

Approved by OMB
3060-0678

APPLICATION FOR EARTH STATION SPECIAL TEMPORARY AUTHORITY

APPLICANT INFORMATION Enter a description of this application to identify it on the main menu:
STA Request to use AeroSat Terminals with AMC-9 at 83 WL May 2017

1. Applicant

Name:	AC BidCo LLC	Phone Number:	312-517-5566
DBA Name:		Fax Number:	
Street:	111 N Canal St., Suite 1500	E-Mail:	melias@gogoair.com
City:	Chicago	State:	IL
Country:	USA	Zipcode:	60606
Attention:	Marguerite Elias		



File # SES-STA-20170505-00523
 Call Sign E120106 Grant Date 5-9-17
 (or other identifier)
 Term Dates From: 5-15-17 To: JAN-17
 Approved: Mel E. Elias

Applicant: AC BidCo LLC
Call Sign: E120106
File No.: SES-STA-20170505-00523
Special Temporary Authority



File # SES-STA-20170505-00523
Call Sign E120106 Grant Date 5-9-17
(or other identifier)
From: 5-15-17 Term Dates To: 7-14-17
Approved: Paul E. Blain

AC BidCo LLC (“AC BidCo”) is granted special temporary authority for a period of 60 days to operate up to 100 aeronautical terminals (0.24 meter AeroSat model HR6400) to communicate with AMC-9 (Call Sign S2434) at the 83° W.L. orbital location using the 14.0-14.5 GHz (Earth-to-space) and 11.7-12.2 GHz (space-to-Earth) frequency bands. Operations are subject to the following conditions:

1. Operation under this grant of special temporary authority must be on an unprotected and non-harmful interference basis, i.e., while operating under this temporary authority AC BidCo LLC must not cause harmful interference to, and must not claim protection from interference caused to it by, any other lawfully operating radiocommunication system. AC BidCo LLC must cease operations immediately upon notification of such interference and must immediately inform the Commission, in writing, of such an event.
2. Operation pursuant to this authorization must be in compliance with the terms of AC BidCo LLC’s coordination agreements with the National Science Foundation and the National Aeronautics and Space Administration pertaining to operation of ESAA in the Ku-Band.
3. Operation pursuant to this authorization outside the United States in the 14.0-14.5 GHz band must be in compliance with the provisions of Annex 1, Part C of Recommendation ITU-R M.1643, with respect to any radio astronomy station performing observations in the 14.47-14.5 GHz band.
4. When operating in international airspace within line-of-sight of the territory of a foreign administration where Fixed Service networks have a primary allocation in the 14.0-14.5 GHz band, an aircraft earth station must not operate in a manner that would produce predicted ground-level power flux density (pfd) in such territory in excess of the following values unless the foreign administration has imposed other conditions for protecting its FS stations: $-132 + 0.5 \times \text{THETA}$ dB(W/(m² MHz)) for $\text{THETA} \leq 40^\circ$; -112 dB(W/(m² MHz)) for $40^\circ < \text{THETA} \leq 90^\circ$. Where: THETA is the angle of arrival of the radio-frequency wave in degrees above the horizontal, and the aforementioned limits relate to the pfd and angles of arrival that would be obtained under free space propagation conditions.
5. Operation pursuant to this authorization must conform to the terms of coordination agreements between the operator of AMC-9 and operators of other Ku-band geostationary satellites within six angular degrees of AMC-9. In the event that another GSO Fixed-Satellite Service (FSS) space station commences operation in the 14.0-14.5 GHz band at a location within six degrees of any of these space stations, ESAA operating pursuant to this temporary authority shall cease transmitting to that space station unless and until such operation has been coordinated

