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Before the
Federal Communications Commission
Washington, DC 20554

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In the Matter of)
)
Amendment of Section 73.202(b),) MM Docket No. 02-177
Table of Allotments,) RM-10489
FM Broadcast Stations)
(Milano, Texas))

TO: Audio Division

PETITION FOR RECONSIDERATION

Pursuant to §405 of the Communications Act of 1934, as amended, 47 U.S.C. §405, Roy E. Henderson (hereinafter "Mr. Henderson") respectfully requests the Audio Division to reconsider and set aside the Report and Order, released in this proceeding May 21, 2004, insofar as that Report and Order purported to dismiss a counterproposal filed by Mr. Henderson to upgrade Station KLTR(FM) from Channel 297A to 297C3, and re-allot Channel 297C3 from Caldwell to Bédias, Texas. In support thereof, it is alleged:

1. Roy Henderson is the licensee of FM Broadcast Station KLTR(FM), Caldwell, Texas. Mr. Henderson filed a counterproposal proposing to relocate Station KLTR(FM) from Caldwell, Texas to Bédias, Texas, and upgrade the station from operation on Channel 297A to operation on Channel 297C3. To accommodate the upgrade and re-allotment, Mr. Henderson proposed to allot Channel 274A to Caldwell, Texas, as a replacement service. On May 21, 2004, the Assistant Chief of the Audio Division released a Report and Order, in which he dismissed Mr. Henderson's

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counterproposal because, allegedly, Mr. Henderson had not shown that the allotment of Channel 274A to Caldwell, Texas would provide the requisite coverage of that city.

2. To demonstrate coverage of the Caldwell community, Mr. Henderson's engineer, Douglas Vernier (hereinafter "Mr. Vernier"), submitted a Longley-Rice showing. In the past, upon information and belief, the Commission has always accepted Longley-Rice showings as being more accurate than the standard FCC F(50-50) prediction method.¹ Because Longley-Rice is much more precise, it has been assumed that if the Longley-Rice showing differed from the showing made on the basis of the 50-50 curves, the Longley-Rice showing was the more accurate and precise method. Indeed, as shown in Table I, below, Longley-Rice showings are either mandated or permitted by the Commission's Video Division, Cable Bureau, and Wireless Division. None of the Rules referenced in Table I make any reference to Delta h, *i.e.*, "terrain roughness factor." They simply assume that if there is a difference between the standard prediction method and Longley-Rice, Longley-Rice is the better method to use.

TABLE I		
Section No.		Mandatory or Permitted
73.613	Protection of Class A TV Stations	Permitted
73.622	DTV Table of Allotments	Mandatory
73.623	DTV Applications and Changes to DTV Allotments	Mandatory
73.683(d)	Eligibility for Retransmission of Distant TV Network Signals	Mandatory
74.703	LPTV and TV Translator Interface	Permitted
74.705(e)	Protection to Analog TV Stations	Permitted
74.707(e)	TV Station Protection	Permitted
76.59	Modification of CATV Markets	Permitted
90.619	Wireless Assignments in Mexican and Canadian Border Areas	Permitted

¹ In *Certain Minor Changes Without a Construction Permit*, 12 FCC Rcd 12371 (1997) at p. 12401-12403, the Commission indicated that it would allow the use of supplemental showings, *e.g.*, Longley-Rice, in the case of very flat, very rough, or *anomalous* terrain (emphasis supplied). Thus, the Commission did not indicate that the terrain had to have any particular value of Delta h, for Longley-Rice to be used.

