JOINT STATEMENT OF CHAIRMAN MICHAEL POWELL AND COMMISSIONER KATHLEEN Q. ABERNATHY

In re: Amendment of Parts 2 and 25 of the Commission's Rules to Permit Operation of NGSO FSS Systems Co-Frequency with GSO and Terrestrial Systems in the Ku-Band Frequency Range (ET Docket No. 98-206, RM-9147, RM-9245) (rel. May 23, 2002).

This proceeding has challenged the Commission to balance conflicting goals, promote competition through new technology, and minimize interference to existing licensees. We believe the Commission and its excellent staff have done an admirable job.

Nonetheless, we believe a few aspects of the decision deserve particular attention. First, the Commission has wisely chosen not to saddle the new Multichannel Video Distribution and Data Service (MVDDS) with regulatory burdens based on the types of services some expect it to provide. Instead the Commission has exercised regulatory restraint to allow MVDDS to evolve in the marketplace first and as a topic of regulation second. In addition, we believe the Commission wisely adopted strict interference rules for MVDDS operations to ensure a regulatory regime that is clear and enforceable, yet flexible. Although many well-intentioned proposals were considered, including compensation formulas, mandated service calls, mitigation zones and hundreds of precision measurements, we believe the Commission correctly chose the best approach in this Order that limits the equivalent power flux density (EPFD) at DBS receive sites. Although there has been some criticism of certain variables used in the technical analysis, we believe the Commission's engineering staff has developed a reasonable calculation methodology consistent with best engineering practices and the record in this proceeding.

What is MVDDS?

The short answer is that we do not know. Its name, Multichannel Video Distribution and Data Service, seems to suggest everything is possible – and perhaps it is. But the service rules the Commission has adopted do not <u>require</u> MVDDS to provide any particular kind of service – it could be a multichannel video, or data, or digital radio service, or any other permutation on spectrum use. The Commission was once in the business of requiring spectrum holders to provide a certain type of service. That approach failed because government is a very bad predictor of technology and markets – both of which move a lot faster than government. Over the past decade or so, the Commission has adopted more flexible service rules that bound a service based largely on interference limitations and its allocation (fixed or mobile, terrestrial or satellite). In this Order, we follow that flexible model for MVDDS.

Regardless of the type of service MVDDS ultimately is, if successful, it has remarkable potential to benefit the American people.

If successful, MVDDS creates the possibility of an additional competitive provider of MVPD service. That service is now dominated by the satellite and cable

platforms. In turn, consumers spend a significant amount of their communications budget on these services. In response to the limited intermodal competition for MVPD services, the Commission has long sought to facilitate the development of a terrestrial wireless alternative, with limited success. MVDDS offers the possibility of another MVPD alternative.

Yet it is also quite possible that MVDDS will be used to provide a one-way data path for broadband services. Today that market too is dominated by two platforms – cable and wireline telephony. As demand for broadband increases, it will become increasingly important to Americans' communications needs. The Commission has sought to facilitate the development of a wireless alternative, thus far with limited success. MVDDS offers the possibility of another broadband alternative.

Because the Commission has not dictated what type of service MVDDS will become, we believe it is premature to impose obligations inherent in other service offerings (like Title VI cable television regulation or Title II common carrier regulation). For example, imposing must carry obligations on a broadband service does not serve the public interest; nor would open access be a reasonable regulation of MVPD service. Moreover, some mandates – such as must carry – are statutorily limited to certain platforms (such as cable or satellite).[1] It is not at all clear that we have the statutory authority to impose these obligations on other MVPD providers, such as MVDDS. Since we do not believe it is desirable or necessarily legal to impose these obligations, we would not do so here. Moreover, potential individual licensee's business plans should not guide Commission policy because the Commission cannot know who will prevail at auction. Developing service rules based on one applicant's business plan, even with the best of intentions, may inadvertently tip the auction in their favor. If MVDDS ultimately offers a service that fits squarely into one of our regulatory boxes, we can assess what additional regulatory safeguards, if any, are required. In the meantime, we are not troubled that a nascent service may initially not be constrained by legacy regulatory strictures.

Relatedly, we do not support adopting a rule barring DBS providers from holding an MVDDS license. We are generally extremely reluctant to artificially limit auction participants for any reason. We agreed to limit cable providers ability to bid in their own regions based on the well-reasoned economic analysis in the Order. In contrast, DBS providers explain that they may well have a need for a terrestrial MVDDS component as either a broadband pipe or as an alternative path to carry even more local signals. DBS providers contend that they are currently capacity constrained for broadband offerings and comprehensive local-into-local service. Indeed, the original vision for the new, terrestrial use of this spectrum was as a method for DBS licensees to get local broadcast signals to their subscribers.[2] Based on these factors, the best course is to allow DBS the opportunity to hold these licenses. There are two important caveats to this policy. First, MVDDS networks should not be utilized by DBS providers as a means of avoiding their

[1] See 47 U.S.C. § 614 (cable); 47 U.S.C. § 338 (satellite).

[2] See Northpoint Petition for Rulemaking, RM 9245, filed March 6, 1998.

carry-one carry-all responsibilities. Second, in the event that the EchoStar-DirecTV merger is approved, the Commission may need to re-examine the eligibility of the combined provider to bid for MVDDS. With these two caveats, we believe open eligibility to DBS best serves the interests of the American people by providing an alternative method to expand broadband and local broadcast carriage.

DBS Installations More than Thirty Days After MVDDS Begins Service

The dissent raises a legitimate concern about the fate of DBS antennas installed more than thirty days after initiation of MVDDS service.[3] The interference limits in the new rules will apply to all existing DBS customers 30 days after the MVDDS provider notifies the DBS carriers that it intends to construct a tower. During this period, the MVDDS provider is responsible for ensuring that no DBS customers will experience greater than the mandated EPFD limit at the site of each DBS antenna. It is important to recognize that there may be substantial variation in the amount of interference based on antenna placement. That is, an antenna placed on an exposed roof may exceed the EPFD limit, while an antenna under the eaves of the same roof may not. Once the DBS provider is on notice of the pending MVDDS tower, it is reasonable to expect the DBS provider to place future antenna dishes so as to ensure that interference is minimized. The burden on DBS to act responsibly to avoid interference is consistent with the approach we have taken for similarly situated services and is consistent with our statutory charge.[4] In contrast, if we were to require the EPFD limit to be met for DBS antennas installed more than 30 days after notice of the MVDDS tower's construction, each MVDDS tower could be forced to "turn off" whenever a customer places their DBS antenna such that the EPFD limit is violated. Since DBS and MVDDS are likely competitors, the ability of any single DBS customer to force MVDDS off the air due to poor antenna placement would render the service unworkable.[5] Whether by preventing

[3] The term "dissent" here and subsequently refers to Commissioner Martin's dissent.

[4] The Commission elsewhere requires primary users to incorporate protective measures, up to and including antenna replacement, to avoid receiving harmful interference. See, e.g., 47 C.F.R. 74.937(a) ("Should interference occur and it can be demonstrated that the existing [primary ITFS] receiving antenna is inadequate, a more suitable antenna should be installed. In such cases, installation of the new receiving antenna will be the responsibility of the [ITFS] system operator serving the receive site."); 47 C.F.R. 101.115(d) ("The Commission shall require the replacement of any [primary Fixed microwave directional] antenna . . . that does not meet performance Standard A . . . at the expense of the licensee operating such antenna, upon a showing that said antenna [is likely to] receive interference from . . . any other authorized antenna or applied for station whereas a higher performance antenna is not likely to involve such interference."); 47 C.F.R. 90.361 (finding that primary multilateration LMS systems cannot claim harmful interference from parts 15 and 97 operations that operate under certain conditions).

[5] The dissent notes that the majority "allows MVDDS licensees to cause harmful interference . . after one year . . . even if it is caused by a change in MVDDS operation." Yet the Order concluded that any major modification would trigger a new one year period during which complaints could be filed. Major modifications include: any change in frequency tolerance, bandwidth, emission type, transmit antenna height more than 3 meters, antenna polarization, in the radius of a circular area of operation, or any change in any other kind of area operation. See 47 CFR § 1.929(d)(1).

MVDDS deployment in certain areas or showing some interference to new DBS deployments, there will be some limitations on each service as a result of our decision today. These are difficult choices – but we believe getting a new competitor for the vast majority of the American people outweighs the possible loss of a single competitor for a few.[6]

Calculation Methodological Concerns

Interference issues are among the most vexing public policy problems this agency faces. The Commission has defined "harmful interference"[7] – but our service rules are generally based on a permissible level of interference that far more narrowly restricts operations. Here the Commission has followed the permissible interference course and determines that MVDDS service should not exceed an EPFD limit set in each of four regions.[8] The EPFD limits are designed to limit the increase in average outage times to an average of 10%. Therefore if the average consumer loses service for 10 minutes a year, the EPFD figure is calculated so that the average increase would be to no more than 11 minutes of total outage a year. The 10% figure and the Commission's calculation methodology echoes the international approach adopted in this band for NGSO/DBS sharing.[9] The 10% figure is also significantly less than the variation in outage times between different parts of the country, different satellites, different providers or weather variations in a given region from year to year. For example, the outage levels from different DBS dishes serving New York currently vary dramatically: 200.1 minutes per year from the satellite at 101°, 1323.6 minutes per year from the satellite at 110°, and 822.1 minutes per year from the satellite at 119°. Based on this multitude of variables, the Commission adopted rules that create average interference thresholds. Of course, in some averaged areas, the outage time will be less and in other areas more.