2. Contact	
Name: Karis Hastings	Phone Number: 202-599-0975
Company: SatCom Law LLC	Fax Number:
Street: 1317 F Street, N.W. Suite 400	E-Mail: karis@satcomlaw.com
City: Washington	State: DC
Country: USA	Zipcode: 20004 -
Attention:	Relationship: Legal Counsel
(If your application is related to an application filed with the Commission, enter either the file number or the IB Submission ID of the related application. Please enter only one.)	
3. Reference File Number or Submission ID	
4a. Is a fee submitted with this application?	
<input checked="" type="radio"/> If Yes, complete and attach FCC Form 159. If No, indicate reason for fee exemption (see 47 C.F.R. Section 1.1114).	
<input type="radio"/> Governmental Entity <input type="radio"/> Noncommercial educational licensee	
<input type="radio"/> Other (please explain):	
4b. Fee Classification CGB - Mobile Satellite Earth Stations	
5. Type Request	
<input checked="" type="radio"/> Use Prior to Grant <input type="radio"/> Change Station Location <input type="radio"/> Other	
6. Requested Use Prior Date 05/15/2017	
7. CityMobile	
8. Latitude (dd mm ss.s h) 0 0 0.0	

9. State	10. Longitude (dd mm ss.s h) 0 0 0.0
11. Please supply any need attachments. Attachment 1: STA Narrative	Attachment 2: Attachment 3:
12. Description. (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)	<div style="border: 1px solid black; padding: 5px;"> <p>AC BidCo LLC respectfully requests special temporary authority for 60 days commencing on or before May 15, 2017 to allow up to 100 AeroSat model ESAA terminals to communicate with the U.S.-licensed AMC-9 satellite in the conventional Ku-band frequencies for service to North America, including the U.S. See attached narrative.</p> </div>
13. 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 <input checked="" type="radio"/> No <input type="radio"/>
14. Name of Person Signing Marguerite Elias	15. Title of Person Signing Exec. Vice President and General Counsel
WILLFUL FALSE STATEMENTS MADE ON THIS FORM ARE PUNISHABLE BY FINE AND / OR IMPRISONMENT (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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THE FOREGOING NOTICE IS REQUIRED BY THE PAPERWORK REDUCTION ACT OF 1995, PUBLIC LAW 104-13, OCTOBER 1, 1995, 44 U.S.C. SECTION 3507.

REQUEST FOR SPECIAL TEMPORARY AUTHORITY

AC BidCo LLC (“AC BidCo”), which holds a license to operate an earth station aboard aircraft (“ESAA”) network,¹ hereby requests special temporary authority (“STA”) for a period of 60 days commencing no later than May 15, 2017, to permit up to 100 AeroSat model HR6400 ESAA terminals to communicate in the conventional Ku-band with the U.S.-licensed AMC-9 satellite at 83° W.L.

Grant of the requested STA will serve the public interest by allowing AC BidCo to meet customer demand in U.S. airspace and ensure service quality by supplementing capacity currently being provided by the AMC-21 satellite. AC BidCo is preparing a modification application to add AMC-9 as an authorized point of communications, and seeks STA pending submission of and action on that application.

Background

AC BidCo is authorized to operate Ku-band terminals with specified satellites for ESAA service in U.S. airspace, foreign airspace, and the airspace over international waters. AC BidCo’s license was issued based on demonstration that the proposed network would enhance competition in the provision of in-flight broadband service to air travelers and airline crew members and that the planned operations were fully consistent with technical standards designed to ensure protection of other authorized communications networks. In order to enhance and expand its ESAA operations, AC BidCo is seeking authority to add AMC-9 as a point of communication.

STA Request

AC BidCo seeks STA to permit its AeroSat ESAA terminals to commence communications with AMC-9 pending submission of and action on its upcoming application to add AMC-9 to the AC BidCo ESAA License. Because AMC-9 is a U.S.-licensed satellite, full technical data regarding the satellite is already on file with the Commission,² and AC BidCo incorporates that information by reference herein. AC BidCo is also attaching a letter confirming that the proposed operations of the AeroSat terminals with AMC-9 are consistent with SES’s coordination agreements with operators of the satellites within six degrees on either

¹ See Call Sign E120106, File Nos. SES-MFS-20170109-00015 & SES-AFS-20170208-00139, granted in part and deferred in part Apr. 12, 2017 (the “AC BidCo ESAA License”).

