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

In the Matter of	)	
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;	)	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 Corp., and Satellite Receivers, Ltd., to Provide a Fixed Service in the 12.2-12.7 GHz Band	)	

CONSOLIDATED RESPONSE OF
NORTHPOINT TECHNOLOGY, LTD., AND BROADWAVE USA, INC.,
TO PETITIONS FOR RECONSIDERATION
OF SECOND REPORT AND ORDER

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EXECUTIVE SUMMARY

Several parties have filed petitions for reconsideration of the Commission's rules governing the sharing of the 12.2-12.7 GHz spectrum between terrestrial and satellite users, as described in the *Second Report and Order* released May 23, 2002.[1]

Pegasus Broadband Corp. ("Pegasus") correctly points out that the Commission's interpretation of 47 U.S.C. § 1110 in the *Second Report and Order* is untenable. Pegasus's choice of Nielsen Designated Market Areas ("DMAs") as the relevant geographic licensing areas is also much more sensible than the Commission's current choice of Component Economic Areas, which (unlike DMAs) have no relationship either to the must-carry areas of cable TV systems or to the royalty-free zone for the statutory copyright license for TV broadcasts. Nevertheless, Pegasus's petition for reinstatement of its dismissed license application should be rejected because Pegasus has missed the deadline to participate in the independent technical demonstration required by section 1110.

The DBS and NGSO FSS petitions are devoted almost entirely to rehashing the same tired arguments against allowing terrestrial operators to use the spectrum that the Commission has already considered and rejected in these proceedings. Broadly speaking, technical aspects of the Commission's rules are supported by substantial evidence in the record as a whole, and the satellite operators provide no reason to reconsider them. Nevertheless, as would-be terrestrial operator MDS America points out, a few minor

[1] Memorandum Opinion and Order and Second Report and Order, *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*, 17 FCC Rcd 9614 (2002) ("*Second Report and Order*").

clarifications or modifications of the Commission's rules would substantially facilitate deployment of new terrestrial service in the 12 GHz spectrum and thereby advance the public interest – not least by bringing much-needed competition to the markets for Multichannel Video Program Distribution ("MVPD") and broadband Internet access. Northpoint accordingly supports certain minor changes to the rules discussed below.

Perhaps most importantly, Northpoint supports reconsideration of the 14 dBm EIRP limit on MVDDS transmitters, which is unduly restrictive and risks raising the costs of terrestrial deployment to prohibitive levels. The current EIRP limit finds scant support in the record, and the applicable EPFD limit adequately protects all DBS subscribers from harmful interference. By eliminating (or at least raising) the EIRP limit, the Commission would allow terrestrial operators to use uninhabitable areas such as bodies of water or steep hills to mitigate the effects of a higher EIRP at the transmitter without risking any interference to satellite subscribers. Northpoint estimates that, without the flexibility to use a higher EIRP at the transmitter, the number of transmitters required to provide service would be three to five times as large, resulting in three to five times more expense and jeopardizing the economic viability of the service precisely in those unserved or underserved areas most in need of the new service.

MDS also suggests, and Northpoint supports, reconsideration of the unnecessarily tight bandwidth restriction in section 101.111 of the Commission's rules, which is stricter than anything proposed by any party to the proceedings. Northpoint also supports repeal of the three-kilometer PFD limit of section 101.105(a)(4)(i) and the ten-kilometer separation requirement of section 101.129(b). These two rules were adopted prematurely, without adequate support in the record. There is no evidence that NGSO

FSS systems need these rules in order to avoid harmful interference from terrestrial operators, so the imposition of the rules raises terrestrial operators' costs without conferring any corresponding benefit on NGSO FSS operations. Eliminating the ten-kilometer separation requirement would also eliminate the need for terrestrial operators to have ready access to the database of NGSO FSS earth stations, which SkyBridge asserts should be kept confidential.

Northpoint does not necessarily oppose additional measures to safeguard competitively sensitive information in the manner that SkyBridge seeks. But the remainder of SkyBridge's petition simply repeats arguments for an overly complex system of sharing rules that the Commission properly considered and rejected. In the rare cases where NGSO FSS receivers could be subject to interference in the 12.2-12.7 GHz spectrum, the NGSO FSS systems can use either frequency diversity (operating in the 11.7 – 12.2 GHz spectrum) or satellite diversity for the few seconds that the NGSO FSS antenna might point at the MVDDS transmitter, just as they must do during the few moments in which any given NGSO FSS antenna is pointing at another NGSO FSS system's transmitter. Furthermore, SkyBridge's plea to change the current PFD limits on NGSO FSS systems should be rejected, as the Commission has rejected it in the past: SkyBridge should not be allowed to cause harmful interference to Northpoint's co-primary terrestrial operations. The Commission correctly decided that making the PFD limits dependent on complaints or demonstration by MVDDS operators of violation of the limits would not provide adequate or uniform protection, and SkyBridge provides no sound reason for the Commission to revisit that conclusion.

The DBS industry's petitions for reconsideration are entirely without merit. The EPFD limits adopted by the Commission ensure that any increased DBS outage attributable to terrestrial operations will not approach the level that could be considered harmful under the Commission's rules. The DBS industry provides no basis for reconsidering that conclusion. Also, DBS operators are wrong to suggest that they would be precluded from acquiring new customers in zones where the EPFD exceeds the limits the Commission has set for existing customers. Satellite systems can continue to acquire customers *everywhere,* although careful dish selection, placement or shielding may be necessary in rare circumstances. That future DBS customers may be called upon to use such mitigation techniques, rather than forcing the shut-down of the terrestrial transmitter (as existing customers can do), is, as the Commission properly recognized, entirely consistent with the first-in-time, first-in-right principle that routinely governs sharing of spectrum between co-primary services.

Finally, EchoStar and DirecTV are wrong to suggest that the *Second Report and Order* was in any respect adopted in contravention of the Sunshine Act, which does not require that the Commission have meetings to conduct its business but only requires that, if it does have such meetings, they must be open to the public (subject to certain enumerated exceptions). The *Second Report and Order* was adopted, and editorial changes thereto were accepted, without any meeting of the Commissioners – and thus without implicating the Sunshine Act's requirement that any such meeting be open.

Accordingly, except for the adjustments of the technical rules described above, the petitions for reconsideration should be denied.

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NORTHPOINT TECHNOLOGY, LTD., AND BROADWAVE USA, INC., OPPOSITION TO PETITIONS FOR RECONSIDERATION OF SECOND REPORT AND ORDER

In its *Second Report and Order* released on May 23, 2002, the Commission set service rules for Multichannel Video Distribution and Data Service ("MVDDS") in the 12.2-12.7 GHz spectrum (the "12 GHz spectrum"). Six petitions for reconsideration of the *Second Report and Order* have been filed; Northpoint Technology, Ltd., and Broadwave USA, Inc. (collectively, "Northpoint") will address them in turn below.

