

Before the  
**FEDERAL COMMUNICATIONS COMMISSION**  
Washington, DC 20554

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

**REPLY COMMENTS OF  
THE BOEING COMPANY**

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## SUMMARY

The comments filed in this proceeding generally support Boeing's position that the Commission must develop EPFD limits to prevent Multichannel Video Distribution and Data Service ("MVDDS") networks from causing high levels of interference into NGSO FSS receivers in the 12.2-12.7 GHz band. The Commission's proposal for a lone MVDDS transmitter power limit of 12.5 dBm (combined with sizable exceptions) will not give MVDDS licensees any incentive to minimize interference and will not provide NGSO FSS operators with a reliable means of anticipating the amount of interference that could be experienced by NGSO FSS receivers. Even Northpoint has requested that the Commission develop EPFD limits for MVDDS transmissions. While Northpoint supports the development of these limits only to protect direct broadcast satellite ("DBS") systems, Northpoint acknowledges that EPFD limits could also be used to protect NGSO FSS networks.<sup>1</sup>

The need to develop EPFD limits to protect NGSO FSS receivers is heightened by the fact that several parties have suggested alternative architectures for MVDDS. To the extent that the Commission does move forward with its plan to license MVDDS systems, the Commission must adopt interference limits for MVDDS systems that adequately protect NGSO FSS receivers regardless of the MVDDS architecture that is employed.

Not only are the Commission's proposed rules to protect NGSO FSS receivers from MVDDS interference inadequate, but the proposed rules to protect DBS receivers from MVDDS transmissions are also insufficient. While the Commission must do more to protect DBS receivers

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<sup>1</sup> See *Comments of Northpoint Technology, Ltd. and Broadwave USA, Inc.*, ET Docket No. 98-206, at 27 (March 12, 2001).

from harmful interference, however, the Commission should not attempt to rectify the situation by reopening the carefully negotiated international agreement on spectrum sharing between DBS and NGSO FSS networks that was adopted by WRC-2000.

Furthermore, if the Commission does license MVDDS networks, it should do so through auctions. Northpoint filed extensive comments with the Commission attempting to argue that the use of auctions is not appropriate in this proceeding. Northpoint's arguments are not persuasive, however, nor supported by Commission rules or precedent.

Finally, the Commission should refrain from adopting the coordination procedures proposed by the Society of Broadcast Engineers ("SBE") for NGSO FSS gateway earth stations operating in the 12.75-13.25 GHz band with the television broadcast auxiliary service ("BAS") and the cable television relay service ("CARS"). The SBE coordination criteria seem to be internally inconsistent and are offered without technical explanation. While Boeing intends to review the SBE proposal further, Boeing requests that the Commission take no action on NGSO FSS coordination procedures for the 12.75-13.25 GHz band until the technical issues are vetted adequately. Further consideration of this issue, however, should not delay the licensing of NGSO FSS networks in the Ku-band.

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**REPLY COMMENTS OF  
THE BOEING COMPANY**

The Boeing Company (“Boeing”), by its attorneys and pursuant to Section 1.415 of the Commission’s Rules, 47 C.F.R. § 1.415, hereby responds to the comments that were filed in response to the above-referenced Further Notice of Proposed Rule Making (“*Further Notice*”).

**I. THE COMMENTS IN THIS PROCEEDING SUPPORT THE CONCLUSION THAT THE COMMISSION MUST ADOPT EPFD LIMITS AND OTHER MEASURES TO PROTECT NGSO FSS SYSTEMS FROM MVDDS INTERFERENCE.**

The commenters in this proceeding are unanimous on a single point – a great deal of work must still be completed before the Commission can identify adequate interference limits to permit a Multichannel Video Distribution and Data Service (“MVDDS”) to operate in the 12.2-12.7

GHz band on a shared basis with other services. Most commenting parties also agree that the central focus of the Commission's work must be on developing EPFD limits for MVDDS transmissions.<sup>2</sup> Even Northpoint, which has repeatedly claimed that it has already negotiated sharing criteria with DBS and NGSO FSS operators,<sup>3</sup> urged the Commission to discard the interference limits proposed in the *Further Notice* and develop from scratch EPFD limits for MVDDS transmissions to protect co-frequency systems.<sup>4</sup>

