

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 SES-15 Ext Ku Dec 2017

1. Applicant

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Attention: Marguerite Elias

File # SES-STA-20171222-01387
E120106
Call Sign (or other identifier)
Grant Date 1-10-18
Term Dates
From: 1-10-18 To: 3-17-18
Approved: [Signature]



GRANTED
International Bureau

Applicant: AC BidCo LLC
Call Sign: E120106
File No.: SES-STA-20171222-01387
Special Temporary Authority (STA)



File # SES-STA-20171222-01387
E120106
Call Sign E120106 Grant Date 1-10-18
(or other identifier)
Term Dates
From: 1-12-18 To: 3-13-18
Approved: [Signature]

AC BidCo LLC (“AC BidCo”) is granted STA for 60 days, beginning on January 12, 2018, to operate up to 50 AeroSat model HR6400 earth stations aboard aircraft (ESAA) terminals and up to 100 ThinKom model 2Ku Antenna ESAA terminals to communicate with the Gibraltar-licensed SES-15 satellite (Call Sign S2951) at the 129.15° W orbital location using 14.0-14.50 GHz (Earth-to-space) frequencies and 11.7-12.2 GHz (space-to-Earth) frequencies. AC BidCo is granted waiver of footnote NG52 to the Table of Allocations in Section 2.106 of the Commission’s rules, 47 C.F.R. § 2.106, to permit ESAA operations with the SES-15 satellite in the 10.7-10.95 GHz and 11.2-11.45 GHz frequency bands (space-to-Earth) on an unprotected, non-interference basis over North America and the Pacific Ocean, including for terminals in U.S. airspace. Operations are subject to the following additional conditions:

1. Operations shall not exceed the coordinated parameters. 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/(mA² MHz)) for $\text{THETA} \leq 40$; -112 dB(W/(mA² MHz)) for $40 < \text{THETA} \leq 90$. 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-15 and operators of other Ku-band geostationary satellites within six angular degrees of SES-15. 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, ESAAs operating pursuant to this temporary authority shall cease transmitting 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 in obtaining the satellite operator certification for SES-15, attached as an exhibit to the application. 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. 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.

8. 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 has specified the following contact information: +1 866-943-4662 and noc@AC BidCoair.com.

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

10. 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.

11. Antenna elevation for all operations must be at least three degrees above the geographic horizon while the aircraft is on the ground.
12. AC BidCo shall comply with any pertinent limits established by the International Telecommunication Union to protect other services allocated internationally.
13. 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.
14. Grant of this authorization is without prejudice to any determination that the Commission may make regarding AC Bidco's pending IBFS FCC File No. SES-MFS-20171220-01351 or future applications.
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. 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.

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 SESMFS2017122001351 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 01/12/2018	
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;">AC BidCo LLC respectfully requests special temporary authority for a period of 60 days beginning no later than January 12, 2018 to allow ESAA terminals to communicate in the extended Ku-band frequencies with the SES-15 satellite, call sign S2951, at 129.15 deg. W. L. 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. 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 January 12, 2018, to permit up to 50 AeroSat model HR6400 ESAA terminals and up to 100 ThinKom model 2Ku terminals to communicate in the 10.7-11.7 GHz extended Ku-band frequencies with the Gibraltar-licensed SES-15 satellite at 129.15° W.L. The Commission has authorized SES-15 to serve the U.S. in both the conventional and extended Ku-band frequencies,² and complete technical information regarding the satellite is therefore already on file with the Commission. 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 North America, including in U.S. airspace. AC BidCo seeks STA pending Commission action on AC BidCo’s application to modify its ESAA license, which includes a request to add SES-15 as an authorized point of communication.³

Background

AC BidCo is currently authorized to operate two types of 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 to modify the AC BidCo ESAA License to revise the satellites authorized as points of communication for the AC BidCo network and to update certain technical parameters.

STA Request

Pending action on the AC BidCo Modification Application, AC BidCo seeks STA to commence communications in the extended Ku-band with SES-15.⁴ The AC BidCo

¹ See Call Sign E120106, File No. SES-MFS-201700725-00793, granted Oct. 4, 2017 (the “AC BidCo ESAA License”).

² See *SES Satellites (Gibraltar) Limited*, Call Sign S2951, File Nos. SAT-PPL-20160126-00007, granted July 12, 2016; SAT-MPL-20160718-00063, granted Dec. 14, 2016; & SAT-MPL-20170914-00130, granted Nov. 22, 2017.

³ See Call Sign E120106, File No. SES-MFS-20171220-01351 (the “AC BidCo Modification Application”).

⁴ As discussed in the AC BidCo Modification Application, AC BidCo also plans to use conventional Ku-band capacity on SES-15 pursuant to Section 25.118(a)(3)(ii) of the

Modification Application contains complete technical information regarding AC BidCo's proposed operations with SES-15, and AC BidCo incorporates that information by reference herein. As described in the application, AC BidCo seeks to communicate with SES-15 in the 10.7-11.7 GHz extended Ku-band frequencies on an unprotected basis.⁵ AC BidCo proposes to use SES-15 for service over North America and the Pacific Ocean, including in U.S. airspace.⁶ 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 narrower than that of the pending AC BidCo Modification Application. Here, AC BidCo is only seeking authority to add SES-15 as an authorized point of communication in extended Ku-band frequencies 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 has submitted a letter confirming that its proposed ESAA operations have been coordinated with operators of the satellites within six degrees on either side of SES-15.⁷ AC BidCo's operations with this spacecraft will also conform to the terms of its 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.

In connection with this STA request, AC BidCo requests a waiver of footnote NG52 to the Table of Allocations in Section 2.106 of the Commission's rules to permit ESAA operations with the SES-15 satellite in the 10.7-10.95 GHz and 11.2-11.45 GHz bands on an unprotected, non-interference basis for ESAA operations, including for terminals in U.S. airspace. As explained in the AC BidCo Modification Application, waiver to permit U.S. domestic operations

Commission's rules, which allows earth station licensees to implement changes in points of communication without prior consent of the Commission if the change results from deployment of a replacement space station authorized to serve the United States. 47 C.F.R. § 25.118(a)(3)(ii). In the conventional Ku-band, SES-15 is a replacement for the AMC-1 satellite currently authorized as a point of communication in the AC BidCo ESAA License.

⁵ See AC BidCo Modification Application, Narrative at 5.

⁶ *Id.*, Annex 2.

⁷ *Id.*, Annex 3.

in these band segments is supported by Commission precedent and will not undermine the purpose of the international only limitation in footnote NG52.⁸

Grant of the proposed STA will allow AC BidCo to respond to customer demand for increased capacity on important air transport routes over the U.S., 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 AC BidCo 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.

⁸ See AC BidCo Modification Application, Narrative at 7-9.