

Before the
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

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FEDERAL COMMUNICATIONS COMMISSION
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In the Matter of

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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;

ET Docket No. 98-206

RM-9147

RM-9245

Amendment of the Commission's Rules to
Authorize Subsidiary Terrestrial Use of the
12.2-12.7 GHz Band by Direct Broadcast Satellite
Licensees and Their Affiliates; and

Applications of Broadwave, USA,
PDC Broadband Corporation, and
Satellite Receivers, Ltd. to Provide
A Fixed Service in the 12.2-12.7 GHz Band

PETITION FOR RECONSIDERATION

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TABLE OF CONTENTS

SUMMARY v

I. THE COMMISSION SHOULD REVERSE ITS DECISION TO AUTHORIZE MVDDS SYSTEMS IN THE 12.2-12.7 GHz BAND. 2

 A. The Commission's Decision Violates The APA. 2

 B. The Commission's Decision Is Premature, Because Critical Technical Issues Remain Unresolved. 6

 1. The Commission's Suggestion That An International Consensus On Technical Sharing Issues Supports The MVDDS Decision Are Flatly Erroneous. 6

 2. The Commission Has Provided No Technical Or Policy Basis For Affording MVDDS Co-Primary Status With NGSO FSS. 7

 3. The Remaining Technical Issues Must Be Resolved Prior To Any Decision On MVDDS Entry In The Band. 9

 C. The Commission's Assertions That Its MVDDS Action Is In Furtherance Of The SHVIA Legislation Are Mistaken. 10

 1. MVDDS Systems Will Cause Harmful Interference To Co-Primary NGSO FSS Systems, In Violation Of Key SHVIA Provisions. 11

 2. The Commission's Decision Does Nothing To Ensure New Services In Rural Areas, Or Provision Of Local Programming In Areas Unserved By Cable Systems, Contrary To The Goals Of SHVIA. 15

II.	THE COMMISSION SHOULD ALLOCATE THE 13.15-13.2125 GHz BAND TO NGSO FSS SYSTEMS.	17
A.	The Commission's Decision Not To Allocate The 13.15-13.2125 GHz Band To NGSO FSS Gateways Has A Very Severe Impact On NGSO FSS Uplink Operations.	18
B.	Coordination Between NGSO FSS Gateways And The Types Of BAS And CARS Pick-Up Operations Actually Conducted In The Band Is Feasible.	20
1.	The Band Is Currently Used By Other Satellite Services.	21
2.	The Proposed NGSO FSS Use Of The Band Is Quite Limited And Will Be Carefully Regulated.	22
3.	The TV Pick-Up Operations Actually Conducted In The Band Can Share With Non-Ubiquitously Deployed And Carefully-Sited Satellite Transmitters.	23
III.	THE COMMISSION SHOULD MODIFY ITS SERVICE RULES FOR NGSO FSS SYSTEMS TO MAKE THEM CONSISTENT WITH THE TECHNICAL DECISIONS FINALIZED AT WRC-2000, UPON WHICH THEY ARE BASED.	26
A.	Certain Changes To The EPFD Limits In The Commission's Rules Are Needed For Compatibility With The WRC-2000 Agreements.	26
B.	The Commission's Rules For Assessing Compliance With The EPFD Limits Are In Several Significant Respects Inconsistent With The Regulatory Regime Finalized At WRC-2000.	28
1.	The Commission's Rules For A Software Demonstration of Compliance With The "Validation Limits" Must Be Consistent With The Software Specification Employed.	29
(a)	The Commission should encourage use of the generic software tool developed within the ITU.	29

(b)	The Commission's required showing should be consistent with the ITU software specification.	30
2.	The Commission's Rules For Ensuring Compliance With The Operational-Type Limits Must Be Consistent With The Definition Of Those Limits.	32
(a)	The Commission must ensure that its rules respect the differences between the "validation" limits and the two kinds of "operational" limits.	32
(b)	The Commission should eliminate its requirement for a pre-operation showing of compliance with the "Operational Limits."	34
(c)	The Commission should modify its rules requiring a pre-operation showing of compliance with the "Additional Operational Limits."	37
3.	The Commission Should Address Compliance With The Aggregate Limits In The Context Of The Licensing Of, Or Sharing Among, NGSO FSS Systems.	43
C.	The Commission Should Adopt The WRC-2000 GSO Earth Station Off-Axis EIRP Limits, Which Were A Fundamental Component Of The Regulatory Regime Finalized At WRC-2000.	43
D.	Certain Changes Are Needed With Respect To The Commission's Rules For NGSO FSS Sharing With FS Systems.	45
1.	The PFD Limits Must Be Treated As Hard Limits And Not As Coordination Triggers.	45
2.	The Commission's Definition Of NGSO FSS "Gateway" Must Not Prohibit Connection To Private Networks.	48
E.	The Commission Should Continue To Examine Ways To Come Into Compliance With International Agreements For NGSO FSS Sharing With Radiolocation In The 13.75-14.0 GHz Band.	48
F.	The Commission Should Continue To Study Methods For NGSO FSS Sharing With GSO BSS In The 17.3-17.8 GHz Band.	49

G.	NGSO FSS Coordination With Radio Astronomy Should Be Conducted In Accordance With Relevant ITU Standards And Procedures.	50
	CONCLUSION	50
	EXHIBIT A	

SUMMARY

The Commission's decision to permit a newly-created Multichannel Video Distribution and Data Service ("MVDDS") in the 12.2-12.7 GHz band constitutes a per se violation of the Administrative Procedure Act. The Notice of Proposed Rule Making in this proceeding expressly stated that it was "premature to make any proposals based on Northpoint's petition at this time." The NPRM proposed no rules, and functioned as little more than a notice of inquiry designed to collect additional information in anticipation of possible further notice and opportunity for comment.

Moreover, the decision is patently inconsistent with the rigorous standards with which the Commission has historically regulated that band. With regard to co-existence between NGSO FSS and MVDDS systems, the Commission articulated no rational technical basis to support its action. Critical technical issues related to protection of primary services in the band remain unresolved. The rules the Commission has proposed to address these issues exacerbate, rather than solve, these problems.

Approaches for sharing among NGSO FSS and MVDDS systems do exist and should be explored. However, having permitted MVDDS systems into the 12.2-12.7 GHz band prior to identifying a sound technical sharing regime, the Commission has eliminated all incentive for MVDDS proponents to agree to reasonable sharing rules. In essence, the Commission has all but nullified the primary allocation for NGSO FSS systems.

In view of the Commission's departure from its stated course of action in the NPRM, and the critical unresolved issues identified above, it appears that the *only* reason for the Commission's decision at this juncture was the SHVIA legislation, which was intended to

facilitate the provision of local TV channels in rural areas that are unserved by cable systems. However, SHVIA in no way compels the action taken by the Commission. Indeed, the Commission's decision and proposed rules do little, if anything, to ensure new services in rural areas, or provision of local programming in areas unserved by cable systems. Moreover, they actually violate a key provision of that legislation -- the requirement that primary services, including NGSO FSS, be protected from any new services authorized pursuant to the legislation, such as MVDDS.