Northpoint argues that EPFD limits should be used to protect DBS licensees.<sup>5</sup> Northpoint acknowledges, however that “the EPFD is a practical limit on the [MVDDS] interference power into NGSO FSS.”<sup>6</sup> Accordingly, Northpoint indicates that its proposed EPFD limits could also be used to protect NGSO FSS systems.<sup>7</sup> Northpoint argues against the development of separate EPFD limits to protect NGSO FSS and DBS receivers, however, asserting that “[w]e believe the Northpoint EPFD limit to protect DBS will also provide sufficient protection to NGSO FSS.”<sup>8</sup>

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<sup>2</sup> See *Comments of Northpoint Technology, Ltd. and Broadwave USA, Inc.*, ET Docket No. 98-206, at 33 (March 12, 2001) (“*Northpoint Comments*” or “*Northpoint Technical Appendix*”); *Comments of Directv, Inc.*, ET Docket No. 98-206, at 18 (March 12, 2001) (“*Directv Comments*”); *Comments of SkyBridge*, ET Docket No. 98-206, at 33 (March 12, 2001); *Comments of Pegasus Broadband Corporation*, ET Docket No. 98-206, at 5 (March 12, 2001) (“*Pegasus Comments*”)

<sup>3</sup> See *Northpoint Comments* at 3.

<sup>4</sup> See *id.* at 33.

<sup>5</sup> See *Northpoint Technical Appendix* at 28.

<sup>6</sup> *Id.*

<sup>7</sup> See *id.* at 27.

<sup>8</sup> *Id.*

As Boeing documented in a Petition for Reconsideration that it filed in this proceeding, interference measures designed to protect DBS receivers will not provide adequate protection for NGSO FSS receivers because of the significant differences that exist in the configuration and operations of the two services.<sup>9</sup> Furthermore, MVDDS operators may mitigate interference into DBS receivers primarily by paying for the relocation of the receivers to take advantage of natural shielding. Under the Commission's proposed rules, however, MVDDS operators will be under no obligation to take similar measures in an attempt to reduce interference into NGSO FSS receivers. Accordingly, the Commission cannot expect its DBS protection rules to provide any appreciable protection for NGSO FSS systems.

In any event, it would be wholly inappropriate to ground a spectrum sharing regime between two co-primary services (MVDDS and NGSO FSS) on incidental and inadvertent protection provided to a third, dissimilar service. Developing EPFD limits to protect NGSO FSS systems would not result in any delay in this proceeding, or significant administrative inconvenience. This is because most parties in this proceeding – including Northpoint – are urging the Commission to develop EPFD limits to protect DBS receivers.<sup>10</sup> The Commission could concurrently develop EPFD limits to protect DBS and NGSO FSS receivers, just as ITU working groups, with the support of the United States, concurrently developed EPFD limits to protect DBS and GSO FSS receivers from NGSO FSS transmissions. In fact, it may be much easier for the Commission to develop EPFD limits to protect NGSO FSS receivers, than for DBS

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<sup>9</sup> See *Petition for Reconsideration of The Boeing Company*, ET Docket No. 98-206, at 19-20 (March 19, 2001) (“*Boeing Petition*”); see also *Comments of The Boeing Company*, ET Docket No. 98-206, at 8-9 (March 12, 2001) (“*Boeing Comments*”)

<sup>10</sup> See *supra* note 1.

receivers. Northpoint and SkyBridge apparently worked together last year in an attempt to reach a compromise on EPFD limits, the outline for which was included in a July 10, 2000 letter to the Commission.<sup>11</sup> In contrast, there is no evidence in the *Further Notice* that work had been done on developing EPFD limits to protect DBS receivers prior to Northpoint's expression of support for this approach in its comments.

The need to develop EPFD limits to protect NGSO FSS receivers is heightened by the fact that several parties have suggested alternative architectures for MVDDS. For example, AT&T claims it can provide two-way services in the 12.2-12.7 GHz band using spread spectrum return paths, or narrowband interstitial signals between DBS channels to protect DBS systems.<sup>12</sup> While AT&T claims that through the use of "judicious engineering and deployment" its system could avoid causing harmful interference to NGSO FSS networks,<sup>13</sup> AT&T gives no indication of how its technology would accomplish MVDDS/NGSO FSS sharing.