3. Recently, however, the Audio Division seems to have adopted a policy of restricting the use of Longley-Rice to situations in which the Delta h is unusually low or unusually high. In an unpublished letter to Mark Lipp, dated August 8, 2002, a copy of which is attached, the Audio Division indicated that it would only allow Longley-Rice to be used where the Delta h has a value of 20 meters or less, or 100 meters or more. Even if that standard is applied here, however, Mr. Vernier did not err in using Longley-Rice. The Delta h on the path from the transmitter to the community is 15, which is unusually flat. In his Order, dismissing Mr. Henderson's counterproposal, the Assistant Chief of the Audio Division complains that Mr. Vernier did not calculate the Delta h for the radials on either side of the community. However, as indicated in the attached engineering statement, Mr. Vernier has now calculated those values on the path from the transmitter to the North edge of Caldwell, the Delta h is 10.3. On the path from the transmitter to the center far edge of Caldwell, the Delta h is 11.3. On the path from the transmitter to the South edge of Caldwell, the Delta h is a very flat 3.1.

4. Furthermore, as Mr. Vernier points out in his statement, he used the "first occurrence" calculated contour to demonstrate that the counterproposal "completely covers the city of Caldwell." The "first occurrence calculated contour" is the point along a radial from the transmitter at which Longley-Rice first calculates 70 dBu. This is the most conservative contour prediction along radials where the calculated Longley-Rice signal strength may go above and below the 70 dBu values as the distance from the transmitter gets greater.

5. In short, Mr. Vernier was entirely correct in asserting, on the basis of Longley-Rice, that Channel 274A will adequately cover the community of Caldwell,

Texas, and that Channel 274A may be allocated to Caldwell as a replacement service for the channel which is being moved from Caldwell to Bédias. Even if the Audio Division's unique policy of confining Longley-Rice showings to cases of unusually flat or rough terrain is applied here, the Division nonetheless erred in denying the counterproposal, because the terrain in question was, in fact, unusually flat.

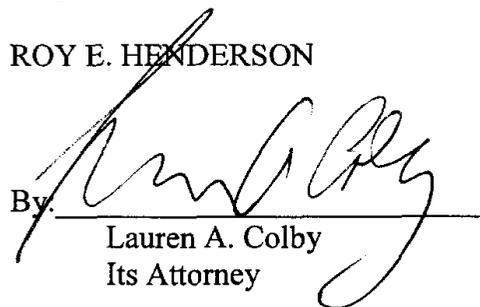
WHEREFORE, the premises considered, it is respectfully requested that the Audio Division reconsider and set aside its action, dismissing Mr. Henderson's counterproposal.

June 4, 2004

Law Office of
LAUREN A. COLBY
10 E. Fourth Street
P.O. Box 113
Frederick, MD 21705-0113

Respectfully submitted,

ROY E. HENDERSON

By: 

Lauren A. Colby
Its Attorney

Declaration:

I, Douglas L. Vernier, declare that I have received training as an engineer from the University of Michigan School of Engineering. That, I have received degrees from the University in the field of Broadcast Telecommunications. That, I have been active in broadcast consulting for over 30 years;

That, I have held a Federal Communications Commission First Class Radiotelephone License continually since 1964. In 1985, this license was reissued by the Commission as a lifetime General Radiotelephone license no. PG-16-16464;

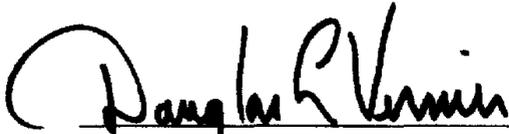
That, I am certified as a Professional Broadcast Engineer (#50258) by the Society of Broadcast Engineers, Indianapolis, Indiana. (Re-certified 10/2000.)

That, my qualifications are a matter of record with the Federal Communications Commission;

That, I have been retained by Roy Henderson to prepare the engineering showings appended hereto:

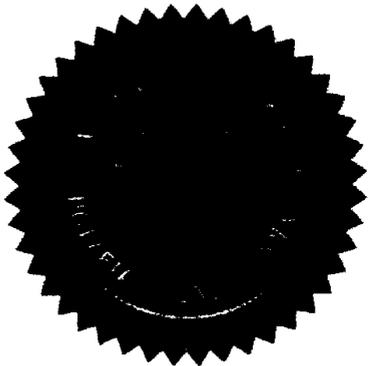
That, I have prepared these broadcast engineering showings, the technical information contained in same and the facts stated within are true of my knowledge;

That, under penalty of perjury, I declare that the foregoing is correct.

