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August 13, 2001

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AUG 13 2001

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

VIA HAND DELIVERY

EX PARTE

Ms. Magalie Roman Salas
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: Ex Parte Communication in ET Docket No. 98-206; RM-9147; RM-9245; Applications of Broadwave USA et al., PDC Broadband Corporation, and Satellite Receivers, Ltd., to provide a fixed service in the 12.2-12.7 GHz Band; Requests of Broadwave USA et al. (DA 99-494), PDC Broadband Corporation (DA 00-1841), and Satellite Receivers, Ltd. (DA 00-2134) for Waiver of Part 101 Rules.

Dear Ms. Salas:

As noted in our August 8, 2001, ex parte letter to you, representatives of Northpoint Technology, Ltd., ("Northpoint") met on August 7, 2001, with Barry Ohlson, Thomas Stanley, and Michael Pollak of the Commission's Wireless Telecommunications Bureau in order to discuss technical issues in the above-captioned matters.

As a follow-up to that meeting, Northpoint is herewith sending the participants copies of a 2-page excerpt from the Technical Appendix to the Comments filed by Northpoint in ET Docket 98-206 on March 12, 2001. Northpoint wishes to draw particular attention to the discussion of variability of rain from year to year, which has been highlighted on the attached copy of pages 3 and 4 from the Technical Appendix.

Eighteen copies of this letter and its attachment are enclosed – two for inclusion in each of the above-referenced files. Please contact me if you have any questions.

Yours sincerely,

J. C. Rozendaal
Counsel for Northpoint Technology, Ltd.

cc: Barry Ohlson
Thomas Stanley
Michael Pollak

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Technical Appendix to

Comments of Northpoint Technology, Ltd.

on the

Further Notice of Proposed Rulemaking

in ET Docket No. 98-206

March 12, 2001

consumer has or has not, in fact, suffered a 2.86% increase in outage (or a 10-minute increase in outage).

Some might suggest that estimates of customer outages could stand in where no data exists. Estimates, however, cannot replace the missing baseline, due to the extreme level of precision that would be required. To understand the level of precision sought in the proposed criterion, consider that DBS claims their availability across the United States to be approximately 99.95%,[4] meaning that DBS claims it system is "unavailable" 0.05% of the time.[5] The primary cause of unavailability, according to DBS, is rain. Rain outages are distributed into a number of incidents throughout the year, (each of which might be only a few seconds long). A 2.86% increase for an individual receiver would thus be equal to a time interval calculated to be approximately 0.00143% of the year or seven minutes.[6] These seven minutes would further be subdivided into a number of incidents because rain events occur throughout the year. It should be clear that such events would be so rare and randomly distributed that measurement of them would be a major undertaking, a task which few are equipped to accurately perform.

Even if the FCC could use an estimated baseline and somehow detect that in a given year an individual receiver had seven minutes of more outage than the estimated baseline value, it would not be possible to reliably attribute this increased outage to Northpoint's operation. As mentioned previously, rain is the primary cause of DBS unavailability, and rain is highly variable from year to year. In fact, the most accurate rain models have a yearly variance of 30% or greater.[7] The explanation for increased outages in a given year could simply be increased rain in that particular year.[8] The variance in the model is an order of magnitude greater than the proposed

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4 *See* Annex B of "Report of Interference Impact on DBS Systems from Northpoint Transmitter Operating at Oxon Hill, MD," DirecTV Inc., and Echostar Satellite Corp., July 25, 2000, in ET Docket 98-206.

5 The difficulty of accurately calculating an estimate is also discussed in Section 2.4.

6 The precision required to measure a 2.86% increase of this amount of outage is 0.00143%, or seven-figure precision (0.0000143).

7 *See* Robert K. Crane, *Electromagnetic Wave Propagation through Rain*, at 110 (John Wiley and Sons 1996); *see also NASA Propagation Effects Handbook for Satellite Systems Design—Chapter 3: An Overview of Several Rain and Rain Attenuation Models, available at* http://propagation.jpl.nasa.gov/1082.html.

8 Another weakness of the use of the "increased outages" criterion is that NGSO-FSS may be responsible for some portion of the outages that might be attributed to Northpoint using this criterion.

criterion. The variability of rain events is a significant factor that adds further weight to the inadvisability of criteria based upon "increased outage".

Since actual availability and outages are unknown, they are always estimated based on certain assumptions such as hypothetical DBS system parameters and a given rain fade model. Such parameters and models are frequently changed. For example, with only the stroke of a pen and no corresponding changes in real-world phenomena, the recent update to the rain model contained in ITU recommendation 618-5 decreased the estimate of outage of DBS systems due to rain by an average of 28%.[9] Thus, it should be clear that, with each 'update' of the rain model, a different mitigation area would be defined. The same problem would apply with 'updated' DBS parameters, such as redefined antenna patterns or claimed changes in satellite effective isotropic radiated power (EIRP).

Northpoint must have a steady, unambiguous regulatory base on which to build a reliable system to serve the public. This base must provide Northpoint with defined allowable power levels that will not be reduced in the future to accommodate changes in propagation models or DBS system parameters. A sharing criterion based on 'increased outage' is a moving target that is a wholly unacceptable base for Northpoint's system deployment.

'Outage' And DBS Definition Of 'Unavailability' Are Not The Same

Another factor that must be noted in any discussion of an "increased outage" based criterion is the considerable difference between the conditions when a DBS subscriber will experience an actual "outage" and those that will cause the DBS system to be "unavailable" (as defined by DBS). This difference is more than semantic. It is crucial for the Commission to realize that for a significant fraction -- and even a majority in some cases -- of the time when DBS claims its system is "unavailable," the DBS consumer receiver is not exhibiting an outage or impaired picture of any kind.

DBS has allowed the Commission to consider "outage" and its definition of "unavailability" as equivalent states and also to accept its estimates of DBS availability and unavailability as the basis for calculating the proposed

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9 *See* Table D in Annex C.

CERTIFICATE OF SERVICE

I, Shannon Thrash, hereby certify that on this 13th day of August, 2001, copies of the foregoing were served by hand delivery* or first class United States mail, postage prepaid, on the following:

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