

ATTACHMENT

Description of Application for Modification of License

1.0 OVERVIEW

Row 44, Inc. (“Row 44”) seeks modification of its Ku-band Earth Stations Aboard Aircraft (“ESAA”) license (Call Sign E080100) for the purpose of adding two additional satellite points of communication. Row 44 seeks this modification subject to all terms and conditions set forth in its current license¹ and the operations proposed are otherwise consistent with the technical specifications set forth in its current license. Operations using the additional satellites would use both the TECOM Ku-Stream (SAA/Remote 2) and QEST Q050000 (GSAA/Remote 3) antennas. The Form 312, Schedule B associated with this filing reflects only the additional points of communication and additional receive frequencies for SES-15, and does not recapitulate the technical data contained in its current license.

2.0 ADDITIONAL POINTS OF COMMUNICATION REQUESTED

Row 44 requests the addition of both the SES-15 satellite that recently initiated service at the 129° W.L. orbital location, as well as the AMC-1 satellite relocated from 129.15° W.L. to 130.9° W.L. SES-15 is a Gibraltar-authorized satellite which is permitted to serve U.S. locations under Call Sign S2951 (FCC File Nos. SAT-PPL-20160126-00007, SAT-MPL-20160718-00063 and SAT-MPL-20170914-00130). As this satellite now occupies the same nominal orbital location previously occupied by AMC-1, which is included in Row 44’s current license at this location, Row 44 would ordinarily be required only to file a notification of the change of satellite pursuant to Section 25.118(a)(3)(ii) of the FCC’s Rules; however, as Row 44 also seeks to expand its operations to include the 10.7-11.7 GHz downlink bands, this modification application is being submitted to allow this expanded spectrum use. AMC-1 is a U.S.-licensed satellite under Call Sign S2445 (FCC File No. SAT-MOD-20170810-00115), also licensed to SES.

Complete technical information regarding the SES-15 satellite was submitted to the FCC in the proceeding authorizing the satellite’s inclusion on the Ku-band Permitted List. Row 44 therefore simply requests that its existing ESAA license be updated to reflect use of SES-15 on a primary basis for ESAA operations in the 14-14.5 GHz and 11.7-12.2 GHz bands, and it seeks authority as further detailed below to communicate with SES-15 on an unprotected basis in the 10.7-11.7 GHz downlink band, consistent with Commission precedent and the terms of the SES-15 authorization.

The addition to the Row 44 license of authority to communicate using SES-15, as well as the relocated AMC-1, will provide additional near term space segment capacity for Row 44’s ESAA network, thereby allowing it to provide additional throughput and coverage for the provision of its in-flight Wi-Fi connectivity services to airline passengers on flights operating over North America,

¹ See Row 44 Inc., Call Sign E080100, FCC File No. SES-MOD-20171002-01094 (Sat. Div., granted November 22, 2017).

the Gulf of Mexico, the Caribbean and portions of the Pacific. Row 44 is concurrently seeking special temporary authority (“STA”) to permit it to operate using these same parameters.

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

Row 44’s intended operations are within the scope that SES has coordinated with the adjacent satellite operators relative to both satellites, and should not cause harmful interference into adjacent satellites operating in accordance with FCC’s two-degree spacing policy. Exhibit A attached hereto provides copies of the May 8, 2018 coordination certification letters covering Row 44’s proposed operations using both SES-15 and AMC-1.

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 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.

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

Exhibit B attached hereto includes representative link budgets and a depiction of the geographic coverage contours for operations using SES-15 at 129° W.L. and AMC-1 at 130.9 W.L.

5.0 REQUEST FOR WAIVER OF FCC RULES

Row 44 seeks a waiver of footnote NG52 to the Commissions Table of Allocations to permit operations with the SES-15 satellite in the extended Ku-band segments at 10.7-10.95 GHz and 11.2-11.45 GHz on an unprotected, non-interference basis, including the operation of terminals in U.S. airspace. Grant of the requested waiver is fully consistent with applicable Commission precedent, under which the Commission has observed that “terminals on U.S.-registered aircraft may need to access foreign satellites while traveling outside of the United States (*e.g.*, over international waters), and therefore may need to downlink in the extended Ku-band in certain circumstances.”² The Commission has previously authorized ESAA operators to use other extended Ku-band frequencies for downlinks through the modification of the Table of Allocations to permit ESAA operations not only in the conventional Ku-band, but in the discrete 10.95-11.2 GHz and 11.45-11.7 GHz segments of the extended Ku-band as well.³ The Commission then acknowledged that ESAA operators may

² See *Service Rules and Procedures to Govern the Use of Aeronautical Mobile Satellite Service Earth Stations in Frequency Bands Allocated to the Fixed Satellite Service*, IB Docket No. 05-20, Notice of Proposed Rulemaking, 20 FCC Rcd 2906, 2917 (¶ 18) (2005).

