

Attachment

Description of Amendment to Application for Modification of License

1.0 OVERVIEW

Row 44, Inc. (“Row 44”) submits this amendment to the currently pending application to modify its Ku-band Earth Stations Aboard Aircraft (“ESAA”) license (Call Sign E080100) for the purposes of: (1) providing supplemental information concerning its proposed operations on AMC-1 at 129.15° W.L.; (2) adding Eutelsat 115 West B (“E115WB”) at 114.9° W.L. (formerly known as Satmex 7) as an additional point of communication; and (3) shifting its authorization for operation on the AMC-2 satellite from its current 80.85° W.L. orbital location to its new location at 84.85° W.L.

The requested changes relate solely to the 0.62 meter TECOM Ku-Stream antenna, which is identified as Remote Terminal #2 in the existing Row 44 license. Row 44 seeks these modifications subject to all terms and conditions set forth in its current license except as noted in this amendment.¹ Specifically, Row 44 seeks additional emission designators and an increase in maximum EIRP density with respect to operations on E115WB that have been coordinated through Eutelsat.

2.0 POINTS OF COMMUNICATION REQUESTED

AMC-1

A largely complete proposal concerning the addition of AMC-1 at 129.15° W.L. as a point of communication has been before the Commission since September. The material provided here amends the AMC-1 proposal in three respects. First, Row 44 provides a coordination certification letter from SES Americom, Inc. (“SES”) pursuant to Section 25.227(b)(2) of the Commission’s Rules. Second, in response to a request from International Bureau staff, it provides cross-polarized antenna patterns consistent with Section 25.227(b)(1) of the Commission’s Rules. Finally, in light of the submission of the aforementioned coordination certification letter, Row 44 withdraws its request for waiver of the off-axis EIRP limits set forth in Section 25.227(a)(1)(i)(B) of the Rules as no longer necessary to allow processing of the underlying application.

¹ See Row 44 Inc., Call Sign E080100, File No. SES-MFS-20150424-00270 (Sat. Div., granted September 16, 2015).

AMC-2

Row 44 is currently authorized to transmit using capacity on the AMC-2 satellite at 80.85° W.L. SES has recently applied to the Commission to relocate this space station to 84.85° W.L., where it would operate at Ku-band on a co-located basis with AMC-16, which is leased to Echostar Satellite Operating Corporation (“Echostar”). See FCC File No. SAT-MOD-20160329-00029. SES has also sought Special Temporary Authority (“STA”) effective June 8, 2016 to operate this capacity at that location pending final action on its modification request. See FCC File No. SAT-STA-20160603-00054. Consistent with this change, Row 44 seeks authority to access capacity on AMC-2 at its new orbital location. Grant of the requested modification will permit Row 44 to continue to provide in-flight Wi-Fi service throughout the continental United States.²

Eutelsat 115 West B

The requested addition of E115WB to the Row 44 license will provide enhanced service to airline passengers on flights operating in North American airspace near the Canadian border, particularly flights to and from the Pacific Northwest and Alaska, by allowing increased system capacity and service availability. The Commission has granted a request to place E115WB on the Ku-band Permitted Space Station List, and complete technical information for this space station is therefore a matter for record before the Commission. Row 44 has already been granted an STA permitting service using E115WB, and has been operating with this capacity for nearly a month in U.S. airspace. See FCC File No. SES-STA-20160512-00428 (granted May 19, 2016).

3.0 COORDINATION CERTIFICATIONS [47 C.F.R. § 25.227(b)(2)]

Row 44’s intended operations are within the scope that each operator of the requested target satellites has coordinated with the adjacent satellite operators, and should not cause harmful interference into adjacent satellites operating in accordance with FCC’s two-degree spacing policy. Three coordination certification letters are attached to this application. Exhibit A-1 is a copy of the May 19, 2016 SES coordination certification letter covering Row 44’s proposed operations using AMC-1. Exhibit B-1 is a copy of the June 6, 2016 Echostar coordination certification letter with respect to Row 44’s proposed operations using AMC-2. Exhibit C-1 is a copy of the April 27, 2016 Eutelsat Americas coordination certification letter covering Row 44’s proposed operations using E115WB.

