

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:
AC BidCo E120106 STA Request for Amazonas-2, T18V, and AsiaSat 9 May 2019

1. Applicant

Name:	AC BidCo LLC	Phone Number:	202-680-0576
DBA Name:		Fax Number:	
Street:	111 N Canal St., Suite 1500	E-Mail:	bgordon@gogoair.com
City:	Chicago	State:	IL
Country:	USA	Zipcode:	60606
Attention:	Bill Gordon		



File # SES-STA-20190513-00595
E120106
Call Sign 52449 Grant Date 5/24/19
(or other identifier)
Term Dates From: 5/24/19 To: 7/23/19
Approved: [Signature]

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 SESMFS2019030400227 or Submission ID			
4a. Is a fee submitted with this application?			
☒ If Yes, complete and attach FCC Form 159. If No, indicate reason for fee exemption (see 47 C.F.R. Section 1.1114). ☐ Governmental Entity ☐ Noncommercial educational licensee ☐ Other (please explain):			
4b. Fee Classification CGB - Mobile Satellite Earth Stations			
5. Type Request			
☒ Use Prior to Grant ☐ Change Station Location ☐ Other			
6. Requested Use Prior Date 05/24/2019			
7. City/Mobile		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.) AC BidCo LLC respectfully requests special temporary authority to allow ESAA terminals to communicate with the Amazonas-2, T18V, and AsiaSat 9 satellites. Authority is sought pending action on a modification application, File No. SES-MFS-20190304-00227, and amendment, File No. SES-AFS-20190401-00394, which seek to add these satellites as	
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 ☒ No ☐	
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.

12. Description

AC BidCo LLC respectfully requests special temporary authority to allow ESAA terminals to communicate with the Amazonas-2, T18V, and AsiaSat 9 satellites. Authority is sought pending action on a modification application, File No. SES-MFS-20190304-00227, and amendment, File No. SES-AFS-20190401-00394, which seek to add these satellites as authorized points of communications. See attached narrative.

Applicant: AC BidCo LLC
Call Sign: E120106
File No.: SES-STA-20190513-00595
Special Temporary Authority ("STA")



File # SES-STA-20190513-00595
E120106
Call Sign E120106 Grant Date 5-24-19
(or other identifier)
Term Dates
From: 5-24-19 To: 7-23-19
Approved: Paul E. Hines

AC BidCo LLC ("AC BidCo") is granted STA for 60 days to operate up to 100 earth station aboard aircraft (ESAA) Aerosat model HR6400 terminals and up to 100 ESAA ThinKom model 2Ku terminals to communicate with the Brazil-licensed Amazonas-2 satellite at 61°W orbital location, the Tonga-licensed Telstar 18 Vantage ("T18V") satellite at 138°E orbital location, and the China-licensed AsiaSat 9 satellite at the 122°E orbital location on frequency bands: 14000-14500 MHz (Earth-to-space) and 10950-11200 MHz, 11700-12200 MHz, 12200-12750 GHz (space-to-Earth). Operations must be in accordance with the technical specifications contained in AC BidCo's pending authorization IBFS File No. SES-MFS-20190304-00227, as amended by SES-AFS-20190401-00394, and are subject the following conditions:

1. Downlink (space-to-Earth) operations with: Amazonas-2 will be in the 10950-11200 and 11700-12200 GHz bands, T18V in the 11450-11700 GHz band, and AsiaSat9 in the 11700-12200 GHz, 10950-11700 GHz, and 12200-12750 GHz bands.
2. Operations are on an unprotected and non-harmful interference basis. AC BidCo must cease operations immediately upon notification of such interference and must immediately inform the Commission, in writing, of such an event.
3. Operation pursuant to this authorization must be in compliance with the terms of AC BidCo's coordination agreements with the National Science Foundation and the National Aeronautics and Space Administration pertaining to operation of ESAAs in the Ku-Band.
4. Operation pursuant to this authorization outside the United States in the 14.0-14.5 GHz band must comply 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.
5. 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 ESAA 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.
6. Operation pursuant to this authorization must conform to the terms of coordination agreements between the operators of Amazonas-2, T18V, and AsiaSat 9 and operators of other Ku-band geostationary satellites within six angular degrees of Amazonas-2, T18V, and AsiaSat9. 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 the Amazonas-2, T18V, and AsiaSat9 space stations, ESAAs operating pursuant to this temporary authority shall cease transmitting to that space station unless and until such operation has been coordinated with the new space station's operator or AC BidCo demonstrates that such operation will not cause harmful interference to the new co-frequency space station.

7. AC BidCo must operate in accordance with the off-axis EIRP spectral densities supplied to the subject satellite operators in obtaining the satellite operator certification for Amazonas-2, T18V, and AsiaSat 9 to AC BidCo's pending applications IBFS File No. SES-MFS-20190304-00227 and amendment SES-AFS-20190401-00394. 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.

8. AC BidCo 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 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.

9. The licensee shall ensure installation of terminals on aircraft by qualified installers who have an understanding of the antenna's radiation environment and the measures best suited to maximize protection of the general public and persons operating the aircraft and equipment. A terminal exhibiting radiation exposure levels exceeding 1.0 mW/cm^2 in accessible areas, such as at the exterior surface of the radome, shall have a label attached to the surface of the terminal warning about the radiation hazard and shall include thereon a diagram showing the regions around the terminal where the radiation levels could exceed 1.0 mW/cm^2 .

