

APPLICATION FOR EARTH STATION SPECIAL TEMPORARY AUTHORITY

APPLICANT INFORMATION Enter a description of this application to identify it on the main menu:
STA for test operations on G-17 and G-28 pending Modification

1. Applicant

Name:	The Boeing Company	Phone Number:	206-544-6044
DBA Name:		Fax Number:	206-662-0701
Street:	PO Box 3707	E-Mail:	Ronald.E.Center@boeing.com
City:	Seattle	State:	WA
Country:	USA	Zipcode:	98124 -2207
Attention:	Ronald Center		



File # SES-STA-20160816-00727
 Call Sign V170097 Grant Date 8-31-14
 (or other identifier)
 Term Dates
 From: 01-1-16 To: 10-1-16
 Approved: *[Signature]*

Applicant: The Boeing Company
Call Sign: E140097
File No.: SES-STA-20160816-00727
Special Temporary Authority (STA)



File # SES-STA-20160816-00727
Call Sign E140097 Grant Date 8-13-16
(or other identifier)
Term Dates
From: 9-1-16 To: 10-1-16
Approved: Paul E. Harts

The Boeing Company ("Boeing") is granted special temporary authority (STA) for 30 days, commencing September 01, 2016 to operate its licensed Earth Station Aboard Aircraft ("ESAA") with Galaxy-17(S2651) at 91° W.L. orbital location, at frequency bands 14442 – 14478 MHz and 14062 – 14098 MHz (Earth-to-space) and 12142 – 12178 MHz, and 11762 – 11798 MHz (space-to-Earth); and with Galaxy 28(S2160) at 89° W.L. orbital location in the bands 14142 – 14178 MHz (Earth-to-space) and 11842 – 11878 MHz (space-to-Earth) under the following conditions:

1. Grant of this STA is without prejudice to any determination that the commission may make regarding pending or future Boeing applications.
2. All operations under this grant of STA shall be on an unprotected and non-harmful interference basis and Boeing, shall not cause harmful interference to, and shall not claim protection from interference caused to it by, any other lawfully operating radio communication system.
3. In the event of any harmful interference as a result of operations under this grant of STA, Boeing shall cease operations immediately upon notification of such interference and shall immediately inform the Commission, in writing, of such an event.
4. The BOEING Company Remote Control Point in Kent, WA at 253-773-0609 must be available 24x7.
5. Any action taken or expense incurred as a result of operations pursuant to this STA is solely at Boeing's risk.

This grant is issued pursuant to Section 0.261 of the Commission's rules on delegated authority, 47 C.F.R. § 0.261, and is effective upon release.

2. Contact

Name: Bruce A. Olcott **Phone Number:** 202-879-3630
Company: Jones Day **Fax Number:**
Street: 51 Louisiana Ave N.W. **E-Mail:** bolcott@jonesday.com
City: Washington **State:**
Country: USA **Zipcode:** 20001 **Relationship:** Legal Counsel
Attention:

(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 IB2016001874

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 CGX - Fixed Satellite Transmit/Receive Earth Station

5. Type Request

Use Prior to Grant Change Station Location Other

6. Requested Use Prior Date

09/01/2016

7. City N/A

8. Latitude

(dd mm ss.s h) 0 0 0.0 N

9. State AK	10. Longitude (dd mm ss.h) 0 0 0.0 W
11. Please supply any need attachments. Attachment 1: Narrative Statement 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.) STA to begin testing operations on S-17 and S-28 during the pendency of Modification application.	
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 Ronald E. Center	15. Title of Person Signing Manager
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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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of)
)
Application of The Boeing Company) Call Sign E140097
For Special Temporary Authority to) File No.
Communicate with Galaxy-17 and Galaxy-28 as)
Satellite Points of Contact for Boeing Earth)
Stations Aboard Aircraft)

APPLICATION FOR SPECIAL TEMPORARY AUTHORITY

Pursuant to Section 25.120 of the Commission’s rules, the Boeing Company (“Boeing”) requests special temporary authority (“STA”) to permit communications on a test basis between its licensed Earth Stations Aboard Aircraft (“ESAA”)¹ terminals and Intelsat satellites Galaxy-17 and Galaxy-28 (“G-17” and “G-28”).²

The Boeing Broadband Satellite Network (“BBSN”) currently operates with multiple satellite points of communications, including satellite AMC-15 at orbital location 105° W.L. AMC-15 provides high-capacity coverage of the continental United States necessary to support Boeing’s operations on behalf of the United States Government. The AMC-15 satellite is scheduled to be relocated to a new orbital location at the end of 2016. Boeing has determined that the anticipated replacement satellite at this longitude will not meet Boeing’s unique coverage requirements. After reviewing multiple alternatives, Boeing has identified the G-17 and G-28 satellites as a suitable substitute for the BBSN operations that will shift off of the

¹ Application of The Boeing Company for Authority to Operate Up to 100 Earth Stations Aboard Aircraft, Call Sign E140097, File Not. SES-LIC-20140922-00748 (Granted Mar. 18, 2015) (“*Boeing ESAA Application*”).

² Call Signs S2715 and S2160.