In this petition, SkyBridge also requests the Commission to make certain specific changes in its allocation and service rules for NGSO FSS systems, to bring them more clearly into alignment with the technical and regulatory decisions taken at the 2000 World Radiocommunication Conference ("WRC-2000") for these global systems.

First, SkyBridge requests the Commission to reverse its decision not to allocate the 13.15-13.2125 GHz band to NGSO FSS. The Commission had argued that this decision would protect the television Broadcast Auxiliary Service ("BAS") and Cable Antenna Relay Service ("CARS") pick-up operations in the band. However, this action leaves a gap in the Commission's co-primary allocation of the 12.75-13.25 GHz to NGSO FSS gateway operations, which has a severe impact on NGSO FSS operations. Moreover, there has been no showing whatsoever by any party that such a carve-out is actually necessary to protect these terrestrial services. As demonstrated in this petition, sharing between NGSO FSS gateways and mobile pick-up operations in the band should be feasible, and SkyBridge proposes a sharing regime that will accommodate the needs of both services.

Second, SkyBridge urges the Commission to make certain changes to its rules relating to the EPFD limits on NGSO FSS systems, to make them compatible with the WRC-

2000 agreements on which they are based. There are several inconsistencies between the Commission's expression of those limits and the WRC-2000 text. Some of these deviations lead to critical changes in meaning, with a corresponding significant impact to the regulated services. More importantly, the Commission's rules for assessing compliance with the EPFD limits are in several significant respects incompatible with the purpose and intentions of the regulatory regime finalized at WRC-2000. As the Commission knows, the WRC-2000 agreements were the result of years of detailed study and intense negotiation. It is critical that the Commission not ignore components of the international agreements, nor open new issues, in order to minimize debate on the interpretation of the rules and on the methods for performing the necessary computations.

For example, the Commission has adopted rules calling for a software demonstration of compliance with the so-called "validation" limits that diverge from the software specification to be employed for that demonstration. As a result, the rules are difficult to interpret, and reopen delicate debates that were concluded in the ITU-R in preparation for WRC-2000.

In addition, the Commission's rules for ensuring compliance with the two kinds of "operational" limits are not consistent with the definition of those limits. As the Commission is well aware, these bound the actual levels of interference generated by an NGSO FSS system *in operation* into any *operational* GSO earth station. Nonetheless, the Commission has departed from the WRC-2000 result and imposed requirements that NGSO FSS licensees demonstrate, via computer simulations, compliance with these limits *prior to the commencement of service*. The ITU-R study groups recognized that is not possible to demonstrate compliance with these limits via computer simulations prior to commencement of operation, because: (1) the operational limits can, by definition, be exceeded (except into an operational GSO earth station defined by

the limits); (2) operational power levels from an NGSO FSS system change over the life of an NGSO FSS system with changes in traffic patterns; and (3) there is no definitive database of operation GSO earth stations, including their pointing directions.

Indeed, the Commission's rules for assessing compliance with the two kinds of operational limits are nearly identical to the rules for the validation limits, despite critical and fundamental differences between these classes of limits. SkyBridge therefore urges the Commission to eliminate its rules requiring pre-operational showings of compliance with these limits. Instead, consistent with the intent of the ITU-R in developing these limits, the Commission should rely on the measurement and simulation techniques developed by the ITU-R for assessing compliance with these limits *in operation*, and put licensees on notice that they must be prepared fully to demonstrate compliance to the Commission in the course of any investigation into a claimed violation. This is entirely consistent with the general course taken by the Commission with respect to other power limits placed on satellite systems for the protection of other services.

In addition, as the Commission well knows, the off-axis EIRP limits on GSO FSS earth stations adopted by WRC-2000 constituted a truly critical part of the compromise agreement reached at that conference. Although the limits will not unduly burden GSO operations, they establish a clear bound on GSO emissions that NGSO operators can rely upon and use in designing their systems. The Commission has declined to adopt the WRC-2000 limits, arguing that its current rules impose stricter limitations on GSO operations. However, no combination of existing rules comprehensively limits the off-axis EIRP of GSO earth stations in all relevant cases, and the Commission should remedy this defect and adopt the off-axis EIRP limits.

Finally, the Commission should recognize that the PFD limits developed by the ITU-R for the protection of FS systems have been demonstrated to protect a wide variety of FS configurations, including receivers pointing at high elevation angles, and are intended to be hard limits, and not coordination triggers. SkyBridge therefore urges the Commission to clarify that an NGSO FSS system operating in compliance with the PFD limits shall be considered as having fulfilled its obligations to protect incumbent FS systems from downlink interference, and is not required take any further steps to protect individual links.

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Authorize Subsidiary Terrestrial Use of the)	
12.2-12.7 GHz Band by Direct Broadcast Satellite)	
Licenses and Their Affiliates; and)	
)	
Applications of Broadwave, USA,)	
PDC Broadband Corporation, and)	
Satellite Receivers, Ltd. to Provide)	
A Fixed Service in the 12.2-12.7 GHz Band)	
To: The Commission		

PETITION FOR RECONSIDERATION

SkyBridge L.L.C. ("SkyBridge"), by its attorneys, hereby petitions the Commission to reconsider certain actions taken in the Commission's First Report and Order and Further Notice of Proposed Rule Making in the above-captioned matter.^{1/} First, SkyBridge requests the Commission to reconsider its decision to permit Multichannel Video Distribution and Data Service ("MVDDS") systems in the 12.2-12.7 GHz band. The Commission's decision is fatally defective, both procedurally and technically, and in no way furthers the goals of the Satellite Home Viewer Improvement Act. Second, SkyBridge requests the Commission to make

^{1/} FCC 00-418, released December 8, 2000. Herein, the First Report & Order will be denoted "Report & Order" or "R&O." The Further Notice of Proposed Rule Making will be denoted "Further Notice" or "FNPRM." On March 12, 2001, SkyBridge filed its comments on the Further Notice (the "SkyBridge FNPRM Comments").

certain specific changes in its allocation and service rules for non-geostationary satellite orbit ("NGSO") Fixed-Satellite Service ("FSS") systems, to bring them more clearly into alignment with the technical and regulatory decisions taken at the 2000 World Radiocommunication Conference ("WRC-2000") for these global systems.

I. THE COMMISSION SHOULD REVERSE ITS DECISION TO AUTHORIZE MVDDS SYSTEMS IN THE 12.2-12.7 GHz BAND.

A. The Commission's Decision Violates The APA.

In the Report & Order, the Commission states that it has made a "major threshold determination to authorize a new service, MVDDS," in the 12.2-12.7 GHz band,^{2/} and concludes that the new MVDDS service can operate under an existing Fixed Service ("FS") allocation.^{3/} Although the technical requirements for this new service are to be developed pursuant to the FNPRM, the decision to permit MVDDS in the 12.2-12.7 GHz band appears to be a final rule. If so, the decision violates the fundamental Administrative Procedure Act ("APA") principle that an agency must provide notice of its intention to adopt new rules prior to the adoption thereof.^{4/}

The Notice of Proposed Rule Making in this proceeding expressly stated that it was "premature to make any proposals based on Northpoint's petition [for authorization of its MVDDS system] at this time."^{5/} And this conclusion was firmly echoed in the corresponding notice in the Federal Register, which stated that "[t]he NPRM does not propose to adopt

^{2/} R&O, ¶ 18.

