Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Amendment of Parts 25, 74, 78 and 101 of the	)	
Rules regarding Coordination between the Non-	)	
Geostationary and Geostationary Satellite Orbit	)	ET Docket No. 03-254
Fixed-Satellite Service and Fixed, Broadcast	)	
Auxiliary and Cable Television Relay Services in	)	
The 7 GHz, 10 GHz and 13 GHz Frequency Bands	)	
	)	

To: The Commission

REPLY COMMENTS OF SKYBRIDGE L.L.C.

SkyBridge L.L.C. ("SkyBridge") hereby replies to comments filed on the Notice of Proposed Rulemaking ("NPRM") in the above-captioned proceeding,[1] related to spectrum sharing among non-geostationary satellite orbit ("NGSO") fixed-satellite service ("FSS") systems and terrestrial systems operating in the Broadcast Auxiliary Service ("BAS") and Cable Television Relay Service ("CARS") in the 12.75-13.25 GHz ("13 GHz") band.

In its comments in this proceeding, SkyBridge supported the Commission's proposal to apply existing coordination procedures to facilitate sharing between NGSO FSS gateway earth station and mobile or fixed BAS or CARS links.[2] Comments filed in this proceeding support the Commission's determination that these

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[1] In the Matter of Amendment of Parts 25, 74, 78, and 101 of the Rules regarding Coordination between the Non-Geostationary and Geostationary Satellite Orbit Fixed-Satellite Service and Fixed, Broadcast Auxiliary and Cable Television Relay Services in the 7 GHz, 10 GHz and 13 GHz Frequency Bands, Notice of Proposed Rulemaking, ET Docket No. 03-254, FCC 03-318, December 23, 2003 (the "NPRM").

[2] Comments of SkyBridge L.L.C., ET Docket No. 03-254, March 3, 2004 (the "SkyBridge Comments").

procedures will ensure the feasibility of sharing between these systems, without placing undue burdens on either the satellite or terrestrial operators.[3]

The Society of Broadcast Engineers, Incorporated ("SBE") raised a number of issues related to sharing between mobile-satellite service ("MSS") earth stations and BAS links in the 7 GHz and 13 GHz bands. SBE did not explicitly address NGSO FSS gateways, which do not operate in the MSS. It is unclear whether some of the SBE's comments on MSS feeder link earth stations were also intended to encompass NGSO FSS gateways, although these gateways do not operate in the 7 GHz band, nor do they operate downlinks in the 13 GHz band, scenarios highlighted in the SBE comments. Furthermore, as noted below, the Commission has already resolved, with respect to NGSO FSS gateways, the issues raised by SBE. Nevertheless, out of an abundance of caution, SkyBridge addresses below certain issues that SBE raised in its comments on MSS earth stations.

SBE argues that the proposed rules permit warehousing of spectrum, because broadcasters would be required to "protect MSS downlinks on all available frequencies and for all possible look angles, as opposed to only those frequencies and look angles a MSS applicant can show are actually in use and needed."[4] Although NGSO FSS operators do not operate downlinks in the subject bands (the scenario highlighted in the SBE comments), SkyBridge is concerned that SBE intended to direct its "warehousing" argument at NGSO FSS gateways as well.

At the outset, it must be recalled that NGSO FSS system gateways must track moving satellites; how many satellites and at what "look angles" will vary from

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[3] *See* Comments of the Boeing Company, ET Docket No. 03-254, March 3, 2004, at 2-5. Although Boeing specifically addresses sharing between MSS and BAS/CARS systems, most of the points made by Boeing apply to NGSO FSS gateway earth stations as well. *See also* SkyBridge Comments at 3.

[4] SBE Comments at 1.

system to system. In general, each NGSO FSS gateway must have access to all possible look angles relevant to its systems' specific characteristics, and this requirement must be taken into account in any coordination. Although not all look angles may be in use at a particular point in time, the need to track a specific satellite changes dynamically with changes in traffic patterns, and it must be assumed that, over time, all look angles will be employed.[5]

The same is true with respect to the frequencies used by NGSO FSS systems. In general, these systems are designed to employ all available frequencies, depending on the amount and geographic distribution of customer traffic at a given time. To accommodate traffic fluctuations, it is necessary to coordinate NGSO FSS gateways for all available frequencies. This does not constitute "spectrum warehousing." All of the spectrum is actually needed and will actually be used by the satellite system.[6]

SBE also raises concerns regarding the ability of new MSS uplinks to protect mobile TV Pickup or CARS Pickup operations.[7] Again, it is unclear whether SBE meant to include NGSO FSS gateways in its discussion. In any case, both the

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[5] Depending on system design, there likely will be, for each NGSO FSS system, some theoretical look angles that will never be employed. For example, an NGSO FSS system will generally have a minimum elevation angle, below which the gateway earth stations will not point. Additionally, depending on the specific orbital planes employed by a given system, there may be other ranges of pointing angles that will not be needed by a particular gateway. In such cases, these unique, system-specific characteristics should be taken into account in individual coordinations.