AMC-15 satellite. Boeing has therefore applied to modify its ESAA license to begin operating using the G-17 and G-28 satellites.³ This STA request is filed to permit testing to begin with the new satellites during the pendency of the modification application. Boeing requests that this approval be provided by September 1, 2016 and extend for a period of sixty days.

I. SATELLITE POINTS OF COMMUNICATION AND NETWORK CONTROL

Both G-17 and G-28 are U.S. licensed satellites listed on the Commission's Approved Space Station List.⁴ Thus, all of the information normally required under Section 25.114, 47 C.F.R. § 25.114, has already been provided to, and approved by, the Commission in prior applications. To the extent necessary, Boeing incorporates that information by reference.⁵

The Boeing ESAA network uses variable power-density control of individual simultaneously transmitting co-frequency ESAA terminals in the same satellite receiving beam. Sections 25.227(a)(3)(ii) and 25.227(b)(3)(ii) of the Commission's rules require variable power systems to either operate 1 dB below the off-axis EIRP spectral density ("ESD") envelope defined in the Commission's rules, or to secure certificates from target the satellite operator indicating that such higher power levels have been coordinated with adjacent satellite operators within six degrees in each direction. Accordingly, Boeing provides the attached statements from Intelsat certifying to the information required by the Commission's rules, including that the aggregate ESD limits that the Boeing ESAA system adheres to have been coordinated with adjacent satellite operators.

³ Application of The Boeing Company, File No. SAT-MOD-20160816-00082 (Filed Aug. 16, 2016).

⁴ <https://www.fcc.gov/approved-space-station-list>.

⁵ Application of Intelsat North America LLC, SAT-RPL-20061219-00155 (Granted Apr. 27, 2007); Amendment, SAT-AMD-20070123-00013 (Granted Apr. 27, 2007); Application of Intelsat North America LLC, SAT-MOD-20050422-00089 (Granted Jun. 6, 2005).

The network control and measures for ensuring the protection of other spectrum users will be the same as described in Sections II.D and V of Boeing's ESAA application.⁶

II. PUBLIC INTEREST JUSTIFICATIONS

Boeing's BBSN network exclusively serves the needs of the United States Air Force Air Mobility Command in support of critically-important air transport operations. BBSN is used by the Air Force to enable broadband capabilities on more than a dozen Very Important Personnel/Special Air Mission aircraft operated by the U.S. Air Force to transport senior leadership of the U.S. Government and the Department of Defense.

It is crucial that BBSN maintain the coverage and capacity capabilities required by Air Force Mobility Command missions, including during the handover from operations on AMC-15 to G-17 and G-28. Boeing will need to do extensive testing of the BBSN system with these new satellites prior to an operational cutover later this year. Therefore, extraordinary circumstances exist requiring this temporary authority and a delay in the institution of these temporary test operations would seriously prejudice the public interest.⁷

⁶ *Boeing ESAA Application* at 7, 15.

⁷ *See* 47 C.F.R. § 25.120(b)(1).

ATTACHMENT 1

Satellite Operator Coordination Letters



INTELSAT

Envision. Connect. Transform.

August 12, 2016

The Boeing Company
P.O. Box 3707
Seattle, WA 98124-2207

Re: Satellite Operator Coordination Certification of Boeing Earth Station Aboard Aircraft (ESAA) License Application

To Whom It May Concern:

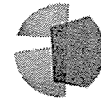
Intelsat confirms and hereby certifies the following with respect to the operations proposed in the above referenced application:

- (a) The proposed Ku-band Earth Station Aboard Aircraft (ESAA) operation of the Boeing Company has the potential to create harmful interference to satellite networks adjacent to the target satellite(s) that may be unacceptable;
- (b) The power density levels that Boeing provided to this Satellite Operator are consistent with the existing coordination agreements between the G-17 satellite and the adjacent satellite networks within 6 degrees of orbital separation from the satellite, and
- (c) The power density levels of the proposed ESAA operations will be included in future coordination agreements in accordance with FCC rules and regulations.

Please let us know if additional information is required.

Sincerely,

Alan Yates
Senior Manager,
Spectrum Strategy



INTELSAT

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August 12, 2016

The Boeing Company
P.O. Box 3707
Seattle, WA 98124-2207

Re: Satellite Operator Coordination Certification of Boeing Earth Station Aboard Aircraft (ESAA) License Application

To Whom It May Concern:

Intelsat confirms and hereby certifies the following with respect to the operations proposed in the above referenced application:

- (a) The proposed Ku-band Earth Station Aboard Aircraft (ESAA) operation of the Boeing Company has the potential to create harmful interference to satellite networks adjacent to the target satellite(s) that may be unacceptable;
- (b) The power density levels that Boeing provided to this Satellite Operator are consistent with the existing coordination agreements between the G-28 satellite and the adjacent satellite networks within 6 degrees of orbital separation from the satellite, and
- (c) The power density levels of the proposed ESAA operations will be included in future coordination agreements in accordance with FCC rules and regulations.

Please let us know if additional information is required.

Sincerely,

Alan Yates
Senior Manager,
Spectrum Strategy