

2/16

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 for SES-3 Oct 2016

**1. Applicant**

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

*60 days*

*"With conditions"*

**60 days**  
  
**GRANTED**  
 International Bureau

**File #** SES-STA-20161027-00864

**Call Sign** E-120106 **Grant Date** 11/10/2016  
 (or other identifier)

**Term Dates**  
**From** 11/14/2016 **To** 01/12/2017

**Approved:** *Paul Elias*

Applicant: AC BidCo LLC  
Call Sign: E120106  
File No.: SES-STA-20161027-00864  
Special Temporary Authority

60 days

"With conditions"

File # SES-STA-20161027-00864

Call Sign E120106 Grant Date 11/10/2016  
(or other identifier)

Term Dates  
From 11/14/2016 To 01/12/2017

Approved: [Signature]



**GRANTED**  
International Bureau

AC BidCo LLC ("AC BidCo") is granted special temporary authority for a period of 60 days, beginning November 14, 2016, to operate up to 200 earth station aboard aircraft (ESAA) terminals (0.74 meter ThinKom, model 2KuAntenna) to communicate with the U.S. licensed satellite SES-3 (Call Sign S2892) located at orbital location 103° W.L. Operations are authorized using the 14.0-14.5 GHz (Earth-to-space) and 11.7-12.2 GHz (space-to-Earth) frequency bands. Operations must be in accordance with the technical specifications contained in AC BidCo's application, including those incorporated by reference from its pending application, IBFS File No. SES-MFS-20160824-00738/SES-AMD-20161004-00827, and are subject 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 SES Americom in obtaining the satellite operator certification for SES-3, attached as exhibits to AC BidCo's pending application, IBFS File No. SES-MFS-20160824-00738/SES-AMD-20161004. 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. 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.

11. 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.

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. Antenna elevation for all operations must be at least 5 degrees above the geographic horizon while the aircraft is on the ground.

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. Grant of this authorization is without prejudice to any determination that the Commission may make regarding pending application, IBFS File No. SES-MFS-20151022-00735.

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

19. 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.

60 days


"With conditions"

File # SES-STA-20161027-00864

Call Sign E120106 Grant Date 11/10/2016  
(or other identifier)

Term Dates  
From 11/14/2016 To 01/12/2017

Approved: [Signature]



**GRANTED**  
International Bureau

## 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 as soon as possible but no later than November 14, 2016, to permit up to 200 ESAA terminals to communicate in the conventional Ku-band with the U.S.-licensed SES-3 satellite located at 103° W.L.<sup>2</sup> Grant of the requested STA will serve the public interest by allowing AC BidCo to meet customer demand for additional capacity over North America, including in U.S. airspace. AC BidCo is preparing an application to add SES-3 as an authorized point of communications, and seeks STA pending submission of and action on that application.

### Background

AC BidCo is currently 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 preparing to seek authority to add SES-3 as a point of communication for its ESAA network.

### STA Request

AC BidCo seeks STA to commence communications with SES-3 in the near term to meet customer demand. Because SES-3 is U.S. licensed, full technical data regarding the satellite is already on file with the Commission,<sup>3</sup> and AC BidCo incorporates that information by reference herein. AC BidCo is also attaching a letter confirming that its proposed ESAA operations are consistent with SES’s coordination agreements with operators of the satellites within six degrees

---

<sup>1</sup> See Call Sign E120106, File No. SES-MFS-20151022-00735, granted June 30, 2016 (the “AC BidCo ESAA License”). The ESAA license was granted to Gogo (“Gogo”), a commonly-owned affiliate of AC BidCo. A *pro forma* assignment of the ESAA license from Gogo to AC BidCo was approved by the Commission and consummated earlier this year. See File No. SES-ASG-20160714-00659, granted July 19, 2016.

<sup>2</sup> AC BidCo is licensed for two ESAA terminals, the 0.24 meter AeroSat model HR6400 and the 0.74 meter ThinKom model 2Ku. AC BidCo seeks authority to use only the ThinKom antenna for communications with SES-3.

<sup>3</sup> *SES Americom, Inc.*, Call Sign S2892, File Nos. SAT-RPL-20121228-00227 & SAT-AMD-20131113-00132, grant-stamped Apr. 2, 2015 (“SES-3 License”).

on either side of SES-3. The technical parameters of the proposed operations with SES-3 are provided in the following table.<sup>4</sup>

<b>Antenna</b>	<b>Maximum EIRP Density Per Carrier (dBW/4 kHz)</b>	<b>EIRP (dBW)</b>	<b>Emission Designator</b>
AES2	15.8	42.6	3M00G7W

AC BidCo seeks authority to use SES-3 capacity for ESAA operations on a primary basis in the 14-14.5 GHz uplink spectrum and in the 11.7-12.2 GHz downlink spectrum, consistent with the SES-3 License and the Commission's orders in the ESAA proceeding.<sup>5</sup> Communications with the satellite will be supported by a teleport in Woodbine, MD, Call Sign E140059.

SES-3 will provide coverage of the Contiguous U.S., Hawaii, and parts of Alaska, Canada and Mexico. AC BidCo requires access to this capacity to ensure that it has sufficient bandwidth to meet near-term customer demand for in-flight connectivity.

AC BidCo emphasizes that the scope of this STA request is limited. AC BidCo is only seeking authority to add SES-3 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 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 SES-3 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, as required by the AC BidCo ESAA License.<sup>6</sup> In addition, AC BidCo will comply with power flux density limits to protect terrestrial services outside the U.S.

---

<sup>4</sup> Operations with SES-3 will not involve any increase in the maximum off-axis EIRP density levels previously described to the Commission for the ThinKom terminal.

<sup>5</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 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).

<sup>6</sup> AC BidCo ESAA License at 7, condition 90057.

Grant of the proposed STA will allow AC BidCo to respond to urgent customer demand for increased capacity on important air transport routes over the U.S. and the remainder of North America, 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 application to add SES-3 to the AC BidCo ESAA License. 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.

**2. Contact**

<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?

- 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  
11/14/2016

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; margin: 10px 0;">AC BidCo LLC respectfully requests special temporary authority for 60 days to allow up to 200 ESAA terminals to communicate with the U.S.-licensed SES-3 satellite in the conventional Ku-band frequencies for service to North America, including the U.S. See attached narrative.</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. <input checked="" type="radio"/> Yes <input type="radio"/> No	
14. Name of Person Signing Marguerite Elias	15. Title of Person Signing Exec. Vice President and General Counsel
<b>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).</b>	

**FCC NOTICE REQUIRED BY THE PAPERWORK REDUCTION ACT**

The public reporting for this collection of information is estimated to average 2 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the required data, and completing and reviewing the collection of information. If you have any comments on this burden estimate, or how we can improve the collection and reduce the burden it causes you, please write to the Federal Communications Commission, AMD-PERM, Paperwork Reduction Project (3060-0678), Washington, DC 20554. We will also accept your comments regarding the Paperwork Reduction Act aspects of this collection via the Internet if you send them to PRA@fcc.gov. PLEASE DO NOT SEND COMPLETED FORMS TO THIS ADDRESS.

Remember – You are not required to respond to a collection of information sponsored by the Federal government, and the government may not conduct or sponsor this collection, unless it displays a currently valid OMB control number or if we fail to provide you with this notice. This collection has been assigned an OMB control number of 3060-0678.

**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.**