

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 Wider Bandwidth Nov 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		



GRANTED
International Bureau

File # SES-STA-20191112-01459
Call Sign E120106 Grant Date 11-26-19
(or other identifier)
Term Dates
From: 11-22-19 To: 1-31-20
Approved: Paul E. Hays

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 SESMFS2019111201456 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 12/02/2019	
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 for a period of 60 days beginning on or before December 2, 2019, to allow use of wider bandwidth emissions for a limited number of ESAA terminals. STA is sought pending action on a modification application seeking regular authority for these emissions, File No. SES-MFS-20191112-		
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.		
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 for a period of 60 days beginning on or before December 2, 2019, to allow use of wider bandwidth emissions for a limited number of ESAA terminals. STA is sought pending action on a modification application seeking regular authority for these emissions, File No. SES-MFS-20191112-01456. See Attachment.

Applicant: AC BidCo LLC
Call Sign: E120106
File No.: SES-STA-20191112-01459
Special Temporary Authority ("STA")



File # SES-STA-20191112-01459
Call Sign E120106 Grant Date 12/26/19
(or other identifier)
From: 12/2/19 To: 1/31/20
Approved: [Signature]

AC BidCo LLC ("AC BidCo") is granted Special Temporary Authority for 60 days, commencing on December 2, 2019, to operate up to 100 earth station aboard aircraft ("ESAA") terminals (0.74 meter ThinKom, model 2KuAntenna) to communicate with Anik F1R satellite, licensed by Canada, located at orbital location 107.3° W to provide ESAA service over United States and Canada airspace. Operations in the 14000-14500 MHz (Earth-to-space), 11700-12200 MHz (space-to-Earth) frequency bands are subject to the following conditions:

1. 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.
2. 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.
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 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.
5. Operation pursuant to this authorization must conform to the terms of coordination agreements between the operator of ANIK F1R and operators of other Ku-band geostationary satellites within six angular degrees of ANIK F1R. 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 this space station, 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.

6. AC BidCo must operate in accordance with the off-axis EIRP spectral densities supplied to Intelsat in obtaining the satellite operator certification for Anik F1R. 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 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.
8. 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/cm² 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/cm².
9. 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. 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.
10. ESAs 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.
11. Stations authorized herein must not be used to provide air traffic control communications.
12. ESAA (Ku-band frequencies only) on the ground must not transmit at elevation angles less than three degrees.
13. AC BidCo shall comply with any pertinent limits established by the International Telecommunication Union to protect other services allocated internationally.

14. 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.

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

16. Grant of this authorization is without prejudice to any determination that the Commission may make regarding pending FCC IBFS file number SES-MFS-20191112-01456 or future AC BidCo applications.

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 on or before December 2, 2019, to permit up to 100 ThinKom model 2Ku terminals to transmit in the conventional Ku-band uplink frequencies, 14.0-14.5 GHz, using a wider bandwidth carrier. AC BidCo seeks STA pending Commission action on its modification application that seeks to add an emission designator reflecting the wider bandwidth, among other changes.²

Grant of the requested STA will serve the public interest by allowing AC BidCo to test and evaluate network configurations that will provide greater throughput and accommodate more simultaneous users of in-flight connectivity services. AC BidCo seeks to assess these new configurations during peak demand conditions over the upcoming holiday season, but AC BidCo must first complete an initial set of tests to optimize the configuration. Grant of the STA by December 2 is needed to allow AC BidCo to perform these preliminary tests prior to the holiday travel season.

The Form 312 Schedule B included in the Modification sets forth the full technical parameters of the proposed operations, but they are provided in the following table as well for the Commission’s convenience:

E28. Antenna ID	E43/44 Frequency Bands (MHz)	E45 T/R Mode	E46 Antenna Polarization (H, V, L, R)	E47 Emission Designator	E48 Maximum EIRP per Carrier (dBW)	E49 Maximum EIRP Density Per Carrier (dBW/4 kHz)
AES 2	14000-14500	T	Horizontal and Vertical	14M7G7D	47.25	11.56

AC BidCo emphasizes that the scope of this STA request is limited. Pending action on the Modification, AC BidCo is only seeking authority to use the wider bandwidth emissions with a limited number of ESAA terminals. AC BidCo is otherwise prepared to operate consistently with the terms and conditions set forth in its existing authorizations. 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 a wider bandwidth are

¹ Call Sign E120106, File No. SES-MFS-20190304-00227, granted July 22, 2019 (the “AC BidCo License”).

² See Call Sign E120106, File No. SES-MFS-20191112-01456 (the “Modification”).

consistent with the coordination agreements of its target 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 evaluate innovative approaches for satisfying growing demand for additional capacity and more reliable service, promoting competition in the provision of aeronautical services and expanding the availability of in-flight broadband to air travelers and crew members.

AC BidCo understands that any Commission grant of this STA will be without prejudice to the ultimate determination the Commission will make regarding the Modification. 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.

ANNEX 3: Satellite Company Letter



160 Elgin Street, Suite 2100
Ottawa, ON, Canada K2P 2P7
Tel: 613-748-8700

12 July 2019

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

Re: AC BidCo LLC Application for earth stations aboard aircraft ("ESAA") terminals

To Whom It May Concern:

This letter certifies that Telesat is aware that AC BidCo LLC ("AC BidCo") is planning to seek authorization from the Federal Communications Commission ("FCC") to operate Ku-band transmit/receive terminals AES1 and AES2 for the provision of Aeronautical Mobile Satellite Service (Call Sign E120106) and that AC BidCo seeks additional authorization for these aeronautical Ku-band earth stations to utilize the Anik F1R satellite at 107.3°W orbital location under the current FCC rules for Earth Stations Aboard Aircraft ("ESAA"), including Section 25.227.

Based on the information provided by AC BidCo, Telesat (i) certifies that the use of the ESAA transmit/receive terminals AES1 and AES2 by AC BidCo, installed and operated in accordance with the AC BidCo application and the above conditions, is consistent with the existing coordination agreements with all adjacent satellite operators within +/- 6 degrees from Anik F1R; and (ii) confirms that if the FCC authorizes the operations proposed by AC BidCo, Telesat will take into consideration the power density levels associated with such operations in future satellite network coordination with adjacent satellite operators.

Yours Sincerely,

A handwritten signature in black ink, appearing to be "B. Borna", enclosed within a large, loopy circular stroke.

BAHRAM BORNA
Senior Systems Engineer
Telesat