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July 10, 2001

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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

**VIA HAND DELIVERY**

Ms. Magalie Roman Salas, Secretary  
Federal Communications Commission  
445 Twelfth Street, S.W.  
Washington, D.C. 20554

**Re: *DIRECTV, Inc., EchoStar Satellite Corporation, Satellite Broadcasting & Communications Association; File No. 0094-EX-ST-1999; ET Docket No. 98-206; DA 99-494; EX PARTE***

Dear Ms. Salas:

**EX PARTE OR LATE FILED**

This is to advise you that on Monday, July 2, 2001, the undersigned and Merrill Spiegel on behalf of DIRECTV, Inc. ("DIRECTV"), David Goodfriend and Pantelis Michalopoulos on behalf of EchoStar Satellite Corporation ("EchoStar"), and Andrew Wright of the Satellite Broadcasting & Communications Association ("SBCA") met with Lauren Maxim Van Wazer, Legal Advisor to Commissioner Michael Copps, and with Bryan Tramont, Senior Legal Advisor to Commissioner Kathleen Abernathy.

At these meetings, there was discussion of the positions set forth in the filings of DIRECTV, EchoStar and the SBCA in the above-referenced proceedings, including the implications of the "Analysis of Potential MVDDS Interference to DBS in the 12.2-12.7 GHz Band" performed by the MITRE Corporation (the "MITRE Report") for proposed sharing of proposed terrestrial systems and DBS systems in the 12.2-12.7 GHz band. The DIRECTV, EchoStar and SBCA representatives highlighted MITRE's conclusions as to the significant interference that would be generated by a Northpoint Technology system; the question left open by MITRE as to the appropriateness of any mitigation techniques; the impracticality of mitigation techniques advocated by Northpoint; and the residual interference that would be present even if mitigation techniques were utilized. In light of the MITRE Report's findings, the DBS representatives urged that the conclusion that spectrum sharing is possible between DBS systems and ubiquitously deployed terrestrial systems at 12 GHz be re-examined. In addition, the attached materials were left behind for Ms. Van Wazer and Commissioner Copps' consideration.

Please do not hesitate to contact the undersigned should you have any questions.

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Respectfully submitted,



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James H. Barker  
LATHAM & WATKINS

*Counsel for DIRECTV, Inc.*

Attachment  
cc: Service List

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MTR 01W0000024

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MITRE TECHNICAL REPORT

# **Analysis of Potential MVDDS Interference to DBS in the 12.2–12.7 GHz Band**

**April 2001**

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**MITRE**

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## Executive Summary

The frequency band between 12.2 and 12.7 gigahertz (GHz) is allocated to the Fixed and Broadcasting-Satellite radio services on a co-primary basis. International Telecommunications Union (ITU) Footnote S5.490 permits the operation of stations that provide "terrestrial radiocommunication services" in the same band, subject to the restriction that they "shall not cause harmful interference to the space services operating in conformity with the broadcasting satellite Plan for Region 2 contained in Appendix S30." CFR 47, Part 100 codifies U.S. regulations for Direct Broadcast Satellite (DBS) service in this band.

In 1999, Broadwave USA, a subsidiary of Northpoint Technologies, Inc., filed a petition with the Federal Communications Commission (FCC) seeking an authorization to operate terrestrial stations delivering Multichannel Video Distribution and Data Service (MVDDS) in the 12.2–12.7 GHz band. Subsequently, two other companies, PDC Broadband Corporation and Satellite Receivers, Ltd. filed similar applications with the FCC.

The FCC issued a Notice of Proposed Rulemaking on 24 November 1998, and a First Report and Order (R&O) and a Further Notice of Proposed Rulemaking (NPRM) as ET Docket 98-206 on 8 December 2000. These documents address the issues associated with permitting MVDDS in the band, and conclude that sharing the band between MVDDS and DBS systems is possible, subject to certain precautions that must be taken to prevent interference to DBS systems.

The FCC's Fiscal Year (FY) 2001 budget authorization contains a requirement that the FCC select an independent engineering firm to perform an analysis to determine whether these two services can share the band without harmful interference to DBS systems. The FCC selected The MITRE Corporation to perform this work. The 19 January 2001 Statement of Work for the project says that "The objective of the tasks is to perform a technical demonstration or analysis of any terrestrial service technology proposed by any entity that has filed an application to provide terrestrial service in the direct broadcast satellite frequency band to determine whether the terrestrial service technology proposed to be provided by that entity will cause harmful interference to any direct broadcast satellite service."