I. PEGASUS IS NOT QUALIFIED TO HOLD A TERRESTRIAL LICENSE IN THE 12 GHz SPECTRUM

In the *Second Report and Order*, the Commission dismissed the pending license applications of Northpoint, Pegasus and Satellite Receivers to provide terrestrial wireless service in the 12 GHz spectrum.[2] In its petition for reconsideration, Pegasus correctly points out that the requirement of 47 U.S.C. § 1110 to complete testing of proposed terrestrial service technologies within 60 days of the statute's enactment implicitly forecloses FCC consideration of later-filed applications that had not met the timeliness requirements of participating in the independent technical demonstration conducted by the MITRE Corporation.[3] Pegasus is correct that the Commission should reconsider its interpretation of that statute.

It is noteworthy that what is now codified as section 1110 was enacted as section 1012 of the LOCAL TV Act of 2000,[4] which (like the earlier Rural Local Broadcast Signal Act[5]) was designed to facilitate and accelerate the provision of local television broadcast signals to customers in unserved and underserved areas. With that goal in mind, Pegasus, like Northpoint, applied for licenses that would correspond geographically to the Nielsen Designated Market Areas ("DMAs").[6] The choice of DMAs was important because cable systems (including wireless operators) generally

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[2] *See Second Report and Order*, 17 FCC Rcd at 9697-702, ¶¶ 214-228, 9715, ¶¶ 269-271.

[3] Pegasus Petition at 5-6.

[4] Pub. L. No. 106-553, App. B, Tit. X § 1012, 114 Stat. 2762, 2762A-344 (2000).

[5] Pub. L. No. 106-113, App. I, Tit II § 2002(c), 113 Stat. 1501, 1501A-544 (1999).

[6] Broadwave Network, L.L.C. Application for License To Provide a New Terrestrial Transport Service in the 12.2-12.7 GHz Band (FCC filed Jan. 8, 1999); Application of PDC Broadband Corp. for Licenses to Provide Terrestrial Services in the 12.2-12.7 GHz Band (FCC filed Apr. 18, 2000).

have a royalty-free statutory copyright license to retransmit local TV programming within the DMA of the station being rebroadcast.[7] By contrast, retransmission outside the DMA requires payment of a license fee that is almost always so high as to make the retransmisson uneconomical. Cable companies are obliged to retransmit local signals within each DMA,[8] so it is essential that would-be wireless competitors to cable do so as well – and that they be able to do so in an economically viable manner. In effect, this requires that terrestrial wireless operators organize their systems based on DMAs in order to compete effectively. The Commission's choice of Component Economic Areas ("CEAs") rather than DMAs as the geographic units for MVDDS licenses severely undermines the ability of terrestrial wireless operators in the 12 GHz band to compete with incumbent cable TV and DBS operators by restricting access to the royalty-free copyright and making it more difficult, both technically and economically, to ensure that local TV service is available to MVDDS customers. The Commission should revisit that decision if it wants MVDDS providers to be able to provide local television stations on their systems. Pegasus is right to ask for licenses based on DMAs.

Pegasus is wrong, however, when it asserts that "Pegasus and Northpoint participated in the [MITRE] tests" required by section 1110 and that "MITRE concluded that the two companies' technology could be deployed without causing harmful interference to users of other services in the band."[9] In fact, only Northpoint provided equipment for testing, and MITRE's conclusion that satellite/terrestrial sharing is feasible

[7] *See generally* 17 U.S.C. § 111; 37 C.F.R. § 201.17 (establishing royalty-free copyright linked to cable must-carry area); *cf. also* 47 C.F.R. §§ 76.55(e) (establishing Nielsen DMAs as default must-carry area).

[8] *See* 47 C.F.R. §§ 76.55(e).

[9] Pegasus Petition at 4.

rests entirely upon data from Northpoint. Pegasus did provide partial written answers to questions posed by MITRE, but Pegasus's meager submission demonstrated that it has no suitable technology of its own. Obviously, no field test of Pegasus's technology could be performed since Pegasus supplied no antenna or transmitter. No actual *laboratory* tests could be performed, either, for the same reason. Instead, MITRE stated in its report that it "had to rely on a limited set of previously measured data supplied by Pegasus" in order to model radiation patterns for Pegasus's proposed antenna configurations.[10] Because of the inadequacy of the data supplied by Pegasus, MITRE's analysis of the Pegasus submission "had to be confined to cases where the MVDDS antenna lies within the horizontal plane of interest (*not* above or below it) and the elevation tilt angle is zero."[11] In other words, Pegasus provided *theoretical* data for a *proposed* system in which the transmitter is at *ground level* – an utterly unrealistic configuration that no one would ever try to deploy (due to the myriad of potential obstructions between the transmitter and the receiving antennas). Even assuming that Pegasus's data were accurate, Pegasus's paper submission of its own measurements is neither independent nor a demonstration, much less the "independent technical demonstration" required by the statute.

To make matters worse, MITRE appears to have introduced an error into its calculations of the interference contours for the one scenario for which Pegasus data was available. After stating that Pegasus's data was usable only subject to the assumption that the transmitting antenna lies within the horizontal plane of interest, MITRE proceeded to calculate interference contours using the erroneous assumption that the

[10] MITRE Corp., *Analysis of Potential MVDDS Interference to DBS in the 12.2-12.7 GHz Band* § 5.1.2, at 5-10 (Apr. 2001) ("MITRE Report").

[11] *Id*. (emphasis in original).

hypothetical Pegasus transmitter was *100 meters above* the horizontal plane of interest,[12] instead of 0 meters, as would have been required by the antenna data. The resulting contours were invalid.

In short, the MITRE report, as well as the Commission's regulations based on that report, rest entirely upon Northpoint's technology, and the report provides *no* basis for believing that anyone but Northpoint is capable of sharing the 12 GHz spectrum with satellite users. In the *Second Report and Order* the Commission indicated that other entities would be excused from the testing requirement of section 1110 so long as they agreed to operate within the parameters established by the Commission in its rules.[13] This proposal is flatly contrary to the statute, which requires each applicant to come forward with non-interfering technology, not for the Commission to tell applicants what technology to use – and certainly not for the Commission to tell applicants to use *another company's* patented and proprietary technology. The conclusions in the MITRE report are based *exclusively* on Northpoint's technology because no one else came forward with any equipment for testing. The Commission therefore has no reason to conclude that anyone but Northpoint is actually capable of sharing the 12 GHz spectrum with satellite operators, and hence no other applicant is qualified for a terrestrial license in this spectrum.

By requiring an independent demonstration of each applicant's proposed technology, Congress clearly wanted to ensure that no entity would begin operating in the 12 GHz spectrum without first demonstrating its own ability to do so without causing harmful interference to co-frequency satellite operations. Thus, even if the Commission

[12] *Id.* App. B, at B-56 to B-58.

determined after reconsideration to allow other entities to apply for MVDDS licenses, any applicant should nevertheless have to undergo an independent technical demonstration before beginning commercial service.

