BEFORE THE

Federal Communications Commission

WASHINGTON, D.C. 20554

In re: the Matters of	)	
	)	
Amendment of the Commission's Rules To Establish a Next-Generation Air Ground Service on a Secondary Licensed Basis in the 14.0 to 14.5 GHz Band	)	RM-11640
	)	
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
	)	
Utilities Telecom Council and Winchester Cator, LLC Petition for Rule Making To Establish Governing Critical Infrastructure Industry Fixed Service Operations in the 14.0 to 14.5 GHz Band	)	RM-11429

To: Secretary, Federal Communications Commission
Attn: The Commission

COMMENTS OF ROW 44, INC.

Row 44, Inc. ("Row 44"), by counsel and pursuant to Section 1.405(a) of the Commission's Rules (47 C.F.R. § 1.405(a)), hereby provides its comments on the Petition for Rule Making ("Petition")[1] filed July 7, 2011 by Qualcomm Incorporated ("Qualcomn"). Qualcomm is seeking initiation of a proceeding to amend the Commission's Rules to allow shared, secondary operation of a new air-to-ground communications service in the 14.0-14.5 GHz Fixed-Satellite Service ("FSS") band.

[1] The Commission sought comment on the Qualcomm Petition on August 30, 2011. *See Consumer & Governmental Affairs Bureau, Reference Information Center, Petition for Rulemaking Filed*, Report No. 2933 (August 30, 2011).

Row 44 believes that consideration of the Qualcomm Petition would be premature at this time, both due to proceedings relating to the 14-14.5 GHz band that remain unresolved and due to an insufficient showing in support of the specific allocation that Qualcomm has proposed.

I. Statement of Interest

Row 44 is an advanced technology company headquartered in Westlake Village, California that has been providing for nearly two years a specialized application of FSS to bring in-flight broadband connectivity and entertainment services to airline passengers and flight crews, the same type of in-flight service for which Qualcomm now seeks a terrestrial mobile service allocation in this band.[2] Row 44 was licensed by the FCC on August 5, 2009 to provide service using multiple aircraft-mounted aeronautical-mobile satellite service ("AMSS") Earth stations.[3] It thus has a strong interest in any modification to the FCC's allocation table with respect to the Ku-band FSS spectrum.

II. No Action Should Be Taken To Initiate a New Rule Making Impacting the 14.0-14.5 GHz Band Until Currently Pending Proceedings Have Been Resolved

A. The 2005 *AMSS Rulemaking* Proceeding

More than six years ago, the Commission initiated a rulemaking proceeding looking to establish specific service rules to govern the provision of AMSS service in the Ku-band.[4] The

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[2] The high-speed Internet access service offered using these links is comparable to the service passengers currently enjoy in their homes and offices from traditional ISPs. Passenger use of the service allows in-flight, real-time access to email, virtual private networks and the Internet, including access to in-flight entertainment and information.

[3] *See Row 44, Inc.*, 24 FCC Rcd 10223 (IB/OET 2009).

[4] *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

AMSS Rulemaking was initiated in January 2005 in response to a Petition for Rule Making filed by the Boeing Company in July 2003 ("Boeing Petition"). The Boeing Petition sought to implement the allocation for AMSS in the Ku-band FSS spectrum that is permitted by the international allocation table. Boeing's proposal was submitted concurrently with the adoption at the International Telecommunication Union's 2003 Radiocommunication Assembly of ITU-R Recommendation M.1643, which provides specific technical guidelines for the introduction of additional service in the Ku-band FSS spectrum, including the 14.0-14.5 GHz uplink band at issue here. These technical conditions were incorporated into the ITU's International Table of Frequency Allocations at the 2003 World Radio-Communication Conference.

