

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

In the Matter of	)	
	)	
Amendment of Parts 2 and 25 of the	)	ET Docket No. 98-206
Commission's Rules to Permit Operation of	)	RM-9147
NGSO FSS Systems Co-Frequency with GSO	)	RM-9245
and Terrestrial Systems in the Ku-Band	)	
Frequency Ranges;	)	
	)	
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	)	
Broadwave Corporation, and Satellite	)	
Receivers, Ltd. to Provide a Fixed Service in	)	
the 12.2-12.7 GHz Band	)	

**REPLY OF SKYBRIDGE L.L.C.**

SkyBridge L.L.C. ("SkyBridge"), by its attorneys, hereby replies to the oppositions to the Petition for Reconsideration of SkyBridge (the "SkyBridge Petition")<sup>1</sup> of the *Second Report and Order* in the above-captioned proceeding.<sup>2</sup> The oppositions addressed in this reply were filed by Northpoint Technology, Ltd., and Broadwave USA, Inc. (collectively "Northpoint") and MDS America, Incorporated ("MDS").<sup>3</sup>

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<sup>1</sup> Petition for Reconsideration, SkyBridge L.L.C., ET Docket No. 98-206, RM-9147, RM-9245, July 26, 2002 (the "SkyBridge Petition").

<sup>2</sup> FCC 02-116, released May 23, 2002.

<sup>3</sup> Consolidated Response of Northpoint Technology, Ltd., and Broadwave USA, Inc., to Petitions for Reconsideration of Second Report and Order, ET Docket No. 98-206, RM-9147, RM-9245 (September 3, 2002) (the "Northpoint Opposition"); Opposition of MDS America, Incorporated to SkyBridge L.L.C. Petition for Reconsideration, ET Docket No. 98-206, RM-9147, RM-9245 (September 3, 2002) (the "MDS Opposition"). *See also* MDC America, Incorporated, Petition for Reconsideration, ET Docket No. 98-206, RM-9147, RM-9245 (July 24, 2002) (the "MDS Petition").

## I. INTRODUCTION

In its Petition, SkyBridge demonstrated that the rules adopted in the *Second Report and Order* are inconsistent with the Commission's co-primary allocation of non-geostationary satellite orbit ("NGSO") Fixed-Satellite Service ("FSS") systems and Multichannel Video Distribution and Data Service ("MVDDS") systems in the 12.2-12.7 GHz band. In particular, the rules do not include a single limitation on MVDDS operation that will adequately protect a later-deployed NGSO FSS user terminal from in-band MVDDS emissions.<sup>4</sup>

As SkyBridge explained, the Commission's adoption of what is essentially a "first-come, first-served" approach is incompatible with the requirements of two ubiquitous, consumer-oriented services, as illustrated by the Commission's regulation of co-primary NGSO FSS and Direct Broadcast Satellite Service ("DBS") systems in the very same band. SkyBridge's earlier proposal for NGSO FSS/MVDDS sharing demonstrates – without contradiction – that equitable sharing that protects the full build-out of both services can be achieved if appropriate rules are adopted.<sup>5</sup>

In their oppositions to the SkyBridge Petition, Northpoint and MDS fail to point to any evidence in the record, or provide any new evidence, adequately refuting SkyBridge's conclusions. Even worse, these parties ask the Commission to relax or eliminate every one of those aspects of the rules adopted in the *Second Report and Order* that do provide some protection to NGSO FSS user terminals.

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<sup>4</sup> See SkyBridge Petition at 7-13.

<sup>5</sup> See *id.* at 4-7.

**II. NORTHPOINT AND MDS FAIL TO REFUTE SKYBRIDGE'S DEMONSTRATION THAT THE COMMISSION'S RULES DO NOT PROTECT CO-PRIMARY NGSO FSS SYSTEMS FROM MVDDS INTERFERENCE.**

Neither Northpoint nor MDS point to any reasonable evidence rebutting the showing in the SkyBridge Petition that the rules adopted in the *Second Report and Order* fail to impose any meaningful constraints on MVDDS operations for the protection of NGSO FSS systems. Moreover, neither party effectively counters SkyBridge's fundamental point that the sharing principles incorporated in the SkyBridge proposal are necessitated by the co-primary allocation of the two ubiquitous consumer services in the band.