MITRE's effort was divided into tasks in the following areas:

- Equipment measurements
- Satellite receiver simulation
- Propagation and rain-attenuation modeling
- Interference predictions

All measurements for the project were conducted at MITRE's laboratories in Bedford, Massachusetts. MITRE measured the radiation patterns of three DBS antennas and two MVDDS antennas in its anechoic chamber, which has been extensively used to make measurements of critical defense systems for several years. DBS receiver susceptibility to MVDDS interference was measured in the laboratory by connecting an MVDDS transmitter to a DBS receiver through an attenuator, and varying the MVDDS signal level to generate a set of susceptibility curves. The DBS receiver was operating with a live signal from the satellite at the time of these measurements. Limited field measurements of the MVDDS signal level at the terminals of the DBS antenna were also made for a variety of DBS antenna orientations. Appendix A contains a detailed description of measurement procedures.

MITRE's Fort Monmouth, New Jersey laboratory used the Signal Processing Workstation (SPW™) software package to model the DBS/MVDDS interference environment in order to provide an independent verification of the laboratory measurements. Runs were made for the combinations of code rate, interleaver length and Reed-Solomon error correction that are in use by DBS vendors. The simulations produced results that were consistent with those derived from the laboratory and field measurements. Details of the simulation can be found in Section 3.1.

The primary propagation mechanism of interest in this analysis is the attenuation of DBS signals by rain, which is the most significant variable in the computation of downlink availability. The amount of attenuation is a function of rain rate, which varies with geographic location. Section 2 provides a discussion of the rain model used in this analysis.

To quantify the effect that MVDDS systems would have on DBS reception, a model was developed that incorporates the measured and simulated susceptibility data, the rain attenuation statistics, and the equipment parameters of the two systems. This model was run for ten locations throughout the contiguous United States to assess the impact of MVDDS operations on DBS reception. The locations were selected to cover the full range of climatic regions and DBS elevation angles. The model produced plots showing areas where the interference-impact criterion (change in unavailability) was exceeded. From these plots, it was possible to determine the feasibility of MVDDS deployment in the band.

## Conclusions

The analysis and testing performed by MITRE and described elsewhere in this report have demonstrated that:

- MVDDS sharing of the 12.2–12.7 GHz band currently reserved for DBS poses a significant interference threat to DBS operation in many realistic operational situations.

- However, a wide variety of mitigation techniques exists that, if properly applied under appropriate circumstances, can greatly reduce, or eliminate, the geographical extent of the regions of potential MVDDS interference impact upon DBS.
- MVDDS/DBS bandsharing appears feasible if and only if suitable mitigation measures are applied. Different combinations of measures are likely to prove “best” for different locales and situations.

The question remains: do the potential costs of applying the necessary mitigatory measures, together with the impact of the residual MVDDS-to-DBS interference that might remain after applying such measures, outweigh the benefits that would accrue from allowing MVDDS to coexist with DBS in this band? To facilitate the FCC’s decision, we have assessed the probable effectiveness of available mitigation techniques in reducing the potential impact and geographical extent of MVDDS interference upon DBS operations.

Techniques for preventing or reducing MVDDS interference in DBS receivers fall into three general categories:

- Selection of MVDDS operational parameters
- Possible MVDDS system-design changes
- Corrective measures at DBS receiver locations

Mitigatory techniques in each of these three categories are discussed in detail in Section 6.2. The most important operational parameters that can be adjusted to control interference in existing MVDDS system designs are transmitter power, frequency offset, tower height, elevation tilt, and azimuthal orientation.

- *Keeping MVDDS transmitter power as low as possible* without sacrificing coverage requirements is the most basic and obvious means for controlling interference to DBS.
- The use of a *7-MHz frequency offset* between the MVDDS and DBS carriers has been shown through MITRE’s testing to reduce effective interference levels by 1.7 dB, and noticeably shrinks the areas in which DBS receivers are potentially affected by MVDDS interference.
- *Increasing the MVDDS transmitting antenna height* reduces the sizes of the areas susceptible to a given level of interference. However, the simulations of pages B-11 through B-15 indicate that substantial benefits may not accrue unless the tower height is at least 100, or perhaps even 200, meters above the level of the DBS receiving antennas in the surrounding area.
- *Adjusting the elevation tilt* of the MVDDS transmitting antenna may not be particularly effective. Tilting the antenna up 5° reduces the interference-impact area

but shrinks the MVDDS coverage area in roughly the same proportion. This presumably means that more MVDDS towers (creating additional interference-impact areas) would be needed to cover a given geographical region than if the antennas had not been tilted.

- *Pointing the MVDDS transmitting antennas away from the satellites*, rather than toward them as generally envisioned, could have beneficial effects in many situations. These are indicated by the simulation results of pages B-21 and B-23, and by the outputs of several other simulations in which easterly and northerly MVDDS transmitter boresight azimuths were used. When the satellites are generally to the south and their elevation angle is reasonably high, as in Denver, dramatic improvements in interference protection appear possible when the MVDDS transmitting antenna points north. When satellite elevation angles are somewhat lower (as in Seattle) the geometry is somewhat less favorable, but north-pointing seems to yield significant benefits in all locales where it has been simulated. Further testing to validate this concept is recommended.