 Douglas L. Vernier

Executed on June 3, 2004

Subscribed and sworn before me this 3rd day of June, 2004




Notary Public in and for the State of Iowa



Engineering Statement
On Behalf of Roy Henderson
Calculation of Service Signal Contour to Caldwell, Texas

With regard to the Commission's Report and Order (MM Docket No. 02-177), we have been asked by Roy Henderson to provide this statement with regard of the extent of 70 dBu service provided to Caldwell, Texas by his counterproposal to substitute channel 274A in place of channel 297.

The Report and Order, states that; "Henderson did not show that the distances to the 70 dBu contour were in question using the F(50-50) curves due to terrain around the site departing widely from average rolling terrain assumed for those curves."

As the Report stated, we submitted information that the Longley-Rice calculated contour traveled more than 10% further than the FCC F(50-50) calculated contour. In fact, based on our calculations, the Longley-Rice, first occurrence, 70 dBu contour travels 17.6% further than the FCC calculated F(50-50) contour. We also reported the Delta h from the transmitter to the city was 15 (city center).¹ This, in itself, is a strong indication the terrain in a path from the transmitter to Caldwell is unusual and departs from the norm of 50. Coupled with the provided information that the Longley-Rice, first occurrence, 70 dBu contour travels more than 10% further than the same value FCC contour, we have strong evidence the terrain "departs widely." The Report and Order also stated that; "Henderson fails to demonstrate that the terrain around the site for Channel 274 at Caldwell departs widely, in excess of 50 meters Delta H." While we think we understand the Commissions point, we were not showing that the terrain varied in excess of 50, but we were showing the terrain varied less than 20, in other words, it was excessively flat, not rolling as the FCC curves assume. Since Caldwell is some 16 kilometers distance from the proposed allotment site, the arc between the middle of the city and its furthest edges is only 6.5 degrees. If the Delta h were calculated at 15 in the middle of the city, it stands to reason that there will be little

¹ In the Edward P. De La Hunt letter to Mark Lipp of August 8, 2002, (which was unknown to us at the time of our filing) the Commission stated that Longley-Rice could be used where the Delta h has a value of 20 meters or less. The letter also stated that; "Terrain roughness or delta-h was adopted by the Commission in 1975 as a measure of how local terrain departs from a reference of 50 meters." Further, the letter states; "The Staff has established, in coordination with the Office of Engineering and Technology (O.E.T.), the following guidelines to define "terrain departs widely". (1) Where delta h is used as the sole determinant that the terrain along a radial widely departs from the 50 meter standard, a delta h value of 20 meters or less, or 100 meters or more.

change to the edges of the city. In fact, our calculations show the relevant delta h figures as follows:

North edge:	Azi-Dist	Delta h
30 32 08 96 41 02	135.47 Deg 16.72 km	10.3
Center far edge:		
30 31 05 964131	141.68 Deg 17.72 km	11.3
South Edged:		
30 31 00 96 30 00	148.52 Deg 16.5 km	3.1

With regard to the Report's reference to the failure to analyze "terrain around the site" with regard to terrain roughness, we would like to point out that terrain "around the site" is not a factor in determining the delta h of a given radio path. Since we are determining whether the city of Caldwell receives a certain signal level, the only relevant terrain is between the transmitter and the city. Further, section 73.313 (g) states;

"If the lowest field strength value of interest is initially predicted to occur over a particular propagation path at a distance that is less than 50 kilometers from the antenna, the terrain profile segment used in the determination of terrain roughness factor over that path must be that included between points 10 kilometers from the transmitter and such lesser distances. No terrain roughness correction need be applied when all field strength values of interest are predicted to occur 10 kilometers or less from the transmitting antenna."