^{3/} R&O, ¶ 2.

^{4/} See 5 U.S.C. § 553(b); see also Arizona Pubic Service Co. v. Environmental Protection Agency, 211 F.3d 1280, 1299 (D.C. Cir. 2000).

^{5/} FCC 98-310 (rel. Nov. 24, 1998) (the "NPRM") at ¶ 98.

Northpoint's suggested use of the 12.2 - 12.7 GHz band."^{6/} The NPRM left no room for doubt that, with respect to Northpoint's petition, the Commission was only gathering information regarding the various spectrum sharing issues raised by that petition, and that any action in that regard would occur, if at all, after a further rule making notice and opportunity for comment.

Despite this clearly stated intention to defer rulemaking, the Report & Order nonetheless appears to promulgate final rules providing co-primary status for MVDDS in the 12.2 - 12.7 GHz band.^{7/} This is a per se violation of the APA. On numerous occasions, courts have invalidated regulations on the ground that the implementing agency was silent with respect to its intention to adopt new rules.^{8/} Here, however, the procedural defect is much more serious, because the NPRM expressly stated that the Commission had no intention of adopting rules with respect to permitting MVDDS in the 12.2 - 12.7 GHz band.^{9/} Instead, the Commission made clear that it sought additional information on the myriad and vexing technical issues raised by Northpoint's petition.^{10/} Thus, in this respect, the NPRM functioned as little more than a notice of inquiry designed to collect additional information about Northpoint's proposal, in anticipation

^{6/} "Fixed Satellite Service and Terrestrial System in the Ku-Band," 64 Fed. Reg. 1786, 1787 (Jan. 12, 1999).

^{7/} R&O, ¶¶ 219-228.

^{8/} See, e.g., Reeder v. Federal Communications Commission, 865 F.2d 1298, 1304 (D.C. Cir. 1989) (holding that notice was inadequate because the FCC's notice did not alert the petitioners to the fact that the FCC was adopting rules that would permanently foreclose their plans); Wagner Elec. Corp. v. Volpe, 466 F.2d 1013, 1019-1020 (3d Cir. 1972) (holding that an agency cannot issue a final rule that accomplishes changes in an area in which the agency's notice of proposed rule making gave no warning that it was considering changes).

^{9/} NPRM, ¶ 98.

^{10/} Id., ¶¶ 96-98.

of possible further notice and opportunity for comment, assuming arguendo that such further proceedings were deemed to be warranted after consideration of the record developed in response to the NPRM.

Any doubt in this regard is firmly laid to rest merely by juxtaposing the Commission's detailed discussion of its proposed regulatory regime vis-a-vis NGSO FSS systems and the brief remarks concerning Northpoint's petition. For example, in discussing NGSO FSS use of the 12.2 - 12.7 GHz band, the Commission spent 40 pages carefully addressing the key technical limitations it was proposing, in 11 pages of new rules, for NGSO FSS operations, which were based on the detailed provisional framework established by WRC-97 and the subsequent agreements reached by the JTG 4-9-11 and the 1999 Conference Preparatory Meeting.^{11/} In contrast, the Commission's discussion of Northpoint's proposal to use the very same band consumed only 4 pages, is devoid of any technical discussion, and instead provided little more than a laundry list of issues that would need to be considered before Northpoint's proposal could be given serious consideration.^{12/} The Commission therefore clearly acknowledged that the SkyBridge and Northpoint proposals were at very different stages of development, and should be treated differently in the regulatory context.^{13/}

^{11/} Id. at ¶¶ 55-62.

^{12/} Id. at ¶¶ 96-98.

^{13/} The MVDDS decision at this juncture is in sharp contrast to the procedures followed by the Commission with respect to its NGSO FSS allocation in the same band. The Commission made it clear to NGSO FSS proponents that there could be no allocation for NGSO FSS in the band *unless and until* sharing studies were completed, and agreement was reached with incumbent Direct Broadcast Service ("DBS") operators in the band on the sharing rules needed to facilitate operation of both services. Parties potentially affected by the proposals of NGSO FSS proponents were able to study and comment on detailed sharing rules, before any allocation was adopted.

The Commission's general request for comments regarding Northpoint's proposal falls far short of the notice required by the APA. Such "[a] general request for comments is not adequate notice" because "[i]nterested parties are unable to participate meaningfully in the rulemaking process without some notice of the direction in which the agency proposes to go."^{14/} In sum, the "[f]ailure to make known agency views at the time of publication of notice circumvents the purpose of the APA notice requirements."^{15/} Having expressly declined to propose rules with respect to Northpoint's petition, the Commission did not provide the requisite notice in the NPRM.

In light of the Commission's clear failure to provide notice, as a matter of law, the Commission must reconsider its decision to permit MVDDS in the 12.2 - 12.7 GHz band.

^{14/} United Church Board for World Ministries v. Securities Exchange Commission, 617 F. Supp. 837, 840 (D. D.C. 1985). The MVDDS decision was made before any party was given any opportunity whatsoever to comment on the Commission's proposed rules for the new service, which were issued simultaneously with the decision. As explained in detail in the SkyBridge FNPRM Comments, and discussed further below, the Commission's proposals for introduction of MVDDS service in the band are seriously flawed, threatening primary services in the band. Affected parties were entitled to comment on the numerous technical issues newly raised by the Commission's proposals in the FNPRM prior to the Commission's decision to permit MVDDS entry in the band. This is particularly the case here, where feasibility studies related to introduction of MVDDS are still not completed (indeed the congressionally-established MITRE study has just recently commenced), and no consensus has been reached on sharing with either of the two primary users of the band (DBS and NGSO FSS).

^{15/} United Church Board at 840.

B. The Commission's Decision Is Premature, Because Critical Technical Issues Remain Unresolved.

1. The Commission's Suggestion That An International Consensus On Technical Sharing Issues Supports The MVDDS Decision Are Flatly Erroneous.

The Commission states that "[a]fter an exhaustive analysis *and the time-consuming development on the international front of a consensus regarding critical technical issues*, we have made a major threshold determination to authorize a new service, MVDDS . . ." (emphasis added).^{16/} However, the consensus on sharing in the 12.2-12.7 GHz band to which the Commission refers involved sharing between *only* co-primary NGSO FSS and GSO BSS operations.^{17/} The exhaustive discussions that lead to this consensus, and the particular agreements reached, did not involve, and did not take into account, MVDDS-type operations. As SkyBridge has previously noted, Northpoint's efforts in the ITU working groups have been meager at best, and *no conclusions whatsoever* have been reached in the international forums regarding the complex issues surrounding NGSO FSS/MVDDS or GSO BSS/MVDDS sharing.^{18/}

The Commission's intimations to the contrary are inexplicable. The international agreements finalized at WRC-2000 lend no support to the Commission's action on MVDDS in

^{16/} R&O, ¶ 18. See also R&O ¶ 165 and Report to Congressional Committees Pursuant to the Rural Local Broadcast Signal Act, FCC 00-454, rel. January 2, 2001 ("Report to Congressional Committees"), ¶ 8.