Potential MVDDS design changes that might reduce the interference impact on DBS downlinks include real-time power control, multiple narrow transmitting-antenna beams, the use of circular polarization, and increasing the size of MVDDS receiving antennas.

- *Real-time power control*, which would reduce MVDDS transmitter power as necessary to protect DBS downlinks from degradation during rain, has sometimes been proposed as a technique for controlling MVDDS-to-DBS interference.
- The use of *multiple MVDDS transmitting-antenna beams*, each having a much narrower azimuthal beamwidth than the existing sectoral horns, might provide much better flexibility than the present antenna design in directing the interference-impact regions away from areas containing DBS subscribers.
- *Circularly polarized MVDDS transmitting antennas*, if they used the same system of alternate senses for adjacent channels that is employed by DBS, might pose a considerably smaller interference threat than the currently planned exclusive use of horizontal polarization, for reasons explained in Section 6.2.2.
- *Larger MVDDS receiving antennas*, recently suggested by Pegasus, would increase their achievable gains and hence the  $G/T$  ratios of MVDDS receivers. This in turn would allow an MVDDS system to cover an identical service area with a smaller output power and hence with smaller resultant interference-impact regions.

Corrective measures that can be applied at DBS receiver installations include relocation and retrofitting of existing DBS antennas, the use of alternative antenna designs, and the replacement of older DBS set-top boxes.

- *Relocation of DBS receiving antennas* to put nearby buildings between them and nearby MVDDS interferers, while still leaving desired satellites in view, is a well-known corrective measure that would undoubtedly be effective in many situations.
- The use of absorptive or reflective *clip-on shielding for existing DBS antennas*, to block any direct lines of sight that might exist between their LNBS (antenna feeds) and potentially interfering MVDDS transmitting antennas, is a technique that worked quite well during MITRE's open-air testing.
- *DBS receiving-antenna replacement* is a relatively expensive but potentially effective mitigatory technique. For example, the simulation of page B-30 has shown the potential benefits of using single-feed 24"x18" antennas instead of the more commonly used 18" dishes.
- *Replacement of older DBS set-top boxes* may prove to be a useful mitigation technique if more recent models are more resistant to in-band interference.

## Recommendations

If licensing of new MVDDS services is to be successful, while preventing significant interference to DBS services, a number of policy issues need to be considered and resolved. These resolutions naturally lead to a licensing and deployment process for new MVDDS services. In Section 6.3, MITRE recommends a procedure for coordinating MVDDS applications to minimize interference to DBS systems.

A number of additional policy issues should also be considered. These issues and questions are discussed below, along with MITRE's recommendation to the FCC.

- Should future DBS customers be protected and for how long?  
*Recommendation:* Yes, future DBS customers should be protected for as long as the MVDDS transmitter operates. The MVDDS service provider would need to measure C/I values and provide mitigation solutions to these new customers in the interference-mitigation region.
- Test results and analyses have been based on known MVDDS waveforms. Should new waveforms be allowed?  
*Recommendation:* New waveforms create an unknown vulnerability. MITRE recommends that these not be licensed without further study.
- Should the evaluation of sharing consider any DBS satellite in the geostationary arc, or should only existing U.S. satellites be considered? What about new U.S. satellites?  
*Recommendation:* DBS receivers operating with new and different satellites could be at risk in unforeseen ways. MITRE recommends that any satellites not addressed in the current report be studied further.

- If changes and improvements are made to any DBS system waveform, how should this impact policy?  
*Recommendation:* Results in this report are based on specific systems with known parameters. MITRE recommends that any new DBS waveforms be subject to further study.
- Should DBS satellites with weak coverage be protected? If so, how weak can these be and at what level should they be protected? (See examples in Section 5.2.3 and elsewhere.) What is the maximum baseline and degraded unavailability that should be allowed?  
*Recommendation:* Only DBS satellites with baseline unavailabilities of 100 hours/year or less, when operating without MVDDS interference into a DBS antenna with  $G/T$  of 11.2 dB/K, should be protected. DBS receivers operating with satellites that do not meet this criterion should not be protected from MVDDS interference when operating with such satellites.
- How should the advent of new DBS antennas affect the policy for MVDDS licensing?  
*Recommendation:* DBS antennas with  $G/T$  performance below 11.2 dB/K could seriously degrade DBS availability in rain. If the MVDDS service provider opts to mitigate MVDDS interference with the use of a different antenna, the replacement antenna should have a  $G/T$  at least as great as that of the original antenna.
- Should other causes of unavailability (besides rain and MVDDS interference) be included in the total budget?  
*Recommendation:* Other sources of outage should be considered, if they are significant and if their effect is known and documented. Sun-transit outages are an example.
- MVDDS antenna backlobes can interfere with a DBS antenna main beam. This would typically occur close to the MVDDS transmitter, generally north of the antenna. These regions are typically very small. Should very small regions of interference be exempted because of their small size?  
*Recommendation:* These small regions should not be exempted. All regions of the interference-mitigation region should be considered, regardless of size.
- Should MVDDS mitigation be based solely on customer complaints?  
*Recommendation:* MITRE believes that DBS customers may not know what is causing a particular outage, or the reason for its duration. Consequently, mitigation should not await DBS customer complaints. MITRE believes that mitigation should be done proactively, regardless of the presence or absence of such complaints.
- How much time should the MVDDS service provider be allowed in order to implement mitigation to the DBS receivers?