With regard to the validity of Longley-Rice we make the following observations:

The FCC method is known for its weaknesses. The reasons for this are many; however perhaps the largest reason is the way the method considers terrain. The method assumes the terrain along the path will fall into the norm assumed when the tables were originally conceived. When paths are excessively flat or excessively rugged the accuracy of method breaks down.

In the mid-sixties, the National Bureau of Standards published "*Technical Note 101*". P. L. Rice, A. G. Longley, A. Norton and A. P. Barsis authored this two-volume propagation treatise in the course of their work at the Institute for telecommunications Sciences and Aeronomy at Boulder, Colorado. The concepts

expressed in these documents were incorporated into a series of computer routines that came to be known as the "Longley-Rice Model". This model has been extensively employed by the Commission for broadcast television and particularly digital television. It has now become the standard alternative prediction method. Going well beyond the FCC curves, the Longley-Rice method considers atmospheric absorption including absorption by water vapor and Oxygen, loss due to sky-noise temperature and attenuation caused by rain and clouds. It considers terrain roughness, knife-edge, (with and without ground-reflections), loss due to isolated obstacles, diffraction, forward scatter and long-term power fading. The Longley-Rice Model is also known as the Irregular Terrain Model (ITM.) Our application of this model uses Version 1.2.2 of the Irregular Terrain Model.

For our analysis we applied the Longley-Rice propagation model in conjunction with the USGS 03-arc second terrain elevation dataset. Also applied were TSB-88 standard land attenuation values for the land use type ((based on the USGS database) and the frequency in use. These were as follows:

<i>Land use type</i>	<i>Attenuation in dB</i>
Open Land	2.0
Agricultural	2.5
Water	0.0
Forest	5.5
Wetland	2.0
Urban	10.0
Snow & Ice	0.0
Unknown	0.0

While the FCC typically accepts Longley-Rice analysis without the use of land attenuation values, we have taken the conservative approach with our analysis and have included this reduction in the predicted signal.

Attachment A is the Longley-Rice study used for our initial filing. It clearly shows Longley-Rice predicted 70 dBu coverage easily encompasses the entire city of Caldwell. This map shows the Longley-Rice calculated 70 dBu contour based on the first occurrence of the 70 dBu signal and therefore is further evidence that our approach does not overestimate the signal contour by selecting the more liberal mean value signal contour or the last occurrence signal contour.

Consequently, we reiterate that the engineering we initially provided clearly shows that the terrain varies widely because it is excessively flat and that the entire city of Caldwell is served by a 70 dBu signal or better.

Attachment B is a statement of my qualifications.

Doug Vernier
June 3, 2004

Longley-Rice First Occurrence - 2.5 dB Landcover

RADD

Latitude: 30-38-35 N
 Longitude: 096-48-22 W
 ERP: 6.00 kW
 Channel: 274
 Frequency: 102.7 MHz
 AMSL Height: 231.398 m
 Elevation: 142.47 m
 Horiz. Pattern: Omni
 Vert. Pattern: No
 Prop Model: Longley/Rice
 Climate: Cont temperate
 Conductivity: 0.0020
 Dielec Const: 15.0
 Refractivity: 311.0
 Receiver Ht AG: 9.1 m
 Receiver Gain: 0 dB
 Time Variability: 50.0%
 Sit. Variability: 50.0%
 ITM Mode: Broadcast
 Terrain: USGS 03-arc Second