Another vague proposal was put forth by MDS America, which appears to use omnidirectional transmitters to operate on a shared basis with other services.<sup>14</sup> MDS America claims

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<sup>11</sup> See *Letter to Magalie Roman Salas, Secretary, FCC, from Jeffrey H. Olson, Counsel to SkyBridge*, at 4-5 (July 10, 2000) ("*SkyBridge July 10, 2000 Letter*"); see also *Ex Parte Submission of Northpoint Technology, Ltd. and BroadwaveUSA*, ET Docket No. 98-206, at 13 (Aug. 29, 2000) (indicating that Northpoint "has resolved the sharing issues with . . . SkyBridge."). It was later reported, however, that no agreement was reached between the parties.

<sup>12</sup> See *Comments of AT&T Corp.* ET Docket No. 98-206, at 12 (March 12, 2001) ("*AT&T Comments*"). AT&T apparently does not realize that there are no gaps between DBS channels in the U.S. that would be available for interstitial signals. DBS satellites operate overlapping channels using orthogonal senses of polarization.

<sup>13</sup> *Id.*

<sup>14</sup> See *Comments of MDS America, Incorporated*, ET Docket No. 98-206 (March 12, 2001) ("*MDS America Comments*").

that its service can operate co-frequency with DBS systems.<sup>15</sup> The sharing scenarios described in Appendix 2 of its comments appear to only involve co-frequency GSO FSS networks (note the differences in frequency bands between Regions 1, 2 and 3) apparently providing direct-to-home (“DTH”) services and probably using large receive antennas. In any event, MDS America makes no claim that its system could operate on a shared basis with NGSO FSS receivers.

Finally, SkyTower suggests that the Commission should permit MVDDS licensees to use stratospheric platforms to provide services to consumers.<sup>16</sup> SkyTower makes no claim that its aerial platforms would be capable of operating on a shared basis with DBS or NGSO FSS networks. SkyTower does claim, however, that it could operate “consistent with the non-interference standards to be adopted by the Commission.”<sup>17</sup>

As Boeing has explained in its comments in this proceeding, the Commission’s proposed non-interference standards are completely inadequate to protect NGSO FSS receivers.<sup>18</sup> The Commission’s proposal for a lone MVDDS transmitter power limit of 12.5 dBm (combined with sizable exceptions) will not give MVDDS licensees any incentive to minimize interference and will not provide NGSO FSS operators with a reliable means of anticipating the amount of interference that could be experienced by NGSO FSS receivers. This significant potential for harmful interference may be made much worse by the use of alternative architectures for MVDDS that were not envisioned when the 12.5 dBm “limit” was formulated.

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<sup>15</sup> *See id.* at 4.

<sup>16</sup> *See Comments of SkyTower, Inc.*, ET Docket No. 98-206, at 3 (March 12, 2001) (“*SkyTower Comments*”).

<sup>17</sup> *Id.*

<sup>18</sup> *See Boeing Comments* at 11-17.

In making this argument, Boeing is not suggesting that the Commission reject outright all proposals to construct MVDDS networks using alternative architectures. Instead, to the extent that the Commission does move forward with its plan to license MVDDS systems, the Commission must adopt interference limits for MVDDS systems that adequately protect NGSO FSS receivers regardless of the MVDDS architecture that is employed.

Specifically, the Commission must adopt EPFD limits that can be measured at a NGSO FSS receiver in order to offer a reliable means of assessing interference into NGSO FSS networks. As Boeing indicated in its comments, in order to develop appropriate EPFD limits, the Commission must first adopt protection criteria for NGSO FSS networks and then use the criteria to establish EPFD limits to protect NGSO FSS receivers.<sup>19</sup>

The use of EPFD limits will give MVDDS operators a clearly defined obligation to limit interference into NGSO FSS networks while providing them with flexibility to consider alternative architectures. Even Northpoint has expressed interest in more flexible rules for MVDDS networks. Northpoint (along with MDS American and AT&T) has argued that MVDDS transmitters should not be required to “generally point south.”<sup>20</sup> Granted, elimination of the “south pointing” requirement for MVDDS may undercut completely Northpoint’s claim that it has developed a spectrum sharing approach that is new or innovative. Boeing believes, however, that Northpoint is correct in asserting that the Commission should focus its rules on the potential impact to victim receivers, rather than the technical characteristics of the offending transmitter.