Instead, Northpoint paints SkyBridge's proposal as an attempt "to frustrate terrestrial deployment,"<sup>6</sup> but provides no demonstration that the proposal would impose any significant burdens on Northpoint's system. Northpoint characterizes SkyBridge's proposal as "needlessly complex,"<sup>7</sup> without refuting in any way SkyBridge's demonstrations that the modest complexity of the proposal (which is still much less complicated than other sharing arrangements in the same band) achieves critical objectives, such as the ability of both NGSO FSS and MVDDS systems to co-exist, no matter which facilities are deployed first. Finally, Northpoint repeats its argument that NGSO FSS systems require no protection because they can simply operate in adjacent spectrum when receiving interference from MVDDS systems, without addressing SkyBridge's demonstrations that the interference from MVDDS must still be limited for this technique (which is key component of SkyBridge's proposal as well) to work effectively.<sup>8</sup>

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<sup>6</sup> Northpoint Opposition at 17.

<sup>7</sup> *Id.*

<sup>8</sup> See Northpoint Opposition at 18; SkyBridge Petition at 12-13. Northpoint points to the fact that this technique (frequency diversity) is employed for sharing among NGSO FSS systems. However, the method works in that context only because the incidence and duration of "in-line events" between systems, as defined by the Commission's rules, is quite limited, *and* satellite diversity can be used to avoid such limited "in-line events." As SkyBridge repeatedly has demonstrated, frequency diversity can successfully be employed for sharing with MVDDS systems, *if* the incidence of interference from MVDDS systems is limited in terms of both the

Northpoint also characterizes SkyBridge’s proposal to implement the PFD limits of Section 25.208(k) applicable to NGSO FSS systems as “operational” limits as “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.”<sup>9</sup> This claim is unfounded. “Operational” limits have in fact been employed by the Commission in the Ku-band (including the 12.2-12.7 GHz band). They are recognized as a useful tool in those instances in which the likelihood of a system exceeding the limits is low, *and* in which a requirement that the system demonstrate that it will never exceed the limits introduces significant artificial constraints, due to the simplifying assumptions that must be used as a practical matter to produce a showing of compliance. SkyBridge has demonstrated – without contradiction – that both of these considerations exist here.<sup>10</sup> Moreover, it is not the case with operational limits that an MVDDS operator will be required “to prove” that a particular NGSO FSS operator is the source of impermissible interference. The burden should be on NGSO FSS operators to demonstrate compliance with the limits with respect to a particular MVDDS receiver in response to a credible claim of interference.<sup>11</sup>

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number of user terminals affected and the magnitude of the interference (to prevent saturation of the user terminals). *See* SkyBridge Petition at 12-13. The rules adopted in the *Second Report and Order* do not achieve this result, particularly for later-deployed NGSO FSS user terminals. Northpoint’s attempt to compare the instant issue to NGSO/NGSO sharing regime is disingenuous at best.

Northpoint also claims that “producing user terminals capable of operating in the 11.7-12.2 GHz band” does not require “customization” because “NGSO FSS operations are allowed in the 11.7-12.2 GHz spectrum all around the world.” Northpoint Opposition at 19. It is true that SkyBridge user terminals will operate across the entire 11.7-12.7 GHz band, and will, therefore, be capable of operating in the 11.7-12.2 GHz band. However, producing user terminals capable of operating *only* in the 11.7-12.2 GHz band, as now required by the Commission’s Rules for terminals that may receive saturation levels of interference in the 12.2-12.7 GHz band, *does* require use of a specialized terminal, a point totally ignored by Northpoint. As SkyBridge has demonstrated, this is a significant burden for the NGSO FSS systems, which must employ extremely complex user terminals to simultaneously track two moving satellites. *See, e.g.*, SkyBridge Petition at 13.