Land Cover Attenuations

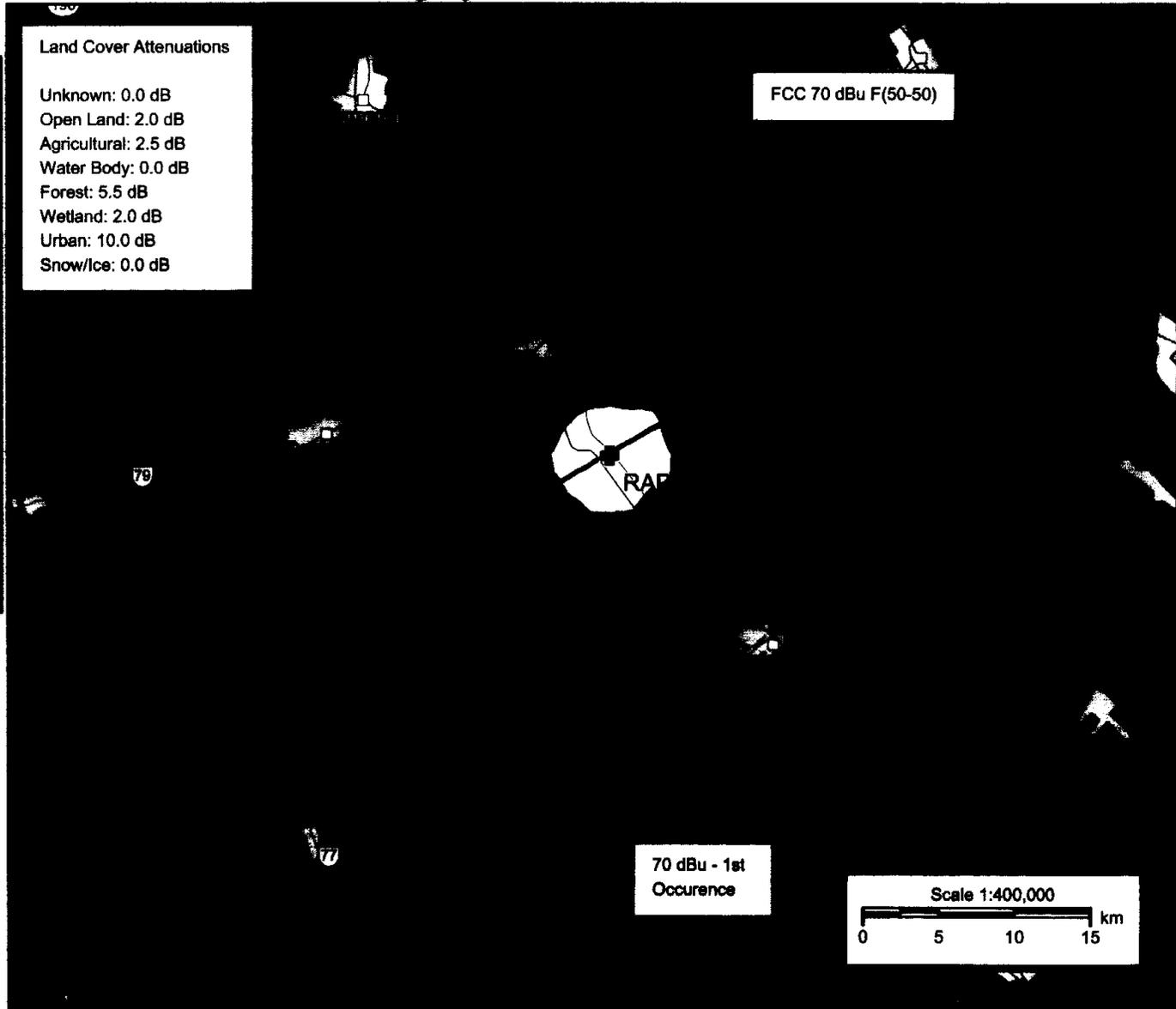
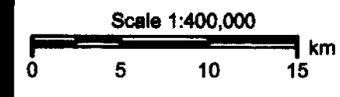
Unknown: 0.0 dB
 Open Land: 2.0 dB
 Agricultural: 2.5 dB
 Water Body: 0.0 dB
 Forest: 5.5 dB
 Wetland: 2.0 dB
 Urban: 10.0 dB
 Snow/Ice: 0.0 dB

FCC 70 dBu F(50-50)