^{17/} The agreements also took into account existing, point-to-point terrestrial FS operations in the subject band; however Northpoint argues, and the Commission apparently agrees, that the international consensus relating to existing terrestrial services should not apply to point-to-multipoint MVDDS. See R&O, ¶ 279. This, of course, completely undermines what is apparently the Commission's sole justification for co-primary status for MVDDS -- the existing FS allocation. If the parameters of MVDDS are so different from traditional FS that different rules should apply, co-primary status cannot be founded on the existing co-primary allocation in the band.

^{18/} See, e.g., SkyBridge FNPRM Comments at 6, n.11.

the Report & Order. Indeed, as discussed further below, the pronounced lack of consensus on important sharing issues regarding point-to-multipoint systems such as MVDDS highlights the entirely arbitrary and technically unsupportable nature of the Commission's decision.

2. The Commission Has Provided No Technical Or Policy Basis For Affording MVDDS Co-Primary Status With NGSO FSS.

The allocation of a band for two (or more) co-primary services is practical only if both services are guaranteed relatively equal access to the band; neither service should have to shoulder a substantially heavier burden than the other in order to facilitate their shared use of the spectrum. To meet this goal, the Commission must require each of the co-primary services to operate within certain boundaries, to guarantee that the co-primary status permits the effective operation of both services, no matter which system may deploy first in a given area. The limitations imposed must be carefully crafted to afford the necessary protection to each of the services, while at the same time avoiding unnecessary or debilitating burdens on either service.

The Commission has followed this course rigorously in every aspect of the proceedings for entry of NGSO FSS systems into the subject band. NGSO FSS was allocated on a co-primary basis in the band only following years of exhaustive studies, negotiations, and eventual agreement among the relevant co-primary parties on detailed sharing rules.^{19/} The Commission made it clear that such agreement would be a strict condition precedent to any allocation to NGSO FSS in the band.

In light of the foregoing, it is arbitrary and discriminatory for the Commission to now permit terrestrial MVDDS operations to enter the band under any circumstances, but it is patently irrational to establish MVDDS as co-primary with NGSO FSS until comprehensive

^{19/} See SkyBridge FNPRM Comments at 11-14.

rules and procedures for protection of the NGSO FSS are developed. Particularly in light of the Commission's acknowledgment that NGSO FSS/MVDDS sharing is even more complicated than NGSO FSS/DBS sharing, there is simply no lawful basis for permitting MVDDS into the 12.2-12.7 GHz band.^{20/} The Report & Order certainly does not identify any rational predicate for the Commission's actions.^{21/}

Northpoint claims that its MVDDS system will not cause unacceptable interference to co-primary NGSO FSS user terminals. This baseless claim is flatly untrue, unless strict limitations are placed on its system, and even then, NGSO FSS operators would have to accept significant constraints to permit sharing. However, Northpoint has fought strenuously against such limitations. And, in contrast to the NGSO FSS operators seeking to share with co-primary DBS systems, the Commission has failed to require that Northpoint develop sharing rules that would support its claims, or to reach sharing agreements with co-frequency operators in the band it seeks to enter. Indeed, the Commission has failed to require Northpoint to limit the interference potential of its proposed operations in any material way, in stark contrast to the

^{20/} R&O, ¶ 224.

^{21/} As detailed in SkyBridge's FNPRM Comments, other examples of arbitrary decision-making appear in the Report & Order and Further Notice. See SkyBridge FNPRM Comments at 7-18. For example, under the proposals in the Further Notice, GSO BSS systems would receive far greater protection from *co-primary* NGSO FSS systems than from *secondary* MVDDS systems. NGSO FSS licensees are subject to exhaustive rules designed to ensure that *present and future* GSO BSS systems are adequately protected in accordance with protection criteria specified by the GSO BSS operators themselves. However, the Commission has proposed limits and compliance procedures applicable to MVDDS for protection of GSO BSS systems that are far more lenient in every respect than those applicable to NGSO FSS systems, and that utterly fail to guarantee protection of GSO BSS receivers commensurate with their primary status. SkyBridge FNPRM Comments at 14-17.

Commission's approach to NGSO FSS systems. Why the Commission has chosen to reward Northpoint for its technical intransigence is inexplicable.

3. The Remaining Technical Issues Must Be Resolved Prior To Any Decision On MVDDS Entry In The Band.

Despite Northpoint's refusal to meet the same standards of cooperation and technical consensus as other services operating in the band, SkyBridge has expended considerable resources in attempting to solve the sharing problems introduced by Northpoint, and has developed a proposal that achieves equitable sharing without placing unreasonable burdens on the MVDDS service (the "SkyBridge Proposal").^{22/} However, in the Further Notice, the Commission accepted practically every unsupported and contradictory assertion proffered by Northpoint, while ignoring the clearly documented and critical needs of NGSO FSS systems, as detailed in the SkyBridge Proposal.

Co-primary status provides equal rights to two or more services. Particularly in the case of ubiquitous services, such as NGSO FSS and MVDDS, if the limits on each service are insufficient to adequately protect the other service, no equitable sharing will result. Rather, the first to deploy in each geographic area will heavily constrain, and may exclude, operations of the other services. Such a result is entirely inconsistent with co-primary status, and contrary to the Commission's treatment of other co-primary allocations. Just as in the NGSO/GSO case, acceptable interference levels must be agreed upon in advance, so that these levels can be taken

^{22/} *Ex Parte* Communication of SkyBridge, ET Docket No. 98-206, July 10, 2000 (the "SkyBridge Proposal"). See also SkyBridge FNPRM Comments at 19-47.

into account in the design and deployment of the systems, and enforced by each party. In the absence of such rules, the Commission has relegated NGSO FSS to de facto secondary status.^{23/}

For these reasons, the Report and Order's grant of co-primary status to MVDDS in the 12.2-12.7 GHz band cannot be justified on any rational basis. The Commission should reverse this decision, subject to its being revisited at such time a consensus emerges on the outstanding technical sharing issues, comparable to that reached between DBS and NGSO FSS operators prior to the NGSO FSS allocation adopted in the Report & Order. As explained by SkyBridge in its FNPRM Comments, approaches for sharing that more equitably distribute the burdens between NGSO FSS and MVDDS systems do exist and should be explored. However, having permitted MVDDS systems into the 12.2-12.7 GHz band prior to identifying a sound technical basis for that action, the Commission has eliminated all incentive for MVDDS proponents to agree to reasonable sharing rules. In essence, the Commission has all but nullified the primary allocation for NGSO FSS systems.