² *SES Americom, Inc.*, Call Sign S2434, File No. SAT-MOD-20110621-00115, granted Aug. 25, 2011 (the “AMC-9 Grant”).

side of AMC-9. The technical parameters of AC BidCo's proposed operations with AMC-9 are consistent with those specified in the AC BidCo ESAA License.³

AC BidCo seeks authority to use AMC-9 capacity for ESAA operations on a primary basis in the 14-14.5 GHz uplink spectrum and the 11.7-12.2 GHz downlink spectrum, consistent with the AMC-9 License and the Commission's orders in the ESAA proceeding.⁴ Communications with the satellite will be supported by a teleport in Woodbine, MD, Call Sign E920698.

AMC-9 will primarily be used for coverage of the contiguous United States. AC BidCo requires access to this satellite to supplement capacity currently being provided on AMC-21 and ensure high quality service to travelers in U.S. airspace.

AC BidCo emphasizes that the scope of this STA request is limited. AC BidCo is only seeking authority to add AMC-9 as an authorized point of communication for a limited number of AeroSat ESAA terminals. AC BidCo is otherwise prepared to operate consistently with the terms and conditions set forth in the existing AC BidCo ESAA License. In addition, AC BidCo is willing to operate pursuant to the STA on an unprotected, non-harmful interference basis.

Grant of the requested STA is consistent with Commission policy and will not adversely affect other authorized operations. AC BidCo's proposed operations with AMC-9 are consistent with SES's coordination agreements with adjacent satellite operators and will also conform to the terms of AC BidCo's agreements with the National Science Foundation and the National Aeronautics and Space Administration. In addition, AC BidCo will comply with power flux density limits to protect terrestrial services outside the U.S.

Grant of the proposed STA will allow AC BidCo to supplement its existing capacity in response to customer demand on important air transport routes in U.S. airspace, promoting competition in the provision of aeronautical services and expanding the availability of in-flight broadband to air travelers and crew members.

³ Operations of the AeroSat ESAA terminals with AMC-9 will not involve any increase in the maximum off-axis EIRP density levels previously described to the Commission for those terminals.

⁴ *Revisions to Parts 2 and 25 of the Commission's Rules to Govern the Use of Earth Stations Aboard Aircraft Communicating with Fixed-Satellite Service Geostationary-Orbit Space Stations Operating in the 10.95-11.2 GHz, 11.45-11.7 GHz, 11.7-12.2 GHz and 14-14.5 GHz Frequency Bands*, Notice of Proposed Rulemaking and Report and Order, IB Docket Nos. 12-376 & 05-20, 27 FCC Rcd 16510 (2012); Second Report and Order and Order on Reconsideration, IB Docket No. 12-376, 29 FCC Rcd 4226 (2014).



Kimberly M. Baum
Vice President Spectrum Management & Development, Americas

Federal Communications Commission
International Bureau
445 12th Street, S.W.
Washington, D.C. 20554

5 May 2017

Subject: Engineering Certification of SES Americom, Inc. for the AMC-9 Satellite

To whom it may concern,

This letter confirms that SES is aware that AC BidCo LLC. ("AC BidCo"), licensed by the Federal Communications Commission ("FCC") as AC BidCo LLC, is planning to file an application seeking a modification to its blanket authorization (the "Modification Application") to operate technically identical Ku-band Earth Stations Aboard Aircraft ("ESAA") pursuant to ITU RR 5.504A and Section 25.227 of the Commission's rules (Call Sign E120106). The Modification Application will seek authority for AC BidCo's ESAA terminals to communicate with the AMC-9 satellite at 83° W.L., under the current ESAA rules, including Section 25.227.

Based upon the representations made to SES by AC BidCo concerning how it will operate on AMC-9 according to its letter dated May 5, 2017:

- SES certifies that it has completed coordination as required under the FCC's rules and that the power density levels specified by AC BidCo are consistent with any existing coordination agreements to which SES is a party with adjacent satellite operators within +/- 6 degrees of orbital separation from AMC-9.
- If the FCC authorizes the operations proposed by AC BidCo, SES will include the power density levels specified by AC BidCo in all future satellite network coordination with other operators of satellites adjacent to AMC-9.