- > 100.0 dBu
- 80.0 - 100.0
- 70.0 - 80.0
- 60.0 - 70.0
- 40.0 - 60.0


Doug Vernier
 721 West 1st Street, Suite A
 Cedar Falls, Iowa 50613
 Telecommunications Consultants

70 dBu - 1st Occurrence



FEDERAL COMMUNICATIONS COMMISSION

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WASHINGTON DC 20554

MEDIA BUREAU
AUDIO DIVISION
TECHNICAL PROCESSING GROUP
APPLICATION STATUS: (202) 418-2730
HOME PAGE: www.fcc.gov/mb/audio/

PROCESSING ENGINEER: Dale Michel
TELEPHONE: (202) 418-2700
FACSIMILE: (202) 418-1411
MAIL STOP: 2-2440
INTERNET ADDRESS: dmichel@fcc.gov

August 8, 2002

Mr. Mark Lipp
Shook, Hardy & Bacon, L.L.P.
Suite 800
600 14th Street NW
Washington, D.C. 20004-2004

In re: KMAJ-FM, Topeka, Kansas
Cumulus Licensing Corp.
Application BPH-20000316ACF
Facility ID No. 42012

Dear Mr. Lipp:

We have before us the above-captioned application for KMAJ-FM, Topeka, KS. The application seeks to downgrade the station from Class C to C1 and change transmitter site.¹

The proposed facilities will not provide 70 dBu coverage to at least 80% of Topeka, KS (the community of license) as required by 47 CFR Section 73.315, using the standard contour prediction method in Section 73.313. Recognizing this shortfall, the application includes a supplemental analysis based on the Longley-Rice prediction method. The analysis shows that for each radial toward Topeka (spaced at 1° intervals), the distance to the contour is extended by at least 28.5% as compared to the values obtained by use of the standard contour prediction method. The analysis finds that the terrain between the transmitter site and Topeka is "excessively flat" with Δh (terrain roughness) values ranging from 39.7 to 45.0 meters.² The application concludes that all of Topeka will be contained within the 70 dBu contour.

In 1997, the Commission indicated that it was willing to consider supplemental showings in the context of coverage of the community of license (Section 73.315).³ The Commission established several guidelines for such analyses, which are as follows:

- (1) an explanation of why use of a supplemental showing is warranted (e.g., very flat, very rough, or anomalous terrain), and a showing how the terrain departs widely from the average terrain assumed for the R(50,50) propagation curves in 47 C.F.R. Section 73.333 for FM stations (see 47 C.F.R. Section 73.313(e) for FM or 47 C.F.R. Section 73.699 for TV stations (see 47 C.F.R. 73.624(f) for TV));

¹ The application was amended April 3, 2002 to change transmitter site by 4.3 km.

² Terrain roughness or Δh (delta-h) was adopted by the Commission in 1975 as a measure of how local terrain departs from a reference value of 50 meters. The 50 meter value represents an average value for terrain in the United States. A smaller Δh represents flatter-than-average terrain. *Field Strength Curves*, Dockets 16004 and 18052, FCC 75-636, 53 FCC 2d 855 (1975). The use of the terrain roughness factor was later suspended because of occasional atypical results. *Temporary Suspension of Certain Portions of Sections 73.313, 73.333, 73.684, and 73.699*, FCC 75-1226, 56 FCC 2d 749 (1975). The suspension remains in effect today.

³ *Certain Minor Changes Without a Construction Permit*, FCC 97-270, 12 FCC Red 12371 (1997) at 12401 - 12403 (paragraphs 67-72).

- (2) a showing that the distance to the 70 dBu contour as predicted by the supplemental method is at least 10% larger than the distance predicted by the standard contour prediction method (47 C.F.R. Section 73.313(c) and (d) for FM stations or 47 C.F.R. Sections 73.684(c), (d), and (g) for TV stations); [footnote omitted]
- (3) coordinates of the proposed main studio location for showings of compliance with 47 C.F.R. Section 73.1125;
- (4) a map showing the relative locations of the main studio location, or legal boundaries of the community of license, and the principal community contours as predicted by the standard and supplemental contour prediction methods;
- (5) a list of assumptions and an explanation of the method used in generating the supplemental analysis;
- (6) sample calculations using the supplemental procedure.

