Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of:	)	
	)	
Petition for Rulemaking to	)	
Amend Parts 2 and 25 of the	)	
Commission's Rules to Implement Results	)	RM 11351
of WRC-03 Pertaining to FSS Use of the	)	
Band 13.75-14.00 GHz	)	

JOINT COMMENTS OF INTELSAT, LTD., NEW SKIES SATELLITES, INC., SES AMERICOM, INC., LORAL SKYNET CORPORATION, ARTEL, INCORPORATED, ARROWHEAD GLOBAL SOLUTIONS, INC., SPACENET INC., AND HUGHES NETWORK SYSTEMS, LLC

Intelsat, Ltd., New Skies Satellites, Inc., SES Americom, Inc., Loral Skynet Corporation, Artel, Incorporated, Arrowhead Global Solutions, Inc., Spacenet Inc., and Hughes Network Systems, LLC jointly file these comments in support of the Petition for Rulemaking ("Petition") by Jansky-Barmat Telecommunications, Inc. ("Jansky-Barmat"). The rule changes proposed in the Petition will serve the public interest by facilitating the greater availability of satellite services and promoting more efficient use of spectrum.

BACKGROUND

On February 24, 2006, Jansky-Barmat filed a petition with the Federal Communications Commission ("Commission" or "FCC") on behalf of Hispasat Satellite proposing modification of the relevant sections of Parts 2 and 25 of the FCC's rules to allow operation of transmit earth station antennas as small as 1.2 meters in the frequency band 13.75 – 14.00 GHz. The proposed changes would make the FCC's rules consistent with the International Telecommunications

Union ("ITU") Radio Regulations, thereby facilitating greater use of the Fixed Satellite Service ("FSS") allocation for the 13.75–14.00 GHz band.

Under Section 25.204(f) of the FCC's rules, a transmitting earth station operating in the 13.75–14.00 GHz band must have a minimum antenna diameter of 4.5 meters and is subject to limits on the transmitted EIRP and EIRP density.[1] The antenna-size limitation has not allowed this band to be fully utilized and has contributed to an imbalance between Ku-band uplink and downlink spectrum. Moreover, use of relatively large diameter earth stations in the 13.75–14.0 GHz band has limited the range of services that may be marketed by satellite operators. For example, valuable VSAT services cannot currently be employed in this spectrum because of the size restrictions. In addition, few licenses for earth stations using the 13.75–14.0 GHz band have been granted because sites where large antennas can be deployed are limited. In short, the current FCC regulations have led to an underutilization of the 13.75–14.0 GHz band by FSS operators, as compared to the 14.00–14.5 GHz band.

As a result, FSS operators' ability to satisfy customer requirements for satellite capacity has been hindered. New services such as high definition and local-into-local television are spurring demand for Ku-band frequencies today, and this trend is expected to continue. With the increasing congestion of the standard Ku-band, satellite service providers must be able to fully exploit extended Ku-band spectrum, including the 13.75-14.00 GHz band, in order to respond to customer requirements. Unnecessary limits on use of this band will impair the competitiveness of the commercial satellite industry and slow efforts to deploy new services, including national broadband and emergency response services.

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[1] *See* 47 C.F.R. § 25.204(f).

The Commission recognized the importance of this spectrum when it allocated the 13.75-14.00 GHz band to the FSS on a primary basis in 1996.[2] The Commission noted the growing demand for Ku-band services and determined that allocating the 13.75-14.00 GHz band for FSS "would further the competitiveness of U.S. satellite operators in domestic and international markets and would provide more open and competitive markets for consumers."[3] In addition, the Commission noted that the allocation would give FSS operators greater flexibility in designing their networks and would enhance efficient use of orbital resources.[4] At the time of the Commission's allocation order, the ITU rules contained restrictions requiring antennas transmitting to geostationary orbit ("GSO") FSS networks to be at least 4.5 meters in diameter, and the regulations adopted by the Commission reflected this limitation. At WRC-03, however, with the strong support of U.S. commercial and government interests, agreement was reached to modify the ITU rules to permit deployment of antennas as small as 1.2 meters. Other outdated restrictions on FSS use of the band were also removed. By reflecting these changes in its rules, the Commission can enhance the efficient use of extended Ku-band spectrum for satellite services, which is in the public interest.