To the extent that individual market areas have rain or other characteristics not adequately captured by the regional EPFD limits, the Commission has adopted a safety

[6] A similar argument applies to DBS interference complaints that arise more than a year after the MVDDS service is installed. Any interference issues should be detected and repaired in a reasonable time – and providing all parties a year to "get it right" strikes a reasonable balance of the interests.

[7] See 47 C.F.R. 2.1 ("harmful interference" is defined as "interference which endangers the functioning of a radionavigation service or of other safety services or seriously degrades obstructs, or repeatedly interrupts a radiocommunication service.. .. ") Harmful interference has never been defined on a service specific basis. Therefore the dissent's criticism of our "failure" to do so here also rings hollow. Prior to initiation of service and for one year thereafter, existing DBS subscribers may bring a claim asserting MVDDS has exceeded the EPFD limit. The MVDDS base transmitter must then turn off if it exceeds the cap.

[8] The four regions were created to account for variations in DBS reliability due to changes in rainfall and the satellite power and antenna gain pattern for different locations.

[9] The DBS community reached a voluntary agreement on NGSO/DBS sharing with the same 10% figure. The 10% for NGSOs is also an "average" and is based on the construction and operation of 3.5 NGSO systems. In that case, the parallel calculations were based on data from 14 U.S. cities – rather than the 32 cities used for our calculations here.

valve approach that allows licensees to petition the Commission for a distinct EPFD limit for that license area.[10]

The Commission's calculations are very conservative and likely overstate the amount of additional interference that will result from MVDDS operations. None of these calculations take into account any natural shielding or manmade attenuation that occurs for the vast majority of DBS antennas. Our calculations essentially assume the worst case scenario – that no attenuation due to natural shielding or manmade structures occurs. This is a highly unlikely event and as a result the model will generally overstate the amount of increased interference that any individual DBS subscriber may experience. The Commission model also adopted a conservative assumption regarding a second key variable – the relative strength of the DBS and MVDDS signals. The model assumed a rain-faded DBS signal and a full strength MVDDS signal. Yet rain would likely impact the MVDDS signal as well, further reducing outage times.

The dissent attempts to make much of the alleged imprecision of the Commission's EPFD figures and the alleged corresponding lack of protection for DBS subscribers. While these arguments may seem facially persuasive, the Order adopts a more sound approach. As an initial matter, the dissent fails to describe how it would calculate these figures, and instead second-guesses our engineering staff's calculations. It appears, however, that one of the dissent's proposed alternatives would be to impose a "hard and fast" 10% limit per service area. Even putting aside the failure to acknowledge the conservative assumptions about shielding and the strength of the MVDDS signal set out above, there is no technical way to achieve, in all cases and in all circumstances, the "hard and fast" 10% limit the dissent claims as its goal. As in all of our proceedings where the Commission grants licensees the privilege of accessing public airwaves that are necessarily shared with others, it strives to achieve rational sharing rules. And in all cases the licensees utilize the spectrum with the knowledge that interference protection will not be exactly the same across the country with diverse terrain and atmospheric conditions.

Fundamentally, the dissent's two stated goals are mutually exclusive. The very use of any generalized formula requires that some consumers will experience a greater than 10% increase in outage times. For example, even if the Commission were to average the satellite orbital position, power, and antenna gain pattern across five DBS satellites (as the dissent argues), any individual DBS customer is likely only to receive service from one. Then, under this standard, by definition some subscribers would experience greater than 10% interference, thereby violating the steadfast limit. Similarly, in 2001 Louisville Kentucky may have received 50 inches of rain, and the dissent would have us base that service area's EPFD limit on last year's rainfall amount. Yet this year Louisville may receive half that amount, resulting in a significant increase in the outage

[10] Significantly the sum total of the entire range of EPFDs across all 32 markets and all three satellites is less than 8 dB. We note that DBS providers would have the right to petition for special relief from our rules even if we chose not to adopt a specific safety valve procedure. *See, e.g.*, 47 CFR §§ 1.2, 1.3.

time percentage for the entire service area – once again, violating the steadfast limit. So even if one believes in a "hard" limit – there is no practical sustainable way of achieving it.[11] In fact, it would seem to require an impossibly burdensome and complex individualized real-time dynamic measurement at each DBS subscriber's home.

If we move beyond these inconsistencies, it appears the dissent's concerns are not with the formula used to calculate the EPFD limits – rather the concerns are with weather prediction and failure to include two DBS satellite orbital locations in the interference calculation. Thus, it is the input data points for two variables in the formula – rather than the calculation itself that appears to motivate the dissent.

The EPFD limits are based on at least seven key variables – satellite orbital position, power, antenna gain pattern, receiver elevation angle, antenna size, gain and pattern, and a propagation and rain model. Each DBS customer has a unique combination of these variables – plus a unique shielding pattern based on where the dish is installed, etc. So even assuming some of the variable modifications in the dissent were adopted, there would still be thousands of customers that would have interference levels above and below what the model produces. Each customer has a distinct combination of a particular satellite with a particular orbital position, power and antenna gain pattern. Each customer would also have distinct receiver elevation angle, antenna size, gain and pattern. Finally each customer has distinct weather conditions.[12]

Fundamentally, the dissent is mostly concerned about the imprecision of weather forecasting. While we recognize that reasonable people can disagree about the best method, the Commission has exercised its reasoned technical judgment with the advice and consultation of the FCC engineering staff to arrive at the regionalized rainfall estimates. The dissent argues that the Commission should predict annual rainfall in each of 354 areas.[13] Others argued that the Commission should conduct measurements at each MVDDS transmitter. We believe that a regionalized approach that divides the country into four rainfall zones is appropriate. Yet rainfall varies significantly from year to year and even within the same region. The Commission used the top 32 cities to generate the regionally averaged rainfall data. When plotted they appeared to cluster into four sets, each representing a relatively small incremental change in EPFD characteristics. For

[11] Similarly the dissent criticizes the model for failing to weight the rainfall data based on the population. For example by weighting Los Angeles at four times the weight given to Denver based on population. Yet if such weighting were to occur it would only further diminish the weight given to the rural areas that the dissent later argues need to be given greater weight.

[12] Obviously each customer also has a unique DBS antenna mount with particularized shielding and protection dynamics that are not accounted for in any proposed formula. These protections make the actual occurrence of the predicted interference levels unlikely.

[13] The dissent's most recent draft adds the failure to use Nielsen's Designated Market Areas (DMAs) to its criticisms. Although we are sympathetic to the use of DMAs, the Commission does not have a blanket licenses from Nielsen to use these designations. The Commission pursued possible use of DMAs with Nielsen during this proceeding, but ultimately concluded that use of DMAs could raise copyright infringement issues. To the extent the FCC can overcome this legal hurdle, the use of DMAs may well serve the public interest.

example, under the -172.1 EPFD limit for the Northwest, there is a 9.3% average potential increase in outage times in Sacramento, 9.8% in Seattle, 9.9% in Portland, and 10.5% in San Francisco. Our engineering staff also did some random sampling of additional locales to confirm the legitimacy of the regional figures. For example, applying the regional average to Alaska yields an average increase in outage times of 5.4% and for Hawaii 11.5%. As a technical matter these measurements confirm that the overall rainfall data and the regionalized figures are reasonable. Although more data points (through the addition of more locales or the tower-by-tower approach) could be added, we believe they would add little to the accuracy of the EPFD.

The assertion that the Order "ignored" two satellites is inaccurate. The Commission decided to utilize three satellites because those three (101, 110 and 119) are the only orbital locations with full coverage of the United States and provide the overwhelming majority of service to DBS subscribers today.[14] Including the two satellites would actually make the ultimate calculations less precise because they would give equal weight to satellites that do not provide service to a similar number of consumers. In order to assure that customers receiving service from these two satellites do not suffer from dramatically different interference, the staff sampled data from these locations in assessing the accuracy of the other numbers. The staff concluded that the two excluded satellite slots have similar operating characteristics to the other three. Thus, there are sound interference reasons for looking predominantly to the three satellites that provide most DBS service.[15] The dissent also later argues that the Order failed to adopt the Mitre Report's recommendation that EPFD be based on a single satellite with the largest baseline of unavailability.[16] Yet such an approach would, by necessity, render the first criticism (ignoring two satellites) completely irrelevant because under the Mitre approach we would ignore four of the five. The Commission rejected the Mitre approach because the satellite that would have set the baseline is soon to be retired.

Concerns were also raised regarding the final drafting of the item that should be addressed.[17] In response to the draft item, the dissent raised some concerns about various aspects of the Order that had not previously been discussed. Some of those concerns were well thought-out and prompted the majority to rethink its position and further

[14] The dissent makes much of some city data that shows a potential increase in unavailability of 20-30%. However that data is largely from the satellite at 110 degrees – a satellite that is scheduled to be retired long before MVDDS is due to be deployed.

[15] The selectivity of the dissent's data points is illustrated by its discussion of the Seattle market. The dissent chooses to analyze Seattle's increase in outage times based on a satellite designed to serve the Eastern United States.

[16] The satellite with the largest baseline outage time is actually at 119 degrees. In February 2002 Echostar launched a new more powerful satellite to this orbital position.

[17] There is nothing procedurally inappropriate in making changes, substantive or non-substantive, after adoption to further elucidate the rationale for the Commission's decision. Such revisions are permissible when all non-dissenting Commissioners concur in the changes. Here all of the Commissioners who supported the relevant sections agreed to the post-adoption edits.

explain its rationale.[18] Those steps improved this Order – and in turn resulted in a higher quality product for the American people. At the end of the day that should be the goal of all the Commissioners. It is ours. And while ideally we would engage in the dialogue at an earlier stage, continuous improvement of our items is the right thing to do. The end result is one that this Commission can and should be proud of – efficient and effective spectrum sharing on a broad scale that allows us to license an entirely new service.