Furthermore, regardless of whether the Commission agrees that section 1110 established a cut-off window for all would-be applicants to come forward for testing, that section indisputably established a cut-off window for entities with applications pending at the time the statute was passed.[14] Of those three entities, only Northpoint fulfilled its statutory obligation to prove, in an independent technical demonstration, its ability to share the spectrum with satellite users. The other two applicants – Pegasus and Satellite Receivers – missed the deadline to participate in the MITRE testing. Therefore, Pegasus and Satellite Receivers are not qualified to hold terrestrial licenses in the 12 GHz band, and their applications were properly dismissed.

By contrast, the Commission erred in dismissing the pending applications of Northpoint's Broadwave USA affiliates, who were the only applicants actually to comply with section 1110. Northpoint is seeking review of this erroneous decision in the U.S. Court of Appeals for the D.C. Circuit.[15] Northpoint is also seeking review of the Commission's decision to distribute MVDDS licenses via auction. That decision is contrary to the ORBIT Act's prohibition on auctions[16] as well as being arbitrary and capricious in view of, among other things, the Commission's decision to distribute

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[13] *Second Report and Order*, 17 FCC Rcd at 9704, ¶¶ 235-236.

[14] 47 U.S.C. § 1110(b) ("for any pending application … the technical demonstration or analysis … shall be concluded within 60 days after December 21, 2000").

[15] *See Northpoint Tech., Ltd. v. FCC*, Nos. 02-1194, 02-1195, & 02-1209 (D.C. Cir. filed June 21, 2002, and July 2, 2002).

[16] *See* 47 U.S.C. § 765f.

licenses without auction to NGSO FSS operators who applied on the same day as Northpoint to use the same spectrum for, in some cases, the same services.

II. NORTHPOINT AGREES IN PART WITH MDS AMERICA THAT THE COMMISSION SHOULD RECONSIDER CERTAIN TECHNICAL RULES

MDS America ("MDS") suggests reconsideration of several specific technical rules. As explained below, Northpoint agrees with MDS that, in particular, the Commission should reconsider the current EIRP limit on MVDDS transmitters.

A. The Commission's Current EPFD Limits Should Not Be Altered

Under the Commissions's MVDDS rules, harmful interference to DBS is wholly avoided by the established EPFD limits, as measured at the DBS customer location. The current EPFD limits will prevent harmful interference regardless of the MVDDS power level as measured at the transmitter. The FCC correctly concluded that limiting the EPFD to the established levels will "limit the outage at DBS subscriber locations due to MVDDS to negligible amounts" and thus below the level of harmful interference.[17] Although Northpoint believes that the current EPFD limits are even stricter than necessary, the FCC acted properly in adopting the current EPFD limits, which are supported by substantial evidence in the record as a whole. Each DBS subscriber should be protected, whether rural or urban. Accordingly, MDS's proposal to revise the EPFD limits for rural areas should be rejected.[18] On the other hand, because the EPFD limits are adequate to eliminate harmful interference to DBS customers, the EIRP limit can safely be raised or eliminated, as discussed below.

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[17] *Second Report and Order*, 17 FCC Rcd at 9691, ¶ 198.

[18] MDS Petition at 22-23.

B. The 14 dBm EIRP Limit is Unnecessarily Restrictive and Unsupported in the Record

MDS America ("MDS") devotes most of its petition for reconsideration to arguing for higher EIRP limits for MVDDS transmitters in rural areas.[19] Northpoint agrees with MDS that the current 14 dBm EIRP limit is unduly restrictive and jeopardizes the viability of rural MVDDS operations. But MDS America's rural/urban distinction is arbitrary and unworkable – not least because MDS fails to articulate any coherent criterion for distinguishing "rural" areas from "urban" ones.[20] Moreover, MDS fails to address the weakness of the Commission's rationale in establishing the 14 dBm EIRP limit, which does not appear to be supported by substantial evidence in the record as a whole. The Commission's existing EPFD limits provide ample protection for DBS, thus rendering the current strict EIRP limit superfluous.[21] Even DirecTV agrees that EIRP limits in addition to EPFD limits are unnecessary.[22]

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[19] MDS Petition at 2-22.

[20] In addition, uninhabited spots within urban areas like Mount Wilson in Los Angeles may provide excellent locations for terrestrial transmitters that could operate at EIRP greater than 14 dBm without risking harmful interference to any satellite receiver. MDS is therefore mistaken to suggest that only "rural" areas could benefit from higher EIRP limits.

[21] As discussed below, however, Northpoint does not oppose the imposition of a higher EIRP based on the size of the projected service area that would preserve engineering flexibility for terrestrial operations.

[22] *See* Reply Comments of Northpoint Technology, Ltd., and Broadwave USA, Inc., Attachment § 1.7, at 11, ET Docket No. 98-206 (FCC filed Apr. 5, 2001) ("Apr. 5 Technical Appendix"); *see also* Comments of DirecTV, Inc. at 27, ET Docket No. 98-206 (FCC filed Mar. 12, 2001).

The reason that the Commission offered in support of its EIRP limit was to protect DBS from "rain scatter."[23] The Commission's decision effectively rests upon two short paragraphs in the MITRE report, quoted in their entirety here:

> In this section we consider the effect of rain scatter induced interference. Rain scatter interference occurs when energy that is transmitted from the MVDDS terrestrial terminal into a rain cell is scattered by the rain cell and the scattered energy is received by the DBS earth station. The necessary conditions for this interference to occur are that the main beams of the terrestrial terminal and the DBS earth station antenna patterns must create a common volume in which there is rain.
>
> Preliminary analyses indicate that rain scattered interference is most likely to occur when the DBS antenna has a low look angle and the DBS beam goes through the main beam of the MVDDS transmit pattern at a point relatively close to the MVDDS transmitter. This implies a geometry such that the DBS antenna would be northeast or northwest of the MVDDS transmitter, and pointed nearly at the transmit antenna. It appears that, as long as the MVDDS transmitter has an EIRP no greater than 14 dBm, then regions of interference on the ground will be relatively small. For a 14 dBm EIRP, we expect the region of interference to be only tens of meters in diameter.[24]

There are a number of problems with this passage that render the 14 dBm figure open to serious question. The Commission should reconsider its announced MVDDS EIRP limit. for the following reasons:

1. The DBS industry, which has fought the deployment of MVDDS service for years, has not identifed "rain scatter" as a serious concern. Indeed, "rain scatter" has not emerged as a source of harmful interference either in connection with DBS/NGSO FSS sharing or DBS/DBS sharing.
2. The above-quoted passage in the MITRE report is based on preliminary analysis that, at most, suggests a possible need for more detailed analysis.

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[23] *Second Report and Order*, 17 FCC Rcd at 9691, ¶ 197 ("Finally, we note that the MITRE Report recommended a maximum EIRP value of 14 dBm for all MVDDS transmitting systems without requiring a study of the impact of rain scatter.") (citation omitted) In paragraph 198 the Commission discusses limiting the size of mitigation zones in unpopulated areas, but offers no technical substantiation to support the implication that 14 dBm is the appropriate number. *Id.* at 9691-92, ¶ 198.

[24] MITRE Report § 2.2, at 2-8.

The details of the preliminary analysis were not disclosed so that other parties could replicate MITRE's results or even comment on them.

