

FCC APPLICATION FOR SPACE AND EARTH STATION:MOD OR AMD - MAIN FORM	FCC Use Only
FCC 312 MAIN FORM FOR OFFICIAL USE ONLY	

APPLICANT INFORMATION

Enter a description of this application to identify it on the main menu:
AMC-15 Ku-band circular polarization amendment - April 2003

1-8. Legal Name of Applicant

Name:	SES Americom, Inc.	Phone Number:	609-987-4187
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Attention:	Nancy J. Eskenazi		

see also file #S
SAT-LOA-20030219-0013
SAT-AMD-20040615-00117
SAT-MOD-20030214-00011
SAT-STA-20040622-00118



File # SAT-AMD-20030422-00869

Call Sign S2180 Grant Date 8/18/04
(or other identifier)

Term Dates
From launch To launch plus 15 years - see condition 10

Approved: [Signature] Policy Branch Chief
w/conditions.

Attachment
Terms and Conditions of Authorization
August 18, 2004

1. SES Americom, Inc.'s ("SES Americom") applications, SAT-LOA-20030219-00013 (and amendment File Nos. SAT-AMD-20030422-00069 and SAT-AMD-20040615-00117) and File No. SAT-MOD-20030214-00011, Call Sign S2180, ARE GRANTED. Accordingly, SES Americom is authorized to launch and operate its Americom-15 ("AMC-15") hybrid Ka/Ku-Band satellite at the 105° W.L. orbital location in the 11.7-12.2 GHz, 14.0-14.5 GHz, 18.6-18.8 GHz, 19.7-20.2 GHz, 28.4-28.6 GHz, and 29.5-30.0 GHz frequency bands in accordance with the terms, conditions, and technical specifications set forth in its applications, this Attachment, and the Federal Communication Commission's ("Commission") Rules.

2. SES Americom's Ka-band system authorization¹ IS MODIFIED to reflect its relinquishment of three orbital location assignments (17° W.L., 56° E.L., and 114.5° E.L.) and deletion of authority to operate intersatellite links. SES Americom's Ka-band system authorization IS MODIFIED to reflect orbital location assignments of 85° W.L. and 105° W.L. only. The AMC-15 satellite is authorized to operate its service links in the following Ka-band frequencies: 18.6-18.8 GHz and 19.7-20.2 GHz downlinks (right-hand circular polarization, or RHCP) and 28.4-28.6 GHz and 29.5-30.0 GHz uplinks (left-hand circular polarization, or LHCP).²

3. SES Americom is authorized to operate the AMC-15 satellite's Ka-band Tracking, Telemetry, and Command (TT&C) beacon with right-hand circular polarization in the frequency band 18.58185 GHz – 18.58215 GHz.

4. AMC-15 must be constructed, launched, and placed into operation in accordance with the technical parameters and terms and conditions of this authorization by the time periods specified in GE American Communications, Inc., Request for Extension of Time to Construct, Launch, and Operate a Ka-band Satellite System in the Fixed Satellite Service, *Order and Authorization*, 16 FCC Rcd 11038 (2001).

5. SES Americom's request for a waiver of the cross-polarization isolation requirements, contained in Section 25.210 (i) of the Commission's rules IS GRANTED. Section 25.210(i) requires that the ratio of the on-axis co-polar gain to the cross-polar gain of the antenna in the assigned frequency band be at least 30 dB within its primary coverage area. SES Americom maintains that in the AMC-15's Ka-band frequencies, this ratio is at least 25 dB throughout 90%

¹ See GE American Communications, Inc. Application for Authority to Construct, Launch, and Operate a Ka-band Satellite System in the Fixed Satellite Service, *Order and Authorization*, 12 FCC Rcd 6475 (1997); GE American Communications, Inc. Application for Authority to Construct, Launch, and Operate a Ka-band Satellite System in the Fixed Satellite Service, *Order and Authorization*, 16 FCC Rcd 2461 (2001); and GE American Communications, Inc., Request for Extension of Time to Construct, Launch, and Operate a Ka-band Satellite System in the Fixed Satellite Service, *Order and Authorization*, 16 FCC Rcd 11038 (2001) (collectively, "Ka-band system authorization").

