operate with both service links and TT&C functions in the C-band; (b) SES Americom will coordinate C-band TT&C operations of AMC-1 with adjacent satellite operators operating in the C-band; (c) AMC-1 will use TT&C configurations necessary to facilitate coordination with nearby spacecraft, including the operation of its command carrier and upper telemetry carrier using polarizations opposite to those of Galaxy 12 to take advantage of cross polarization isolation.

As a condition of this waiver, SES Americom must accommodate future space station networks that are compliant with Section 25.202(g). Further, SES Americom must operate AMC-1 pursuant to any existing or future coordination agreements for this location.

- 16. Nothing in this authorization extends the license term for this space station, Call Sign S2445, which expires on October 15, 2016.
- 17. SES Americom is afforded thirty days from the date of this action to decline this authorization as conditioned. Failure to respond within this period will constitute formal acceptance of the authorization as conditioned.
- 18. This action is issued pursuant to Section 0.261 of the Commission's rules on delegated authority, 47 C.F.R. § 0.261, and is effective immediately. Petitions for reconsideration under Section 1.106 or applications for review under Section 1.115 of the Commission's rules, 47 C.F.R. §§ 1.106, 1.115, may be filed within 30 days of the date of the public notice indicating that this action was taken.



9-16. Name of Contact Representative

Name:

Karis A. Hastings

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DC

Country:

USA

Zipcode:

20004 -

Attention:

Relationship:

CLASSIFICATION OF FILING

17. Choose the button next to the classification that applies to this filing for both questions a. and b. Choose only one for 17a and only one for 17b.

o al. Earth Station

a2. Space Station

(N/A) b1. Application for License of New Station

(N/A) b2. Application for Registration of New Domestic Receive-Only Station

6 b3. Amendment to a Pending Application

6 b4. Modification of License or Registration

b5. Assignment of License or Registration

b6. Transfer of Control of License or Registration

6 b7. Notification of Minor Modification

(N/A) b8. Application for License of New Receive-Only Station Using Non-U.S. Licensed Satellite

(N/A) b9. Letter of Intent to Use Non-U.S. Licensed Satellite to Provide Service in the United States

(N/A) b10. Other (Please specify)

(N/A) b11. Application for Earth Station to Access a Non-U.S.satellite Not Currently Authorized to Provide the Proposed Service in the Proposed Frequencies in the United States

(N/A) b12. Application for Database Entry

6 b13. Amendment to a Pending Database Entry Application

o b14. Modification of Database Entry

1 	159. If No, indicate reason for fee exemption ((see 47 C.F.R.Section 1.1114).
O Governmental Entity Noncomme	ercial educational licensee	
Other(please explain):		
17d.		·
Fee Classification BFY - Space Station M	Iodification(Geostationary)	
18. If this filing is in reference to an existing station, enter:	19. If this filing is an amendment to a pending modification please enter only the file number:	
(a) Call sign of station:	(a) Date pending application was filed:	(b) File number:
S2445		SATMOD2011071800130

TYPE OF SERVICE

20. NATURE OF SERVICE: This filing is for an authorization to provide	or use the following type(s) of service(s): Select all that apply:
a. Fixed Satellite	
b. Mobile Satellite	
c. Radiodetermination Satellite	
d. Earth Exploration Satellite	
e. Direct to Home Fixed Satellite	
f. Digital Audio Radio Service	
g. Other (please specify)	
21. STATUS: Choose the button next to the applicable status. Choose	22. If earth station applicant, check all that apply.
only one.	Using U.S. licensed satellites
O Common Carrier Non-Common Carrier	Using Non-U.S. licensed satellites
23. If applicant is providing INTERNATIONAL COMMON CARRIER so facilities:	ervice, see instructions regarding Sec. 214 filings. Choose one. Are these
O Connected to a Public Switched Network Not connected to a I	Public Switched Network N/A
24. FREQUENCY BAND(S): Place an 'X' in the box(es) next to all ap	oplicable frequency band(s).
x a. C-Band (4/6 GHz) x b. Ku-Band (12/14 GHz)	
c.Other (Please specify upper and lower frequencies in MHz.)	
Frequency Lower: Frequency Upper: (Please specify addition	nal frequencies in an attachment)

TYPE OF STATION

CLASS OF STATION: Choose the button next to the class of station that applies. Choose only one.	
a. Fixed Earth Station	
b. Temporary-Fixed Earth Station	
c. 12/14 GHz VSAT Network	
d. Mobile Earth Station	
e. Geostationary Space Station	
f. Non-Geostationary Space Station	
g. Other (please specify)	
TYPE OF EARTH STATION FACILITY:	
Transmit/Receive Transmit-Only Receive-Only N/A	
r Space Station applications, select N/A."	

PURPOSE OF MODIFICATION

27. The purpose of this proposed modification is to: (Place an 'X' in the box(es) next to all that apply.)
a — authorization to add new emission designator and related service b — authorization to change emission designator and related service
c — authorization to increase EIRP and EIRP density
d — authorization to replace antenna e — authorization to add antenna
f — authorization to relocate fixed station g — authorization to change frequency(ies)
h — authorization to add frequency
i — authorization to add Points of Communication (satellites & Damp; countries) j — authorization to change Points of Communication (satellites & Damp; countries)
k — authorization for facilities for which environmental assessment and radiation hazard reporting is required
I — authorization to change orbit location m — authorization to perform fleet management
n — authorization to extend milestones
o Other (Please specify)