Why an auction?

Broadwave USA (commonly known as Northpoint), and its affiliates, have vigorously argued that an auction is not required or in the public interest for these licenses. Northpoint arrived at the Commission many years ago with a proposal for a new and innovative way to share the DBS spectrum. Today, thanks in large part to its fine work and diligence, that service will go forward. Many have claimed that Northpoint deserves a nationwide 500 MHz terrestrial license for free based on its regulatory and technical efforts to make this service a reality. We sympathize with the sentiments that underlie these claims. There is little question that had it not been for Northpoint, the MVDDS service would not be ready to move forward today. Northpoint has put significant time and resources into developing its service model as well as its Commission and congressional advocacy over a long period of time. We applaud these efforts. But the statute does not support exempting this spectrum from auction nor does it grant Northpoint the exclusive privilege it seeks. We also do not believe other licensing distribution mechanisms that avoid mutual exclusivity are appropriate for this service. While we understand the equitable basis for Northpoint's claims, we cannot support that equitable concern trumping the auction regime Congress created in the statute, or the value of allowing other competitors to vie for a chance to offer service to the public. If Northpoint's service model is a winner, the market will reward it just as it has done for other technology companies.

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This has been an extremely difficult docket for the Commission, but I believe we have arrived at a policy that appropriately balances the competing interests while allowing an important new service to move forward. We look forward to an auction for these licenses and the provision of the corresponding new services to the American people.

[18] The Commission did not alter the fundamental policy approach – that an EPFD based on a average increase of 10% in outage time was appropriate.

STATEMENT OF COMMISSIONER
MICHAEL J. COPPS
Approving in Part and Dissenting in Part

RE: Amendment of Parts 2 and 25 of the Commission's Rules to Permit Operation of NGSO FSS Systems Co-Frequency with GSO and Terrestrial Systems in the Ku-Band Frequency Range (ET Docket No. 98-206; RM-9147 and RM-9245); Amendment of the Commission's Rules to Authorize Subsidiary Terrestrial Use of the 12.2-12.7 GHz Band by Direct Broadcast Satellite Licensees and Their Affiliates; and Applications of Broadwave USA, PDC Broadband Corporation, and Satellite Receivers, Ltd. to Provide A Fixed Service in the 12.2-12.7 GHz Band.

Authorizing and licensing the Multichannel Video Distribution and Data Service (MVDDS) serves the public interest. Therefore I agree with today's decision to move forward with authorizing MVDDS. I continue to believe, however, that the Commission can reduce uncertainty and promote greater efficiency by establishing a more universal understanding of the meaning of "harmful interference" rather than establishing new standards each time a dispute arises. Such an effort would reduce uncertainty and would lead to fewer firefights between new and incumbent spectrum users. Short of this larger effort, however, I believe that the rules established here will allow a new service to move forward and will protect customers of existing services. I therefore agree with the interference portions of the item.

I regret that I must dissent, however, to two portions of today's order. I am of firm belief that the open eligibility established by this Order will not maximize the potential benefits of MVDDS or minimize the potential pitfalls of an unconditioned auction. Therefore I must dissent to the eligibility and auction portions of the order.

Additionally, I believe that one of the main benefits of the MVDDS service is the opportunity to increase the distribution of local television programming. One potential MVDDS applicant has offered to accept full must carry responsibilities as a condition of becoming a licensee. I am opposed to determining at this stage that MVDDS licensees should be exempt from the must carry obligations carried by their cable and DBS competitors. Those obligations were imposed to advance the public interest; I see no reason for jettisoning them here.

I want to commend the work of the FCC staff who worked on this incredibly difficult proceeding over a period of several years. Each time a thorny spectrum dispute arises, I become more convinced that the FCC has the best engineers and communications lawyers in the country working for our consumers. We are all lucky to have them as public servants.

MVDDS Offers Great Potential Value to Consumers

In November, 2000, in the *First Report and Order and Further Notice of Proposed Rulemaking* in this proceeding we concluded that "[a]fter an exhaustive analysis and the time-consuming development on the international front of a consensus regarding critical technical issues, we have made a major threshold determination to authorize a new service, MVDDS, that will be capable of delivering local broadcast television station signals to satellite television subscribers in unserved and underserved local television markets."[1]

I commend the previous Commission for this correct and forward-looking decision. I believe that authorizing and licensing this new service has great potential to serve the public interest. Companies hoping to win licenses have stated on the record that an MVDDS system can be a low-cost terrestrial wireless multi-channel video and broadband Internet service. This service has the potential to further several of my most important goals as a Commissioner.

First, MVDDS has the potential to serve as an important new competitor to cable and DBS in the provision of video services. Encouraging such competition is an important Commission responsibility. Improved competition in multi-channel video services can drive down prices and create incentives for service improvements. As consolidation throughout the communications industry continues unabated, the creation of a new competitor is of great importance.

Secondly, MVDDS has the potential to provide service in rural areas where today DBS is the only option. Encouraging rural service is, of course, a high responsibility incumbent upon the FCC.

Thirdly, MVDDS has the potential significantly to increase the availability of local television service. Because MVDDS technology uses local facilities to transmit signals, it can transmit local television signals, much like a cable service. While some rural areas receive local television signals via DBS, most do not. Potential MVDDS operators have promised, on the record, that they will offer local television stations where they offer service. One company has volunteered to accept full must carry responsibilities and provide all local television channels in all 210 local television markets.

Fourthly, MVDDS has the potential to speed the deployment of broadband telecommunications services throughout the country, and especially to rural America. The MVDDS service includes the ability to offer broadband services, such as Internet access, via terrestrial wireless facilities. Today, many rural consumers are unserved by *any* broadband service provider. In many other areas a single provider serves residential consumers. MVDDS can therefore bring broadband services to literally millions of rural Americans, and it can increase competition throughout the country. Congress in 1996 instructed the Commission to make broadband deployment a top priority. By licensing a

[1] *First Report and Order and Further Notice of Proposed Rulemaking*, 16 FCC Rcd 4096, ¶ 18 (2001)

viable new MVDDS service, we would be working toward Congress's mandate and the Commission's own priority.

Finally, authorizing the MVDDS service in the 12.2 – 12.7 GHz band is an efficient and innovative use of increasingly scarce spectrum. The FCC has determined that MVDDS operators can provide terrestrial service in the same band used by others to provide satellite services. As we struggle with ever increasing demands on spectrum resources, we should work hard to find ways to allow innovative spectrum arrangements where they are technically possible, do not cause harmful interference, and serve the public interest.

The Majority's Form of Auction Undermines the Value of MVDDS

It is our obligation to develop an assignment mechanism that maximizes the potential value of the MVDDS service. This means, as outlined above, finding a way of assigning MVDDS licenses so that licensees: (1) provide new competition to cable and DBS; (2) increase the distribution of local television channels; (3) can combine multi-channel video services with broadband telecommunications services so as to speed broadband deployment; and (4) use the spectrum efficiently and intensively.

The Commission could easily have designed an auction and licensing process to further these goals. We should have limited auction participation to entities that would provide new competition in the multi-channel video market. That would have meant excluding DBS licensees. In addition, we should have committed to explore ways to ensure that the process placed a priority on the value of local ownership, sustainable rural service, diversity, small business ownership, and the provision of local television stations. Instead, the Commission sacrificed these public interest mandates to the theory that an unconstrained auction will, by itself, yield the best result.

Auctions are far from perfect in recent history. Examples in both in the United States and across the world invalidate the assumption that auctions will automatically assign spectrum to an entity that will put spectrum to its most efficient, highest, and best use. Nonetheless, in order to avoid legal challenges and in the interest of stabilizing our spectrum management system, I was willing to use a carefully constructed auction to assign MVDDS licenses provided that eligibility for those licenses was limited so as to promote competition. Unfortunately we did not get there. I am pleased, however, that the Commission will at least bar dominant cable providers from this service, and will permit some small business incentives.

But I am still faced with an auction process where incumbent DBS companies can buy spectrum that I hoped would be used to heighten competition. Futhermore, I am left without any guarantees that we will be aggressive in finding service and auction rules that, consistent with *Adarand*, can account for the value of local ownership, sustainable rural service, diversity, and the provision of local television channels. These values are substantial, and we must work to make sure that they play a central role in any assignment mechanism. In this case they are, however, marginalized.

Given the choice between a bad auction and no auction, I must choose no auction. Therefore, I will dissent from both the eligibility and the auction provisions of this order.

The Commission Should Not Preclude Must Carry Responsibilities

Local television is of great importance to consumers and Congress. Promoting the increased availability of local channels has always been a priority of the Commission. Broadcast stations are at the center of a locality's marketplace of ideas, a function critical to our democratic society. It is important that any multi-channel video distribution service licensed by the Commission serve the particular needs of local communities.

Broadcasting is a uniquely local medium. Local broadcasters understand what it means to serve their community. They provide local news, public affairs, and entertainment programming that serves the particular needs of ethnic or demographic groups within their community. One hundred and fifty-five million Americans regularly receive their news from local TV stations; another sixty-seven million often do. If localism becomes a casualty of this Commission's fear of rules, American consumers will suffer; the country will suffer.

That is why I believe we should ask the question of whether MVDDS licensees should have must carry obligations. As already noted, one potential MVDDS applicant has offered to accept must carry. It understands that must carry here is feasible and workable. Why, then, do we cast overboard this important public interest principle? Both cable and DBS have important must carry obligations. There may be unique reasons to create service-specific must carry for MVDDS, but we have an ongoing obligation to American consumers to ensure the continued viability of the free-over-the-air broadcast service, and local television stations in each market. By prematurely closing the door on must carry for MVDDS at this stage we are not meeting that obligation.