Yours Sincerely,

Kimberly M. Baum

with the new space station's operator or AC BidCo LLC demonstrates that such operation will not cause harmful interference to the new co-frequency space station.

6. AC BidCo must operate in accordance with the off-axis EIRP spectral densities supplied to SES Americom, Inc. Intelsat in obtaining the satellite operator certification for AMC-9. AC BidCo shall automatically cease emissions within 100 milliseconds if the ESAA transmitter exceeds the off-axis EIRP spectral-densities supplied to the target satellite operator and transmission shall not resume until AC BidCo conforms to the off-axis EIRP spectral densities supplied to the target satellite operator.

7. AC BidCo LLC must take all necessary measures to ensure that the operation authorized does not create potential exposure of humans to radiofrequency radiation in excess of the FCC exposure limits defined in 47 CFR 1.1307(b) and 1.1310. Measures must be taken to ensure compliance with limits for both occupational/controlled exposure and for general population/uncontrolled exposure, as defined in these rule sections. Requirements for restrictions can be determined by predictions based on calculations, modeling or by field measurements. The FCC's OET Bulletin 65 (available on-line at [ww.fcc.gov/oet/rfsafety](http://www.fcc.gov/oet/rfsafety)) provides information on predicting exposure levels and on methods for ensuring compliance, including the use of warning and alerting signs and protective equipment for workers.

8. AC BidCo LLC must maintain a U.S. point of contact available 24 hours per day, seven days per week, with the authority and ability to terminate operations authorized herein. AC BidCo LLC must submit a letter to be included in its license file with the name and telephone number of the point of contact prior to commencing operation.

9. ESAA authorized herein must employ a tracking algorithm that is resistant to capturing and tracking adjacent satellite signals, and each station must be capable of inhibiting its own transmission in the event it detects unintended satellite tracking.

10. ESAA authorized herein must be monitored and controlled by a ground-based network control and monitoring center. Such stations must be able to receive "enable transmission" and "disable transmission" commands from the network control center and must cease transmission immediately after receiving a "parameter change" command until receiving an "enable transmission" command from the network control center. The network control center must monitor operation of each aircraft earth station to determine if it is malfunctioning, and each aircraft earth station must self-monitor and automatically cease transmission on detecting an operational fault that could cause harmful interference to a fixed satellite service network.

11. Stations authorized herein must not be used to provide air traffic control communications.

12. For each ESAA transmitter AC BidCo LLC shall maintain records of the following data for each operating ESAA, a record of the aircraft location (i.e., latitude/longitude/altitude), transmit frequency, channel bandwidth and satellite used shall be time annotated and maintained for a period of not less than one year. Records shall be recorded at time intervals no greater than one (1) minute while the ESAA is transmitting. The ESAA operator shall make this data available, in the form of a comma delimited electronic spreadsheet, within 24 hours of a request

from the Commission, NTIA, or a frequency coordinator for purposes of resolving harmful interference events. A description of the units (i.e., degrees, minutes, MHz . . .) in which the records values are recorded will be supplied along with the records.

13. Antenna elevation for all operations must be at least 5 degrees above the geographic horizon while the aircraft is on the ground.
14. AC BidCo LLC shall comply with any pertinent limits established by the International Telecommunication Union to protect other services allocated internationally.
15. In connection with the provision of service in any particular country, AC BidCo LLC is obliged to comply with the applicable laws, regulations, rules, and licensing procedures of that country.
16. Grant of this authorization is without prejudice to any determination that the Commission may make regarding pending or future applications from Ac BidCo LLC.
17. Any action taken or expense incurred as a result of operations pursuant to this special temporary authority is solely at AC BidCo LLC's risk.
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 Sections 1.115 of the Commission's rules, 47 C.F.R. §§ 1.106, 1.115, may be filed within thirty days of the date of the public notice indicating that this action was taken.