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<sup>19</sup> *See id.* at 19-26.

<sup>20</sup> *Northpoint Technical Appendix at 25; MDS America Comments at 12; AT&T Comments at 12.*

This should be done through the adoption of EPFD limits to protect NGSO FSS receivers, rather than transmit power and directional limits for MVDDS transmitters.

As Northpoint observes, “[t]he key advantage of this approach is that EPFD can be measured in the field, thus making it relatively easy to determine whether a particular transmitter is causing impermissible interference at a particular location.”<sup>21</sup> In light of the significant advantages – both for MVDDS and NGSO FSS operators – the Commission should adopt EPFD limits to protect NGSO FSS receivers from MVDDS interference.

**II. BOEING AGREES THAT THE COMMISSION’S PROPOSED RULES ARE INADEQUATE TO PROTECT DBS NETWORKS FROM MVDDS INTERFERENCE, BUT THE COMMISSION SHOULD NOT DISRUPT THE INTERNATIONAL COMPROMISE ON SHARING BETWEEN NGSO FSS AND DBS NETWORKS.**

Not only are the Commission’s proposed rules to protect NGSO FSS receivers from MVDDS interference inadequate, but the proposed rules to protect DBS receivers from MVDDS transmissions are also insufficient. While the Commission claims in its *Further Notice* that MVDDS will be secondary to DBS, its proposed rules appear to have the opposite affect. Instead of prohibiting MVDDS operators from causing harmful interference into DBS receivers (the standard for all other secondary services),<sup>22</sup> the Commission plans to permit MVDDS operators to increase the number and length of signal outages for DBS services.<sup>23</sup> This seems wholly incompatible with the clear definition of harmful interference, which is interference that “seriously

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<sup>21</sup> *Northpoint Comments* at 33; *see also Northpoint Technical Appendix* at 5.

<sup>22</sup> *See* 47 C.F.R. § 2.1 (1999).

<sup>23</sup> *See Further Notice*, ¶ 267.

degrades, obstructs, or *repeatedly interrupts* a radiocommunications service.”<sup>24</sup> It is not clear how a radiocommunications service that all parties agree will cause regular and repeated signal outages in DBS service cannot be said to “repeatedly interrupt” that service.

The Commission aggravates its misapplication of its rules for secondary services by proposing mitigation measures for DBS receivers. Specifically, if the DBS service outages exceed a certain level, the Commission suggests that customers of the primary service should accept larger receive antennas, or shielding, rather than requiring the operator of the secondary service to reduce emissions.<sup>25</sup> Furthermore, the obligation on MVDDS operators to mitigate interference into DBS receivers would end completely after 18 months, after which, DBS truly would be the secondary service in the band.<sup>26</sup>

If the Commission moves forward with its plan to authorize MVDDS on a secondary basis to DBS, then the Commission must apply its longstanding rules for secondary services, rather than the watered down rules that have been crafted for MVDDS. The Commission must also apply a realistic definition of harmful interference for DBS, instead of relying on an outdated signal availability target that was developed by the ITU for non-competitive, analog BSS systems,<sup>27</sup> and not modern, multichannel digital DBS systems, which must compete with cable.

While it is extremely important for the Commission to protect DBS receivers from harmful interference, however, the Commission should not attempt to rectify the situation by reopening

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<sup>24</sup> *NGSO FSS Order*, ¶ 213 (quoting 47 C.F.R. §2.1 (1999) (emphasis added)).

<sup>25</sup> *See Further Notice*, ¶ 273.

<sup>26</sup> *See id.*, ¶ 274.

<sup>27</sup> *See NGSO FSS Order*, ¶ 214 (citing ITU Radio Regulations, Appendix 30).

the carefully negotiated international agreement on spectrum sharing between DBS and NGSO FSS networks.<sup>28</sup> As the Commission has repeatedly acknowledged, NGSO FSS have the capability “to provide important services to the public, particularly in rural and unserved areas.”<sup>29</sup> The services that can be provided by NGSO FSS networks can be enjoyed by consumers throughout the world, not just in the United States. Furthermore, multiple NGSO FSS networks can operate on a shared basis in the same spectrum, but only if the Commission upholds the international rules for NGSO FSS operations in the Ku-band and does not attempt to make after-the-fact changes to the agreed upon aggregate interference limits.