C. The Commission's Assertions That Its MVDDS Action Is In Furtherance Of The SHVIA Legislation Are Mistaken.

The Commission argues that, in establishing the MVDDS service and proposing sharing rules for the new service, it is meeting a deadline imposed by Congress in the Satellite Home Viewer Improvement Act ("SHVIA").^{24/} Indeed, in view of the Commission's departure from its stated course of action in the NPRM, and the critical unresolved issues identified above, it appears that the SHVIA legislation is the *only* reason for the

^{23/} As a terrestrial service, MVDDS may be in a position to deploy more rapidly, particularly in urban areas, leaving NGSO FSS systems to suffer the interference environment created by such deployment. Such a scenario is not consistent with co-primary status.

^{24/} See Act of Nov. 29, 1999, Pub. L. 106-113, 113 Stat. 1501.

Commission's action at this juncture. However, SHVIA in no way compels the action taken by the Commission. Indeed, the Commission's action does little, if anything, to further the goals of SHVIA, and actually violates a key provision of that legislation.

1. MVDDS Systems Will Cause Harmful Interference To Co-Primary NGSO FSS Systems, In Violation Of Key SHVIA Provisions.

First, the SHVIA legislation specifically requires the Commission to "ensure" that no new service authorized pursuant to the legislation "causes harmful interference to the primary users of that spectrum."^{25/} Far from ensuring this result, the Commission has guaranteed that such interference will occur from MVDDS operations into primary NGSO FSS operations, and has proposed rules that would place the burden of resolving the resulting problems exclusively on such primary users.

As noted by the Commission, NGSO FSS user terminals located near MVDDS transmitters will receive harmful interference.^{26/} Because the NGSO FSS consumer terminals will be deployed ubiquitously, at homes and offices, the constraints imposed on NGSO FSS operators, absent adequate limitations on MVDDS operation, will be tremendous. While acknowledging the concern, the Commission attempts to minimize the extent of the problems that will be created by co-frequency NGSO FSS/MVDDS operations, citing a string of unsupported assumptions, most, if not all, of which are flatly wrong.

^{25/} See paragraph (a)(2) of the Rural Local Broadcast Signal Act ("RLBSA"), Act of Nov. 29, 1999, Pub. L. 106-113, 113 Stat. 1501, 1537. The legislative history makes clear that NGSO FSS systems were to be considered "primary users" of the band. See Cong. Rec. 106th Cong., 1st Sess. at 515014.

^{26/} R&O, ¶ 225.

First, the Commission stated -- without any technical basis -- that only a very small percent of NGSO terminals will suffer from MVDDS interference.^{27/} However, as described in detail in the SkyBridge FNPRM Comments, the Commission appears not to have actually analyzed the interference mechanisms involved,^{28/} because the proposed rules all but guarantee the opposite result.^{29/}

Moreover, the Commission is wrong in its assessment of the ability of NGSO FSS systems to employ inherent system flexibility to avoid MVDDS interference.^{30/} As SkyBridge has explained on numerous prior occasions, the abilities of NGSO FSS systems to handle such interference are finite, and are already being used to facilitate sharing with a variety of other co-

^{27/} R&O, ¶ 225.

^{28/} As explained in the SkyBridge FNPRM, because both NGSO FSS and MVDDS receivers must point away from the GSO arc, they tend to point toward each other, which gives rise to the potential for interference. SkyBridge FNPRM Comments at 22-23. For this reason, the Commission is simply wrong when it states that its rules for the protection of DBS systems will also serve to protect NGSO FSS systems. R&O, ¶ 225.

^{29/} In this case, the problem could be solved with strict limitations on MVDDS emissions, as previously proposed by SkyBridge. See SkyBridge Proposal and SkyBridge FNPRM Comments at 19-47 and Exhibit A. However, of the Commission's proposed rules, only a single limit on MVDDS operations provides some protection to NGSO FSS user terminals -- the limit on MVDDS transmitter power -- and even that limit (12.5 dBm) is subject to glaring exceptions. Even when applicable, this limit does not bound the zone within which NGSO FSS systems will receive interference, because the size, shape, and location of this zone will still vary as a function of antenna height, tilt angle, antenna pattern, etc. And the limit does nothing at all to protect consumer NGSO FSS terminals inside the zone. Moreover, the proposed exceptions to the rule, most importantly that it apply only in urban areas, FNPRM, ¶ 311, leave vast areas in which no constraint whatsoever is placed on the size of the zone. Furthermore, the Commission's limit was not even based on the protection requirements of NGSO FSS systems. The Commission appears to have proposed the 12.5 dBm value solely on the basis that Northpoint demonstrated that it could provide service using this power at test sites in Virginia and Washington, D.C. FNPRM, ¶ 311. With regard to ensuring both MVDDS and NGSO FSS systems realistically can coexist, the 12.5 dBm power limit is utterly irrelevant.

^{30/} R&O, ¶ 226; FNPRM, ¶ 281.

frequency services.^{31/} Even more importantly, the Commission explicitly declined to propose rules developed by SkyBridge that would permit NGSO FSS systems to employ frequency diversity to facilitate sharing with MVDDS systems.^{32/} In other words, *the Commission itself has thwarted efforts that SkyBridge has made to address the sharing problems introduced by MVDDS systems.* As a result, there is no factual basis whatsoever for the Commission's undocumented assumption that NGSO FSS systems will be able to take steps to avoid interference from MVDDS transmitters.

Furthermore, the Commission highlights the fact that interference problems may be less in rural areas "where terrestrial broadband options are not readily available."^{33/} Although satellite services clearly enjoy distinct advantages over terrestrial services in providing service to rural areas, as SkyBridge previously demonstrated for the Commission,^{34/} urban and suburban areas are critical markets for NGSO FSS services. Therefore, NGSO FSS user terminals will potentially be located in the service regions of all MVDDS transmitters, and the Commission must ensure that its allocations and rules are consistent with this scenario.

^{31/} See, e.g., SkyBridge FNPRM Comments, Sections III.A.1 and III.A.2; *Ex Parte* Communication of SkyBridge L.L.C., ET Docket No. 98-206, RM-9147, and RM-9245, November 10, 1999, at 4-12; *Ex Parte* Communication of SkyBridge L.L.C., ET Docket No. 98-206, RM-9147, and RM-9245, February 18, 2000, at 20-37.

^{32/} See SkyBridge FNPRM Comments at 26-32.

^{33/} R&O, ¶ 227.

^{34/} See, e.g., Comments of SkyBridge in CC Docket No. 98-146, September 8, 1998; Reply Comments of SkyBridge in CC Docket No. 98-146, October 8, 1998; Comments of SkyBridge in BO Docket No. 99-11, June 28, 1999; Comments of SkyBridge in CC Docket No. 96-94, December 17, 1999. See also Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, FCC 99-5, (rel. Feb. 2, 1999) at 28, nn.110-111.

In the absence of adequate limitations on MVDDS emissions, NGSO FSS operators would be faced with accepting the entire sharing burden, and deployment of consumer-oriented services would suffer.^{35/} Such a result is entirely inconsistent with co-primary status, and contrary to the Commission's treatment of other co-primary allocations, including the rules for NGSO/GSO sharing adopted in this very proceeding.