3. The required condition – that "DBS antenna has a low look angle" – is not well defined, but in any event must mean something less than 20 degrees. Yet all DBS systems by design and implementation use look angle inherently greater than 20 degrees and thus avoid any and all rain scatter interference from terrestrial MVDDS operations.
4. Perhaps most important: If the rain is strong enough to reflect the Northpoint signal back to the DBS dish, it is *highly likely* that the rain will already have completely blocked the DBS signal. In other words, before "rain scatter" rises to the level of interference, it will have attenuated the DBS signal beyond recognition, so that there is no DBS signal with which to interfere.
5. Even if rain scatter interference did occur, it would be transient and fleeting.

The EIRP limit thus rests on shaky analytical and evidentiary foundations that do not warrant the imposition of a crippling 14 dBm EIRP limit.

Northpoint is not necessarily opposed to the retention of some EIRP limit, however, so long as the limit does not unduly restrict engineering options, as the extremely strict 14 dBm limit does. The Commission stated that it would not permit "higher powers over areas containing mountain ridges or over presently unpopulated regions because the higher power may cause too great of an exclusion zone for future DBS and NGSO FSS subscribers."[25] Northpoint respectfully submits that the record does not support the Commission on this point. Indeed, the very use of the term "exclusion zone" – which seems to imply an area from which future satellite customers would be "excluded"[26] – is unsupported by the record. In view of the EPFD limits the Commission

[25] *Second Report and Order*, 17 FCC Rcd at 9692, ¶ 198.

[26] MDS, confusingly, uses "exclusion zone" to denominate an area where *MDS service* would be excluded. *See* MDS Petition at 14 ("[a]n exclusion zone is *not* that area in which there can be no DBS customers; rather it is the area around a transmission tower that receives very little radiated RF output from the transmission tower.") (emphasis in original). MDS then argues that its "exclusion zone" will be disproportionately large with the Commission's EIRP limit, and thus that the EIRP limit should be raised. *See id.*

has approved, there is no zone from which future satellite customers would be "excluded." In field tests, Northpoint's transmitters have operated without ever causing a documented instance of harmful interference to DBS. In one such test, the DBS receiving dish was located a mere 15 feet from the transmitter.[27] Hence, the current strict 14 dBm EIRP limit risks increasing dramatically the costs of terrestrial operations without bringing a corresponding benefit to potential, future satellite users.

Northpoint estimates that, by using a higher EIRP (consistent with the EPFD limits at DBS receiving stations) the country could be could be served with between one third and one fifth of the number of repeater stations as would be required under the current 14 dBm limit. Consequently, the current limit will make deployment three to five times more expensive than would otherwise be necessary. Northpoint thus agrees with MDS's general conclusion that fewer transmitters serving larger areas would be less costly.

Northpoint does not, however, believe it is realistic that MDS could (as it claims), provide coverage to a radius of 60 km around its transmitter, or more than 4,000 square miles,[28] and that it would typically serve an area of 2,000 to 10,000 square miles.[29] The physics of radio frequency communication dictate that MVDDS must be a line-of-sight

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at 18 ("the exclusion zone now represents more than 10% of our total coverage area"). The Northpoint system does not have a "service exclusion zone," as MDS describes for its system. Therefore, MDS's problem appears to lie rather more with its system design than with any EIRP limit.

[27] *See* Progress Report WA2XMY, Northpoint – DBS Compatibility Testing, October, 1999, at 8; Ex Parte Letter from Antoinette Cook Bush, Skadden, Arps, Slate, Meagher, and Flom, LLP, to Magalie Roman Salas, Secretary, FCC, November 12, 1999, Attachment, at 6.

[28] MDS Petition at 16-17, Figure 4.

service. To serve an area of 10,000 square miles, one would need clear line of site in a circle with a diameter of 112 miles. When account is taken for blockage by foliage and buildings, it would be quite impossible to serve such a huge area with one transmitter, even if the terrain were compatible. Northpoint estimates that an area of about 1000 square miles (with a diameter of 35 miles) is the practical limit for a line of sight MVDDS 12 GHz system. Northpoint calculates that an EIRP limit of 34 dBm would be consistent with the practical limit on the size of the service area.[30]

Northpoint also disagrees with the specific cost examples provided by MDS, in which MDS estimates that capital costs for equipment at each transmitter would be $250,000, and that each transmitter would need a population of 3,800 persons within its service area to be cost effective.[31] Simple, low-cost repeaters can serve to repeat a signal without a $250,000 capital investment.[32]

Northpoint strenuously disagrees with MDS's suggestion that a stricter EIRP limit may be needed "when an urban area has several tall buildings, each at least eight to ten stories high, clustered together" because in that situation "the multipath phenomenon requires special engineering of MVDDS systems."[33] In fact, no party has provided any evidence in this proceeding that multipath radio frequency signals could be a significant

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[29] *Id.* at 9 ("2,000 to 10,000 square mile typical coverage area of an MDS International system").

[30] An EIRP of 34 dBm provides a reliable signal in all rain zones of the United States at 35 miles.

[31] MDS Petition at 11-12.

[32] The cost of Northpoint's repeater sites would be at least an order of magnitude less. The exact amount, which varies depending on a variety of considerations, is proprietary and confidential.

[33] MDS Petition at 6.

interference concern. No multipath interference has been found in any of the terrestrial field and laboratory tests conducted in the course of these proceedings. And multipathing was not even mentioned as a concern in the context of sharing between NGSO FSS and DBS, or among DBS systems.

Regardless of how wrong it may be on the details, however, MDS is correct on the general point that the current EIRP limit restricts engineering flexibility and raises the costs of rural deployment for no good reason. The Commission should therefore reconsider its current 14 dBm EIRP limit.

C. The Commission Should Clarify the MVDDS Bandwidth Restriction

MDS asks for clarification or reconsideration of the bandwidth restriction in section 101.111 of the Commission's rules.[34] Northpoint agrees that reconsideration is needed because this provision is more restrictive than that proposed by any party in the proceeding. The comments in the rulemaking show that the following criteria, which were originally proposed by SkyBridge,[35] received no opposition in the proceeding.

In the band	Attenuate the signal by*
12.188 - 12.2 GHz	25 dB
12.164 – 12.188 GHz	35 dB
Below 12.164 GHz	43 + 10* log (power in watts)

*Relative to the power of a given Northpoint carrier

As Northpoint stated in the rulemaking, "Northpoint supports the Skybridge proposal contained in its July 10, 2000 letter, which was also supported by Boeing."[36] No party

[34] *Id.* at 23-24.

[35] *See* Ex Parte Letter from Jeffrey H. Olson, Paul, Weiss, Wharton, Rifkind, & Garrison, to Magalie Roman Salas, Secretary, FCC, July 10, 2000, at 4.

[36] Apr. 5 Technical Appendix § 2.2, at 19 (citing Comments of The Boeing Co. at 29-30, ET Docket No. 98-206 (FCC filed Mar. 12, 2001)).

provided any evidence how changing the maximum authorized bandwidth would benefit anyone. Imposing a maximum bandwidth smaller than 500 MHz would provide no benefit to NGSO FSS systems and might hamper future Northpoint operations.[37] Therefore, Northpoint supports the MDS proposal to reconsider this provision, and supports the adoption of the original Skybridge proposal.