In summary, while Boeing agrees that the Commission must do more to protect NGSO FSS and DBS receivers from MVDDS interference, the Commission should not disrupt the important spectrum sharing agreements that have been adopted on an international basis for NGSO FSS sharing with DBS networks.

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<sup>28</sup> Both Directv and Echostar suggest in their comments that the Commission should consider revising the aggregate interference limits that have been adopted for NGSO FSS networks by limiting interference into DBS receivers to a 10% increase in unavailability resulting from the aggregate of both NGSO FSS and MVDDS interference. *See Directv* at 10; *Comments of Echostar Satellite Corporation*, ET Docket No. 98-206, at 10 (March 12, 2001) (“*Echostar Comments*”). Such an approach would reduce the number of NGSO FSS networks that could operate on a global basis and would be in conflict with the international agreement that the United States actively supported at WRC-2000.

<sup>29</sup> *NGSO FSS Order*, ¶¶ 19, 166 (“The implementation of NGSO FSS systems will allow new advanced services to be provided to the public, as well as provide increased competition to existing satellite and terrestrial services. Indeed, the NGSO FSS, because of its ability to serve large portions of the earth’s surface, can bring advanced services to rural areas.”).

### **III. NORTHPOINT HAS FAILED TO EXPRESS A VALID BASIS FOR THE COMMISSION TO ASSIGN MVDDS LICENSES BY ANY MEANS OTHER THAN AUCTIONS.**

Boeing still believes firmly that the Commission would best serve the public interests by withdrawing its allocation for MVDDS systems.<sup>30</sup> If the Commission does license MVDDS networks, however, it should do so through auctions.

In opposing auctions, Northpoint weaves a series of complex argument that attempt to justify its receipt of an exclusive license immediately. First, Northpoint argues that its proposed

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<sup>30</sup> In its comments in this proceeding, Boeing indicated that if the Commission does move forward with an allocation for MVDDS, it should advance the public interest by conditioning its action on a requirement that Northpoint and its affiliates make their patents available to all other parties on reasonable terms and conditions without unfair discrimination. *See Boeing Comments* at 40-44. Boeing indicated in its comments that it was raising this issue because Northpoint was attempting to discredit the MVDDS applications of PDC Broadband Corporation (“Pegasus”) and Satellite Receivers, Ltd. (“Satellite Receivers”) by arguing that they were violating Northpoint’s patented technology. *See id.* at 41 (citing *Letter to The Honorable Chairman Kennard, FCC, from Michael K. Kellogg, Counsel for Northpoint*, at 2 (Jan. 12, 2001)).

Within the last several days, Boeing has become aware of public statements made by Sophia Collier, the President of Northpoint and Broadwave, misrepresenting Boeing’s position on this point by issuing a news release that claims that Boeing is attempting to appropriate Northpoint’s patented technology. Collier reportedly said:

I think it is outrageous that a company the size of Boeing would advocate that the government appropriate a small company's technology so that it could be given to Boeing or other satellite companies. Boeing should do their own R&D and not try to take technology from a small company.

Press Release, *Broadwave Urges Level Playing Field, Incumbents are Trying to Inhibit Competition*, Business Wire (April 5, 2001), available at <http://biz.yahoo.com/bw/10405/495.html> (last visited April 6, 2001).

Boeing vigorously denies any such interest on its part and finds that such statements diminish not only the integrity of the rulemaking process, but also challenges the underlying authority the FCC in its lawfully delegated duty to administer and enforce laws of the United States and the public policy that underpins these laws. Boeing hopes that Commission will take such behavior into account when it determines who is qualified to hold a FCC license.

new service is not a new service at all, but is instead a new use of previously assigned spectrum.<sup>31</sup>

Northpoint observes that the Commission often permits existing licensees to provide new and expanded services using their assigned spectrum without being subject to an auction process.