*Recommendation:* To the maximum extent possible, mitigation should be accomplished prior to a license being granted for MVDDS operation.

MITRE believes that with implementation of the licensing process described in Section 6.3 and the other policy recommendations outlined above, spectrum sharing between DBS and MVDDS services in the 12.2–12.7 GHz band is feasible. However, MITRE recognizes that it is the FCC that must ultimately resolve the various policy issues and the approach to licensing new MVDDS services.

## The MITRE Report: The Facts

Upon the release of the MITRE Report, Northpoint Technologies, Ltd. (Northpoint) launched a public relations campaign in the press, with the Congress and at the Commission, attempting to re-write the Report's damaging conclusions and to cast itself in a more favorable -- but unsupportable -- light.

**Make no mistake – despite what you may have heard from Northpoint, the MITRE report is devastating to the proposal to allow terrestrial “wireless cable” to share the DBS band.**

### The Facts

- **DBS Consumers Will Suffer “Significant Interference” if Northpoint Is Allowed To share the DBS Band.**

The MITRE Report concludes that:

- **“MVDDS [Multichannel Video Distribution and Data Services] sharing of the 12.2-12.7 GHz band currently reserved for DBS poses a significant interference threat to DBS operation in many realistic operational situations.”**

- **The Northpoint System Causes Interference.**

Northpoint has claimed that the MITRE Report's conclusions regarding “significant interference” pertain only to “generic” MVDDS and not to Northpoint's proposed wireless cable system. **This contention is patently untrue.** In fact, as the Report makes clear, the Northpoint design for an MVDDS service was the only design tested:

- **MITRE's conclusion that MVDDS poses a significant threat to DBS operations came after testing a “single channel MVDDS transmitter supplied by Northpoint.”**

- **Northpoint's Basic Premise Is False.**

The MITRE report proves false the basic premise of Northpoint's proposed service – the idea that interference can be reduced by locating the terrestrial transmit towers in the north. Actually, MITRE found that the use of towers located in the north actually *aggravates* interference to DBS consumers' television signal. This conclusion of the MITRE Report devastates the so-called “innovative technology” behind Northpoint's name, patents and business plan.

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- The MITRE Report concludes: “Pointing the MVDDS transmitting antennas away from the (DBS) satellites, rather than toward them as generally envisioned [by Northpoint], could have beneficial effects in many situations.”
- Further, MITRE concluded that pointing the transmitting antennas in the opposite direction to which Northpoint has proposed “seems to yield significant benefits in all locales where it has been simulated.”

- **MITRE Report Invalidates Commission’s Earlier Finding.**

The results of the Congressionally-mandated MITRE tests confirm the test data supplied by the DBS companies and contradict the test data offered by Northpoint. The DIRECTV and EchoStar field tests demonstrated harmful interference similar in magnitude to the “significant interference” observed by MITRE.

- **The MITRE Report provides significant new evidence that the Commission erred in the First Report and Order when it found that sharing between a terrestrial MVDDS system and DBS is theoretically feasible. The MITRE Report’s conclusions warrant an immediate reversal of that Commission finding.**

- **Mitigation Is Not Worth the Cost.**

The MITRE Report concludes that band sharing “appears *feasible* if and only if suitable mitigation measures are applied.” With respect to mitigation the Report leaves open a fundamental question:

- **“The question remains: do the potential costs of applying the necessary mitigatory measures, together with the impact of the residual MVDDS-to-DBS interference that might remain after applying such measures, outweigh the benefits that would accrue from allowing MVDDS to coexist with DBS in this band.”**

The answer to this fundamental question is: “**They do not.**”