[6] SkyBridge agrees with SBE that, if an uplink operator coordinates for less that all of the available spectrum, or less than all of the possible pointing angles, and later seeks to expand or change it spectrum usage or satellite-tracking protocols, the operator must, of course, seek new coordination agreements for such changes. *See* SBE Comments at 2. However, due to the dynamic nature of NGSO FSS spectrum use and satellite tracking, it can be expected that most NGSO FSS gateway uplinks will be coordinated at the outset for the full range of spectrum and tracking requirements of the particular system.

[7] SBE Comments at 5.

NPRM and the comments filed in this proceeding demonstrate that accommodating NGSO FSS gateways will not unduly burden mobile BAS and CARS operations. NGSO FSS gateways will be large facilities, generally not located in urban areas, and TV stations typically use the 13 GHz band only for short distance links.[8]

Most importantly, however, the approach suggested by SBE to address its concern has, in essence, already been adopted by the Commission, at least with respect to NGSO FSS gateways. SBE proposes an exclusion zone that would prohibit placing certain earth station facilities within 150 km of the 100 largest television markets, in order to protect TV pickup operations.[9] However, in ET Docket No. 98-206, the Commission adopted a rule excluding NGSO FSS gateway operations in the 13.15-13.2125 GHz band, within 50 km of the top 100 television markets, specifically in order to limit the impact of NGSO FSS systems on existing and future BAS and CARS use of the band.[10] It is not clear what, if anything, additional SBE actually seeks, at least with respect to NGSO FSS (as opposed to MSS) systems.

If SBE intended its proposal to apply to NGSO FSS gateways, the only clear difference between SBE's proposal and the Commission's existing rule is that SBE proposes that the exclusion zone extend an additional 100 km beyond what the Commission already adopted in ET Docket No. 98-206. However, SBE neither acknowledges the existence of the current rule, nor provides any reason why that rule is

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8 *See* 47 C.F.R. § 25.201; NPRM at ¶¶ 15, 20-21, 31.

9 SBE Comments at 5. Although SBE uses the term "growth zone," SBE's proposal appears to contemplate a rigid "exclusion" zone, in contrast to the flexible "growth zone" approach under consideration for sharing between NGSO FSS and Fixed Service systems in the 11 GHz band. *See* NPRM, ¶ 4-5.

10 Amendment of Parts 2 and 25 of the Commission's Rules to Permit Operation of NGSO FSS Systems Co-Frequency with GSO and Terrestrial Systems in the Ku-Band Frequency Range, Second Memorandum Opinion and Order, ET Docket No. 98-206, FCC 03-25, Feb. 11, 2003 (the "NGSO FSS Recon Order"), ¶¶ 11-13.

insufficient for protection of TV pickup stations; SBE provides no analysis whatsoever in support of its 150 km proposal. Put simply, there is no basis for the Commission to revisit its decision in ET Docket No. 98-206 regarding this issue.

CONCLUSION

To the extent, if any, that SBE's comments were meant to address NGSO FSS gateway operations, the Commission should reject the SBE proposals discussed above, and adopt a regulatory scheme to permit the operation of NGSO FSS gateways in the 13 GHz band consistent with the NPRM and SkyBridge's earlier comments in this proceeding.

Respectfully Submitted,

SKYBRIDGE L.L.C.

By:_____
Jeffrey H. Olson
Diane C. Gaylor

Paul, Weiss, Rifkind, Wharton
& Garrison LLP
1615 L Street, NW, Suite 1300
Washington, DC 20036
Telephone: (202) 223-7300
Facsimile: (202) 223-7420

Its Attorneys

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CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing Reply Comments of SkyBridge L.L.C. was served this 18th day of March, 2004, by First-Class U.S. Mail, postage prepaid, on the following:

Mitchell Lazarus, Esq.
Fletcher, Heald & Hildreth, PLC
1300 North 17th Street
Eleventh Floor
Arlington, VA 22209

Attorneys for The Fixed Wireless Communications Coalition

Christopher D. Imlay, Esq.
Booth, Freret, Imlay & Tepper
14356 Cape May Road
Silver Spring, MD 20904

Attorneys for Society of Broadcast Engineers, Inc.

Joseph P. Markoski, Esq.
Bruce A. Olcott, Esq.
Squire, Sanders & Dempsey, LLP
1201 Pennsylvania Avenue, N.W.
P.O. Box 407
Washington, DC 20044-0407

Attorneys for The Boeing Company

Theresa Knadler

Theresa Knadler