² This amounts to an overall reduction of 600 megahertz in bandwidth from what the Commission previously authorized for SES Americom's Ka-band service links (call sign S2180). Previously, SES Americom was authorized to operate in the following frequencies: service uplinks in 28.35-28.6 GHz and 29.25-30.0 GHz (LHCP) and service downlinks in 18.3-18.8 and 19.7-20.2 GHz (RHCP). See *id.*

of the spacecraft's coverage area, and a minimum of 23 dB in the remaining 10% of the coverage area. Although AMC-15 does not fully conform to the standard set forth in Section 25.210(i) of the Commission's rules, we agree with SES Americom's assertions that failure to meet the cross-polarization isolation requirements will not adversely impact any other operator, and that the only party to suffer an increase in interference would be SES Americom itself. We further concur that grant of a waiver will serve the public interest by permitting SES Americom to optimize the design of the AMC-15 spacecraft without creating unacceptable losses in signal quality or unduly adding to the spacecraft's weight, complexity or cost and is consistent with previous Commission actions.³

6. SES Americom's request for any waiver of the Commission's rules necessary to permit the AMC-15 to employ orthogonal circular polarization on the Ku-band payload is DISMISSED as MOOT.⁴

7. SES Americom is authorized to provide direct-to-home services over the AMC-15 satellite, in both the Ka- and Ku-bands, in accordance with SES Americom, Inc., Applications for Modification of Fixed-Satellite Service Space Station Licenses, *Order and Authorization*, 18 FCC Rcd 16589 (2003).

8. SES Americom shall prepare the necessary information, as may be required, for submission to the International Telecommunication Union ("ITU") to initiate and complete the advance publication, international coordination, due diligence, and notification process of this space station, in accordance with the ITU Radio Regulations. SES Americom shall be held responsible for all cost recovery fees associated with these ITU filings. We also note that no protection from interference caused by radio stations authorized by other administrations is guaranteed unless coordination and notification procedures are timely completed or, with respect to individual administrations, by successfully completing coordination agreements. Any radio station authorization for which coordination has not been completed may be subject to additional terms and conditions as required to effect coordination of the frequency assignments of other administrations. *See* 47 C.F.R. § 25.111(b).

9. In order to ensure continuity of service in the Ku-band at the 105° W.L. orbital location, SES Americom must begin providing Ku-band service at the 105° W.L. orbital location before the satellite it is replacing discontinues service at the 105° W.L. orbital location.⁵

³ *See, e.g.,* New Skies Satellites, N.V., Petition for Declaratory Ruling, *Order*, 17 FCC Rcd 10369 at para. 19 (2002) and SES Americom, Inc., Application to Launch and Operate the Americom-23 hybrid C/Ku/Extended Ku-Band Satellite, File No. SAT-LOA-20031218-00358, granted July 13, 2004.

⁴ As a result of rule revisions made in the *First Space Station Reform Order*, operation of orthogonally polarized Ku-band transmissions is now consistent with the Commission's rules. *See* Amendment of the Commission's Space Station Licensing Rules and Policies, *First Report and Order*, IB Docket No. 02-34, 18 FCC Rcd 10760 at 10859-63 (2003).