Additionally, I believe that the combination of foreclosing must carry responsibilities here and allowing DBS to hold MVDDS licenses creates an opportunity to evade the will of Congress. Congress imposed a "carry-one, carry-all" rule on DBS. If a DBS company carries one local station in a community, it must carry ***all*** local stations in a community. Exempting MVDDS service from such a requirement and allowing DBS to hold MVDDS licenses means that a DBS company would have the technical and legal means to circumvent the carry-one, carry-all rule. Such a company could use a MVDDS license to distribute a selected group of local channels in a community without distributing all the channels, while continuing to provide national channels via their satellites. This end-run around the will of Congress would make a mockery of the public interest.

In order to protect local broadcasting and to eliminate a carry-one, carry-all loophole, therefore, I would have at least asked whether MVDDS should have must carry

responsibilities, and, if so, what responsibilities. Because the majority disagreed, I must strongly dissent from the must carry portion of the order.

Conclusion

I have high hopes for MVDDS. The market cries out for competition. I, for one, would have welcomed the legal rationale to proceed immediately to license a service. Unfortunately, that legal underpinning could not be found. This being so, I believe the approach I have outlined herein is, far and away, the best available option. MVDDS has the technical ability to compete and offer valuable new service to consumers. I also believe that FCC rules can reduce interference to an acceptable level and can provide mechanisms to resolve unacceptable interference.

I fear, however, that our auction design, and our premature foreclosure of must carry responsibilities will result in MVDDS failing to reach its potential. For these reasons I respectfully agree in part and dissent in part to this order.

STATEMENT OF COMMISSIONER
KEVIN J. MARTIN
Dissenting in Part and Approving in Part

RE: Amendment of Parts 2 and 25 of the Commission's Rules to Permit Operation of NGSO FSS Systems Co-Frequency with GSO and Terrestrial Systems in the Ku-Band Frequency Range (ET Docket No. 98-206; RM-9147 and RM-9245); Amendment of the Commission's Rules to Authorize Subsidiary Terrestrial Use of the 12.2-12.7 GHz Band by Direct Broadcast Satellite Licensees and Their Affiliates; and Applications of Broadwave USA, PDC Broadband Corporation, and Satellite Receivers, Ltd. to Provide A Fixed Service in the 12.2-12.7 GHz Band.

After several years and thousands of pages of debate, today the Commission finally acts on Northpoint's application. I am glad we are finally moving forward. I am glad that the majority is revealing its technical criteria for introducing MVDDS service into the 12 GHz band.

I fear, however, that the Commission is placing too much of the burden of MVDDS deployment on the backs of DBS licensees and their customers. The arbitrary nature of the technical requirements in this item are both disappointing and troubling. By law, DBS service is entitled to protection from "harmful interference."[1] Even more important, existing DBS customers deserve to be protected from unreasonable interference. This item does neither. Indeed, today the majority rejects language it adopted only a few weeks back proclaiming that "all DBS customers, regardless of which satellite(s) they are using, are entitled to interference protection."[2] While I admire their elimination of any such pretense and appreciate their candor, I am disturbed by the implications of this viewpoint.

I believe that all DBS customers are entitled to interference protection. I support a 10% limit per service area for increased interference caused by MVDDS. A 10% limit strikes a reasonable balance among the services sharing this band. Indeed, in the version of the Order adopted on April 11th, the majority seemed to agree. At that time, they announced at least eight times that the technical requirements which they were adopting would "limit" the outages caused by MVDDS to "10%" over the baseline.[3] The majority

[1] See Rural Local Broadcast Signal Act (RLBSA) § 2002(b)(2). See also Order at ¶¶ 8 and 18-20, discussing the non-interference provisions of RLBSA and SHVIA; and 47 C.F.R. § 2.106, Footnote S5.490 (prohibiting "harmful interference" by terrestrial radiocommunications services to DBS services).

[2] Order as adopted on April 11 at ¶ 78.

[3] "We used a prescribed methodology and a predictive model to calculate EPFD values, based on a criterion that would *limit the amount of increased BSS unavailability to ten percent* over a baseline level of BSS unavailability due to the presence of MVDDS." (emphasis supplied). Order as adopted on April 11 at ¶ 67.

further concluded in the April 11th version that this "10%" criterion was the "appropriate" measure because it would "ensure that any interference caused to DBS customers will not exceed a level that is considered permissible."[4] I was encouraged by this language in the Order. I was concerned however, because the complex methodology contained in the Appendix, which was used to implement the "10%" criterion in the Order, resulted in actual levels of interference higher than 10% - even double or triple those levels - to vast numbers of DBS customers. I distributed a detailed statement to my colleagues explaining my support for the 10% limit contained in the Order, but my concerns with the implementation of that limit as reflected in the Appendix.

I was hopeful that in response to my statement, the majority would adjust the implementation methodology in the Appendix to comply with the "10% limit" they had concluded was "appropriate" in the text of the adopted Order. Instead, they did the opposite. They chose, post-adoption, to change the language of the adopted Order to coincide with the implementation methodology in the Appendix. Frankly, I am a little surprised that my colleagues were more familiar with the complex implementation

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"At the outset, we conclude that the appropriate criterion on which to base the EPFD level is DBS unavailability of an *additional ten percent over the baseline* unavailability, and that this increase in unavailability would be in addition to the unavailability allowance relied upon for developing NGSO FSS limits." [3] Order as adopted on April 11 at ¶ 73 (emphasis supplied).

"We also conclude that our decision *to use a ten percent increase* in unavailability as a criteria for developing EPFD limits for MVDDS, in addition to the unavailability allowance relied upon for developing NGSO FSS limits, *strikes an appropriate balance* among the three services that will share this frequency band." Order as adopted on April 11 at ¶ 74 (emphasis supplied).

"We now conclude, based on further analysis of these issues by Commission staff and independent analysis performed by MITRE, that calculating MVDDS EPFD *limits based on a criterion on ten percent strikes a reasonable balance* between protecting DBS from interference and deploying MVDDS." Order as adopted on April 11 at ¶ 75 (emphasis supplied).

"In addition, a criterion of *ten percent unavailability for developing MVDDS EPFD limits* is the same used by NGSO FSS for the aggregate interference level from all of the NGSO FSS systems." Order as adopted on April 11 at ¶ 75 (emphasis supplied).

"We believe that in this band, under these circumstances, a *ten percent increase in unavailability* is the correct basis on which to calculate EPFD limits for MVDDS. On a going forward basis, the DBS operators should take this into account in designing future satellites." Order as adopted on April 11 at ¶ 75 (emphasis supplied).

"We modeled the satellites at 61.5 degrees and 148 degrees west longitude to ensure that the effect of our adopted EPFD limits on outage time is consistent with the protection criterion from which we started (i.e., allow *additional outage of ten percent* over baseline)." Order as adopted on April 11 at ¶ 80, note 198 (emphasis supplied).

"Using the parameters and assumptions described above, we analyzed the top 32 television markets to determine an EPFD value for each market consistent *with limiting additional DBS outages to ten percent* over the baseline." Order as adopted on April 11 at ¶ 80 (emphasis supplied).

[4] Order as adopted on April 11, at ¶ 67.

methodology found in the Appendix and that it more accurately reflected their conclusions than the simple and straightforward 10% "limit" contained in the Order.

Regardless of my surprise, I appreciate their adjustment of the Order to conform to the Appendix. In the post-adoption version of the Order, the former "10% limit" is now merely a "starting point" for an analysis. Indeed, they now proclaim that increased interference as high as 20-30% is "acceptable,"[5] and that "even higher percentage increases in unavailability in the range of 30% or higher would still constitute a relatively minor change."[6] I am surprised by this change in language and in tone. And I am disturbed by their removal and rejection of the basic principle that "all DBS customers...are entitled to interference protection."[7]

I find the choices made by my colleagues to be curious, at best. Why would they *allow* "harmful" interference to some DBS customers and reject *any* practical limit on interference to existing DBS customers? Why would they claim to implement a percentage-based interference approach without actually picking a specific "harmful" or even "permissible" interference percentage? My colleagues now express that there is "no technical way to achieve" a "10% limit."[8] Why, then, after declaring just weeks ago that a 10% limit is the "appropriate" and "correct" measure of the burden that should be placed on DBS customers, would the majority change their minds post-adoption to reject the once "appropriate" and "correct" 10% limit and convert it to merely a "starting point"? And, if the majority believes that "in the range of 10%"[9] means "20-30%,"[10] then does "in the range of 30% or higher"[11] mean 60-90%? Why do they prefer to keep us guessing? Why, after originally concluding that a 10% limit "strikes a reasonable balance," do they now emphasize five times post-adoption that seemingly *any* amount of MVDDS-related interference is "balanced" by the ability of MVDDS to deploy?[12] Unfortunately, these questions seem to lead to only one conclusion: the majority's technical requirements are driven by a desire for MVDDS deployment, regardless of cost to DBS licensees and their customers.

I have often expressed my belief that we should proactively seize opportunities to encourage, and even insist on, more efficient use of current spectrum, particularly

[5] Order at ¶ 84, note 210.

[6] Appendix G at 151, note 668.

[7] Order as adopted on April 11 at ¶ 78.

[8] Joint Statement of Chairman Michael Powell and Commissioner Kathleen Abernathy at 5.

[9] Order at ¶ 78.

[10] Order at ¶ 84, note 210.

[11] Appendix G at 151.