<sup>9</sup> Northpoint Opposition at 19.

<sup>10</sup> *See, e.g.*, SkyBridge Petition at 14-20.

<sup>11</sup> *See* SkyBridge Petition at 18-19.

It should be noted that this is essentially how the other PFD limits of Section 25.208 already work. There is no requirement that an FSS system operator demonstrate in advance that the limits will never be exceeded. It is up to the satellite designer to ensure that they will be met, and to demonstrate compliance in the event of a credible dispute. There is absolutely no reason to place a more onerous requirement on NGSO FSS systems than any other FSS system, particularly when, as here, a demonstration requirement would force the NGSO FSS operator to make operational changes that affect the capacity of its system well beyond those required to ensure that the limits are not exceeded in practice.<sup>12</sup>

MDS, for its part, offers nothing of substance in its opposition to the SkyBridge Petition, but instead makes a number of allegations regarding SkyBridge's motives that have no basis whatsoever. MDS states that, in deploying its system, SkyBridge "wants it to be as easy and inexpensive as possible," claiming that SkyBridge "just doesn't want to share."<sup>13</sup> MDS further states that "SkyBridge has access to unshared frequencies, but it doesn't want to have to use them."<sup>14</sup>

As the Commission well knows, the SkyBridge system concept is *based* on frequency reuse. Contrary to MDS's allegations, there is not a single band in which SkyBridge will not have to share with at least one, and often more, existing services. The SkyBridge system was designed, band by band, to ensure that such sharing is feasible.<sup>15</sup>

Moreover, unlike those of the MVDDS proponents, the SkyBridge sharing proposals have been based on protecting both existing *and future* users of the bands. In fact, SkyBridge has proposed the only method on the table for NGSO FSS/MVDDS sharing that

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<sup>12</sup> See, e.g., SkyBridge Petition at 15-16.

<sup>13</sup> MDS Opposition at 3.

<sup>14</sup> MDS Opposition at 6; *see also id.* at 4.

<sup>15</sup> MDS also alleges that SkyBridge "proposes less sophisticated equipment that cannot use frequency diversity as effectively as that proposed by other NGSO operators." MDS Opposition at 6. This accusation, which is wholly unsupported by MDS, is demonstrably false, as evidenced by the record in this proceeding.

would achieve this goal. MDS has not even attempted to make a showing that the SkyBridge proposal would unduly burden its operations. Two things become clear from a review of the MDS Petition and Opposition: (1) MDS is unfamiliar with the record regarding NGSO FSS systems in this proceeding; and (2) MDS is willing to make almost any assertion regardless of the facts.<sup>16</sup> The arguments advanced by MDS are unworthy of serious consideration.

**III. THE COMMISSION SHOULD REJECT THE PROPOSALS OF MDS AND NORTHPOINT TO FURTHER WEAKEN PROTECTION OF NGSO FSS SYSTEMS.**

**A. The Commission Should Reject the Proposals to Eliminate or Relax the 14 dB EIRP Limit Applicable to MVDDS Systems.**

Northpoint and MDS argue that the 14 dBm EIRP limit on MVDDS transmitters should be relaxed or even eliminated.<sup>17</sup> The Commission should reject these proposals. While this general power limit was not derived based on NGSO FSS protection requirements, it is absolutely necessary to ensure that high MVDDS power levels will not exclude NGSO FSS systems from the band. Moreover, the arguments of Northpoint and MDS regarding these limits are utterly inconsistent with statements of these parties throughout this proceeding, and the sharing studies on the record.

First, it must be emphasized that in all of Northpoint's own demonstrations of its ability to share with NGSO FSS systems, Northpoint consistently used its "typical" power of 12.5 dBm.<sup>18</sup> All attempts by SkyBridge to examine the impact of worst-case levels in sharing studies were rejected by Northpoint, with assurances that 12.5 dBm EIRP was representative of its system. Northpoint now claims that even a 14 dBm limit is "crippling."<sup>19</sup> The Commission must reject Northpoint's extraordinary abandonment of its prior

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<sup>16</sup> See also note 27 *infra* and accompanying text.