D. The Commission Should Not Require DBS Operators To Inform MVDDS Operators of the Location of DBS Customers of Record

MDS proposes to alter the Commission's MVDDS/DBS frequency coordination regime so that, instead of requiring terrestrial operators to survey the area around their transmitter sites to locate existing DBS customers, DBS operators would be required to "inform MVDDS operators within 45 days of receipt of the notice required by Section 101.1440(d) of any locations with DBS customers of record as to which they believe the proposed MVDDS transmitter would present instances of harmful interference under the Commission's Rules."[38] Northpoint vigorously opposes this proposal. Northpoint has repeatedly proven its ability to site its transmitters so as not to cause harmful interference to DBS customers – and to do so without having access to DBS customer records. MDS's proposal inappropriately seeks access to competitively sensitive information without justification. The Commission's existing rules show a proper concern for the exchange of information among competitors. MDS's proposal to put the burden on DBS

[37] Northpoint currently plans to deploy its system with a 24 MHz nominal bandwidth. However, system enhancements may require future authorized bandwidths different from 24 MHz, and as noted by the FCC, sufficient regulatory flexibility is required for those services that might be offered by Northpoint. First Report and Order and Further Notice of Proposed Rulemaking, *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*, 16 FCC Rcd 4096, 4204-05, ¶ 289 (2000) ("*FNPRM*").

operators to identify which customers of record might suffer interference and disclose the location of such customers to new terrestrial operators should be rejected.

E. The Commission Should Repeal the Three-Kilometer PFD Limit and the Ten-Kilometer Separation Requirement

MDS proposes that the Commission reconsider and eliminate or relax the MVDDS PFD limit intended to protect possible future NGSO FSS systems.[39] Northpoint agrees that section 101.105(a)(4)(i) – and section 101.129(b) as well – should be repealed. These rules were adopted prematurely, without adequate support in the record. Given the ability of NGSO FSS operators to use frequency diversity in those few, fleeting circumstances in which the NGSO FSS receiver is pointed directly at a terrestrial transmitter, there is no need for any such limits on MVDDS operations. These limits will hamper terrestrial deployment while providing no benefit to NGSO FSS systems. The ten-kilometer separation rule, in particular, risks depriving hundreds or thousands of MVDDS customers of service in order to accommodate just one NGSO FSS customer. This is grossly unfair and unnecessary, since the NGSO FSS operator has other options for avoiding interference altogether.

As Northpoint has demonstrated, the elevation angle of the NGSO FSS receiver (minimum of 10 degrees) provides significant discrimination so that there can be no perceptible interference outside of 4 kilometers of a Northpoint transmitter.[40] Moreover, any NGSO FSS system can operate immediately adjacent to a Northpoint transmitter in

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[38] MDS Petition at 25 (footnote omitted).

[39] *Id.* at 26-30.

[40] Comments of Northpoint Technology, Ltd., Exhibit 1, § 4.3, at 32-34, ET Docket No. 98-206 (FCC filed Mar. 2, 1999) ("Mar. 2 Technical Appendix") ("outside 4 km both the short and long term limits are met").

the 11.7-12.2 GHz band. The Commission itself has found not only that "NGSO FSS receivers operating in the 12.2-12.7 GHz band could be designed with 'frequency diversity' capability that enables dynamic switching to the lower 11.7-12.2 GHz band for downlink service to avoid potential MVDDS interference in the 12.2-12.7 GHz band,"[41] but also that "NGSO FSS operators could enhance the frequency diversity capabilities of subscriber receivers by using narrower bandwidth designs and through other refinements that would provide greater discrimination against undesired signals."[42] As a result, both the 3-kilometer PFD limit and the 10-kilometer separation requirement are unnecessary and unsupported by substantial evidence.

For its part, SkyBridge argues for an even stricter PFD limit in order to avoid "saturation" of the NGSO FSS receiver,[43] but SkyBridge never placed its receiver specification in the record, and there is insufficient evidence in the record to support any "saturation limit." Indeed, the acknowledged ability of the NGSO FSS operators to rely on frequency diversity contradicts any need for a PFD limit because, even if there were an in-band saturation problem, NGSO FSS can use narrower bandwidth to operate unfettered in the 11.7-12.2 GHz spectrum. Rather than posing a severe burden on NGSO FSS systems, as SkyBridge suggests, the circumstances in which frequency diversity would need to be relied upon are insignificant in both space and time. The Commission has already recognized that "a very small percentage of potential NGSO FSS subscribers would have any interference potential from MVDDS deployment."[44] Because the

[41] *Second Report and Order*, 17 FCC Rcd at 9658, ¶ 107.

[42] *Id.*

[43] SkyBridge Petition at 8.

[44] *FNPRM*, 16 FCC Rcd at 4182, ¶ 225.

SkyBridge antenna must constantly track its satellite, it rarely, if ever, would look directly at a Northpoint transmitter. The maximum theoretical EPFD into a SkyBridge receiver is limited in space to less than 0.4% of the Northpoint service area, and even within this tiny area, the peak interference level could occur less than 0.1% of the time.[45]

Accordingly, the Commission should reconsider both the 3-kilometer PFD limit and the 10-kilometer separation requirement for MVDDS systems. The prospect of service to hundreds or thousands of terrestrial customers should not be foreclosed by a single NGSO FSS customer, especially when there are other, much less onerous, means of avoiding interference between terrestrial and NGSO FSS systems.

III. THE COMMISSION PROPERLY CONSIDERED AND REJECTED THE ARGUMENTS OF SKYBRIDGE

SkyBridge devotes the bulk of its petition to defending its overly complicated, multi-limit sharing scheme that the Commission carefully considered and rejected. Northpoint has pointed out the flaws in SkyBridge's proposal – the main object of which seems to be to frustrate terrestrial deployment – many times already in this docket and will not reiterate its refutation here.[46] SkyBridge's arguments regarding this needlessly complex proposal are no more convincing now than when the Commission first rejected them, and the Commission should reject them once again.

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[45] *Ex Parte* Letter from Robert Combs, Director of System Development, Broadwave USA, to Magalie Roman Salas, Secretary, FCC, ET Docket No. 98-206 (Jan. 14, 2002); *see also* Mar. 2 Technical Appendix § 4.2.2, at 35, & Figure 22.

[46] *See Ex Parte* Letter from J.C. Rozendaal to Magalie Roman Salas, Secretary, FCC (Jan. 25, 2002); *see also* Mar. 2 Technical Appendix § 4, at 31-37; Comments of Northpoint Technology, Ltd. and Broadwave USA, Inc., Exhibit 2, § 3, at 19-21, ET Docket No. 98-206 (FCC filed Mar. 12, 2001) ("Mar. 12 Technical Appendix"); Apr. 5 Technical Appendix §§ 2-3, at 12-23.