[12] Order at ¶ 68. See also Order at ¶¶ 53, 72, 76 and 85.

through sharing. But the Commission must do so in a manner that protects the rights of existing licensees and their customers. At the very least, we should be clear about the levels of protection we are providing. As we exploit new technological opportunities for sharing, we must carefully weigh the costs, and ensure that the harms do not outweigh the benefits. Unfortunately, today's Order fails to strike an appropriate balance. It places too much of the burden of MVDDS deployment on the backs of DBS licensees and their customers. It rejects any interference limits. It injects uncertainty into the spectrum market. Accordingly, I dissent from the majority of this decision.[13]

The Adopted Technical Parameters are Arbitrary and Capricious

Agencies are required to act in a reasoned fashion – not arbitrarily and capriciously. The Commission must explain its actions – and its explanation must reflect reasoned decision making. [14] Unfortunately, I believe this Order does not reflect sufficiently reasoned decisionmaking.

One of the Commission's most important responsibilities related to spectrum management is to define the interference parameters under which licensees may operate. The Commission's rules define "harmful interference" generally as interference which "seriously degrades, obstructs, or repeatedly interrupts a radiocommunication service."[15] Both by statute and under the Commission's rules, MVDDS is prohibited from creating "harmful interference" to the DBS service.[16] And, as the majority states, it is of "primary importance" that these technical requirements do not cause MVDDS-interference to "exceed a level" that is considered "permissible."[17] Yet the majority will not reveal to us what that important "permissible level" actually is. Instead, the majority asserts, with "confidence," that the adopted rules will "limit" interference potential from MVDDS to a level that "does not rise to 'harmful interference.'"[18] I am not so confident.

The original version of the item, as it was adopted on April 11, emphasized at least eight times that a "10% limit" on such interference is the "appropriate" measure of the burden that should be placed on DBS customers.[19] Post-adoption, however, the

[13] I approve only the auctions, eligibility and broadcast carriage sections of the Order at §§ V.B.5, V.B.2.b and V.B.1.d respectively.

[14] *Fox Television Stations v. FCC*, 280 F.3d 1027, 1042 (D.C. Cir. 2002); *United States Telephone Association v. FCC*, 188 F.3d 521 (D.C. Cir. 1999).

[15] 47 C.F.R. § 2.1.

[16] See note 1, supra.

[17] Order at ¶ 68.

[18] Order at ¶19.

[19] See note 3, above.

majority has deleted from the item all references to a "10% limit." Post-adoption, they decided to change the original 10% "limit" to a 10% "starting point"[20] for the interference analysis. And, in their new version of the Order, the possibilities for MVDDS interference seem limitless. Indeed, the majority now concludes that "the additional service outage that may result here over and above the 10% starting point falls within the permissible level."[21] Without defining "permissible level," they now simply characterize the resulting interference - even interference that is *more than double* or *triple* 10% - as "approximately," "on average," "about," and "in the range of" 10%, and therefore "permissible."[22] Such hasty and dramatic changes, and continued refusal to adopt any "limit" on interference, do not, at least to me, seem to reflect careful and reasoned decisionmaking.

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[20] Order at ¶ 72: "In adopting these EPFD limits, we find that an increase of 10% over current DBS unavailability is the appropriate *starting point* for our analysis but need not be a strict limit." (emphasis supplied). See also ¶¶ 79 and 84, note 210, and Appendix G at 150.

[21] Order at ¶ 72.

[22] See, e.g., Order at ¶¶ 72 and 78, And Appendix G at 150, 151 and 156.
Order at ¶ 72: "Our EPFD limits result in increased unavailability of *approximately 10%* -- in some instances it is greater than 10% of current unavailability, while in others it is less than 10%." (emphasis supplied).

Order at ¶ 78: "We now conclude, based on further analysis of these issues by Commission staff and the independent analysis performed by MITRE, that calculating MVDDS EPFD limits that allow additional increased unavailability *in the range of 10%* ensures DBS of protection from harmful interference while creating an opportunity to deploy MVDDS." (emphasis supplied).

Appendix G at 150:
- "It should be noted that this 10% *criterion is not used as a strict limit but rather as a guideline* in developing the actual regional EPFD requirements, described below." (emphasis supplied).
- "In specific cases, calculated outages *may be above or below this 10% value*." (emphasis supplied).
- In light of the conservative nature of this overall approach, sound engineering judgment suggests that using the *10% average unavailability criterion* as a strict limit is unnecessary and inappropriate especially given the wide variability in the provision of DBS services noted above." (emphasis supplied).

Appendix G at 151:
- "Based on the wide deviation already present in the provision of DBS service, an increase in unavailability of *about 10%* is a relatively minor change and should not be perceptible to DBS customers." (emphasis supplied).
- "...even higher percentage increases in unavailability *in the range of 30% or higher* would still constitute *a relatively minor change*." (emphasis supplied).

Appendix G at 156:
- "That is, the EPFD for the region would *generally ensure* that for locations within the region any increase in DBS outage would be consistent with our *10% approximate increase in unavailability guideline.*" (emphasis supplied).
- "Further, the data for all locations show outage increases for locations throughout the U.S. are consistent with our *10% approximate increase in unavailability guideline.*" (emphasis supplied).

The Order sets certain EPFD[23] levels that that are no longer keyed to guarantee a specific level of interference protection.[24] Rather than setting an interference limit, the majority announces that these EPFD levels are based on "10%" as a "starting point" for an increase in DBS outages caused by MVDDS.[25] However, as reflected in Appendix G, the method used to calculate the EPFD levels is so unrelated to actual interference levels experienced by vast numbers of consumers that it appears to be arbitrary. As explained in more detail in my own Appendix, the methodology used to implement the "10% starting point" only exacerbates the majority's failure to limit interference. The EPFD levels are calculated using a complex, underinclusive, "double-averaging" approach that further removes the 10% starting point from 10%. The calculations exclude altogether two out of the five orbital slots through which DBS service is provided, and they count only the top 32 television markets. Then the majority averages the level of interference across the three selected orbital slots. On top of this, the majority again averages those satellite interference averages within each of four Commission-constructed "regions" (which consist of anywhere from seven to 23 states), based on the results of the 32 selected cities.

As a result of this complex implementation methodology, increased interference caused by MVDDS is usually higher than 10%. Appendix G reveals that, as a result of the implementation scheme, DBS customers in 31 out of the 32 television markets from which the majority basis its interference calculations will experience increased interference higher than 10%. The new "additional city" analysis in Appendix G shows that customers in 11 out of the 12 additional cities will also experience outage increases higher than 10%.[26] And for many customers in the top television markets alone, the actual increases in interference will be *double and triple* the "10% starting point" referenced in the order. For example, by the Commission's own estimates, some DBS customers in Seattle will experience more than a 30% increase in unavailability, translating to over 45 additional hours of outages annually caused by MVDDS. Other DBS customers in Portland, San Francisco, Washington D.C., Pittsburgh, Philadelphia, New York, Boston and Nashville all will experience a 23-30% increase in DBS unavailability caused by MVDDS.[27]

More fundamentally, however, it is not clear to me why *any* customer should be subject to interference greater than the "10% limit" originally adopted by the majority. Indeed, a few weeks ago, the majority believed that a "10%" outage increase was

[23] EPFD represents the MVDDS signal power detected by the DBS transmitter.

[24] See Order at ¶ 68.

[25] See Order at ¶¶ 72, 79, 84, note 210, and at Appendix G at 150.

[26] These 11 cities include Baton Rouge, Louisiana; New Orleans, Louisiana; Shreveport, Louisiana; Billings, Montana; Fargo, North Dakota; Salt Lake City, Utah; Omaha, Nebraska; Oklahoma City, Oklahoma; Boise, Idaho; Jackson, Mississippi; and Honolulu, Hawaii.

[27] See Appendix G.

defensible because such a limited interference increase is "not perceptible to the DBS customer in most cases."[28] (Now it seems they believe that regardless of the percentage increase, the interference will be "imperceptible" and "insubstantial."[29])

I support a 10% interference limit per service area. Indeed, MITRE, the Commission's own expert, recommends allowing no more than a 10% increase in MVDDS-related outages per service area.[30] And, instead of averaging the satellite calculations, MITRE recommended using only the DBS satellite at each longitude having the largest baseline unavailability.[31] The majority fails to explain sufficiently why it rejected these recommendations and proposals.

Even the Further Notice asked whether the Commission should "allow MVDDS to cause *up to 10% increased unavailability,*" which, as was explained, "is the same criteria developed by the ITU-R for interference from all NGSO FSS systems."[32] I do not agree with the suggestion of my colleagues that the "approximately 10%" measure as used by the majority either "echoes" the international approach to NGSO/DBS sharing.[33] The 10% NGSO/DBS sharing criteria is an *aggregate measure*- a *maximum limit* - quite the opposite of the 10% "starting point" used here.[34] Although the majority no longer seems to feel constrained by any upper limit, I have outlined in my own Appendix some reasonable measures that could have been implemented to at least keep interference much closer to their new 10% "starting point," and additional arguments and concerns regarding the majority's Appendix G.

The majority recently implemented a "safety valve" to address some of my concerns. The item now allows DBS licensees to present evidence that the appropriate EPFD for a given service area should be different from the region wide EPFD level. However, there is no guidance as to how much interference would cause the majority to trigger that safety valve. Apparently, even interference in the 20-30% range, or even

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[28] April 11th version of item.

[29] See Order at ¶¶ 71, 72, 79 and 85.

[30] MITRE report at 6-5. MITRE is the independent expert selected by the Commission to analyze the potential for harmful interference between DBS and an entity applying to provide terrestrial service in the 12 GHz band.

[31] See MITRE report at 6-5 - 6-7.

