

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 for operation pending ESAA grant

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 E. Center		

File # SES-STA-20140922-00747

Call Sign E140097 Grant Date 10/1/2014
(or other identifier)

Term Dates
From 10/1/2014 To: 11/30/2014

Approved: *Ronald E. Center*



Applicant: The Boeing Company
File No.: SES-STA-20140922-00747
Call Sign: E140097

The Boeing Company, (Boeing) is granted special temporary authority, with conditions, to operate its network of 100 aircraft earth stations and communicate with the SATMEX 6 satellite at the 113° W.L. orbital location for 60 days, beginning October 1, 2014 under the following conditions.

1. Authorization is granted only for operations within the following limits:

Frequency Band	Emissions	Maximum E.I.R.P.	Maximum E.I.R.P. Density
11.45-11.7 GHz	32M4G7D	0	0
11.7-12.2 GHz	32M4G7D	0	0
12.2-12.75 GHz	32M4G7D	0	0
14.0-14.5 GHz	32M4G7D	50.6 dBW	11.5 dBW/4KHz
14.0-14.5 GHz	420KG7D	37.8 dBW	17.6 dBW/4KHz

2. All operations shall be on an unprotected, non-interference basis. In the event of any harmful interference, cease operations immediately and inform the Commission, in writing, immediately
3. Operation pursuant to this authorization must be in compliance with the terms of Boeing's coordination agreements with the National Science Foundation and the National Aeronautics and Space Administration pertaining to operation of aircraft earth stations in the Ku-band. Boeing, however, is not authorized to operate in the 14.0-14.2 GHz frequency band within line-of-sight of the Blossom Point, MD facility until its agreement is updated to reflect the operations at that facility.
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 aircraft earth station must not produce 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 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.
6. Aircraft earth stations 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.

7. Grant of this STA is without prejudice to any determination that the Commission may make regarding pending Boeing applications.
8. Aircraft earth stations 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 aircraft earth station to determine if it is malfunctioning, and each aircraft earth station must self-monitor and automatically cease transmission on detecting an operational fault that could cause harmful interference to a fixed-satellite service network.
9. Stations authorized herein must not be used to provide air traffic control communications.
10. Operation in the territory or airspace of any country other than the United States must be in compliance with the applicable laws, regulations, and licensing procedures of that country, as well as with the conditions of this authorization.
11. The licensee 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.
12. The licensee shall comply with any pertinent limits established by the International Telecommunication Union to protect other services allocated internationally.
13. For each ESAA transmitter, the licensee shall maintain records of the following data for each operating aircraft earth station (AES), 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 AES 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. Communications between Boeing's aircraft earth stations and the SATMEX-6 space station must be in compliance with all existing and future space station coordination agreements reached between Mexico and other Administrations.
15. Any action taken or expense incurred as a result of operations pursuant to this special temporary authority is solely at Boeing's risk.



File # SES - STA - 20140922 - 00747

Call Sign E14W097 Grant Date 10/1/2014
 (or other identifier)

Term Dates

From 10/1/2014 To: 11/30/2014

Approved: Paul E. Grier

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:	DC
Country:	USA	Zipcode:	20001 -
Attention:	Bruce Olcott	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 SESLICINTR201401882 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			
10/01/2014			
7. City		8. Latitude	
		(dd mm ss.s h) 0 0 0.0 N	

9. State	10. Longitude (dd mm ss.s h) 0 0 0.0 W
11. Please supply any need attachments. Attachment 1: STA Narrative	Attachment 2: Air Force Letter 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.)	Request for STA to operate Boeing Broadband Satcom Network pending grant of application for ESAA authority
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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EXHIBIT

Purpose of STA Application and Request for Expedited Treatment

On this date, The Boeing Company (“Boeing”) has concurrently filed an application for authority to operate its Boeing Broadband Satcom Network (“BBSN”) pursuant to a license issued under the Commission’s Earth Stations Aboard Aircraft (“ESAA”) rules.¹ Pursuant to Commission rule § 25.120,² Boeing herein seeks special temporary authorization (“STA”) for a period of sixty days to continue to operate the BBSN in support of U.S. Air Force missions while its ESAA application remains pending before the Commission. Specifically, Boeing seeks authority to continue to operate up to 100 satellite earth stations with its existing network of eight geostationary (“GSO”) satellites in the fixed satellite service (“FSS”) and to add a ninth GSO FSS satellite, E113WA (previously known as SatMex 6), to support operations in South America that are scheduled to begin on October 1, 2014.