³ See 47 C.F.R. § 2.106, note NG52, *adopted in 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*

also require access to other extended Ku-band downlink spectrum, and that access to such spectrum could be granted “on a case-by-case basis under Part 25 licensing rules.”⁴ In the *ESAA R&O*, the Commission made clear that ESAA operations in the 10.95-11.2 GHz and 11.45-11.7 GHz band were permitted on an unprotected basis and no waiver of footnote NG52 is required for such operations, but this existing exception does not extend to the 10.7-10.95 GHz and 11.2-11.45 GHz portions of the extended Ku-band. The Commission has nonetheless authorized ESAA operations in these bands on multiple occasions, most recently by granting authority very similar to that requested here to Gogo Inc.’s licensee entity, AC BidCo LLC.⁵

Consistent with these past rulings, Row 44 requests a waiver of the Table of Allocations and footnote NG52 to the extent necessary to permit its terminals to receive transmissions from SES-15 in both the 10.7-10.95 GHz and 11.2-11.45 GHz band segments, including use of the band to provide for U.S. domestic in-flight services. The Commission has already specifically granted SES U.S. market access for SES-15 in-orbit operations in these band segments, and has expressly waived footnote NG52 to allow SES-15 to provide domestic services in the 10.7-11.7 GHz frequencies on an unprotected, non-interference basis in the United States.⁶ Accordingly, authorizing Row 44 to receive signals from SES-15 in the 10.7-10.95 GHz and 11.2-11.45 GHz band segments consistent with this grant will not alter any existing space segment operations, and therefore will not create any new risk of harmful interference to other authorized users of the spectrum. Furthermore, Row 44 will not claim interference protection from such authorized users. Under these circumstances, waiving Section 2.106 and footnote NG52 is appropriate.

6.0 REVISED SPACECRAFT, FREQUENCY & BEAM COVERAGE

[See Next Page]

14.0-14.5 GHz Frequency Bands, FCC 12-161, Report & Order, 27 FCC Rcd 16510, 16520-21 (¶ 21) (2012) (“*ESAA R&O*”).

⁴ See *ESAA R&O*, 27 FCC Rcd at 16520 n.43.

⁵ See Modification Application of AC BidCo LLC, FCC File No. SES-MFS-20171220-01351(Call Sign E120106) (granted March 9, 2018).

⁶ *SES Satellites (Gibraltar) Limited*, FCC File No. SAT-MPL-20170914-00130 (Call Sign S2951), Grant-Stamp Attachment at 2-3 (¶ 3) (granted November 22, 2017).

Table 1: Spacecraft, Frequency & Beam Coverage Table
 (All Provide Some Coverage to U.S. Locations; * =Non-U.S., Permitted List Satellite)

Satellite	Location	Beam Coverage Area	Tx (GHz)	Rx (GHz)	Satellite Operator
AMC-1	130.9 W	North America, Central America and Pacific	14.05-14.47	11.7-12.2	SES
AMC-2	84.85 W	North America, Caribbean and North Atlantic	14.05-14.47	11.7-12.2	
AMC-3	72.0 W	North America, Central America, Atlantic and Caribbean	14.05-14.47	11.7-12.2	
AMC-9	83.0 W	North America, Caribbean, Central America and North Atlantic	14.05-14.47	11.7-12.2	
SES-1	101.0 W	North America, Central America, Pacific and Caribbean	14.05-14.47	11.7-12.2	
SES-10	67.0W	North America, Central America, South Atlantic and Caribbean	14.05-14.47	11.7-12.2	
SES-15	129.0 W	North America, Central America, Caribbean and Pacific	14.05-14.47	10.7-10.95, 10.95-11.2, 11.2-11.45, 11.45-11.7, 11.7-12.2	
IS-29E	50.0 W	North America, Central America, South America, North Atlantic and Caribbean	14.05-14.47	10.95-11.2, 11.2-11.45, 11.45-11.7, 11.7-12.2, 12.2-12.5	Intelsat
Eutelsat 115WB*	114.9 W	North America, North Atlantic and Pacific Ocean	14.05-14.47	11.7-12.2	Eutelsat
Telstar 12	109.2 W	North America, Gulf of Mexico and Caribbean	14.05-14.47	11.7-12.2	Telesat (Skynet)

7.0 TELEPORT UPLINK LOCATIONS

Table 2
Teleport Locations for Provision of Service within the United States

Satellite	Orbital Location	Teleport Location(s)	Site Operator	Call Sign(s)
AMC-1	130.9 W	Holmdel, NJ	GEE/MTN	E160163
AMC-2	80.85W	N. Las Vegas, NV	Hughes	E940460
AMC-3	72.0 W	Holmdel, NJ	GEE/MTN	E160163
AMC-9	83.0W	North Las Vegas, NV	Hughes	E940460
SES-1	101.0W	North Las Vegas, NV	Hughes	E940460
SES-10	67.0W	Steele Valley, CA	Level 3/ Vyvx	E950202
SES-15	129.0 W	South Mountain, CA	SES	E170139
IS-29E	50.0 W	Holmdel, NJ	GEE/MTN	E160163
Eutelsat 115WB*	114.9W	Southfield (Detroit), MI	Hughes	E990170
Telstar 12	109.2W	South Jordan, UT	LBiSat LLC	E030342

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

7.0 LICENSEE CERTIFICATION

I, Simon McLellan, Chief Engineer of Row 44, Inc. (“Row 44”) and Global Eagle Entertainment, Inc. (“Global Eagle”), hereby certify that Row 44/Global Eagle 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.

Simon McLellan

Simon McLellan
Chief Engineer
Row 44, Inc., a subsidiary of
Global Eagle Entertainment, Inc.

May 15, 2018