[32] Further Notice, 16 FCC Rcd. at 4197, ¶ 269. The majority characterizes the Further Notice as seeking comment on percentage-based increases in unavailability such as "2.86%, ten percent, *or any other percentage*." Order at ¶ 78. If they actually picked some other percentage, that may have been helpful. However, the majority seems to have interpreted "any other" percentage to mean either *every other* percentage, or *no particular* percentage.

[33] Joint Statement of Chairman Powell and Commissioner Abernathy at 4.

[34] See Order at ¶¶ 40, 42-44. See also Further Notice, 16 FCC Rcd. at 4197, ¶ 269.

higher than 30%, would not be enough. Moreover, the fact that a safety valve is necessary is recognition of the fact that the proposed interference scheme will not adequately protect DBS consumers in all parts of the country.

I find the majority's failure to limit MVDDS-related interference to DBS customers troubling. It is arbitrary to allow such varying and unlimited levels of interference to different groups of DBS subscribers particularly where, as explained in my Appendix, some more reasonable measures are available. In a separate context, the agency was recently chided for failing to provide "clarity as to its choice of the appropriate interference threshold."[35] The court found the "omission of an explanation" to be "particularly troubling" because the test data relied upon by the Commission did not include a representative real-world sampling.[36] I fear the Commission is repeating those mistakes.

The Technical Rules are Contrary to Law

The approach taken by the majority is contrary to statute, and contrary to the "fundamental principle that existing co-primary spectrum users are protected from harmful interference that may be caused by later-in-time co-primary users."[37]

The Rural Local Broadcast Signal Act requires the Commission to "ensure" that MVDDS licensees do not cause "harmful interference" to the primary users of the spectrum occupied by DBS operations.[38] Despite this statutory directive, the Order allows MVDDS licensees to cause harmful interference to significant numbers of DBS subscribers. The rule adopted today only prohibits harmful interference during the initial deployment to existing customers. However, the Order *allows* MVDDS licensees to cause harmful interference to new DBS subscribers.[39] Consumers living in proximity to an MVDDS transmitter may be subject to so much interference from MVDDS that as a practical matter, they are excluded from having even the choice of DBS service.[40] Indeed, new DBS customers "shall have no further rights of complaint" against the

[35] *AT&T Wireless Services, Inc. v. FCC*, 270 F.3d 959, 968 (D.C. Cir. 2001).

[36] Id.

[37] *Preparation for International Telecommunication Union World Radiocommunication Conferences*, IC Docket 94-31, *Report*, 10 F.C.C.R. 12,783, 12,803 (1995).

[38] RLBSA §2002(b)(2); See also Order at ¶¶ 8, 18-20.

[39] See Order at Appendix D, § 101.1440(e).

[40] See Order at ¶ 55 ("there will likely be an area surrounding the MVDDS transmitting antenna where the interference criteria may not be met without some form of mitigation being performed"). However, the Order allows continued operation even if there are no techniques that would mitigate such interference to new DBS customers.

MVDDS licensee.[41] The majority has recently added language to the Order expressing its belief that new DBS licensees "can take modest measures, e.g., siting and shielding steps or use of a larger antenna, to account for the presence of an MVDDS signal."[42] However, the majority does not dispute that there still may be exclusion zones where consumers will not be able to receive DBS service due to MVDDS interference, despite such measures. The Order also allows MVDDS licensees to cause harmful interference to pre-existing DBS subscribers after one year of MVDDS operation, even if the increased interference is caused by a change in the MVDDS operation.[43] And, the Order allows MVDDS licensees to cause harmful interference to pre-existing DBS subscribers who decide to move to a new location where there is a pre-existing MVDDS transmitter. Similarly, the Order allows MVDDS licensees to cause harmful interference to pre-existing DBS subscribers who may not have provided notification of interference in the one-year complaint deadline.

In addition, the majority's decision to protect only existing DBS subscribers for one year is also contrary to the MITRE report, which recommends that future DBS customers be protected for "as long as the MVDDS transmitter operates."[44] I am disappointed that the majority rejected MITRE's recommendation to place interference limits on MVDDS operation going forward.

The approach is also contrary to the Commission's own rules and precedent. The definition of "harmful" interference in the Commission's own rules is not limited to blanketing interference. On its face it includes serious degradation, obstruction, or repeated interruption of a radiocommunication service.[45] It does not depend on "averages."

Moreover, this scheme is a significant departure from the established principle that new users of spectrum must not impede or interfere with existing uses that serve the public interest.[46] This "first in time, first in right" doctrine, which the Commission has

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[41] Order at Appendix D, § 101.1440(e).

[42] Order at ¶ 92.

[43] See Order at Appendix D, § 101.1440(g). The rules require the MVDDS licensee to provide the technical parameters of its operation at a particular transmitting site to the DBS licensee prior to deployment. However, the MVDDS licensee may later change those parameters without notice as long as the change does not qualify as a "major modification" or cause an "increase in the EPFD contour in any direction" pursuant to 47 C.F.R. §1.929. See Order at Appendix D, § 101.1440(f). The Order does not protect existing DBS subscribers in such situations.

[44] MITRE Report at 6-6.

[45] 47 C.F.R. § 2.1(c).

[46] *See, e.g., Midnight Sun Broadcasting Co.*, 11 F.C.C. 1119 (1947); *Sudbrink Broadcasting of Georgia*, 65 F.C.C.2d 691 (1977).

described as "the mainstay of interference protection"[47] has long governed the sharing of frequencies by co-primary licensees:

> Under our first-in-time rule, the first co-primary licensee is entitled to protection from harmful interference by subsequent licensees. . . . [T]he subsequent licensees . . . have the option of sharing spectrum . . . , provided that they do not cause harmful interference to the incumbents.[48]

The majority is violating this fundamental principle by allowing MVDDS, the second co-primary licensee, to cause harmful interference to DBS. Inexplicably, the majority narrowly applies the first in time rule only to *existing DBS customers,* and not to the *DBS licensees,* which obtained their licenses first, and have already expended several billion dollars to construct, launch and run satellite systems that operate throughout the entire United States. The majority further departs from the first in time rule by allowing protection for even those current customers *for only one year.* I find such limited protection for existing licensees to be quite troubling. Indeed, this would be akin to telling cell phone service providers that, in order to make room for a new competitor, they are suddenly entitled to limited interference protection for only their *current* customers. And, by the way, those current customers are entitled to protection for only one year. I cannot support such an approach.

This Order Unduly Burdens DBS Subscribers

This order unfairly places the burden of MVDDS deployment on the backs of DBS licensees and their customers. These rules are unfair to DBS customers, who have purchased a dish and have contracted for service based on the expectation of a certain level of reliability. These subscribers are left with no idea regarding how much additional interference the majority would be willing to permit. The rules are unfair to consumers who wish to purchase DBS service in the future, but who may now be blocked from having that choice as a result of MVDDS deployment. They are unfair to DBS licensees, who have invested tremendous resources to construct and operate a system without the opportunity to build into its costs the additional level of interference, and potential exclusion zones, that may now be caused by the MVDDS service.

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[47] *Deployment of Wireline Services Offering Advanced Telecommunications Capability,* CC Dockets 98-147, 96-98, *Third Report and Order in CC Docket 98-147 and Fourth Report and Order in CC Docket 96-98,* 14 FCC Rcd. 20,912, ¶ 211 (1999).

[48] *Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for Use by the Mobile-Satellite Service,* ET Docket 95-18, *Second Report and Order and Second Memorandum Opinion and Order,* 15 FCC Rcd. 12,315, ¶ 133 (2000).

The asserted justification for this scheme is "simplicity, clarity and ease of implementation."[49] I believe it would be much more simple and straightforward to have a hard and fast interference limit than a scheme that arbitrarily sanctions varying, and unpredictable, amounts of additional interference to different consumers. Moreover, the safety valve process will undermine the simplicity they advocate.[50] Providing a standard EPFD limit, and then allowing case-by-case and service area-by-service challenges to those EPFD limits if the limits are not "appropriate" will create a series of challenges that the Commission will still have to resolve. Such a process is far from "simple, clear, or easy." Simplicity of process, clarity of decision making, and achievement of an easy implementation standard that protects consumers from unreasonable interference all dictate in favor of establishing a clear, consistent, and rational interference limit in each service area up front.

To add insult to injury, the MVDDS licensee may begin operations even in the face of a protest by the DBS licensee that the required EPFD levels in the order will not be met. The complaint procedures set forth in the order do not allow for a Commission resolution of a dispute prior to the MVDDS licensee turning on its system. Furthermore, there is no expedited complaint resolution procedure in place to quickly resolve such an allegation even after MVDD has turned on its system.

I do not believe that such a scheme is in the public interest. There is always a varying degree of commercial risk in any business venture. The Commission's decisions should strive to minimize the amount of "regulatory risk" faced by the industry, by promoting predictability and regulatory certainty. I fear that this order injects uncertainty into the spectrum market. Allowing such a significant change to the spectrum environment has undermined the commercial decisions made by DBS licensees in purchasing their spectrum and building out their systems. Moreover, as the majority continues to be silent with respect to precisely how much interference they will be willing to permit, both DBS and MVDDS licensees will waste resources making decisions based on guesswork. Creating such uncertainty will negatively impact the market for spectrum going forward.

Service Areas

The majority attempts to justify the interference caused to DBS with the assertion that such harms are "outweighed by the potential benefit to the public of providing for a new potential competitor in the multichannel video and data markets."[51] However, it is not clear that the adopted licensing approach will promote such competition. In order to

[49] Joint Press Statement of Chairman Michael Powell and Commissioner Kathleen Abernathy (April 23, 2002).