Boeing has operated in-flight broadband services for more than a decade. Boeing’s Connexion by Boeing system was the first satellite-based in-flight broadband service authorized by the International Bureau (“IB”) in 2001.³ Since 2008, Boeing has operated under experimental authority from the Commission’s Office of Engineering and Technology (“OET”) pending the Commission’s adoption of ESAA rules.⁴ Based on discussions with IB and OET staff, Boeing now seeks to transfer its operating authority from its experimental license to an STA granted by the IB during the processing of its ESAA application.

Boeing additionally seeks expedited treatment for this STA application. Expedited treatment is necessary in order to add satellite E113WA as an authorized point of communication. The E113WA satellite is currently not included in the authority provided by Boeing’s OET experimental authorization and the U.S. Air Force has indicated a requirement to have access to this satellite capacity to support BBSN operations in that region by October 1, 2014. Filed with this STA application is a letter from the U.S. Air Force expressing the urgency of this need.

Boeing’s BBSN exclusively serves the needs of the United States Air Force Air Mobility Command to support the operation of critically-important VIP/SAM (Very Important Personnel/Special Air Mission) aircraft used to transport senior leadership of the U.S.

¹ *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 14.0-14.5 GHz Frequency Bands, IB Docket No. 12-267, Notice of Proposed Rulemaking and Report and Order, FCC 12-161 (rel. Dec. 28, 2012) (“ESAA Order”).*

² 47 CFR § 25.120.

³ *See The Boeing Company, Order and Authorization, 16 FCC Rcd. 22645 (Int’l Bur. 2001).*

⁴ *See Experimental License Call Sign WC2XVE.*

Government and the Department of Defense. The BBSN achieves near global coverage through the use of selected U.S. and foreign satellites as detailed in the Table below. As with Boeing's experimental authorization, Boeing requests STA authority to operate the BBSN on a non-conforming, non-interference basis.

Extraordinary circumstances exist that justify the expedited grant of this STA application and such grant would serve the public interest because the U.S. Air Force uses Boeing's service to support Homeland Security and National Defense efforts. These efforts have increased significantly in focus in the South America region and these efforts require secure, ubiquitous, and uninterrupted communications to VIP aircraft used by Federal Government leadership.

Satellite	Orbital Location	Earth-to-Space Frequencies	Space-to-Earth Frequencies	Coverage Area	Service in U.S.
AMC-15	105° W.	14.0-14.5 GHz	11.7-12.2 GHz	North America	Yes
E36B (formerly Eutelsat W7)	36° E.	14.0-14.5 GHz	11.45-11.7 GHz	Europe	No
Eutelsat 7A	7° E.	14.0-14.5 GHz	12.2-12.75 GHz	Africa	No
Eutelsat 172A (Northern beam)	172° E.	14.0-14.5 GHz	11.45-11.7 GHz	North Pacific	Yes
Eutelsat 172A (Southern beams)	172° E.	14.0-14.5 GHz	11.45-11.7 GHz, 12.2-12.75 GHz	Southwest Pacific Guam	Guam
Intelsat 907	27.5° W.	14.0-14.5 GHz	11.45-11.7 GHz	Eastern North Atlantic	No
SES-1	101° W.	14.0-14.5 GHz	11.7-12.2 GHz	North America	Yes
Superbird C2	144° E.	14.0-14.5 GHz	12.2-12.75 GHz	Indian Ocean & India	No
Telesat-11N	37.5° W.	14.0-14.5 GHz	11.45-11.7 GHz	North Atlantic	Yes
E113WA (formerly SatMex 6)	113 W.	14.0-14.5 GHz	11.7-12.2 GHz	North, Central & South America	Yes

Satellite Points of Communication

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