This application fails to establish that the terrain between the transmitter site and the community "departs widely". The Δh values given in the application (ranging from 39.7 to 45.0 meters) are sufficiently close to the 50 meter average assumed in the construction of the standard contour prediction method. No other justification was provided.⁴ On the basis of the information provided, we cannot conclude that use of a supplemental showing is warranted in this instance.

Pursuant to 47 C.F.R. § 73.3522(a)(6), "an applicant whose application is found to meet the minimum filing requirements but nevertheless is not complete and acceptable shall have the opportunity in the 30-day period specified in the staff's deficiency letter to correct all deficiencies in the readability and acceptability of the underlying application, including any deficiency not specifically identified by the staff." Additionally, 47 C.F.R. Section 73.3564(a) states that "[a]pplications with uncorrected tender and/or acceptance defects remaining after the opportunity for amendment will be dismissed with no further opportunity for corrective amendment." See Appendix B in the *Report and Order* in MM Docket 91-347, 7 FCC Rad 5074, 57 Fed. Reg. 34872, released July 27, 1992. This letter constitutes your opportunity for corrective amendment pursuant to 47 C.F.R. § 73.3522(a)(6). You must provide sufficient information to justify use of the supplemental showing or resolve the issue by some other means. The amendment must be electronically filed no later than 30 days from the date of this letter. Failure to timely file an amendment will result in the dismissal of the application pursuant to 47 CFR Section 73.3568.

Sincerely,



Edward P. De La Huet
Associate Chief, Audio Division
Office of Broadcast License Policy
Media Bureau

cc: Cumulus Licensing Corp.
: Virgie Leon Strickland

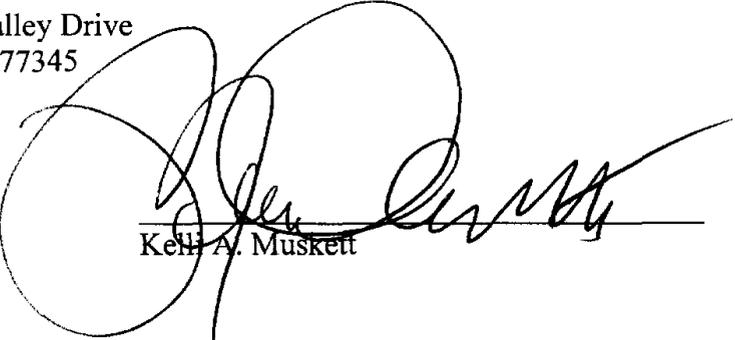
⁴ The staff has established, in coordination with the Office of Engineering and Technology (O.E.T.), the following guidelines to define "terrain departs widely":

- (1) Where Δh is used as the sole determinant that the terrain along a radial widely departs from the 50 meter standard, a Δh value of 20 meters or less, or 100 meters or more.
- (2) Where the antenna height above average terrain (HAAT) along radials toward the community of license (using an extended radial) varies by more than 30% from the HAAT obtained from the standard method of determining HAAT along a radial. In this context, the standard method requires the averaging of the radial elevation for at least 50 equally spaced points between 3 and 16 km from the transmitter site. The "extended radial" includes additional points between 16 km and the community of license, using the same point spacing as for the 3 to 16 km section.

CERTIFICATE OF SERVICE

I, Kelli A. Muskett, a secretary in the law office of Lauren A. Colby, do hereby certify that a copy of the foregoing has been sent via first class, U.S. mail, postage prepaid, this 4th day of June, 2004, to the offices of the following:

Maurice Salsa
5615 Evergreen Valley Drive
Kingwood, Texas 77345



Kelli A. Muskett