- **Proposals to Mitigate Northpoint’s Interference are Contrary to Law.**

The Commission has acknowledged that DBS has operational priority in the 12.2-12.7 GHz band over fixed service operations, like MVDDS, which are expressly prohibited from causing harmful interference to DBS operations in the band. The MITRE Report has demonstrated that Northpoint’s proposed service would cause significant interference. Because this interference is an elemental aspect of MVDDS design any form of mitigation is an after-the-fact band-aid intended to cure a problem that is prohibited in the first place. **Northpoint’s service should not be authorized unless, as a threshold matter, its system is designed so that it is incapable of causing harmful interference to DBS operations under any conditions.**

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Under the approach it took in the Northpoint proceeding, the Commission could essentially “accommodate” any service in any band by simply forcing the incumbent priority band users to modify their systems to the extent necessary to make them immune to the harmful interference caused by a proposed secondary service. Managing spectrum usage in this fashion would make both the Table of Frequency Allocations and the concept of priority status meaningless.

- **Consumers Cannot Be Forced to Accommodate Northpoint.**

**By subjecting DBS customers to ruinous interference or to the illegal alteration of their property, the Commission risks turning over 40 million satisfied customers into 40 million dissatisfied constituents.**

The mitigation techniques proposed by the MITRE Report would effectively force millions of DBS consumers – who own their equipment and receive their DBS service through agreements with DBS providers – to either accept modifications to their private property by an unrelated third-party or accept harmful interference from a secondary service. **Such a move is unprecedented, and is akin to forcing homeowners to board up the windows of their homes as a remedy against neighbors throwing rocks at the homeowner’s windows.**

There are nearly 16 million DBS households (over 40 million individuals) nationwide, making DBS the only viable competitor to cable in the multichannel video marketplace. According to numerous third party surveys, DBS currently enjoys the highest customer service ratings of any multichannel video provider.

- **The Simple Solution:**

There is a simple way that consumers can keep interference-free DBS service and also allow Northpoint to compete in the video marketplace. Northpoint should operate its wireless cable service in the far more suitable spectrum that has been expressly allocated for functionally identical systems, such as LMDS and MMDS. In those bands, Northpoint will not disrupt service to DBS consumers, and it would not have to bear the significant costs of implementing mitigation measures. **Neither Northpoint nor the FCC has explained why those frequency bands cannot provide an appropriate home for Northpoint’s proposed service.**

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## An Interesting Fact from the MITRE Report:

The MITRE Report also suggests "increasing the MVDDS transmitting antenna height reduces the sizes of the areas susceptible to a given level of interference. However, the simulations of [pages B-11 through B-15] indicate that substantial benefits may not accrue unless the tower height is at least 100, or perhaps even 200, meters above the level of the DBS receiving antennas in the surrounding area." Existing companies, such as cellular phone service providers (who have a customer base of 100 million subscribers), have difficulty getting tower approval from local governments and municipalities. How does Northpoint plan to get approval for towers that might ultimately prove to be significantly taller with zero existing subscribers?



Two-story home  
10 m. tall



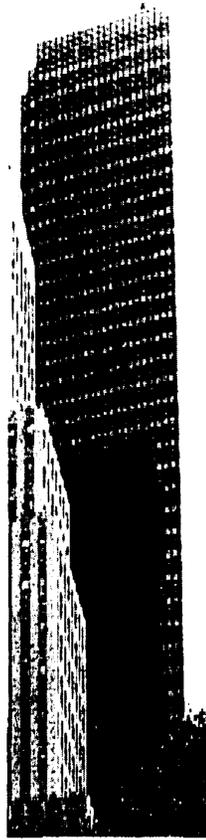
Apartment  
Building  
25 m. tall



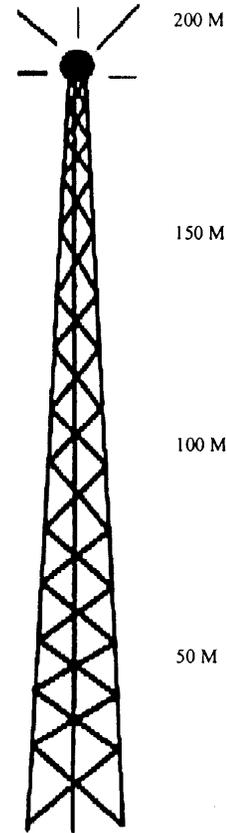
Cell Tower  
50 m. tall



Statue of Liberty  
93 m. tall



Trump Tower  
202 m. tall



Suggested Northpoint transmit tower  
height\*  
200 m. tall

\*height above level of current DBS antennas

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May 3, 2001

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Chairman Michael K. Powell  
Federal Communications Commission  
445 12<sup>th</sup> Street, S.W.  
Washington, D.C. 20554

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

Re: ET Docket No. 98-206; DA Nos. 99-494; 00-1841; 00-2134; EX PARTE

Dear Chairman Powell:

Northpoint Technology, Inc. and its BroadWave affiliates (collectively, "Northpoint") have urged the Commission to take precipitous action on Northpoint's pending applications to provide mass-market point-to-multipoint terrestrial services in the 12.2-12.7 GHz band, which is currently used on a primary basis to downlink programming to direct broadcast satellite ("DBS") subscribers across the United States. Now that independent testing conducted by the MITRE Corporation ("MITRE") has confirmed the significant interference threat that introduction of Northpoint's proposed system into the 12 GHz band would pose to tens of millions of viewers' receipt of DBS service,<sup>1</sup> we write to reiterate that it would be wholly inappropriate, and contrary to statute and Commission rules, for the Commission to take the action that Northpoint requests.