[50] See Order at ¶¶ 83 and 85.

[51] Order at ¶ 53.

compete effectively with cable and DBS service, MVDDS will need to be able to offer local broadcast service. The majority observes that most MVPD service remains local or regional service,[52] and notes that "MVDDS is technologically well suited for fulfilling the local signal delivery goals of RLBSA."[53] The majority spends some time discussing how MVDDS may be used to fill a void with respect to local broadcast service.[54] Yet if the majority had wanted to take advantage of this capability and wanted to promote the carriage of local broadcast signals, it should have chosen service areas corresponding to local television markets. The obvious choice would have been the 211 designated market areas (DMAs), which correlate directly to those local television markets. Instead, the majority has chosen much smaller service areas – 354 Component Economic Areas (CEAs).[55] This approach makes it more difficult for MVDDS licensees to carry local broadcasts because it may have to acquire multiple CEAs to cover one local television market. Furthermore, depending on how the CEA boundary is drawn, there may be subscribers from more than one local television market in a given CEA, adding to the difficulty.

The reasons offered by the majority against employing DMAs seem odd. The Order notes that Nielsen is the copyright owner of the DMA listing and "has not given the Commission a blanket license to use its copyrighted DMA listing for MVDDS."[56] However, a quick check of the Nielsen website reflects that Nielsen has granted all members of the public use of their papers and publications (which would include their DMA listing and DMA map of local markets) as long as that material is used only for non-commercial purposes.[57] So it seems that the Commission could, in fact, use the copyrighted DMA listing for the non-commercial purpose of dividing the country into service areas. At the very least it would seem worthwhile simply to ask Nielsen whether Nielsen would consider such a use of the DMA listing to be a copyright violation.

The majority next states that, although some potential MVDDS licensees favor DMA-based service areas,[58] the decision not to employ DMAs is for their own good.[59] They state that rejecting DMAs will protect MVDDS licensees against possible claims of copyright infringement that may be brought by Nielsen.[60] It is not obvious how simply

[52] Order at ¶ 132.

[53] Order at ¶ 24.

[54] Order at ¶¶ 23-24.

[55] Order at ¶ 4, note 10.

[56] See Order at ¶ 132.

[57] See www.nielsenmedia.com/copyright.html.

[58] See Northpoint comments at 32; see also SRL comments at 3.

[59] See Order at ¶ 132.

[60] Order at ¶ 132.

holding a license with specific geographic boundaries based on DMAs would subject a licensee to a claim of copyright infringement. The majority offers no legal analysis to support this strange conclusion. Given the advantages of using service areas based on local television markets, it would seem worthwhile to think more carefully about the rationale for rejecting DMAs.

Competitive Bidding

This item concludes that by statute, we are required to auction mutually exclusive applications submitted by potential MVDDS licensees. Compelling statutory, policy and equitable arguments were made both in support of auctions and against them under these circumstances. The arguments favoring an auction rely primarily on Section 309(j) of the Communications Act, which mandates that the Commission grant mutually exclusive applications through competitive bidding.[61] On the other hand, Northpoint argues that, consistent with its statutory obligation to avoid mutual exclusivity generally,[62] the Commission should reject applications from any entity other than Northpoint because it is the only potential licensee that has complied with the independent testing requirement of the LOCAL TV Act.[63] Alternatively, Northpoint argues that the ORBIT Act bars an auction because that same spectrum is used "for the provision of international or global satellite communications services."[64] Northpoint's most recent application to provide satellite service on those frequencies bolsters this argument. As a general policy matter I agree that competitive bidding can be a useful mechanism for distributing licenses, but auctions are not a goal in and of themselves. For me, this was a very close call, and it is with some difficulty that I support the recommended decision to support auctions in this case. I am sensitive, however, to the impact that the Commission's lengthy delay has had on all the parties to this proceeding, and proceed today to avoid the harms resulting from even further delay.

Conclusion

The Commission should always work hard to promote creative and innovative uses of spectrum. Indeed, as I have said before, one of the Commission's objectives should be to create incentives for the efficient utilization of spectrum at every given point in time, by both established users and new entrants. However, it should exercise particular care in the implementation of schemes that will impact existing licensees and their customers. All DBS licensees and their customers are entitled to interference

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[61] See Order at ¶ 239.

[62] See 47 U.S.C. § 309(j)(6)(E).

[63] See 47 U.S.C. § 1110.

[64] See 47 U.S.C. § 647. See also *National Public Radio*, 254 F.3d 226 (D.C. Cir. 2001).

protection. The Commission should take an approach which specifies rational and defensible interference limits, and then clearly and simply implements those limits. The public deserves no less. Yet this Order sanctions the severe disruption of DBS service for an untold number of consumers when some additional reasonable limits could have been adopted. I am disappointed that the majority has taken this approach. Accordingly, I must dissent.

APPENDIX

The originally adopted April 11th version of the item contained language in the Order "limiting" MVDDS-related interference to 10%. While I supported a 10% interference limit, I criticized the implementation methodology in Appendix G because it failed to result in an actual 10% limit. In response to my criticism, the majority has, post-adoption, eliminated any interference limit, and is now using 10% as a "starting point" for their interference analysis. As explained in my statement, I find the majority's dramatic shift in viewpoint and unwillingness to place any limits on MVDDS-related interference to be disturbing.

The methodology used to implement the "10% starting point" only exacerbates the majority's failure to limit interference. The EPFD levels are calculated using a complex, underinclusive, "double-averaging" approach that further removes the 10% starting point from 10%. The calculations are underinclusive in two fundamental respects. First, they exclude altogether two out of the five orbital slots through which DBS service provided. Second, they count only the top 32 television markets. The majority then further distances the results from 10% by averaging the level of interference across the three selected orbital slots. On top of this, the majority averages those interference averages within each of four Commission-constructed "regions" (which consist of anywhere from seven to 23 states), based on the results of the 32 selected cities. The Order concludes that the MVDDS licensee need only meet this underinclusive, double-averaged EPFD level when it initially deploys. As long as it meets this initial threshold, there is no cap on the actual amount of interference from MVDDS that DBS customers may experience.

For example, the calculations exclude entire states with high DBS penetration rates and unique geographic characteristics, such as Montana (where an estimated 39% of the television households subscribe to DBS), Maine (with a 24% penetration rate), Louisiana (with a 19% penetration rate), and Alaska (with a 15% penetration rate).[65] Indeed, half of the Nation's population, and most of the Nation's geography, is not considered in calculating the appropriate interference protection standards. This is particularly troubling because DBS is such an important service to the millions of consumers who live in rural areas and do not have access to cable. Yet those are the very subscribers whose interference levels are not directly considered when evaluating whether the new service meets the "range of 10%" additional outage level the majority has now deemed appropriate.

I find quite perplexing their rejection of even reasonable measures to at least keep MVDDS-related interference closer to their new "10% starting point." For example, the majority rejected the following measures:

[65] Penetration rate statistics taken from www.echostarmerger.com. See also state-by-state penetration rate statistics provided by SBCA in CS Docket No. 01-129, *Matter of the Annual Assessment of the State of Competition in the Market for Delivery of Video Programming* (Aug. 3, 2001).

1. The majority rejected consideration of two orbital slots.

The majority could have considered all of the orbital slots used to provide DBS service to consumers in the United States, instead of calculating EPFD levels based on the results for only *three* of those slots.[66] Thus, customers receiving service from the excluded satellites (located at 61.5° and 148°) could experience significantly more interference than the "10% starting point."

Only limited sample data is provided for the satellites at 61.5° and 148.° The majority explains that the three selected slots provide the majority of service to DBS subscribers today.[67] Even if this is true, this does not explain why it is reasonable or legally defensible to ignore altogether the interference caused to the subscribers purchasing service from the excluded satellites. Echostar has stated on the record that it serves over 400,000 thousand subscribers from those two satellites.[68] Moreover, the majority itself acknowledges protection for these other satellites is "essential" because at least one service provider, Dominion, "operates solely from the satellite located at 61.5°," and also because "the other DBS licensees could shift programming to make heavier use of [those] satellites ... in the future."[69]

Furthermore, the conclusory opinion that "the specified EPFD levels will also protect these [excluded] orbital locations"[70] seems contrary to the sample results in Appendix G – which reveal an additional *45 hours* of additional annual outage to DBS subscribers in Seattle using one of those "other" satellite slots. MITRE recommended excluding only the locations with more than 100 hours of baseline unavailability.[71] The Order fails to explain why this would not have been a more appropriate standard. Indeed, the majority even cites to this MITRE recommendation in attempting to justify its failure to consider the 45 additional outage hours in Seattle.[72] But the majority can't have it both

[66] DBS service is provided from the satellites located at the following five orbital slots: 61.5°, 101.0°, 110.0°, 119.0°, and 148.0°. Order at ¶ 82, and note 205. The Order considers only the satellites providing service to the contiguous United States - 101.0°, 110.0°, and 119.0,° and excludes the satellites at 61.5° and 148.0°.

[67] Order at ¶ 82.

[68] Letter from Pantelis Michalopoulos and Steven Reed, counsel for Echostar Satellite Corporation, to William F. Canton, Acting Secretary, Federal Communications Commission, (February 12, 2002), ex parte comment in CS Docket No. 00-96, *In the Matter of Implementation of the Satellite Home Viewer Improvement Act of 1999; Broadcast Signal Carriage Issues.*

[69] Order at ¶ 82 (emphasis added).

[70] Order at ¶ 82.

[71] MITRE report at 6-5 – 6-7; see also Appendix G at 152, note 672.