Northpoint cites to such examples as the Commission's decision to permit cellular telephone licensees to shift from analog to digital transmissions, its decision to permit FM licensees to use subchannels for paging, and its decision to permit MMDS licensees to use digital signals and initiate two-way transmissions.<sup>32</sup>

The Commission's practice of permitting existing licensees to provide new services, however, does not support Northpoint's argument that it should be given an initial license to operate in the 12.2-12.7 GHz band without being subject to a competitive auction. If anything, Northpoint's argument supports the conclusion that DBS licensees – not Northpoint – should be allowed to provide complimentary terrestrial services in the 12.2-12.7 GHz band pursuant to their existing licenses. Such a result certainly would be more equitable, particularly since some DBS licensees paid hundreds of millions of dollars at auction for the right to operate some of their satellites in the 12.2-12.7 GHz band.

Northpoint also argues that it should be granted a license immediately in order to maintain procedural consistency in this proceeding.<sup>33</sup> Northpoint argues that up until now this proceeding has been handled by the International Bureau, but once the Commission creates a MVDDS service the licensing process will be handled by the Wireless Bureau, most likely through its

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<sup>31</sup> See *Northpoint Comments* at 5-6.

<sup>32</sup> See *id.* at 9-11.

<sup>33</sup> See *id.* at 11-13.

Auctions and Industry Analysis Division.<sup>34</sup> Northpoint appears to believe that if MVDDS licenses are issued by the International Bureau, rather than the Wireless Bureau, then Northpoint may not have to compete in an auction.

In making this argument, Northpoint ignores the fact that this proceeding, like all spectrum allocation proceedings, is being led by the Commission's Office of Engineering and Technology. Furthermore, like most new allocation proceedings, once the Office of Engineering and Technology completes the allocation process, the licensing and service rules will be handled by the respective bureaus depending on the type of service involved. In this case, ET Docket No. 98-206 has resulted in an allocation for both a new satellite service and a new terrestrial wireless service. Accordingly, it is entirely appropriate that the licensing of the satellite service be handled by the International Bureau and the licensing of the wireless service be handled by the Wireless Bureau.

Northpoint also argues that it should be granted an exclusive license to operate in the Ku-band in order to give other parties an incentive to develop new telecommunications services.<sup>35</sup> As a preliminary matter, it is questionable whether Northpoint has actually created new technology. The only apparent "innovation" that Northpoint claims is its reliance on "south pointing" antennas. As noted in a previous section, Northpoint is now seeking to abandon its reliance on south pointing antennas, requesting that the Commission permit MVDDS transmitters to point in

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<sup>34</sup> *See id.* at 6.

<sup>35</sup> *See id.* at 9.

any direction as long as the power limits that are adopted are not exceeded.<sup>36</sup> Such a spectrum sharing approach is in no way new or innovative.

Furthermore, as Northpoint's own economist points out, Northpoint and other parties will still have a strong incentive to develop new telecommunications services even if the Commission assigns MVDDS licenses by auctions. Northpoint economist Thomas Hazlett observes that

Northpoint's patent rights mean that it may be in a position to capture some share of the revenue stream its investment makes possible even if operating licenses are assigned by competitive bidding. It is likely that one of two scenarios would obtain: (1) although Northpoint has stated that it would not participate in an FCC license auction, Northpoint could, in principle, bid and win a license at auction. (2) A firm other than Northpoint could win the auction, and then negotiate a partnership, licensing, or joint venture agreement to use Northpoint technology in exchange for a share of revenues or profits.<sup>37</sup>

Permitting Northpoint to enjoy licensing revenues for its patent rights is not inconsistent with the Commission's long standing practice of refusing to develop service rules for new services based on patented technologies as long as the Commission conditions its creation of MVDDS on a requirement that Northpoint and its affiliates make their patents available to all other parties on reasonable terms and conditions without unfair discrimination.<sup>38</sup>

Finally, as other commenters have observed, what Northpoint is really requesting is a Pioneer's Preference, but with greatly expanded benefits. The original Pioneer's Preference program awarded auction bidding credits to developers of new technology, but not free licenses.<sup>39</sup>

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<sup>36</sup> See *supra* at text accompanying note 19.

<sup>37</sup> Declaration of Thomas W. Hazlett, PH.D. at 9-10 (March 12, 2001), included as an attachment to *Northpoint Comments* ("Hazlett Declaration").

<sup>38</sup> See *Boeing Comments* at 40-44.

<sup>39</sup> See 47 U.S.C. § 309 (j)(13).