ENVIRONMENTAL POLICY

28. Would a Commission grant of any proposal in this application or amendment have a significant environmental impact as defined by 47 CFR 1.1307? If YES, submit the statement as required by Sections 1.1308 and 1.1311 of the Commission's rules, 47 C.F.R. 1.1308 and 1.1311, as an exhibit to this application. A Radiation Hazard Study must accompany all applications for new transmitting facilities, major modifications, or major amendments.	0	Yes	•	No		
ALIEN OWNERSHIP Earth station applicants not proposing to provide broadcast, common carrier, aerona aeronautical fixed radio station services are not required to respond to Items 30–34.	utic	al en	rou	te or		
29. Is the applicant a foreign government or the representative of any foreign government?	0	Yes	•	No		
30. Is the applicant an alien or the representative of an alien?	0	Yes	•	No	0	N/A
31. Is the applicant a corporation organized under the laws of any foreign government?	0	Yes	•	No	0	N/A
32. Is the applicant a corporation of which more than one—fifth of the capital stock is owned of record or voted by aliens or their representatives or by a foreign government or representative thereof or by any corporation organized under the laws of a foreign country?	0	Yes	•	No	0	N/A

33. Is the applicant a corporation directly or indirectly controlled by any other corporation of which more than one—fourth of the capital stock is owned of record or voted by aliens, their representatives, or by a foreign government or representative thereof or by any corporation organized under the laws of a foreign country?	● Yes ○ No ○ N/A
34. If any answer to questions 29, 30, 31, 32 and/or 33 is Yes, attach as an exhibit an identification of the aliens or foreign entities, their nationality, their relationship to the applicant, and the percentage of stock they own or vote.	Exhibits A and B
BASIC QUALIFICATIONS 35. Does the Applicant request any waivers or exemptions from any of the Commission's Rules? If Yes, attach as an exhibit, copies of the requests for waivers or exceptions with supporting documents.	
36. Has the applicant or any party to this application or amendment had any FCC station authorization or license revoked or had any application for an initial, modification or renewal of FCC station authorization, license, or construction permit denied by the Commission? If Yes, attach as an exhibit, an explination of circumstances.	Yes No

37. Has the applicant, or any party to this application or amendment, or any party directly or indirectly controlling the applicant ever been convicted of a felony by any state or federal court? If Yes, attach as an exhibit, an explination of circumstances.	O Yes	⊚ No
38. Has any court finally adjudged the applicant, or any person directly or indirectly controlling the applicant, guilty of unlawfully monopolizing or attempting unlawfully to monopolize radio communication, directly or indirectly, through control of manufacture or sale of radio apparatus, exclusive traffic arrangement or any other means or unfair methods of competition? If Yes, attach as an exhibit, an explanation of circumstances	O Yes	⊚ No
39. Is the applicant, or any person directly or indirectly controlling the applicant, currently a party in any pending matter referred to in the preceding two items? If yes, attach as an exhinit, an explanation of the circumstances.	O Yes	⊚ No
40. If the applicant is a corporation and is applying for a space station license, attach as an exhibit the names, address, and citizenship of those stockholders owning a record and/or voting 10 percent or more of the Filer's voting stock and the percentages so held. In the case of fiduciary control, indicate the beneficiary(ies) or class of beneficiaries. Also list the names and addresses of the officers and directors of the Filer.	GIMS Containe	er

41. By checking Yes, the undersigned certifies, that neither applicant nor any other party to the application is subject to a denial of Federal benefits that includes FCC benefits pursuant to Section 5301 of the Anti–Drug Act of 1988, 21 U.S.C. Section 862, because of a conviction for possession or distribution of a controlled substance. See 47 CFR 1.2002(b) for the meaning of "party to the application" for these purposes.	Yes	O No
42a. Does the applicant intend to use a non-U.S. licensed satellite to provide service in the United States? If Yes, answer 42b and attach an exhibit providing the information specified in 47 C.F.R. 25.137, as appropriate. If No, proceed to question 43.	O Yes	⊚ No
42b. What administration has licensed or is in the process of licensing the space station? If no license will be issued, we coordinated or is in the process of coordinating the space station?	hat administi	ration has

43. Description. (Summarize the nature of the application and the services to be provided). (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

SES Americom, Inc. hereby applies for a modification of the license for its AMC-1 spacecraft, call sign S2445, to reassign the satellite to 47.5 degrees W.L. +/- 0.15 degrees.

Narr and Tech App

43a. Geographic Service Rule Certification By selecting A, the undersigned certifies that the applicant is not subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25.	A
By selecting B, the undersigned certifies that the applicant is subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25 and will comply with such requirements.	O B
By selecting C, the undersigned certifies that the applicant is subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25 and will not comply with such requirements because it is not feasible as a technical matter to do so, or that, while technically feasible, such services would require so many compromises in satellite design and operation as to make it economically unreasonable. A narrative description and technical analysis demonstrating this claim are attached.	o c

CERTIFICATION

The Applicant waives any claim to the use of any particular frequency or of the electromagnetic spectrum as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and requests an authorization in accordance with this application. The applicant certifies that grant of this application would not cause the applicant to be in violation of the spectrum aggregation limit in 47 CFR Part 20. All statements made in exhibits are a material part hereof and are incorporated herein as if set out in full in this application. The undersigned, individually and for the applicant, hereby certifies that all statements made in this application and in all attached exhibits are true, complete and correct to the best of his or her knowledge and belief, and are made in good faith.

14. Applicant is a (an): (Choose the button next to app	oncable response.)	
O Individual		
O Unincorporated Association		
O Partnership		
⊚ Corporation		
O Governmental Entity		
Other (please specify)		
~		*
45. Name of Person Signing	46. Title of Person Signing	
45. Name of Person Signing Daniel C.H. Mah	46. Title of Person Signing Regulatory Counsel	

(U.S. Code, Title 18, Section 1001), AND/OR REVOCATION OF ANY STATION AUTHORIZATION (U.S. Code, Title 47, Section 312(a)(1)), AND/OR FORFEITURE (U.S. Code, Title 47, Section 503).

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