10. AC BidCo 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. The phone number is +1 866 943 4662, e-mail address in noc@gogoair.com, the street address is AC BidCo Network Operations Center, 111 North Canal Street, Chicago, IL 60606. AC BidCo 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.

11. ESAAs 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.

12. ESAAs 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 ESAA to determine if it is malfunctioning, and each ESAA must self-monitor and automatically cease transmission on detecting an operational fault that could cause harmful interference to a fixed satellite service network.

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

14. For each ESAA transmitter AC BidCo 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.

15. ESAAs on the ground must not transmit at elevation angles less than three degrees. There is no minimum angle of antenna elevation for ESAAs while airborne.

16. AC BidCo shall comply with any pertinent limits established by the International Telecommunication Union to protect other services allocated internationally.

17. In connection with the provision of service in any particular country, AC BidCo is obliged to comply with the applicable laws, regulations, rules, and licensing procedures of that country.

18. Grant of this authorization is without prejudice to any determination that the Commission may make regarding AC BidCo’s pending application IBFS File No. SES-MFS-20190304-00227 as amended by SES-AFS-2019040-00394.

19. Any action taken or expense incurred as a result of operations pursuant to this special temporary authority is solely at AC BidCo’s risk.

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

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 24, 2019, to add three satellites as points of communication for ESAA operations with up to 100 AeroSat model HR6400 ESAA terminals and up to 100 ThinKom model 2Ku terminals:

- the Brazil-licensed Amazonas-2 satellite at 61° W.L.;
- the Tonga-licensed Telstar 18 VANTAGE (“T18V”) satellite at 138° E.L.;
- and the China-licensed AsiaSat 9 satellite at 122° E.L.

AC BidCo seeks STA pending Commission action on AC BidCo’s applications to add these satellites as authorized points of communication.²

AC BidCo seeks authority for the ESAA terminals to communicate with these additional satellites consistent with the parameters set forth in the Modification and Amendment. Uplinks to all three satellites will be in the 14-14.5 GHz uplink spectrum. Downlink operations with Amazonas-2 will be in the 10.95-11.2 and 11.7-12.2 GHz bands, with T18V in the 11.45-11.7 GHz band, and with AsiaSat 9 in the 11.7-12.2 GHz, 10.95-11.7 GHz, and 12.2-12.75 GHz bands.³ Communications with these satellites will comply with applicable coordination agreements with adjacent satellites, as demonstrated by the supporting letters provided with the AC BidCo Application. The only departure from the specifications described in the AC BidCo Application is that communications with Amazonas-2 will commence with a different teleport, call sign E120043, than the one mentioned in the Amendment, which has not yet been authorized to communicate in Ku-band frequencies with Amazonas-2.⁴

As discussed in the Modification and Amendment, Amazonas-2, T18V, and AsiaSat 9 are all eligible for authority to communicate with U.S.-licensed ESAA terminals, and complete

¹ Call Sign E120106, File No. SES-MFS-20180813-02152, granted Nov. 8, 2018 (the “AC BidCo ESAA License”).

² See Call Sign E120106, File Nos. SES-MFS-20190304-00227 (the “Modification”) & SES-AFS-20190401-00394 (the “Amendment,” and collectively, the “AC BidCo Application”).

³ AC BidCo incorporates by reference herein its request for any necessary waiver of the U.S. Table of Allocations to permit use of the 12.2-12.75 GHz frequencies on AsiaSat 9 for ESAA operations outside of U.S. airspace. See Modification, Attachment at 7.

⁴ See Amendment, Attachment at 8 n.1 (identifying call sign E891020 as the teleport for use with Amazonas-2 once the license for that earth station has been amended to authorize communications with satellites on the Commission’s Permitted Space Station List in the conventional Ku-band frequencies).

technical information regarding the satellites is already on file with the Commission or is included with the AC BidCo Application. AC BidCo seeks authority to use Amazonas-2 capacity to serve North America; T18V to serve Australia, New Zealand, Indonesia, and Malaysia; and AsiaSat 9 to serve China. Only Amazonas-2 will be used in U.S. airspace.

Grant of the requested STA will serve the public interest by allowing AC BidCo to meet urgent demand for additional ESAA capacity in these regions. Allowing AC BidCo to add satellites to its ESAA network will enhance its ability to provide in-flight broadband service to air travelers and airline crew members, promoting competition in this important market. Moreover, the AC BidCo Application demonstrates that the planned operations are fully consistent with Commission technical standards designed to ensure protection of other authorized communications networks.

AC BidCo emphasizes that the scope of this STA request is limited. AC BidCo is only seeking authority to add satellites as authorized points of communication for a limited number of ESAA terminals and 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.

AC BidCo understands that any Commission grant of this STA will be without prejudice to the ultimate determination the Commission will make regarding the AC BidCo Application. In addition, AC BidCo acknowledges that any action taken pursuant to a grant of the requested STA will be at AC BidCo's own risk.

For the foregoing reasons, AC BidCo respectfully requests expedited grant of an STA to permit it to begin using the Amazonas-2, T18V, and AsiaSat 9 satellites to meet near-term demand for in-flight connectivity.