<sup>17</sup> Northpoint Opposition at 8. MDS Petition at 2, 4, 5, 9-12.

<sup>18</sup> See, e.g., Reply Comments of SkyBridge, ET Docket No. 98-206, RM-9147, RM-9245, April 5, 2001 ("SkyBridge Reply Comments"), at 10-11.

<sup>19</sup> Northpoint Opposition at 11.

representations.<sup>20</sup> Due to Northpoint’s own intransigence, there are no sharing studies in the record that can support a conclusion that NGSO FSS systems will be adequately protected if the EIRP limit is any higher than 12.5 dBm.

Both Northpoint and MDS justify their requests, in part, by pointing to alleged burdens that will be placed on their operations if they must constrain their power in rural areas. Northpoint now claims that the 14 dBm limit “jeopardizes the viability of rural MVDDS operations.”<sup>21</sup> MDS, while claiming that its system “easily” meets all the technical rules adopted by the Commission,<sup>22</sup> argues that “[u]nless the Commission permits MVDDS transmitters to operate at a higher power level in rural areas, MVDDS will never become a viable service for those who need it most – rural Americans.”<sup>23</sup>

These statements confirm SkyBridge’s longstanding observation that terrestrial systems with 16 km service areas (Northpoint’s original proposal) are simply unsuitable for providing blanket coverage to rural areas. Indeed, for this reason, satellite services are heavily relied upon by rural residents, and rural areas are key markets for such services. The MVDDS proponents’ proposal to increase their power in rural areas, to levels beyond those used in any sharing studies, will jeopardize the ability of satellite providers to serve these areas, without providing even a scintilla of hope that any MVDDS services actually will deploy in rural areas.

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<sup>20</sup> See SkyBridge Reply Comments at 10-11.

<sup>21</sup> Northpoint Opposition at 8.

<sup>22</sup> MDS Petition at 4.

<sup>23</sup> MDS Petition at 2. See also MDS Petition at 4, 5, 9-12. Curiously, while claiming that it can operate under the Commission’s Rules, and that its concerns regarding the power limits are not for itself, MDS states that with the 14 dB EIRP limit “*no one* will be able to deploy an MVDDS system in a highly rural area, purely as a matter of economics.” MDS Petition at 4 (emphasis in original). As noted above, MDS does not let the facts get in the way of its rhetoric.

**B. The Commission Should Reject the Request for Reconsideration of the Limits Placed on MVDDS for the Protection of NGSO FSS Systems.**

Northpoint and MDS urge the Commission to abandon, or at least modify, the three-kilometer PFD limit of Section 101.105(a)(4)(i),<sup>24</sup> and Northpoint requests the Commission to also eliminate the ten-kilometer separation requirement of Section 101.129(b).<sup>25</sup> The Commission should reject these requests.

Northpoint essentially argues that no steps are necessary to protect NGSO FSS user terminals, because NGSO FSS operators can employ frequency diversity to avoid interference.<sup>26</sup> As discussed above, this argument is simply wrong; certain restrictions on MVDDS operation are necessary to preserve the ability of NGSO FSS systems to use frequency diversity. MDS's request for reconsideration of the limits is not based on any technical considerations, but merely MDS's uninformed speculation regarding the viability of the NGSO FSS service.<sup>27</sup>

The PFD limit protects NGSO FSS user terminals located more than three kilometers from an MVDDS transmitter from saturation caused by MVDDS interference. While SkyBridge has demonstrated that this rule is grossly inadequate to protect NGSO FSS operations – because it would leave a large number of user terminals exposed to debilitating interference – repealing the requirement and permitting even more user terminals to suffer saturation is clearly unwarranted.<sup>28</sup>

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<sup>24</sup> Northpoint Opposition at 15, MDS Petition at 26-30.