The bottom-line answer to all SkyBridge's concerns is that in the few situations where interference might pose a problem to NGSO FSS/MVDDS sharing of the 12.2-12.7 GHz spectrum, the NGSO FSS systems can operate in adjacent spectrum for the few moments in which the NGSO FSS antenna is pointing at the MVDDS transmitter, just as they must do during the few moments in which any given NGSO FSS antenna is pointing at another NGSO FSS system's transmitter. Indeed, the use of frequency diversity to avoid NGSO FSS/MVDDS interference is *precisely* analogous to the use of frequency diversity to avoid mutual interference between two co-equal NGSO FSS systems – a method that SkyBridge supported and the Commission adopted.[47] Accordingly, the use of frequency diversity does not, as SkyBridge puts it, "essentially relegate later-deployed NGSO FSS systems to *de facto* secondary status in the band."[48] The rule for sharing among different NGSO FSS systems is that "the parties shall split the frequency band equally according to their chosen home base spectrum,"[49] and that same rule should apply to sharing between NGSO FSS systems and terrestrial systems. The "home base spectrum" of terrestrial systems must be the 12.2-12.7 GHz band because they have no other spectrum available to them. By contrast, the NGSO FSS operators do have other spectrum available to them – and sometimes they must use that other spectrum.

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[47] *See, e.g.*, Report and Order and Further Notice of Proposed Rulemaking, *Establishment of Policies and Service Rules for the Non-Geostationary Satellite Orbit, Fixed Satellite Service in the Ku-Band*, 17 FCC Rcd 7841, 7848, ¶ 22 (2002) ("*NGSO Report and Order*") (noting SkyBridge's argument that satellite diversity was unnecessary due to the availability of frequency diversity for avoiding mutual interference among NGSO FSS systems); *id.* at 7857, ¶ 53 (adopting frequency diversity as default sharing mechanism among NGSO FSS systems).

[48] SkyBridge Petition at 13.

[49] *NGSO Report and Order*, 17 FCC Rcd at 7857, ¶ 53.

SkyBridge's complaint that deploying user terminals capable of operating in the 11.7-12.2 GHz band requires special "customization" that will its increase costs is untenable.[50] Producing user terminals capable of operating in the 11.7-12.2 GHz band is not special "customization." Instead, it is a necessary part of developing any NGSO FSS system because NGSO FSS operations are allowed in the 11.7-12.2 GHz spectrum all around the world.[51]

Also untenable is SkyBridge's attempt to change the PFD limit the Commission imposed on NGSO FSS operations in order to protect MVDDS from interference.[52] SkyBridge's proposal for "soft" limits (as opposed to what it characterizes as the "hard" limits currently in place) is nothing less than a plea that SkyBridge should be allowed to cause harmful interference to Northpoint's terrestrial operations until Northpoint can prove that SkyBridge is the source of the problem – which is difficult as well as time-consuming. The Commission correctly decided that making the PFD limits "dependent upon complaints or demonstration by MVDDS operators of violation with the limits" would not "provide adequate or uniform protection."[53] SkyBridge provides no sound reason for the Commission to revisit that conclusion.

The one topic on which Northpoint does not necessarily oppose SkyBridge's petition for reconsideration is the requested clarification of the rules regarding the NGSO

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[50] Skybridge Petition at 13.

[51] ITU Radio Regulations, Article 5, at RR5-91 (setting forth frequency allocations in the 11.7-14.25 GHz spectrum); *id.* n. 5.487A ("in Region 3, the band 11.7-12.2 GHz, are also allocated to the fixed-satellite service (space-to-Earth) on a primary basis, limited to non-geostationary systems").

[52] SkyBridge Petition at 14-20.

[53] *Second Report and Order*, 17 FCC Rcd at 9662, ¶ 121.

FSS subscriber database.[54] The purpose of allowing terrestrial operators to access the database is to enable them to comply with the requirement of maintaining 10 kilometers of separation between NGSO FSS terminals and MVDDS transmitters.[55] As discussed above, the 10-kilometer separation rule is impossibly burdensome, arbitrary, and unsupported by sufficient record and should therefore be eliminated. Removing the separation requirement would obviate the need for access to the NGSO FSS database and would thus eliminate SkyBridge's confidentiality concerns.

In the event that the Commission maintains the separation requirement, it is essential that the NGSO FSS database be readily accessible to designers of terrestrial wireless systems so that all of the restrictions on system design can be considered as the network is being planned. It would be detrimental to MVDDS deployment to spend money and time designing a system only to be told at the end of the day that an NGSO FSS terminal is located within 10 kilometers of a planned location – hence, early and ready access is key. The bare minimum of information to which Northpoint needs access is latitude, longitude (within 100 feet) and frequency of operation. Frequency data must be included because there is no reason to protect a system operating outside of the 12.2 - 12.7 GHz spectrum. So long as Northpoint has ready access to that information, Northpoint does not object to signing a nondisclosure agreement and limiting its use of the information to complying with the separation rule, as SkyBridge requests.

[54] SkyBridge Petition at 20-21.

[55] *Second Report and Order*, 17 FCC Rcd at 9663, ¶ 124; 47 C.F.R. § 25.139.

IV. THE DBS INDUSTRY'S ARGUMENTS FOR RECONSIDERATION ARE MERITLESS

The DBS industry – EchoStar & DirecTV, the SBCA, and would-be DBS operator SES Americom – uses its multiple petitions for reconsideration to repeat yet again its discredited arguments that terrestrial sharing of the 12.2-12.7 GHz spectrum with satellite users will cause harmful interference and is therefore not feasible. The Commission has heard this all before many times, considered it in detail, and rejected it. Nothing has changed. The Commission should reject the DBS industry's arguments once again.

The DBS industry says over and over again that deployment of terrestrial service will inevitably lead to harmful interference with DBS operations, and that the Commission's rules do not provide adequate protection,[56] but the record is replete with evidence to the contrary. Indeed, the DBS industry essentially ignores the actual definition of harmful interference in the Commission's rules: interference that "seriously degrades, obstructs, or repeatedly interrupts a radiocommunication service."[57] The Commission's rules regarding DBS/MVDDS sharing are more than adequate to prevent anything approaching harmful interference. The Commission rightly concluded that "the relatively small theoretical changes in DBS unavailability or system link budget margins that might result from MVDDS operations under the rules we adopt herein simply do not rise to the level that can be considered harmful interference under our rules."[58]

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[56] EchoStar/DirecTV Petition at 4-5, 7-8, 17-18; SBCA at 3-4, 8-12; SES Americom at 4-5, 8-10.

[57] 47 C.F.R. § 2.1.

[58] *Second Report and Order*, 17 FCC Rcd at 9628, ¶ 32.

Significantly, the DBS industry's own rain models indicate that EchoStar experiences rain-related outages 150% to 200% longer than DirecTV: a difference of up to 15 hours per year.[59] According to the Commission's own data, the average availability for DirecTV at 101 degrees is 99.92% in the CONUS, and for Echostar the availability at 119 degrees is 99.84%.[60] Thus even by the Commission's own data, Echostar has twice the outage of DirecTV, or 100% more outage. Yet even before EchoStar announced plans to take over DirecTV, EchoStar was growing faster than DirecTV and had higher customer satisfaction ratings.[61] In fact, if their respective annual reports are to be believed, Echostar has grown faster than DirecTV every year since at least 1997.