DISCUSSION

The relevant ITU Radio Regulation ("RR") provisions, as adopted in WRC-03, allow earth stations as small as 1.2 meters to transmit in the 13.75–14.00 GHz band provided that the power flux density at the coast or at the border not exceed certain limits, as defined in RR No.

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[2] Amendment of Parts 2, 25 and 90 of the Commission's Rules to Allocate the 13.75-14.0 GHz Band to the Fixed-Satellite Service, *Report and Order*, 11 FCC Rcd 11951 (1996) ("*13.75-14.0 GHz Allocation Order*").

[3] *Id.* at 11957.

[4] *Id.*

5.502. Moreover, in the 13.77–13.78 GHz band, the EIRP density of emissions of transmit earth stations with diameters of 1.2 meter or greater cannot exceed the limits specified in RR No. 5.503. These limits were agreed to by the United States administration at WRC-03 and permit greater commercial use of the 13.75–14.00 GHz band while providing protection of the radiolocation service.

Additionally, within ITU-R Working Party 4A, contributions from the United States (with full participation of government users) were instrumental in developing specific methodology that can be used to show compliance with the limits in RR No. 5.502 of the ITU-R Radio Regulations. This methodology is described in Recommendation ITU-R S.1712 and has been approved internationally by ITU-R Study Group 4. Recommendation ITU-R S.1712 provides three methods that an applicant can use to show compliance with RR No. 5.502. These three methods are briefly described below and all ensure that shipboard radars are not subjected to harmful interference.

Method 1

A simple graph is utilized to determine the minimum distance between the transmitting earth station and the coast/border (or alternatively, the maximum EIRP that can be transmitted by the earth station from a given distance to the coast/border). A simple generic formula may be used to determine if there is line-of-sight between the earth station and the coast/border. The actual terrain between the earth station and the coast/border may also be used to more accurately determine if there is line-of-sight. If there is line-of-sight, then one graph is used. If there are no line-of-sight paths, then an alternate, less restrictive, graph is utilized to determine the minimum distance between the earth station and the coast/border (or the maximum earth station EIRP towards the coast/border).

Method 2

Using actual terrain data between the earth station and the coast/border as well as the diameter of the earth station, a series of EIRP contours are developed. The earth station would be limited to the EIRP of the contour closest to its location.

Method 3

Using actual terrain, earth station antenna radiation pattern and applicable site shielding, determine the power flux density at the coast/border from the proposed transmitting earth station site.

The undersigned companies believe that the procedures contained in Recommendation ITU-R S.1712 serve as a good basis for demonstrating compliance with the limits contained in the ITU Radio Regulations. However, the procedures may have to be further tailored so as to make them easier to use by earth station applicants/licensees and easy to implement as part of any blanket licensing procedure.

The rule changes proposed in the Petition are in the public interest. Allowing smaller antennas for satellite services will promote wider -- and therefore more efficient -- use of the spectrum. Also, satellite operators will be able to use their capacity more fully to meet customer demand, and more readily useable uplink spectrum in the Ku-band will be available to more closely match available downlink spectrum.

CONCLUSION

Intelsat, Ltd., New Skies Satellites, Inc., SES Americom, Inc., Loral Skynet Corporation, Artel, Incorporated, Arrowhead Global Solutions, Inc., Spacenet Inc. and Hughes Network Systems, LLC support the Petition submitted by Jansky-Barmat to update the current Part 2 and Part 25 of the FCC's rules as they pertain to the 13.75–14.00 GHz band. The changes proposed in the Petition will conform the FCC rules to the current ITU Radio Regulations and allow for greater utilization of the 13.75–14.00 GHz band. The undersigned companies further request that the Commission ensure that the procedures to show compliance with the applicable power limits are straightforward and easy to apply, in order to facilitate blanket licensing of new earth stations operating in this band.

Respectfully submitted,

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January 3, 2007

CERTIFICATE OF SERVICE

I, Christopher E. Ryan, do hereby certify that on January 3, 2007, I served a copy of the aforementioned **Joint Comments of Intelsat, Ltd., New Skies Satellites, Inc., SES Americom, Inc., Loral SkyNet Corp., Artel, Inc., Arrowhead Global Solutions, Inc., Spacenet Inc., and Hughes Network Systems LLC** upon the following upon the following party by U.S. first-class mail, postage pre-paid:

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