[72] Appendix G at 152, note 672.

ways. If the majority believes it is justifiable based on MITRE to exclude Seattle from protection, then it is equally imperative, based on MITRE, to *include* all locations with less than 100 hours of baseline availability. Considering all of the satellites would cause fewer DBS customers to experience increased interference greater than 10%.

2. The majority rejected basing its EPFD calculations on the satellite with the largest baseline unavailability.

The majority could have chosen the satellite with the largest baseline unavailability as the basis for its EPFD calculations. Instead, the majority *averages* the results for the three chosen satellites, further distancing the "10% starting point" from 10%. The majority defends this choice with the following *non sequitur*: "Averaging ensures that the EPFD for neither the 'worst case' nor the 'best case' satellite predominates."[73] Yes – obviously, averaging "ensures" such a result. But this still does not explain why it is reasonable to allow even more increases in outage. MITRE did not recommend averaging, and instead recommended using the satellite with the largest baseline unavailability.[74] Under the MITRE approach, fewer DBS customers would experience increased interference greater than 10%.

3. The majority rejected utilizing data from more cities and towns.

The majority could have utilized data from more cities and towns. The EPFD levels are based only on 32 cities in the entire nation. They are the top 32 television markets – no other city or town is averaged into the calculation.[75] Consumers in entire states do not even get counted in the averaging process.[76] Approximately 55% of the nation's population lives in those 32 cities.[77] This means 45% of the nation's population is left out of the process. Ironically, consumers in rural areas, who are likely to benefit most from both DBS and MVDDS service because they may not have access to cable, are the very consumers who are left out of the calculations altogether. The majority recently added language to defend this limited sampling, stating that: "choosing a limited number of representative satellite links for analysis purposes to determine an appropriate EPFD or similar value is an acceptable engineering and scientific approach."[78] While this may be true for some purposes, it is equally clear that such an approach is not acceptable here,

[73] Appendix G at 154.

[74] MITRE report at 6-5 – 6-7.

[75] See Appendix G at 152.

[76] The following 28 states are not included in the sampling: Alabama, Alaska, Arkansas, Connecticut, Delaware, Hawaii, Idaho, Iowa, Kentucky, Louisiana, Maine, Mississippi, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, North Dakota, Maryland, Oklahoma, Rhode Island, South Dakota, Utah, Vermont, Virginia, West Virginia, Wyoming.

[77] January 1, 2002 Nielsen Media Research Estimates.

[78] Appendix G at 152.

where the methodology does not result in EPFD levels that provide any upper limit on increased DBS outages.

4. The majority rejected basing its EPFD calculations on a wider variety of geographic areas.

The majority could have taken data from a wider variety of geographic areas. The majority's 32-city approach excludes enormous geographic areas of the country, including all of Alaska and all of Hawaii, from the process. However, the EPFD levels and interference effects are very sensitive to rain models and geography, which vary dramatically from across geographic areas and from city to city.[79] After acknowledging that EPFD levels vary across geographic conditions, I am confused as to why the majority picks such a small geographic sample, and ignores states with unique characteristics.

The majority contends that the "additional precision that would be provided by analyzing additional or other locations is unnecessary and unlikely to be significant given other factors, such as, the large variability that already exists in rainfall patterns from season to season and year to year."[80] Strangely, the majority seems to be defending a less precise methodology for MVDDS interference calculations based on the variability of non-MVDDS factors.

The majority further contends that the results of those 32 cities "in fact apply to much larger areas...because satellite signal strength and rainfall patterns tend to change only gradually over great distances."[81] "Therefore," the majority continues, "the results for New York and Philadelphia reasonably apply for the areas between those cities [as they do] for Chicago and Cincinnati, Los Angeles and San Diego, Seattle and Portland, etc."[82] Yet even this rough "gradual change" rationale does not explain why huge swaths of the Nation are excluded from the analysis. For example, even assuming there is only a "gradual change" in the areas between Portland, Seattle, Sacramento and San Francisco, this still does not explain why it is rational to apply the results of those four cities to all of Alaska, Hawaii, Idaho, Montana and North Dakota, states from which no data is collected. Indeed, the limited sample results recently added to Appendix G reflect the folly of this rationale. The majority's methodology of applying the data from those four cities actually results in DBS outages greater than 10% in four out of the five excluded

[79] See Order at ¶ 79, note 179.

[80] Appendix G at 152.

[81] Appendix G at 152.

[82] Appendix G at 153.

states - Hawaii, Idaho, Montana and North Dakota,[83] and 11 out of the 12 "additional cities" sampled.[84]

5. The majority rejected using smaller regions.

The majority could have picked smaller areas for application of their EPFD levels, such as states or smaller regions. The majority divides the entire United States into four enormous regions (ranging anywhere from seven to 23 states), and then picks an EPFD level for that entire region based on the results of only a few cities in the entire region. For example, the limit for the 7-state "southwestern region" only includes data from 3 cities, and excludes any data from 5 of the states in the region - Nevada, New Mexico, Utah, Arizona and Wyoming.[85] Similarly, the limit for the 8-state "northwestern region" is based on only 4 cities, and excludes altogether any data from Hawaii, Alaska, Montana, North Dakota and Idaho.

6. The majority rejected using the most stringent EPFD level per region.

Given the majority's determination to section the entire nation into four large regions and the very limited number of data points within each region, the majority could have used the most stringent EPFD limit for the region. Instead, the majority *averages* the level of interference within that region based on those few cities within the multi-state region. Their averaging approach further distances the "10% starting point" from 10%.

7. The majority rejected using weighted averages for its EPFD calculations.

Given the majority's determination to base interference levels on data from a few major cities in each large region, they could have used weighted averages to reflect the population in a given city. For example, the EPFD limit for the 7-state southwestern region is based on the levels for three cities, including Los Angeles and Denver. Although Los Angeles has a population four times larger than Denver, they are given equal weight in the averaging process. I do not understand my colleagues' contention that weighted averaging "would only further diminish the weight given to the rural areas."[86] Given that no weight at all is given to rural areas, and data is only taken from the top 32 television markets, I am not sure how it is possible for the majority to even further diminish their consideration of rural areas. If the majority had included data from any rural area, as opposed to only data from the top 32 television markets, then I might agree to not include weighted averages.

[83] Appendix G at 158-160.

[84] Appendix G at 157-160.

[85] See Appendix G.

[86] Joint Statement of Chairman Powell and Commissioner Abernathy at 5, note 7.

As a result of this complex underinclusive, double-averaging approach, many DBS customers will, by the majority's own estimates, experience increased interference double and triple the 10% starting point. The majority attempts to justify the 20-30% interference increases on various grounds. First they state that the corresponding decrease in service unavailability is "only" 0.05-0.08%.[87] If the majority believes that "corresponding decrease in service availability" is a relevant test, then why not pick a strict number for an interference limit, instead of the loose "about in the range of 10% average approximate guideline"? Ironically, the majority has emphasized in the latest version of the item that "it is important to bear in mind that DBS is, on the whole, extremely reliable with typical service availabilities on the order of 99.8 to 99.9 percent."[88] That being the case, then even a 0.05-0.08% decrease in service availability significantly impacts the extreme levels of reliability that DBS licensees have invested billions of dollars to achieve. Indeed, as a practical matter, additional interference in the 20-30% range can mean increases in outages ranging from 300 to almost 3,000 minutes.[89] The majority next contends that additional interference in the range of 20-30% is "not significant" because there are "other factors," both in the control of DBS licensees and out of their control, which could result in similar or greater increases in unavailability.[90] It seems strange to justify sanctioning varying and high levels of MVDDS-induced interference simply because other factors may also be variable. The opposite should be true -- if other factors really do cause such large variability, then it is even more imperative to be as precise as possible when sanctioning additional interference caused by MVDDS. Finally, the majority states that increased unavailability in the 20-30% range is justifiable because such increases are "only" in the case of the satellite at 110.°[91] This is incorrect as a factual matter. The limited "additional city" sampling in Appendix G reflects that some customers in Hawaii obtaining service from the satellite at 101° will experience a 23.3% increase in outages.[92] Customers obtaining service from the satellites at 61.5° and 148° also will experience increased outages in the 20-30% range.[93] Furthermore, there is simply not enough analysis to determine whether customers in other locations will experience similar increases in outages.

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[87] Order at ¶ 84, note 210.

[88] Order at ¶ 67.

[89] See Appendix G.

[90] Order at ¶ 84, note 210.

[91] Order at ¶ 84, note 210. The majority states that this satellite will be replaced with a newer, higher-powered satellite.

[92] Appendix G at 160.

[93] Appendix G at 167.

I am forced to conclude that the majority's approach and implementation is not rationally related to actual interference levels, and thus the resulting EPFD limits are arbitrary and capricious. At the very least, the public deserves more precision. The Commission could have calculated interference based on service areas rather than multi-state regions. The Commission could have measured the effect of the worst performing satellite, rather than averaging the impact of three orbital slots. Indeed, neither the Further Notice nor the MITRE report proposed the rough approach reflected in today's Order.[94] The Further Notice asked whether the Commission should "allow MVDDS to cause *up to 10% increased unavailability*."[95] The Further Notice then applied the protection criteria to *each MVDDS transmitter* and did not discuss averaging.[96] Similarly, MITRE recommended a 10% increase in relative unavailability for each *service area,* and did not recommend averaging.[97] The majority fails to explain sufficiently why it rejected these recommendations and proposals.

[94] See Further Note, 16 FCC Rcd 4096, ¶¶ 266-276; MITRE Report at 6-5 – 6-7.

[95] Further Notice at ¶ 269.

[96] Id. at ¶ 270.

[97] MITRE Report at 6-5 - 6-7.