Indeed, it was the concern over interference to consumer equipment that led the Commission to conclude, in the very same Report & Order, that NGSO FSS gateways should not be permitted in the 17.3-17.7 GHz bands. The Commission stated that "sharing of the 17.3-17.7 GHz band by ubiquitous BSS downlinks and NGSO FSS uplinks would be difficult" and that "[t]he resulting limitation on the location of BSS receive earth stations would be overly restrictive on ubiquitous BSS receivers."^{36/} However, under the Commission's proposed rules, operation of MVDDS facilities in the band will pose a vastly greater constraint on deployment of NGSO FSS consumer equipment than that which would be posed by NGSO FSS gateways on DBS systems in the 17.3-17.7 GHz band.^{37/} Thus, the Commission's decision to permit entry of

^{35/} As explained in the SkyBridge FNPRM Comments, use of mitigation techniques by NGSO FSS systems, such as frequency diversity, are not possible in the absence of strict limitations on MVDDS emissions. Other measures to prevent harmful interference to NGSO FSS consumer equipment from MVDDS systems, even where possible, are not likely to be palatable to consumers under the rules proposed in the Further Notice. NGSO FSS licensees would have to operate with zones, spaced every 10 miles in the case of Northpoint's "typical" deployment scenario, in which commercial service may be seriously harmed, if not rendered impossible. See, e.g., SkyBridge FNPRM Comments at 10-11.

^{36/} R&O, ¶ 158.

^{37/} As explained in the SkyBridge FNPRM Comments, at 17: (1) the NGSO FSS gateway uplinks that would be deployed in the band are quite limited in number (30-40 in the U.S. in the case of SkyBridge, for example); (2) NGSO FSS proponents proposed shielding the NGSO FSS gateways to shrink interference zones to a few hundred meters around

(continued...)

MVDDS in the 12.2-12.7 GHz band, in the absence of strict rules to protect the consumer NGSO FSS service, is grossly arbitrary.

In sum, the Commission has abandoned the rigorous standards with which it has historically regulated the band, and has explicitly dismissed the protection requirements of co-primary NGSO FSS systems in the Further Notice. To the extent that the Commission relies on the SHVIA to justify its unsupportable decision, it has violated the requirement of the SHVIA that no new services authorized pursuant to the legislation cause harmful interference to primary users of the band.

2. The Commission's Decision Does Nothing To Ensure New Services In Rural Areas, Or Provision Of Local Programming In Areas Unserved By Cable Systems, Contrary To The Goals Of SHVIA.

The SHVIA was promulgated to promote the delivery of local programming to areas unserved by cable systems.^{38/} The record in this proceeding makes it clear that the MVDDS service is very unlikely to serve this goal, and the Commission's proposed rules for the service make this even more evident. As a terrestrial service, MVDDS is economically

^{37/} (...continued)
each gateway site; and (3) DBS operations will not even be deployed in the band until at least 2007. In contrast, MVDDS transmitters will be numerous (placed every 10 miles in the case of Northpoint, leading to potentially tens of thousand of transmitters in the U.S.), and ubiquitous NGSO FSS user terminals point in all directions, including toward MVDDS transmitters. Moreover, the Commission has not proposed that MVDDS operators be required to shield their transmitters, or take any steps other than limiting power under some scenarios, to protect NGSO FSS terminals located in the vicinity. Finally, NGSO FSS systems are already planned, and are seeking to deploy and commence service as soon as possible.

^{38/} The provision often quoted by the Commission in supporting its MVDDS allocation reads, in part: "[The Commission] shall take all actions necessary to make a determination regarding licenses or other authorization for facilities that *will utilize, for delivering local broadcast television station signals* to satellite television subscribers in unserved and under-served local television markets, spectrum otherwise allocated to commercial use." (emphasis added) RLBSA, paragraph (a).

unsuitable for providing service in rural areas.^{39/} With the need to deploy transmitters every 10 miles (in the case of Northpoint), there is no rational economic model that would support the expeditious deployment of service in rural areas; certainly Northpoint has not proffered one. Historically, terrestrial wireless consumer services have focused on the more lucrative urban and suburban markets.

Moreover, it is far from clear that MVDDS licensees would choose to provide local television programming. In the case of the highly analogous MMDS service, the licensees are currently transitioning from offering video programming to data services.^{40/} There is nothing in the record to indicate that new MVDDS licensees would take a different course. Indeed, as the DBS operators continue to add local television channels to their program services, whatever incentive may once have existed for a MVDDS operator to pursue that market is rapidly evaporating.

Notwithstanding these concerns, which the Commission surely must share, the Commission does not propose, in conjunction with its decision to establish MVDDS, to impose any concrete requirement on the new MVDDS licensees regarding build-out in rural areas or provision of local programming. Indeed, the Commission proposes to offer MVDDS licensees "substantial flexibility, and a variety of options for using the spectrum to meet market

^{39/} In fact, as the Commission has acknowledged on numerous occasions, satellite services, such as NGSO FSS are far more effective at providing such services. And as the Commission recently noted in the Report to Congressional Committees, ¶ 5, NGSO FSS systems can provide a variety of new services in such areas, *including delivery of local television programming to DBS consumers*. The Report & Order itself notes that "NGSO FSS earth station may be successfully utilized in rural areas where terrestrial broadband options are not readily available." R&O, ¶ 227.

^{40/} See Report to Congressional Committees, ¶ 19.

demands," which apparently may or may not include local programming.^{41/} For all of these reasons, the Commission's action does not meet the requirements of SHVIA that it make determinations regarding systems that will deliver local broadcast television stations in unserved and under-served local television markets.

II. THE COMMISSION SHOULD ALLOCATE THE 13.15-13.2125 GHz BAND TO NGSO FSS SYSTEMS.

In the Report & Order, the Commission decided not to allocate the 13.15-13.2125 GHz band to NGSO FSS, in order to protect the television Broadcast Auxiliary Service ("BAS") and Cable Antenna Relay Service ("CARS") pick-up operations in the band.^{42/} This action leaves a gap in the Commission's co-primary allocation of the 12.75-13.25 GHz to NGSO FSS gateway operations. Although no sharing studies in the record indicate that such a carve-out is actually necessary to protect pick-up operations,^{43/} the Commission concluded -- without any technical basis -- that the impact of this decision on NGSO FSS systems should not be

^{41/} See FNPRM, ¶ 289. See also Separate Statement of Commissioner Harold Furchtgott-Roth ("I am opposed to requiring any particular service. That is a decision best left to the marketplace.") Moreover, despite Northpoint's original proposal to grant such licenses to DBS affiliates -- to enable them to provide local channels -- the Commission actually seeks comment on whether it should restrict DBS carriers or distributors from obtaining or investing in a MVDDS license. FNPRM, ¶ 299. The MVDDS licensing proposals in the FNPRM place little emphasis on the SHVIA goal of ensuring provision of local channels in rural areas.

^{42/} R&O, ¶¶ 122, 125-126.