The bidding credits were granted only when multiple licenses were available to serve each geographic area.<sup>40</sup> In any event, Congress has withdrawn the Commission’s authority to grant Pioneer’s Preferences, eliminating them from consideration on Northpoint’s behest.<sup>41</sup>

In its comments, Northpoint also relies on a declaration by economist, Thomas Hazlett, to argue that licensing Northpoint without an auction would accelerate the MVDDS licensing process and speed new consumer services to the public.<sup>42</sup> As noted in his declaration, Hazlett is a longstanding proponent of the FCC’s auction process as an expedient and efficient way to assign licenses.<sup>43</sup> Hazlett has argued that “in general, auctions have been a faster and less costly means of license assignment than previous FCC methods.”<sup>44</sup>

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<sup>40</sup> See *Preference to Applicants Proposing an Allocation for New Services*, 8 FCC Rcd 1659, ¶ 2 n.4 (1993).

<sup>41</sup> See Pub. L. 105-33, 111 Stat. 251 (1997).

<sup>42</sup> See *Hazlett Declaration* at 14.

<sup>43</sup> See *id.*, at 1 n.1.

<sup>44</sup> *Use of Designated Entity Preferences in Assigning Wireless Licenses*, 51 Fed. Comm. L.J. 639, 640 (1999). Unfortunately, as Hazlett acknowledged in his 1999 article, certain aspects of the FCC auction process have led to delays in the provision of new services to the public. Rather than abandon the use of auctions, however, Hazlett urged the Commission to continue using auctions, but discontinue the use of preference programs established to facilitate diversity mandates, such as credits for small businesses. Hazlett argued that such programs encourage entry by comparatively inefficient telecommunications providers, which has led to delays in providing new services. Hazlett estimated that the delays in deploying new consumer services represents in excess of \$1.4 billion per year in lost consumer surplus. See *id.* at 658. Hazlett’s thesis seems in conflict with Northpoint’s claim that its Broadwave affiliates – which Northpoint describes as “small businesses unaffiliated with existing video and data networks; many [of which] are based in rural areas, and more than 80 percent [of which] are owned and run by women and minorities” – will be able to bring new services to consumer more rapidly than established carriers such as AT&T, which also expressed interest in constructing a MVDDS network. *Northpoint Comments* at 24-25.

Despite his position on this issue, Hazlett attempts to justify an exception for Northpoint by suggesting that the creation of a new MVDDS allocation could cause delay while the Commission develops service rules and implements an auction.<sup>45</sup> Of course, the Commission will need to develop spectrum sharing and service rules for Northpoint's operations regardless of whether the rules apply solely to Northpoint, or to an entire new service. Furthermore, much of the delay in creating the rules may result from Northpoint's decision to reject the Commission's proposal to establish unavailability criteria to protect DBS receivers in favor of EPFD limits (a move that, while likely to cause delay, could result in better interference limits). Therefore, the Commission should disregard Hazlett's argument that licensing Northpoint without an auction will bring new services to consumers any faster than through the use of auctions.

**IV. THE COMMISSION SHOULD REJECT THE COORDINATION PROCEDURES PROPOSED BY THE SOCIETY OF BROADCAST ENGINEERS FOR THE 12.75-13.25 GHz BAND.**

Throughout this proceeding, Boeing has argued that despite the terrestrial use of the 12.75-13.25 GHz band, existing coordination procedures could be used for siting NGSO FSS Gateway complexes. Boeing's position was consistent with the Commission's original conclusion that special coordination procedures and exclusion zones would not be needed in the 12.75-13.25 GHz band due to the maturity of incumbent terrestrial use of the band and also because the band has not been specifically targeted for relocated fixed systems.<sup>46</sup>

Boeing also believes that sharing between NGSO FSS gateways and terrestrial services in the 12.75-13.25 GHz band will be relatively easy because of the limited number of NGSO FSS

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<sup>45</sup> See *Hazlett Declaration* at 21.

<sup>46</sup> See *NGSO FSS NPRM*, ¶ 34.

gateway facilities that are being proposed. As Boeing has indicated in the past, Boeing plans to have two Gateway complexes within the continental United States, which would be located well away from urban areas.

