

Approved by OMB
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File Number: SAT-MOD-20040227-00022

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:
Ka-band AMC-16 modification application

1-8. Legal Name of Applicant

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Attention:	Nancy Eskenazi		

See also
File # SAT-RPL-20040227-00024



File # SAT-MOD-20040227-00022

Call Sign SZ181 Grant Date 9/2/04

(or other identifier) AMC-16

Term Dates

From see conditions To S

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

Attachment
Terms and Conditions of Authorization
September 2, 2004

1. SES Americom, Inc.'s ("SES Americom") applications, File Nos. SAT-RPL-20040227-00024 and. SAT-MOD-20040227-00022, Call Sign S2181, ARE GRANTED.¹ Grant of these applications modifies SES Americom's *Ka-Band System Authorization* at the 85° W.L. orbital location. Accordingly, SES Americom is authorized to launch and operate its Americom-16 ("AMC-16") hybrid Ka/Ku-Band satellite at the 85° W.L. orbital location in the 11.7-12.2 GHz (space-to-Earth), 14.0-14.5 GHz (Earth-to-space), 18.6-18.8 GHz (space-to-Earth, left-hand circular polarization, or LHCP), 19.7-20.2 GHz (space-to-Earth, LHCP), 28.4-28.6 GHz (Earth-to-space, right-hand circular polarization, or RHCP), and 29.5-30.0 GHz (Earth-to-space, RHCP) 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
2. SES Americom is authorized to operate the AMC-16 satellite's Ka-band Tracking, Telemetry, and Command (TT&C) beacon with left-hand circular polarization in the frequency band 18.58385 GHz – 18.58415 GHz.
3. AMC-16 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).
4. SES Americom's request for a waiver of the cross-polarization isolation requirements, contained in Section 25.210(i) of the Commission's rules with respect to the Ka-band operations of AMC-16 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-16's Ka-band frequencies, this ratio is at least 23 dB throughout the spacecraft's service area. Although AMC-16 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

¹ The Ka-band system authorization was originally granted in a series of orders issued in 1997 and 2001. 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); *Order and Authorization*, 16 FCC Rcd 2461 (2001); and *Order and Authorization*, 16 FCC Rcd 11038 (2001) (collectively, "*Ka-band System Authorization*"). SES Americom's *Ka-band System Authorization* was recently modified to reflect its relinquishment of three orbital location assignments (17° W.L., 56° E.L., and 114.5° E.L.), with the corresponding deletion of authority to operate inter-satellite links, and the overall reduction of 600 megahertz in bandwidth at the 105° W.L. orbital location. SES Americom applications, File No. SAT-LOA-20030219-00013, as amended by File Nos. SAT-AMD-20030422-00069 and SAT-AMD-20040615-00117, and modified by File No. SAT-MOD-20030214-00011, granted on August 18, 2004.

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 S2181). 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 (RHCP) and service downlinks in 18.3-18.8 and 19.7-20.2 GHz (LHCP). See *Ka-band System Authorization*.

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-16 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

5. SES Americom is authorized to provide direct-to-home services over the AMC-16 satellite, in both the Ka- and Ku-bands, consistent with the rationale outlined in SES Americom, Inc., Applications for Modification of Fixed-Satellite Service Space Station Licenses, *Order and Authorization*, 18 FCC Rcd 16589 (2003).

6. 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).

7. In order to ensure continuity of service in the Ku-band at the 85° W.L. orbital location, SES Americom must begin providing Ku-band service at the 85° W.L. orbital location before the satellite it is replacing discontinues service at the 85° W.L. orbital location.⁴

8. The license term for the AMC-16 satellite, Call Sign S2181, 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.

9. 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

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 SES Americom now operates the AMC-9 satellite at the 85° W.L. orbital location in the C and Ku-bands. SES Americom application, File No. SAT-LOA-20020114-00008, as amended by File Nos. SAT-AMD-20021108-00212 and SAT-AMD-20030722-00133, granted June 15, 2004. Following the launch of AMC-16, SES Americom seeks to relocate the AMC-9 satellite to the 83° W.L. orbital location, and to relocate the C-band satellite SATCOM C-4 to the 85° W.L. orbital location. File Nos. SAT-AMD-20040319-00041 and SAT-AMD-20040421-00084; *see also*, File No. SAT-MOD-20040504-00089.

in-orbit collisions, it shall provide a statement as to the manner in which such coordination will be effected.

10. 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.


11. 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.

File # SAT-MOD-20040227-0002

Call Sign 52181 = **Date** 9/2/04
(or other identifier) AMC-16

From see conditions **To:** tbw

Approved: [Signature]
w/conditions
Policy Branch Chief



GRANTED
International Bureau