^{43/} The only support in the record on this issue of which SkyBridge is aware are two conclusory sentences in each of the Comments and Reply Comments of SBE in this proceeding, filed March 2, 1999 and March 29, 1999, respectively, (stating that sharing is not possible) and four paragraphs in Comments filed on January 12, 2000, (describing TV pickup operations in general terms), all of which contain little quantitative information on BAS and CARS operations in the band, and are wholly devoid of any sharing analysis. Moreover, the issue was not even raised in the NPRM that led to the adoption of this rule.

significant because of the remaining amount of gateway uplink spectrum being made available.^{44/}

However, as discussed below, the impact of the Commission's decision will have a severe impact on NGSO FSS operations. Moreover, sharing between NGSO FSS gateways and mobile pick-up operations in the band should be feasible with adoption of appropriate rules. Therefore, SkyBridge seeks reconsideration of the Report & Order in this regard, and proposes a sharing regime that will accommodate the needs of both services.

A. The Commission's Decision Not To Allocate The 13.15-13.2125 GHz Band To NGSO FSS Gateways Has A Very Severe Impact On NGSO FSS Uplink Operations.

While the amount of spectrum the Commission excluded from the NGSO FSS allocation is relatively small, the impact of the exclusion is large. The size of the uplink spectrum available for NGSO FSS systems is already much smaller than the size of the downlink spectrum, and the Commission's decision exacerbates this imbalance. More importantly, the exclusion affects the ability of NGSO FSS systems to make effective use of the adjacent bands.

The non-allocation of the 13.15-13.2125 GHz band in the middle of important uplink spectrum would require that two transponders be implemented on the satellites -- one for the lower band below 13.15 GHz, and one for the upper band above 13.2125 GHz.^{45/} More importantly, the gap would necessitate implementation of an additional layer of steep filtering in the gateway communication chain sufficient to meet out-of-band emission requirements in the adjacent bands. Finally, frequency plans would have to be modified in order to limit the number

^{44/} R&O, ¶ 126.

^{45/} Note that with bent-pipe transponders, the satellite retransmits what it receives, with no per carrier processing, and thus no per carrier filtering. It would make little technical sense to waste satellite resources amplifying and retransmitting a systematic void of capacity.

of carriers that overlap with the prohibited 62.5 MHz slot, because the more carriers that are affected, the more capacity that will be lost. As a result of these requirements, the specifications of both the satellites and earth stations operating in the 12.75-13.25 band would have to be significantly modified worldwide.^{46/}

Additional impacts are seen when the overall environment within which NGSO FSS systems operate is examined. As the Commission is aware, SkyBridge is subject to strict limitations to protect GSO FSS and BSS, FS, Radiolocation, Space Research and Radio Astronomy. Additionally, in the Further Notice, the Commission seeks ways to facilitate sharing among NGSO FSS and MVDDS systems in the 12.2-12.7 GHz band. In this latter case, frequency diversity is the only mitigation technique that can be used to permit operation of some NGSO FSS user terminals located near MVDDS transmitters, and these user terminals will be forced by MVDDS operations to employ the 11.7-12.2 GHz band. However, prohibiting use of the 13.15-13.2125 GHz band by NGSO FSS gateways actually creates a second hole in this 11.7-12.2 GHz band, because the carriers uplinked in the 12.75-13.25 GHz band will be downlinked in the 11.7-12.2 GHz band,^{47/} via bent pipe transponders that simply translate the uplinked frequencies to the downlink frequencies. Thus, a hole will be created in a band that will be the preferred band in the U.S., due to the presence of MVDDS transmitters in the adjacent band, and

^{46/} This is because the satellites in the constellation are fungible, and serve all areas of the world, including the U.S. They would all have to be made compatible with the U.S. allocation, even though they spend a great percentage of their time serving other geographic regions. This illustrates the importance of uniform regulatory requirements, as provided by the WRC-2000 decisions.

^{47/} See Application of SkyBridge L.L.C. for Authority to Launch and Operate a Global Network of Low Earth Orbit Communications Satellites Providing Broadband Services in the Fixed-Satellite Service, Amendment, filed January 8, 1999, Figure IV-9. This is necessary to achieve sufficient frequency separation between the received and retransmitted signals at the satellite.

that, as a consequence, will already be heavily loaded. As can be seen from this one example, restrictions on use of one band can have burdensome impacts on use of other bands. The entire environment in which NGSO FSS systems operate must be taken into account.

As a practical matter, the system changes required to avoid only the 13.15-13.2125 GHz band would not appear to be cost effective. In reality, the entire 13.2125-13.25 GHz band most likely would not be used by most, if not all, NGSO FSS systems, a significant constraint given the already substantial imbalance between uplink and downlink spectrum for such systems, and the constraints imposed by the potential need to share with MVDDS. As no party in this proceeding has clearly identified any need to actually exclude NGSO FSS systems from this band, and because, as demonstrated below, sharing appears entirely feasible, there is no reason to unnecessarily penalize NGSO FSS systems by excluding them from this band.

B. Coordination Between NGSO FSS Gateways And The Types Of BAS And CARS Pick-Up Operations Actually Conducted In The Band Is Feasible.

The Commission appears to have based its determination to exclude NGSO FSS systems from the 13.15-13.2125 GHz band solely on concerns expressed by the Society of Broadcast Engineers ("SBE"), which argued -- without technical analysis -- that sharing would not be possible with mobile TV pick-up stations operating in the band.^{48/} Other than these unsupported claims, there is no basis, technical or otherwise, in the record to justify the Commission's conclusion. As SkyBridge and other NGSO FSS applicants have explained in prior filings, non-allocation to NGSO FSS is not necessary to protect mobile TV pick-up operations, due to the nature of the NGSO FSS gateways that will operate in the 12.75-13.25 GHz band, and the kinds of terrestrial mobile operations being conducted.

^{48/} See supra note 43.

1. The Band Is Currently Used By Other Satellite Services.

SBE argues that the 13.15-13.2125 GHz is reserved exclusively for TV BAS and CARS pick-up operations,^{49/} and therefore that satellite operations cannot be introduced in this band. This is not the case. The band is reserved for such operation *only with respect to other fixed-link terrestrial operations, and not with respect to satellite FSS systems.* NG53 to the U.S. Table and Section 74.602 discuss only the operation of the various terrestrial services that share the larger 12.75-13.25 GHz band, and nowhere mention the relation of any of these services to the FSS satellite services that already share the band.

Indeed, as the Commission noted in the Report & Order,

"there are 9 authorizations for GSO FSS earth stations in the 12.75-13.25 GHz band. These authorizations do not indicate the actual number of earth stations or antennas that a licensee might employ. Additionally, this number may not include several international earth station authorizations issued before 1995 when the IBFS database was created."

These GSO FSS earth stations are permitted to use the 13.15-13.2125 GHz band. Nothing in Part 25, the issued licenses themselves, or any other provision of the Commission's rules, prevents operation of these stations in that band.^{50/} Therefore, both Commission rules and practice make it clear that TV pick-up operations have no exclusive right to use the 13.15-13.2125 GHz band vis-a-vis FSS licensees. The band is already shared between such services.

^{49/} At the time SBE made this argument, the rule cited by SBE applied only within 50 kilometers of the top-100 TV markets. In the Report & Order, however, the Commission eliminated the 50 km limitation, and extended the rule to cover the entire United States. R&O, ¶ 126.