⁵ The GSTAR 4 satellite previously operated in the Ku-band at the 105° W.L. orbital location. In October 2003, the Satellite Division granted SES Americom's request for special temporary authority to move the GSTAR 4 satellite from the 105° W.L. orbital location to the 165° W.L. orbital location, and later granted SES Americom authority to perform end of life maneuvers, boosting the GSTAR 4 satellite into a disposal orbit above the geostationary arc. (Satellite Policy Branch Information, *Public Notice*, Report No. SAT-00171, rel. Oct. 10, 2003 and SES Americom, Inc., Application for Special Temporary Authority to Continue to Operate the TT&C Systems of GSTAR 4 During Deorbit Maneuvers, File No. SAT-STA-20040128-00007 and Policy Branch Information, *Public Notice*, Report No. SAT-00191, rel. Feb. 9, 2004). Prior to the GSTAR 4 relocation, the Commission granted SES Americom temporary authority to drift the AMC-2 satellite from 85° W.L. to the 105° W.L. orbital location and provide Ku-band service at that

10. The license term for the AMC-15 satellite, Call Sign S2180, is fifteen years and will begin to run on the date that SES Americom certifies to the Commission that the satellite has been successfully placed into orbit and its operation fully conforms to the terms and conditions of this authorization.

11. SES Americom must provide a written statement to the Commission within 60 days of the date of this grant that identifies any known satellites located at, or planned to be located at, SES Americom's assigned orbital location, or assigned in the vicinity of that location such that the station-keeping volume of the respective satellites might overlap, and that states the measures that will be taken to prevent in-orbit collisions with such satellites. This statement should address any licensed FCC systems, or any systems applied for and under consideration by the FCC. The statement need not address every filing with the ITU that meets these criteria, but should assess and address any systems reflected in ITU filings that are in operation or that SES Americom believes may be progressing toward launch, *e.g.*, by the appearance of the system on a launch vehicle manifest. If SES Americom elects to rely on coordination with other operators to prevent in-orbit collisions, it shall provide a statement as to the manner in which such coordination will be effected.

12. SES Americom's request for Special Temporary Authority, (File No. SAT-STA-20040622-00118) IS GRANTED, and SES Americom is authorized to conduct in-orbit-testing of the AMC-15 satellite at the 136° W.L. orbital location for a 90-day period, consistent with the terms and specifications set forth in its application subject to the following conditions:

(a) SES Americom will coordinate its test operations with all potentially affected operating satellite networks;

(b) that no harmful interference shall be caused to any lawfully operating radiocommunication systems and SES Americom's operations shall cease immediately upon notification of such harmful interference. Further, SES Americom shall notify the Commission in writing that it has received such a notification within 14 days of receipt;

(c) SES Americom shall accept interference from any lawfully operating satellite network or radiocommunication system;

(d) testing authority is limited to those frequencies for which the AMC-15 satellite is authorized;

(e) this authorization is subject to change in any of its terms or cancellation in its entirety at any time upon reasonable notice, but without hearing, if in the opinion of the Commission, circumstances should require;

(f) this temporary authority shall commence on the date SES Americom launches the AMC-15 satellite, and will terminate 90 days from that date;


(g) SES Americom shall notify the Commission in writing no later than seven days after it has completed testing of AMC-15 and commenced the move of AMC-15 to its assigned orbital location of 105° W.L.

(h) this temporary authority is only for testing purposes and shall not be used for the provision of commercial service;

(i) any extension of this authorization must be requested and approved in writing.

13. SES Americom is afforded thirty days from the date of adoption of this grant and authorization to decline this authorization as conditioned. Failure to respond within this period will constitute formal acceptance of the authorization as conditioned.

14. This grant is issued pursuant to Section 0.261 of the Commission's rules on delegated authority, 47 C.F.R. § 0.261, and is effective upon adoption. 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.

 GRANTED International Bureau	File # <u>SAT-AMD-20030422-00069</u>
	Call # <u>SZ180</u> Date <u>8/18/04</u>
	(or other name) _____ Dates see condition 10 To: <u>15 yrs. from launch</u>
	From <u>launch</u> Approved: <u>[Signature]</u> Policy Branch w/ conditions. Chief

See also

File #s

SAT-LOA-20030219-00013

SAT-AMD-20040615-00117

SAT-MOD-20030214-00011

SAT-STA-20040622-00118