We are aware of efforts by Northpoint to distort the results of MITRE's testing, including the recent distribution of an "annotated version" of the Executive Summary of the MITRE Report with Northpoint commentary in the margins.<sup>2</sup> We urge the Commission to read the *full text* of the MITRE Report, or, at a minimum, the Report's Executive Summary. After doing so, it is difficult to refute the following assessment of that document in the attached April 30 column by Bob Scherman, editor and publisher, *Satellite Business News*:

The report was such a setback to Northpoint that it sent out an "annotated version" of the report several days later that underlined a handful of words or half a sentence here or there to try to make Northpoint's case. But that only reinforced MITRE's conclusion that terrestrial services will interfere with DBS, and it was a bizarre document that was almost reminiscent of those notes sent by kidnappers in the movies.<sup>3</sup>

<sup>1</sup> The MITRE Corporation, "Analysis of Potential MVDDS Interference to DBS in the 12.2-12.7 GHz Band" (April 2001) ("MITRE Report").

<sup>2</sup> See, e.g., Northpoint *Ex Parte* Letter (April 27, 2001) (attaching annotated Executive Summary of MITRE Report).

<sup>3</sup> Satellite Business News Fax Update (April 30, 2001), at 2 (attached).

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The DBS and other satellite operators will soon be offering more extensive commentary on the MITRE Report in response to the Public Notice of its release.<sup>4</sup> However, we highlight a few of the most important facts here:

- **The MITRE test found unequivocally that: “MVDDS sharing of the 12.2-12.7 GHz band currently reserved for DBS poses a significant interference threat to DBS operation in many realistic operational situations.”<sup>5</sup>** This finding – *the very first finding of the MITRE report* – demolishes Northpoint’s claim that deploying its service in the DBS spectrum band will not cause harmful interference. There should be no more disputes as to whether or not interference from Northpoint poses a major problem for many of the 40 million DBS viewers. It does. Period.
- Northpoint is claiming publicly that MITRE’s report “makes clear that only Northpoint demonstrated a system that was able to share effectively with DBS,” and that it is something called “generic” MVDDS that MITRE found to be an interference threat, not Northpoint’s transmitting equipment.<sup>6</sup> These are outrageous, and demonstrably false, assertions.
  - In fact, it was *Northpoint’s* transmitting equipment – and *only* Northpoint’s equipment – that was used by MITRE in making its determination that terrestrial operations pose a “significant interference threat.” The only MVDDS interference generated during MITRE testing was Northpoint interference.<sup>7</sup>
  - Indeed, MITRE’s report suggests that the system Northpoint intends to use may actually *magnify* the harmful interference problem. The essence of Northpoint’s proposed system has always been its view that it can lessen the interference into DBS service by locating its terrestrial towers in the north. *MITRE’s report thoroughly debunks this idea.* MITRE has concluded that locating the towers in the north would in fact *aggravate* interference into

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<sup>4</sup> Public Notice, “Comments Requested on The MITRE Corporation Report on Technical Analysis of Potential Harmful Interference to DBS from Proposed Terrestrial Services in the 12.2-12.7 GHz Band (ET Docket 98-206),” DA 01-933 (rel. April 23, 2001).

<sup>5</sup> MITRE Report at xvi, 6-1 (emphasis added).

<sup>6</sup> See, e.g., Press Release, “Northpoint Technology Passes FCC Mandated Independent testing – Only Company to Do So” (released April 24, 2001) (“MITRE concluded significant interference could result from generic terrestrial operations. From the report it was clear that only Northpoint demonstrated a system that was able to share effectively with DBS.”) (statement of Sophia Collier); Northpoint *Ex Parte* Letter (April 27, 2001) (annotation at xvi).

<sup>7</sup> See, e.g., MITRE Report at § 3.2 (entitled “Testing of DBS Set-Top Boxes in the Presence of Northpoint MVDDS Interference”).