^{50/} See, e.g., Radio Station Authorization to PanAmSat Licensee Corp., callsign E980502, File No. SES-LIC-19981117-01738, granted Dec. 28, 1999; Radio Station Authorization to DTH Techno Partners, callsign E970400, File No. SES-MOD-19990823-01454, granted Nov. 1, 1999; Radio Station Authorization to PanAmSat Licensee Corp., callsign KA244, File No. SES-RWL-19981217-01923, granted Jan. 7, 1999.

2. The Proposed NGSO FSS Use Of The Band Is Quite Limited And Will Be Carefully Regulated.

The proposed sharing scenario does not involve ubiquitous deployment of NGSO FSS earth stations; the band in question would be limited to NGSO FSS *gateway* operations. The Commission has already carefully-defined NGSO FSS "gateway," to ensure that such earth stations are used for limited purposes and are limited in number.^{51/} In addition, gateways will be deployed in easily-identified large facilities, the operating characteristics of which can be communicated easily by NGSO FSS operators to nearby television stations to aid them in establishing communications paths.

Furthermore, gateways will be carefully sited, and will generally not be located in the vicinity of urban areas. Siting of such gateways is to be regulated by geographic restrictions, the details of which are to be determined in a future proceeding.^{52/} These siting rules, which will be designed to avoid constraining FS build-out in critical markets, will also benefit mobile TV pick-up operations. Indeed, the Commission states in the Report & Order that these siting rules "should prevent NGSO FSS gateways from hindering *mobile and temporary fixed* BAS use of this band."^{53/}

In sum, the NGSO FSS gateways proposed for the band will be few in number, and carefully sited away from key urban markets. There is, therefore, no technical justification for permitting GSO FSS earth stations, but not NGSO FSS gateways, in the band.

^{51/} 47 C.F.R. § 25.201; R&O, ¶ 57.

^{52/} As the Commission noted, gateway earth stations will typically provide links for all authorized bands, and therefore any siting restrictions in the 10.7-11.7 GHz downlink band will *de facto* apply to the 12.75-13.25 GHz uplink band. See R&O, ¶ 58.

^{53/} R&O, ¶ 125 (emphasis added).

3. The TV Pick-Up Operations Actually Conducted In The Band Can Share With Non-Ubiquitously Deployed And Carefully-Sited Satellite Transmitters.

The various uses of the 13.15-13.2125 GHz by TV pickup mobile/temporary-fixed operations can be divided into two categories:^{54/}

- those in which the TV pickup transmitter is mobile and *the TV pickup receiver is fixed* and mounted on tall towers, tall buildings or mountains; and
- those in which the TV pickup transmitter is mobile and *the TV pickup receiver is mobile or temporary-fixed*, and is mounted on helicopters, blimps or tethered balloons.

In the first case, where the receivers are fixed, the receivers could be protected through traditional frequency coordination techniques, as noted by the Commission.^{55/}

In the second case, where the receivers are mobile or temporarily-fixed, BAS and CARS operations can still be protected through a variety of techniques. According to SBE, the use of the band by BAS mobile operations involve mostly sports and news.^{56/} Of these, it appears that sporting events are the predominate and most important temporary-fixed or mobile

^{54/} See, e.g., Comments of the Society of Broadcast Engineers, Inc., ET Docket No. 98-206, January 12, 2000, at 3.

^{55/} R&O, ¶¶ 125, 128. More generally, SkyBridge agrees with the Commission's conclusion that fixed operations in the 12.75-13.25 GHz band are technically similar to FS operations in the 10.7-11.7 GHz band, and that the same procedures used to coordinate NGSO FSS gateways with FS stations in the 10.7-11.7 GHz band should work to coordinate gateways with fixed BAS and CARS operations in the 12.75-13.25 GHz band. R&O, ¶ 128. If an additional proceeding is necessary to properly implement this conclusion in the Commission's rules, SkyBridge urges the Commission to proceed with that rulemaking as expeditiously as possible. Should different coordination procedures be proposed, detailed technical information on the BAS and CARS links (margins, availability, antenna gain, feeder loss, etc.) will need to be provided in order to facilitate the necessary studies of the technical issues justifying different treatment.

^{56/} Comments of the Society of Broadcast Engineers, CS Docket 99-250, August 16, 1999 ("SBE Comments in CS Docket 99-250"), at 4.

use of the band, due to the need for extremely high quality footage (e.g., HDTV quality) that is achievable in this band.^{57/}

Sporting events are generally well-planned in advance. In this case, temporary-fixed and mobile receivers can be protected for pre-scheduled events through prior coordination with NGSO FSS gateway operators, just as is done now with other terrestrial users of the band, and presumably with the current GSO FSS users of the band. Because of the number and location of the NGSO FSS gateways to be deployed, the actual need for this pre-coordination can be expected to be rare.

On the other hand, except for such major events as political conventions, the presidential inauguration, and the like, the location of breaking news can be unpredictable.^{58/} In these cases, "extreme picture quality is generally either not available or not needed, due to the exigencies of covering the story or due to the sufficiency of information which can be obtained by just having a camera present."^{59/} Moreover, other frequency bands are available and are currently used, e.g., at 2 GHz, 2.5 GHz, and 7 GHz.^{60/} As SkyBridge has pointed out in previous comments, because of the propagation characteristics of the 13 GHz band, TV stations use it for

^{57/} See SBE Comments in CS Docket 99-250, at 2; Comments of the Walt Disney Company, Inc. ("ABC"), CS Docket No. 99-250, August 16, 1999, at 2.

^{58/} SBE Comments in CS Docket 99-250, at 2.

^{59/} SBE Comments in CS Docket 99-250, at 2.

^{60/} For example, SBE states that the narrowing of the 2 GHz TV BAS band channels (proposed in a separate, unrelated proceeding) will render them unacceptable for HDTV quality sports coverage, but that they will likely be usable for the quality of picture acceptable for news. SBE Comments in CS Docket 99-250, at 3.

short pickup links,^{61/} often at ground level, where the links are protected by shielding from buildings. NGSO FSS gateways, which will be few in number and sited outside key urban markets, should not generally affect these short links.^{62/}

For these reasons, protection of BAS and CARS operations appears feasible, and exclusion of gateways is therefore not necessary.

In sum, the combination of (1) the gateway definition adopted by the Commission in the Report & Order (and the gateway siting restrictions to be refined in future proceedings in this docket), and (2) suitable coordination and consultation requirements, will make sharing feasible between NGSO FSS gateways and TV pickup operations. On the other hand, the burden to NGSO FSS operators of the Commission's decision not to allocate the 13.15-13.2125 GHz is substantial. The Commission can and should allocate this band for NGSO FSS gateway operations, with confidence that its rules will preserve the ability of BAS and CARS licensees to continue to provide valuable TV pick-up operations in the band.

^{61/} The lower-frequency bands noted above are used for longer distance links.

^{62/} For example, in the case of a BAS receiver mounted on a helicopter which is flying 10 km away from a SkyBridge gateway, there will not be any main beam interference except if the helicopter is over 1000 meters high *and* at a particular azimuth from the gateway, which would be a rare occurrence.