Clearly, even this measurable difference in outages between the two systems is immaterial from the customer's perspective. The much smaller change in outage level attributable to MVDDS under the Commission's EPFD limits (even taking the DBS industry's worst-case assumptions at face value) is truly insignificant. The DBS operators provide no basis for the Commission to reconsider its conclusion that unavailability fluctuations of 100% and higher "are commonplace, result in higher DBS unavailability rates in some locations of the country than others, and are well tolerated by DBS subscribers in light of the overall dependability of the service."[62] Furthermore, under the Commission's approach, "the potential DBS outage minutes for each market

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[59] Apr. 5 Technical Appendix § 1.1.2, at 5-6.

[60] These figures are the averages of the Commission's data for "Baseline Outage" for DBS systems at 101 and 119 degrees longitude, respectively. *See Second Report and Order*, App. G.

[61] Apr. 5 Technical Appendix § 1.1.2, at 3-4.

[62] *Second Report and Order*, 17 FCC Rcd at 9640, ¶ 67 (footnote omitted).

would decrease as newer, higher powered satellites are implemented."[63] Thus, the central premise of the DBS operators' arguments – that MVDDS will cause harmful interference to DBS customers – is false.

DirecTV and EchoStar claim that, by their reckoning, the EPFD limits set by the Commission could possibly allow some DBS subscribers to experience an "increase in unavailability" during rain events of up to 20-30%.[64] Yet even assuming *arguendo* that the figure is accurate, the mere minutes of increased unavailability per month it represents do not even come close to representing "harmful" interference. Indeed, such a small difference in availability cannot even practically be detected because rainfall itself typically varies by at least that amount from year to year.[65] The DBS industry is itself on record in these proceedings as suggesting that a 20% increase in unavailability would be acceptable.[66]

Moreover, despite the DBS operators' rhetoric to the contrary, DBS operators will continue to be able to acquire customers *everywhere* in the future under the Commission's rules. Northpoint intends to build its system so that the Commission's EPFD limits are met in all populated areas, regardless of whether DBS dishes are present.

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[63] *Id.* at 9651, ¶ 84 (footnote omitted).

[64] EchoStar/DirecTV Petition at 7.

[65] Mar. 12 Technical Appendix § 2.1, at 2-3.

[66] *See, e.g.*, DirecTV, Inc., *Terrestrial Interference in the DBS Downlink Band*, (April 11, 1994) (using C/I ratio of 19 dB, corresponding to 20% increase in unavailability); Comments of Tempo Satellite, Inc. ¶ 5a, RM 9245 (Apr. 20, 1998) ("Tempo believes the TI DBS report by DirecTV, which specified a C/I ratio of 19 dB, causing a reduction of 20% availability in subscriber systems is more accurate [as a standard for protection]."); Opposition of Echostar Communications Corp. at 9, RM 9245 (Apr. 20, 1998) ("Echostar estimates that a more acceptable Carrier-to-Interference level would be at least 20 dB (equal to the cross polarization isolation level of the Low Noise Block Down Converter with Integrated Feedhorn).").

Therefore, the overwhelming majority of new DBS customers (over 99.9%) will be in areas where the EPFD is well within the limits et by the Commission, and will therefore be more than adequately protected from harmful interference. Indeed, it is unlikely that future customers moving into one of the small regions where the EPFD is above the limit set for existing customers would experience any perceptible interference. But, if they did, there are simple ways to correct the deficiency in the DBS offset feed reflector.[67] In field tests conducted by Northpoint (and analyzed by Lucent), by MITRE, and even by the DBS industry itself, there has never been even a single instance in which Northpoint's transmitter caused interference that needed to be mitigated at a DBS customer's premises. Northpoint anticipates that careful transmitter placement, power control, and other proprietary engineering techniques will enable Northpoint to deploy a nationwide terrestrial system without requiring on-site mitigation at any customer's premises. It is conceivable that, in rare instances, a given customer's dish may need to be shielded, relocated, or upgraded. But nothing more than that is needed in order to allow those customers to subscribe to DBS service. Therefore (again, despite the DBS industry's protestations to the contrary), potential DBS customers in a zone where on-site mitigation is potentially necessary do *not* become unavailable to DBS, nor need they be subject to harmful interference. They simply have to be careful about dish placement or use a clip-on shield.[68]

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[67] *See, e.g., Second Report and Order* ¶ 87 (citing MITRE Report at 6-4) (listing possible mitigation techniques).

[68] Incidentally, the clip-on shield need not be the size of a pie plate, as EchoStar and DirecTV assume. A simple 1- or 2-inch extension around the reflector would likely suffice, thus avoiding the wind-loading issues that the DBS operators purport to be concerned about. *See* Verified Statement of Edmund F. Petruzzelli ¶ 18 (attachment to EchoStar/DirecTV Petition).

EchoStar and DirecTV assert that dish relocation may be impractical because as many as 10% of DBS dishes can be installed in only one location.[69] Northpoint does not agree with the DBS estimate, but even accepting this 10% figure as true, the problem is much smaller than EchoStar and DirecTV try to make it seem. The amount of *natural* shielding present for DBS customers was identified in a national survey conducted by the survey firm of Bennett, Petis and Blumenthal in July of 1999.[70] In this survey, it was found that 86% of DBS dish owners are naturally shielded due to a building, tree or other obstacle; therefore, only 14% of DBS customers lack a natural shield.[71] So, by the DBS operators' argument, as many 1.4% of all customers (*i.e.*, 10% of the 14% of customers without natural shielding) might find themselves without natural shielding and only one suitable antenna location. More than 99.9% of these customers, however, will be located in areas where the Commission's EPFD limits are met, so the lack of shielding will be of no consequence. Therefore, less than 0.1% of 1.4% of future DBS customers – about 1 in 100,000 – might need to use other alternatives such as artificial shielding or dish replacement.

The Commission correctly concluded that the minor inconvenience of shielding a handful of dishes is outweighed by the dramatic public interest benefits of more intensive use of scarce spectrum resources, increased competition in the ever-consolidating MVPD market, and increased consumer choice for Internet access and other data services, especially in rural areas. The Commission's rules provide ample protection for DBS subscribers and even contain a "safety valve" provision to ensure that corrective action is

[69] EchoStar/DirecTV Petition at 14.

[70] *See* Mar. 12 Technical Appendix at 7 & n.17.

[71] Margin of error +/- 4% with 95% confidence level.

taken in the unlikely event that terrestrial signals cause harmful interference to a particular DBS subscriber.[72]

SES Americom claims that the Commission should reconsider its rules to give more protection to its system which, if it is ever deployed, would likely be deployed after at least some MVDDS systems are already operational.[73] As a preliminary matter, SES Americom lacks standing to complain about potential interference from MVDDS. SES Americom does not propose to use an orbital location in the existing DBS plan and therefore has no legitimate expectation that it will be protected from interference under the existing primary allocation to DBS. Indeed, the existing DBS operators claim that SES Americom's system, if authorized, will cause harmful interference to existing DBS customers![74] In short, SES Americom is every bit as much a newcomer to the 12.2-12.7 GHz spectrum as any terrestrial operator. Moreover, SES Americom's own chances for success in the marketplace appear to depend upon existing DBS customers' tolerating some minor inconveniences in the name of increased competition – which is precisely what SES Americom seems to claim is unacceptable, even as a theoretical possibility, in the case of MVDDS. SES Americom's petition for reconsideration is thus brazenly hypocritical as well as factually and legally infirm.