DBS!<sup>8</sup> So much for the "epiphany" that allegedly will "revolutionize how many Americans get their television signals."<sup>9</sup>

- The MITRE report finds that, "MVDDS/DBS bandsharing appears feasible *if and only if* suitable mitigation measures are applied."<sup>10</sup> However, the type of mitigatory measures necessary to make sharing even "feasible" are expensive and burdensome, and will not be able to eliminate the interference to all DBS subscribers.
- MITRE asks a more fundamental question: "**Do the potential costs of applying the necessary mitigatory measures, together with the impact of the residual MVDDS-to-DBS interference that might remain after applying such measures, outweigh the benefits that would accrue from allowing MVDDS to coexist with DBS in this band?**"<sup>11</sup>

We believe that the Commission can and should answer MITRE's question in the negative. *The benefits do not outweigh the costs.* The "mitigatory measures" mentioned by MITRE would be extremely burdensome and uneconomical. They include raising the height of Northpoint's thousands of transmitting towers to anywhere from 100 to 200 meters above the level of surrounding DBS receive antennas (New York's Trump Tower is 202 meters tall).<sup>12</sup>

By the same token, other mitigation methods suggested in the MITRE Report would unjustly place the burden on DBS consumers and require many currently satisfied consumers to have their small, 18-inch dishes replaced with larger antennas, relocated to another location on the consumer's property, and/or fitted with cumbersome "shielding." Consumers might even be required to replace their current set-top boxes. This type of mitigation is an unheard of intrusion in an effort to shoehorn a secondary service into the frequency band of a primary user. In addition, there is the question of who would be forced to pay for these changes that has yet to be addressed.

Fundamentally, the MITRE Report highlights the reasons that Northpoint cannot and should not be licensed on the merits.<sup>13</sup> Northpoint has often pointed to Congress'

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<sup>8</sup> See MITRE Report at xviii, 6-2-6-3.

<sup>9</sup> S. Labaton, "An Earthly Idea for Doubling the Airwaves" The N.Y. Times (April 8, 2001), at Sec. 3, pg.

1.

<sup>10</sup> MITRE Report at xvii (emphasis added).

<sup>11</sup> *Id.*

<sup>12</sup> See *id.* at xvii.

<sup>13</sup> Many parties, including the undersigned entities, have already addressed the reasons why Northpoint's applications to the Wireless Telecommunications Bureau for waivers to provide MVDDS also fail as a procedural matter and should be dismissed. If and when the Commission ultimately resolves the complex interference, service rule and licensing issues attending the introduction of secondary point-to-multipoint microwave services into the 12 GHz band (or some other frequency band), it must open a filing window and solicit applications to provide such services in accordance with its normal spectrum licensing processes.

enactment of the Rural Local Broadcast Signal Act ("RLBSA") as supporting its contention that the Commission must act quickly to grant its pending MVDDS license applications.<sup>14</sup> However, the text of the RLBSA is clear – and consistent with Commission rules<sup>15</sup> – that the Commission *cannot* authorize Northpoint or any other provider purporting to offer local channel services unless and until it can be established conclusively that "primary users of the spectrum," in this case DBS operators and their customers, will suffer no "harmful interference."<sup>16</sup> Indeed, this is why Congress wisely required the Commission in its FY 2001 budget authorization to conduct the independent testing that led to the MITRE Report.

Northpoint no longer can distort the record to claim that its technology will not cause harmful interference to the primary DBS service and its millions of customers. MITRE's report confirms definitively that Northpoint's proposed system *will* cause harmful interference -- *in complete corroboration* of tests and analyses conducted by U.S. DBS operators. Given the MITRE Report's findings, there certainly is no affirmative basis for granting Northpoint's pending applications at this time, and in fact, they should be dismissed.

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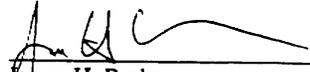
<sup>14</sup> We note that it is plain from the text of the RLBSA that Congress required nothing of the sort. Section 2002(a) of the RLBSA requires the Commission to "take all actions necessary to make a determination regarding licenses or other authorizations for facilities that will utilize, for delivering local broadcast television station signals to satellite television subscribers in unserved and underserved local television markets, spectrum otherwise allocated to commercial use." As a threshold matter, it is unclear whether Northpoint even can claim standing to invoke this statutory section; to do so, Northpoint must affirm that its business plan will be focused primarily on the deployment of facilities that will be providing local channel service in rural and underserved areas, as opposed to broadband services or urban deployments. In any event, however, the Commission has already complied with this section. By November 29, 2000 (the one-year anniversary of the RLBSA), it had undertaken the actions necessary to allow it to "make a determination" regarding the creation of a new proposed MVDDS service and the processing of proposed MVDDS licenses. The statute does not require that any such "determination" actually be made by a date certain, only that all actions be undertaken by November 29, 2000, in order to put the Commission in a position to make one. The statute certainly does not require that the "determination" be a grant of specific pending license applications, as Northpoint contends. Where Congress intends to order the Commission to take such action, it is more than capable of expressing its intent with the requisite specificity, and has done so expressly with respect to the provision of rural area service in other contemporaneous statutes. *See, e.g.,* Launching Our Communities Access to Local Television Act of 2000, Pub. L. No. 106-553, §§ 1007(a)(b) (reinstating applicants as tentative selectees in specific proceeding, *In re Applications of Cellwave Telephone Services L.P. et al.*, 7 FCC Rcd 19 (1992), and directing Commission to "award licenses" in rural service area licensing proceeding "within 90 days of date of enactment of this Act.").