Despite the fact that the *AMSS Rulemaking* remains pending, actual AMSS operation in the FSS Ku-bands is already well established, and multiple licenses having been issued over the past decade to provide such services, including Row 44's. These existing services require certainty with regard to future use and status before further allocation table changes are formally considered. Among the important steps under consideration in the pending AMSS proceeding is the adoption of a specific footnote to the Table of Allocations stating plainly that AMSS Earth stations are an application of FSS and are authorized to communicate with GSO space stations in the Ku-band on a primary basis. Other similar maritime and terrestrial MSS applications operating in the FSS have already been recognized as applications of the primary FSS allocation,[5] and this same step should also be taken with respect to AMSS before any new terrestrial service is considered.

No. 05-20, 20 FCC Rcd 2906 (2005) ("*AMSS Rulemaking*"). *See also* ITU Radio Regulations, Article 5 and No. 5.504A.

[5] *See* U.S. Table of Frequency Allocations, 47 C.F.R. § 2.106, Footnotes NG183 (Earth stations on Vessels) and NG187 (Vehicle-Mounted Earth Stations).

B. The 2008 Utilities Telecom Council Petition

The FCC has also had under consideration for several years a proposal by the utility industry to introduce terrestrial backhaul links in this band.[6] Qualcomm does not take into account this existing proposal for the Ku-band, which is very likely wholly incompatible with the use that it now advances. Row 44 remains very much opposed to any favorable action on the 2008 *UTC/Winchester Cator Petition*, and believes that the Commission should affirmatively reject it as incompatible with existing services in the band.[7] Nonetheless, until this open proceeding is definitively concluded, it would be inappropriate to muddle the outlook for Ku-band operators and users by advancing yet another alternate and inconsistent proposal for terrestrial Ku-band use.

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Given the considerations discussed above, it would be premature for the Commission to initiate at this time another proceeding affecting the Ku-band FSS frequencies.[8] The FCC should first resolve the *AMSS Rulemaking*, dismiss the *UTC/Winchester Cator Petition*, and allow Ku-band MSS offerings to develop further before moving to consider any other rule changes that could alter the interference environment in this band.

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[6] *See* "Utilities Telecom Council and Winchester Cator, LLC Petition for Rulemaking to Establish Rules Governing Critical Infrastructure Industry Fixed Service Operations in the 14.0-14.5 GHz Band," Petition for Rulemaking, RM-11429 (filed May 6, 2008) ("*UTC/Winchester Cator Petition*").

[7] *See* Opposition of Row 44, Inc., RM-11429 (filed June 26, 2008).

[8] *See, e.g.,* 47 C.F.R. § 1.401(e) (the Commission may dismiss a petition without prejudice to the extent that it is "moot, premature, repetitive, frivolous, or … plainly do[es] not warrant consideration.")

III. Qualcomm's Petition Leaves Key Policy and Technical Issues Unaddressed.

A. Qualcomm's General Statements Regarding Demand for Broadband Service Do Not Demonstrate a Specific Need for a New Dedicated Air-to-Ground Terrestrial Mobile Service.

Qualcomm's assertion that generalized demand for mobile broadband access is expanding does not equate to a demonstration that additional spectrum is required to serve the niche in-flight market. Qualcomm fails to explain why a new terrestrial mobile service allocation in the 14.0-14.5 GHz FSS uplink band is necessary to accommodate the specific types of uses it contemplates for service to airline passengers.[9] While Row 44 agrees that such services are increasingly desired by the flying public, Qualcomm does not make any showing at all that the several allocated frequency bands that permit either space-based or air-to-ground mobile broadband applications are inadequate to meet present and future market demand. Generalized statements concerning the popularity of broadband content and applications are inadequate to satisfy the requirements of a petition seeking to change the table of spectrum allocations.[10]

B. The Petition Fails to Consider the Potential Impact of the Proposed Terrestrial Mobile Use on the Development of Existing Ku-Band Mobile-Satellite Service Applications, Including AMSS.