Despite the relative ease of sharing between NGSO FSS gateways and terrestrial services in the 12.75-13.25 GHz band, the Commission adopted significant restrictions for gateway siting and operations.<sup>47</sup> The Commission prohibited gateway operations in the 13.15-13.2125 GHz, effectively slicing a critical gateway band in two.<sup>48</sup> The Commission also concluded that it would impose some form of geographic siting restrictions on gateway facilities, the details of which would be developed in a later portion of this proceeding.<sup>49</sup> Finally, the Commission concluded that new coordination procedures would need to be developed for sharing between NGSO FSS and the television broadcast auxiliary service (“BAS”) and the cable television relay service (“CARS”).<sup>50</sup>

Despite the significant restrictions that the Commission placed on NGSO FSS gateway operations in the 12.75-13.25 GHz band, the Society of Broadcast Engineers (“SBE”) is urging the Commission to go significantly further. SBE filed comments in response to the Commission’s

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<sup>47</sup> Boeing believes that the Commission’s restrictions on gateway siting and operations extend well beyond what was justified by the record in order to permit sharing between NGSO FSS gateway facilities and incumbent terrestrial users in the 12.75-13.25 GHz band. Boeing observes that SkyBridge filed a Petition for Reconsideration of the Commission’s *Order* requested, *inter alia*, for elimination of the prohibition on gateway operations in the 13.15-13.2125 GHz band. *See Petition for Reconsideration of SkyBridge L.L.C.*, ET Docket No. 98-206, at 18-26 (March 19, 2001). SkyBridge’s request for reconsideration of this issue is supported by well reasoned arguments and Boeing supports SkyBridge’s initiative.

<sup>48</sup> *See NGSO FSS Order*, ¶ 126.

<sup>49</sup> *See id.*, ¶¶ 67, 125.

<sup>50</sup> *See id.*, ¶ 128.

*Further Notice* proposing new coordination procedures for NGSO FSS gateway facilities in order to protect incumbent BAS and CARS facilities.<sup>51</sup> Unfortunately, the SBE criteria seem to be internally inconsistent and are offered without technical explanation. Moreover, the SBE criteria appear to be based on the use of analog transmissions by the TV industry at a time when there is a marked, rapid transition to the use of digital transmissions for these services. Despite these concerns, Boeing intends to review the SBE proposal further and requests that the Commission take no action on NGSO FSS coordination procedures for the 12.75-13.25 GHz band until the technical issues are vetted adequately. Further consideration of this issue, however, should not delay the licensing of NGSO FSS networks since work on coordination procedures can be accomplished concurrently with the construction of satellites for NGSO FSS networks.

On a related subject, SBE attempts to use its *Further Notice* comments as in unofficial petition for reconsideration of a portion of the Commission's *NGSO FSS Order*. As mentioned above, in the *Order* the Commission carved out the 13.15-13.2125 GHz band for TV Pickup use by prohibiting NGSO FSS gateway operations in the subband. In doing so, the Commission indicated its expectation that mobile TV Pickup operations will be concentrated in the 13.15-13.2125 GHz band, thereby leaving the remaining portion of the 12.75-13.25 GHz spectrum available for other BAS, CARS and NGSO FSS use.<sup>52</sup> In apparent rejection of the Commission's approach, the SBE argued in its comments that TV Pickup stations should be permitted to cause interference, without limit, to NGSO satellite receivers across the entire 12.75-13.25 GHz band.<sup>53</sup>

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<sup>51</sup> See *Comments of the Society of Broadcast Engineers, Inc.*, ET Docket No. 98-206 (March 19, 2001) ("*SBE Comments*").

<sup>52</sup> See *NGSO FSS Order*, ¶ 126.

<sup>53</sup> See *SBE Comments* at 3.

SBE's position would encourage very inefficient spectrum use and should be rejected out of hand as an uncooperative approach to competing spectrum needs.

**V. CONCLUSION**

As Boeing indicated in a Petition for Reconsideration filed March 19, 2001, the Commission's decision to authorize MVDDS networks in portions of the Ku-band is based on technical findings that are either not supported by the record in this proceeding, or are expressly and convincingly contradicted. Accordingly, the Commission should withdraw its authorization for MVDDS systems. If the Commission does not withdraw its authorization, however, the Commission must adopt vigorous and equitable interference limits that protect adequately co-primary NGSO FSS and DBS networks. If the Commission does not develop adequate protection rules, then MVDDS may displace NGSO FSS networks in the Ku-band to the overall detriment of consumers.

Respectfully submitted,

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