

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

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

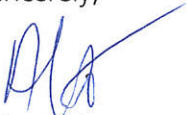
To Whom It May Concern:

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

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

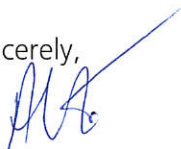
To Whom It May Concern:

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