<sup>25</sup> Northpoint Opposition at 15.

<sup>26</sup> *Id.*

<sup>27</sup> For example, MDS opines, without any evidence, that NGSO FSS user terminals will likely cost a minimum of \$250,000 per installation, and therefore NGSO FSS, if it exists at all, will not be a ubiquitous service. MDS Petition at 27. This statement is incomprehensible in view of the record in this proceeding. The clear lack of understanding by MDS of NGSO FSS system design and operation puts into question MDS's ability to comment meaningfully on MVDDS/NGSO FSS sharing issues.

<sup>28</sup> See SkyBridge Petition at 7-10.

The 10 km separation requirement ensures that NGSO FSS user terminals installed before an MVDDS transmitter will be protected from interference. While SkyBridge has demonstrated that the “first-come, first-served” approach is not appropriate for NGSO FSS/MVDDS co-primary sharing, it is clear that, *at the very least*, earlier-deployed NGSO FSS user terminals must be protected from interference.<sup>29</sup> Northpoint’s request for rules that would permit it to cause interference to earlier-deployed NGSO FSS receivers must be rejected.

**C. The Commission Should Reject Complaints Regarding the MVDDS Emissions Mask.**

Northpoint complains that the Commission’s decision to specify a value of 24 MHz in its emissions mask equation might hamper future Northpoint operation; Northpoint would like the mask bandwidth to be 500 MHz.<sup>30</sup> MDS has made a similar argument in this proceeding.<sup>31</sup> These arguments are misleading, and should be rejected.

The maximum authorized bandwidth for MVDDS systems *is* 500 MHz under the Commission’s Rules.<sup>32</sup> The only parameter that was changed to 24 MHz in this proceeding is the value of “B” in the emission’s mask.<sup>33</sup> Without this change, the emissions mask would allow large out-of-band emissions in the adjacent 11.7-12.2 GHz band, which would thwart the ability of NGSO FSS systems to use this band.<sup>34</sup> This would undermine a critical assumption of the NGSO FSS/MVDDS sharing regime adopted by the Commission – the ability of NGSO FSS systems to assign user terminals affected by MVDDS interference to

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<sup>29</sup> *See id.* at 3.

<sup>30</sup> Northpoint Opposition at 13-14.

<sup>31</sup> *See* MDS Petition at 23-24.

<sup>32</sup> 47 C.F.R. § 101.109(c).

<sup>33</sup> 47 C.F.R. § 101.111(a)(2)(i).

<sup>34</sup> As SkyBridge explained in its comments in this proceeding, without this change, there would be no limitation on interference levels as far as 250 MHz below 12.2 GHz (*i.e.*, 11.95 GHz), which could render many carriers in the 11.7-12.2 GHz band unusable to NGSO FSS carriers. *See* Comments of SkyBridge, ET Docket No. 98-206, RM-9147, RM-9245, March 12, 2001, at 53.

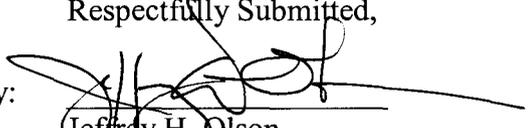
the 11.7-12.2 GHz band. The Commission's decision to limit out-of-band emissions was reasonable and should be upheld.

### CONCLUSION

For the above reasons, the oppositions of Northpoint and MDS to the SkyBridge Petition should be rejected by the Commission, as should the efforts of these parties to dismantle every single Commission Rule affording protection to NGSO FSS customers.

Respectfully Submitted,

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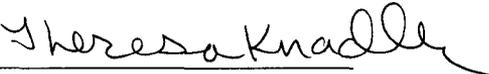
**CERTIFICATE OF SERVICE**

I hereby certify that a copy of the foregoing Reply of SkyBridge L.L.C. was served this 18th day of September, 2002, by first class U.S. mail, postage prepaid, on the following:

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