As a factual matter, only a tiny fraction of SES Americom's customers could possibly be located in a zone where the MVDDS EPFD exceeds the limits set for existing DBS customers. Even among this tiny fraction of customers, few if any, will need on-site

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[72] *See Second Report and Order*, 17 FCC Rcd at 9655, ¶ 93; 47 C.F.R. § 25.138(e).

[73] SES American Petition at 17-19.

[74] *See, e.g.*, *SES Defends DBS Plan at FCC*, SkyReport (July 8, 2002), at http://www.skyreport.com/skyreport/july2002/070802.htm#one (noting incumbent DBS operators' claims of interference).

mitigation, and the record evidence is that simple expedients such as careful dish placement and shielding during installation are effective at mitigating interference from terrestrial transmitters. It bears repeating that Northpoint's system has operated successfully without causing harmful intereference to DBS even where the DBS receiving dish was located a mere 15 feet from the transmitter.[75] Thus, contrary to SES Americom's hyperbolic claims, there is no meaningful sense in which its "customer base may be limited by the deployment" of terrestrial service.[76]

Nor is it the case that a later-deployed SES Americom system would be "secondary" to MVDDS (or that MVDDS would be secondary to SES Americom, for that matter). As the Commission has taken some pains to explain, the terrestrial and satellite allocations are *co-primary* in the 12.2-12.7 GHz spectrum.[77] The Commission correctly stated that "[c]o-primary services have an obligation to ensure that interference is not caused to existing operations."[78] SES Americom does not directly challenge the validity of this principle but instead claims that the Commission's application of the principle in the context of DBS/MVDDS sharing "involving a geographic overly [*sic*] of two ubiquitous consumer services, is truly unprecedented."[79] But it is unprecedented not because the Commission has refused to apply its first-in-time rule to such a situation in the past; instead, it is unprecedented only because the Commission has never before

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[75] *See* Progress Report WA2XMY, Northpoint – DBS Compatibility Testing, October, 1999, at 8; Ex Parte Letter from Antoinette Cook Bush, Skadden, Arps, Slate, Meagher, and Flom, LLP, to Magalie Roman Salas, Secretary, FCC, November 12, 1999, Attachment, at 6.

[76] *Id.* at 8.

[77] *See Second Report and Order*, 17 FCC Rcd at 9652-55, ¶¶ 87-92.

[78] *Id.* at 9652, ¶ 87.

[79] SES Americom Petition at 8 n.16.

authorized multiple ubiquitous services using the same spectrum in overlapping areas licensed on a geographic basis. Now the Commission has done so, and it quite appropriately applied is rules for co-primary use to the current situation. SES Americom provides no basis for refusing to apply, in the DBS/MVDDS context, the Commission's well-settled first-in-time policy among co-primary services.

Finally, the DBS operators' argument that the *Second Report and Order* somehow failed to comply with the Government in the Sunshine Act is mertiless.[80] The crux of the argument by EchoStar and DirecTV is that "the order as presented to the Commissioners at the open meeting held on April 11, 2002, differed in a number of highly material respects from the order as eventually issued on May 23, 2002."[81] EchoStar and DirecTV also contend that "an order adopted in a sunshine meeting cannot be substantially altered by circulation (other than for routine editorial changes)"[82] – a bold statement for which EchoStar and DirecTV offer no support or citation whatsoever.

In fact, however, the Commission did *not* hold an open meeting on April 11, 2002, and the *Second Report and Order* was never discussed at an open meeting.[83] Hence, even if EchoStar and DirecTV were correct that actions taken in a "sunshine meeting" enjoy some particular immunity from editing, that principle would not apply to the *Second Report and Order* adopted on April 11. That the Commission took action

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[80] EchoStar/DirecTV Petition at 23-24.

[81] *Id.* at 23.

[82] *Id.* at 23-24.

[83] *See* Archived Records of Commission Meetings, *at* http://www.fcc.gov/realaudio/agendameetings.html (visited Aug. 26, 2002); *see also* Commission Meeting Agenda: Thursday, April 18, 2002, *at* http://www.fcc.gov/Bureaus/Miscellaneous/Public_Notices/Agenda/2002/ag020418.html (visited Aug. 26, 2002).

without a sunshine meeting is not unusual, nor does it offend the Sunshine Act. As the D.C. Circuit has repeatedly held, "[t]he Sunshine Act does not require that meetings be held in order to conduct agency business; rather, that statute requires only that, if meetings are held, they be open to the public."[84]

Futhermore, EchoStar and DirecTV wildly exaggerate the significance of the edits made. Commissioner Martin's separate statement notes that, after he noticed some inconsistency between the language of the order and the appendix setting out in detail how the EPFD limits were to be calculated, the language of the order was changed "to coincide with the implementation methodology in the Appendix."[85] Thus, contrary to the suggestion of EchoStar and DirecTV, any changes to the order did not introduce new matter that had not been before the Commissioners when they originally considered the order. Nothing in the Sunshine Act prevents the Commission from either adopting the order or accepting editorial changes to the order without an open meeting. EchoStar and DirecTV are simply mistaken to suggest otherwise.

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[84] *Railroad Comm'n of Texas v. United States*, 765 F.2d 221, 230 (D.C. Cir. 1985) (citing cases).

[85] *Second Report and Order*, 17 FCC Rcd at 9814 (Separate Statement of Commissioner Kevin J. Martin).

CONCLUSION

The Petitions for Reconsideration should be denied, except that the Commission should revise its MVDDS rules in the minor respects discussed above.

Respectfully submitted,

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September 3, 2002

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CERTIFICATION REGARDING TECHNICAL MATERIAL

I, Robert A. Combs, am Director of System Development for Broadwave USA, Inc. I have master's degree in Communication Systems Engineering from the University of Virginia and a bachelor's degree in Aerospace Engineering from the University of Texas at Austin. I am familiar with the technical and operational characteristics of the Northpoint system.

I certify that I am the technically qualified person responsible for the preparation of the technical material in this filing. The contents are complete and accurate to the best of my knowledge.

/s/ Robert A. Combs

_____

Robert A. Combs
Director of System Development
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Dated: September 3, 2002.

CERTIFICATE OF SERVICE

I hereby certify that, on this 3rd day of September 2002, I caused copies of the foregoing *Consolidated Response of Northpoint Technology, Ltd., and Broadwave USA, Inc. to Petitions for Reconsideration of Second Report and Order* to be served upon the parties on the attached service list by electronic filing (denoted by asterisk) or first-class mail, postage prepaid.

/s/ Shonn Dyer

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