In the Petition, Qualcomm proposes that the new air-to-ground service operate bi-directionally in the Ku-band FSS uplink spectrum, and has provided some basic analysis of the interference considerations. However, the Petition lacks any showing at all regarding the

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[9] *See* Petition at 6-13 (noting in very general terms the demand for access to online content and applications, but without specific reference to the sufficiency of currently available spectrum for provision of in-flight broadband services).

[10] *See, e.g.,* 47 C.F.R. § 1.401(c).

potential impact of antenna mispointing, and possible means of avoidance to ensure that no interference occurs into GSO satellites.

MSS applications operating airborne satellite uplink transmitters mounted on aircraft are required to meet stringent shut-down requirements in the event of a mispointing event, but Qualcomm does not provide any explanation of how it would avoid such potential interference events that may occur using its technology. It does not maintain that such events would not occur, but simply skirts the issue of how interference would be avoided by asserting that "it certainly is possible to turn the aircraft transmitter off during 15° rolls or design an antenna that steers the beam down during 15° rolls to completely avoid any potential interference."[11] A vague statement that such shut-downs would be "possible" falls far short of establishing how such an interference condition would be identified on a consistent basis, and the transmitting antenna deactivated *before* harmful interference occurs.[12] Given the substantial showings that are required of Ku-band MSS applicants in this regard,[13] a much clearer explanation would be required of operational mechanisms that would avoid interference into the GSO arc.

More broadly, Qualcomm does not consider how the additional spectrum use that it proposes, which includes plans for construction of a large number of ground stations, may potentially impact future development and growth of the existing mobile FSS applications, including ESV and VMES as well as AMSS. This omission does not take into account the substantial degree to which the 14.0-14.5 GHz band, and the companion 11.7-12.2 GHz downlink band, have been a growth area for new and innovative satellite services, such as Row

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[11] Petition, Appendix A, Interference Protection Analysis, at A-25.

[12] "Stations of a secondary service shall not cause harmful interference to stations of primary services to which frequencies are already assigned or to which frequencies may be assigned at a later date." 47 C.F.R. § 2.105(c)(2)(i).

[13] *See, e.g.,* 47 C.F.R. § 25.221(a)(1)(iii)(a) & (b).

44's in-flight broadband service. The American public has benefited substantially from the evolution over the past two decades of these small-terminal Ku-band services. Row 44's service, among others, promises to continue increasing these benefits in the coming years. The potential complication of the spectrum sharing environment that the proposed new terrestrial mobile service use would engender, if authorized, could have an adverse impact on these salutary developments.

Finally, the explanatory information regarding interference avoidance that Qualcomm does provide in Appendix A to the Petition is highly specific to its own system architecture and technology, including ground station deployment layout and number, beam widths, and spectrum access modes not typically addressed at the spectrum allocation stage.[14] The Commission could not reasonably favor a single equipment manufacturer by tailoring a new service specifically to one company's technological paradigm.

V. Conclusion

As an existing provider of service that already benefits large numbers of air travelers each day, Row 44 is concerned about introduction of new Ku-band services without careful advance consideration and demonstration of both a need for the new spectrum allocation and its compatibility with existing licensed services. Row 44 therefore urges the Commission to defer further action on the Qualcomm Petition until other pending proceedings concerning use of the 14.0-14.5 GHz band, most importantly the long-pending AMSS rulemaking, have been completed and the operating rights and obligations of these already-licensed services codified in the Commission's Rules. Once these steps have been taken, the time would be ripe for

[14] *See* Petition, Appendix A at A-2.

Qualcomm to update and clarify its Petition as outlined above in order that the Commission might consider it based on a full record and in light of all relevant operational considerations.

Respectfully submitted,

Row 44, Inc.

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September 29, 2011

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CERTIFICATE OF SERVICE

I, Deborah Morris, do hereby certify that on this 29th day of September, 2011, I sent via first class, postage prepaid mail, a copy of the foregoing "Comments of Row 44, Inc." to each of the following:

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