

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 Anik FIR August 2019

**I. Applicant**

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

60 days  
"With Conditions"

File # SES-STA-20190802-01016

Call Sign E2006 Grant Date 08/12/2019  
(or other identifier)

<sup>Term Dates</sup>  
From: 08/30/2019 To: 10/29/2019

Approved: [Signature]



<b>2. Contact</b>	
<b>Name:</b> Karis Hastings	<b>Phone Number:</b> 202-599-0975
<b>Company:</b> SatCom Law LLC	<b>Fax Number:</b>
<b>Street:</b> 1317 F Street, N.W. Suite 400	<b>E-Mail:</b> karis@satcomlaw.com
<b>City:</b> Washington	<b>State:</b> DC
<b>Country:</b> USA	<b>Zipcode:</b> 20004 -
<b>Attention:</b>	<b>Relationship:</b> 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 08/30/2019	
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 Anik F1R, call sign S2674, in the conventional Ku-band frequencies. Authority is sought pending submission of and action on a modification application that will seek to add Anik F1R as an authorized point of communications. See attached	
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"; 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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**12. Description**

AC BidCo LLC respectfully requests special temporary authority to allow ESAA terminals to communicate with Anik F1R, call sign S2674, in the conventional Ku-band frequencies. Authority is sought pending submission of and action on a modification application that will seek to add Anik F1R as an authorized point of communications. See attached narrative.

Applicant: AC BidCo LLC  
Call Sign: E120106  
File No.: SES-STA-20190802-01016  
Special Temporary Authority ("STA")

AC BidCo LLC ("AC BidCo") is granted Special Temporary Authority for 60 days to operate up to 100 earth station aboard aircraft ("ESAA") terminals (0.74 meter ThinKom, model 2KuAntenna) and up to 100 ESAA terminals (0.24 meter AeroSat model HR6400 antenna) to communicate with Canada-licensed Anik F1R 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/(m<sup>2</sup> MHz)) for  $\text{THETA} \leq 40^\circ$ ;  $-112$  dB(W/(m<sup>2</sup> 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 SES-3 and operators of other Ku-band geostationary satellites within six angular degrees of SES-3. 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 [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. 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<sup>2</sup> 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<sup>2</sup>.
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 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.
11. 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.
12. Stations authorized herein must not be used to provide air traffic control communications.

13. 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.

14. ESAA (Ku-band frequencies only) on the ground must not transmit at elevation angles less than three degrees.

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


16. 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.

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

18. Grant of this authorization is without prejudice to any determination that the Commission may make regarding pending 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.

*60 days* *"with conditions"*

 <b>GRANTED</b> International Bureau	File # <u>SES-STA-20190802-01016</u>
	Call Sign <u>EK26106</u> Grant Date <u>08/12/2019</u> (or other identifier)
	Term Dates From: <u>08/30/2019</u> To: <u>10/28/2019</u>
	Approved: <u><i>Paul E. Miles</i></u>



## REQUEST FOR SPECIAL TEMPORARY AUTHORITY

AC BidCo LLC (“AC BidCo”), which holds a license to operate an earth station aboard aircraft (“ESAA”) network,<sup>1</sup> hereby requests special temporary authority (“STA”) for a period of 60 days commencing no later than August 30, 2019, to permit up to 100 AeroSat model HR6400 ESAA terminals and up to 100 ThinKom model 2Ku terminals to communicate in the conventional Ku-band frequencies with the Canadian-licensed Anik F1R satellite, which has been authorized to serve the U.S. at 107.3° W.L.<sup>2</sup> Grant of the requested STA will serve the public interest by allowing AC BidCo to respond to customer demand for additional capacity on flights over the United States and Canada. AC BidCo is preparing an application to modify its ESAA license to add Anik F1R as an authorized point of communications and seeks STA pending submission of and action on that modification application.

### Background

AC BidCo is currently authorized to operate two types of Ku-band terminals, AeroSat model HR6400 antennas designated as AES1 on the AC BidCo License and ThinKom model 2Ku antennas designated as AES2 on the license, 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 preparing an application to modify the AC BidCo License to update the satellites authorized as points of communication for the AC BidCo network.

### STA Request

AC BidCo requests STA to commence communications with Anik F1R in the near term while it is completing preparation of the upcoming modification application. AC BidCo seeks authority to use Anik F1R 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 Anik F1R Authorization and with the Commission’s orders in the ESAA proceeding.<sup>3</sup> Communications with the satellite will be supported by a teleport in Brewster, WA, call sign E960222.

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

<sup>2</sup> Call Sign S2674, File No. SAT-PPL-20050504-00094, granted June 8, 2018, as corrected July 21, 2005 (the “Anik F1R Authorization”).

<sup>3</sup> *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*

Anik F1R will provide coverage of the United States and Canada. In support of this STA request, AC BidCo is attaching a letter confirming that operation of the AC BidCo ESAA terminals is consistent with coordination agreements with satellites operated within six degrees of Anik F1R.

The technical parameters of the proposed operations with Anik F1R are provided in the following table:

<b>Antenna</b>	<b>Maximum EIRP Density Per Carrier (dBW/4 kHz)</b>	<b>EIRP (dBW)</b>	<b>Emission Designators</b>
AES 1	13.58	44.5	As specified in the AC BidCo License
AES 2	29.52	54.3	As specified in the AC BidCo License

AC BidCo requires the ability to use additional capacity in the United States and Canada on an urgent basis to accommodate increased demand in that region. AC BidCo's existing North American space segment is heavily utilized, and adding Anik F1R will allow AC BidCo to supplement this capacity in order to ensure a high quality of service and allow AC BidCo to continue to compete effectively in the ESAA market.

AC BidCo emphasizes that the scope of this STA request is limited. AC BidCo is only seeking authority to add Anik F1R as an authorized point of communication for a limited number of ESAA terminals. AC BidCo is otherwise prepared to operate consistently with the terms and conditions set forth in the existing AC BidCo License. In addition, AC BidCo is willing to operate pursuant to the STA on an unprotected, non-harmful interference basis.

#### Public Interest Showing

Grant of the requested STA is consistent with Commission policy and will not adversely affect other authorized operations. AC BidCo's proposed operations with Anik F1R are consistent with Telesat'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

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*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).*

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 meet immediate demand for additional capacity over the United States and Canada, 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 AC BidCo's future modification 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.



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

12 July 2019

Federal Communications Commission  
International Bureau  
445 12<sup>th</sup> 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 scribble.

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BAHRAM BORNA  
Senior Systems Engineer  
Telesat