In the event that a Ku-band NGSO FSS system is launched in the future, Row 44 would enter into coordination with the NGSO FSS system operator to establish operating parameters that permit successful co-frequency sharing, and would modify its operations as necessary to effect

² Row 44 has been operating using replacement transponder capacity on the AMC-6 satellite at 72° W.L on an interim basis, pursuant to Special Temporary Authority (“STA”) granted May 23, 2016, during the movement of AMC-2 to its new location. See FCC File No. SES-STA-20160520-00445. It also intends to seek STA to permit operation on AMC-2 once it is relocated to 84.85°, during the period that the SES space station license modification application remains pending and prior to grant of the requested Row 44 earth station license modification.

any coordination agreement reached. Row 44 acknowledges that the Commission may condition the grant of any modified license issued to it upon a requirement that it complete such coordination at the appropriate time.

Row 44's operations, as modified, will continue to conform to the terms of its existing coordination agreements with the National Aeronautics and Space Administration ("NASA") and the National Science Foundation ("NSF"), as required under Condition 90057 its current ESAA license.³

4.0 TECHNICAL DATA, LINK BUDGETS AND PREDICTED COVERAGE AREAS [47 C.F.R. § 25.227(b)(4)]

Exhibit B includes antenna patterns (B-2), representative link budgets (B-3) and a depiction of the geographic coverage contours in relation to combinations of EIRP and skew angle (B-4) for operations using AMC-2.

Exhibit C includes antenna patterns (C-2), representative link budgets (C-3) and a depiction of the geographic coverage contours in relation to combinations of EIRP and skew angle (C-4) for operations using E115WB.

5.0 RADIATION HAZARD STUDY [47 C.F.R. § 25.227(b)(8)]

Because no increase in transmit power or EIRP characteristics is requested in this modification application, the radiation hazard assessment submitted as Exhibit C to the application in FCC File No. SES-MFS-20150424-00270 continues to be accurate with respect to the maximum operational parameters requested for Row 44's earth station network, and that study is incorporated herein by reference.

³ Row 44's coordination agreements with NASA and NSF pre-date the adoption of current rule Sections 25.227(c)(1) & (d)(1), which provide for Public Notice to allow comment on coordination agreements governing operations of ESAA networks in frequency bands shared with NASA and NSF facilities. Accordingly, to the extent necessary, Row 44 requests that the Public Notice issued announcing acceptance of this modification application include the referenced notifications concerning Row 44's existing coordination agreements with NASA and NSF.

6.0 SPACECRAFT, FREQUENCY & BEAM COVERAGE

Satellite	Location	Beam Coverage Area	Tx (GHz)	Rx (GHz)	Satellite Operator
AMC-1	129.15W	North America, Pacific & Caribbean	14.05-14.47	11.7-12.2	SES
AMC-2	84.85W	North America, Caribbean & North Atlantic	14.05-14.47	11.7-12.2	
AMC-3	67.0 W	North America, Atlantic & Caribbean	14.05-14.47	11.7-12.2	
AMC-9	83.0W	North America, Caribbean & North Atlantic	14.05-14.47	11.7-12.2	
SES-1	101.0W	North America & Caribbean	14.05-14.47	11.7-12.2	
SES-6*	40.5W	Atlantic Ocean	14.05-14.47	10.95-11.2; 11.45-11.7	
IS-19	166.0E	Pacific Ocean	14.05-14.47	12.25-12.75	Intelsat
Eutelsat 115WA (Satmex 5)*	114.9W	North America & Pacific Ocean	14.05-14.47	11.7-12.2	Eutelsat
Eutelsat 115WB (Satmex 7)*	114.9W	North America & Pacific Ocean	14.05-14.47	11.7-12.2	
Eutelsat 117WA (Satmex 8)*	116.8 W	North America & Caribbean	14.05-14.47	11.7-12.2	
T11N†	37.5W	North Atlantic Ocean	14.05-14.47	11.45-11.7; 11.7-12.2	Telesat
Estrella do Sul (T14R)*	63.0W	North Atlantic Ocean, Canada & Caribbean	14.05-14.47	11.7-12.2	
Horizons 1*	127.0W	North America & Pacific Ocean	14.05-14.47	11.7-12.2	JSAT

* = Non-U.S.-licensed satellites included on Ku-band Permitted List

† = T11N is a U.S.-licensed satellite (Call Sign S2357) operated by Telesat Canada

= New Point of Communication requested in application and amendment.

7.0 LICENSEE CERTIFICATION

I, Simon McLellan, Chief Engineer of Row 44, Inc., hereby certify that Row 44, Inc. will continue to comply with the requirements of paragraphs (a)(6), (a)(9), (a)(10), and (a)(11) of Section 25.227 of the Commission's Rules and the conditions of its existing license.

s/ Simon McLellan

Simon McLellan
Chief Engineer
Row 44, Inc.

June 14, 2016