<sup>15</sup> *See, e.g.,* 47 C.F.R. § 2.106, S5.490 (stating that "[i]n Region 2 [the Americas], in the band 12.2-12.7 GHz, existing and future terrestrial radiocommunication services shall not cause harmful interference to" DBS services).

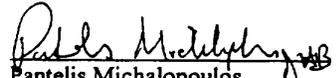
<sup>16</sup> RLBSA, § 2002(b)(2).

Letter to Chairman Michael K. Powell  
May 3, 2001  
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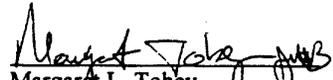
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**SATELLITE BUSINESS NEWS<sup>®</sup>**  
**FAX UPDATE**

Monday ♦ April 30, 2001 ♦ Page 2

**Scherman's  
Notebook**

Last week's release of the Mitre report on the interference terrestrial services such as the one proposed by Northpoint Technology will inflict on DBS was a devastating blow to Northpoint and the others who want to launch such a service. Mitre was under immense political pressure to write a report favorable to Northpoint. But it could not. The report was such a setback to Northpoint that it sent out an "annotated version" of the report several days later that underlined a handful of words or half a sentence here or there to try and make Northpoint's case. But that only reinforced Mitre's conclusion that terrestrial services will interfere with DBS, and it was a bizarre document that was almost reminiscent of those notes sent by kidnappers in the movies. There just is no escaping Mitre's conclusion that terrestrial service "poses a significant interference threat to DBS operation in many realistic operational situations." The words "many realistic operational situations" leap off the page. Translation? The real and everyday world where people live and DBS provides the only alternative to cable. Bowing to that political pressure, however, Mitre struggled to come up with something to help Northpoint. But it could only advance several kooky, unrealistic, and theoretical "mitigation techniques." Yet even those ideas, Mitre admitted, had to be "properly applied under appropriate circumstances." Translation? These ideas may look good on paper, but probably would not work too well in the field. At several points, Mitre actually suggested that one-way terrestrial services could share DBS spectrum would be for DirecTV and EchoStar to move or replace (with larger antennas) existing DBS antennas, retrofit them (guess Sophia would be going door to door across America with one humongous roll of aluminum foil), and/or replace existing DBS receivers. Now there is a practical idea: just scrap millions of DBS systems. Or how about Mitre's proposal that terrestrial services raise their transmitting towers 100 or 200 meters above all DBS antennas in a particular area? Another practical solution. Just ask the cellular phone companies about placing antennas in urban and suburban areas. And that is a service that works and people actually want. In short, Mitre's report illustrates how ludicrous this whole mitigation concept really is. It is technically and economically unfeasible, assumes terrestrial and DBS services will share confidential information about the location of their subscribers, and is predicated on a notion that any service infrastructure could administer such a program. For example, who pays for the first few service calls, assuming, of course, the consumer even knows who to call? If the FCC ignores the Mitre report and does move ahead and allow DBS spectrum to be shared, the report will one day become extremely effective ammunition for the cable industry to use in its anti-DBS campaigns. It was that straight-forward and that clear cut. So it is time, once and for all, to put this entire DBS spectrum sharing idea out of its misery. Were it not for its political connections and contributions, Northpoint would have been laughed out of the FCC two years ago. Now, Mitre has confirmed what DBS has been saying all along and it is the FCC that must do what it should have all along: allow 15 million (and counting) DBS homes to enjoy cable's only competitor without interference.

**NEWS & NOTES:** President Bush announced Friday he intends to nominate FCC Chairman **Michael Powell** to a second term. assuming he is confirmed by the Senate, Powell could remain Chairman until 2007. "If confirmed by the Senate, the extension of my term beyond next June's expiration date will provide a positive and helpful continuity to the important work that I, and the new commissioners who will be taking office later this year, will be engaged in," Powell said in a statement.

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I hereby certify that this 10th day of July 2001, a true and correct copy of the foregoing was served via hand delivery upon the following:

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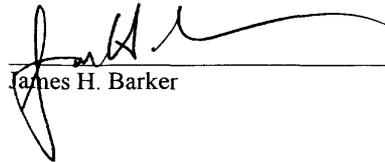
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