

## AMENDMENT TO BPH-20020611AAM

This amendment is being filed in response to the letter from the Commission's Staff dated September 30, 2002 seeking additional information ("Letter Request"). The Letter Request sought information in two areas: (1) the use of a supplemental showing pursuant to Section 73.313(e) in connection with Section 73.315 (the community coverage rule); and (2) the registration of the proposed tower. Each of these requests is addressed in turn, in Sections II and III below.

This amendment amends the following questions of the pending application:

(i) Section III-B Question 5 – Antenna Structure Registration Number

(ii) Section III-B, Question 14 – Community Coverage

### **I. Requirements for The Use of a Supplemental Showing Pursuant to Section 73.313(e).**

Section 73.313(e) permits a "supplemental showing" to be made, using a method other than the Commission's standard F(50,50) contour prediction method, "where the terrain in one or more directions from the antenna site departs widely from the average elevation of the 3 to 16 kilometer sector." 47 C.F.R. § 73.313(e). In 1997, the Commission formulated its policy with regard to the use of such supplemental showings in connection with a demonstration of community coverage. Pursuant to that policy, a supplemental showing must include:

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

(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 to the 70 dBu contour of the standard contour prediction method;

(3) 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;

(4) a list of assumptions and an explanation of the method used in generating the supplemental analysis; and

(5) sample calculations using the supplemental procedure.<sup>1</sup>

The applicant's showing with respect to these five items is given in Section II below. However, before setting forth its response, the applicant wishes to address one further

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<sup>1</sup> *Certain Minor Changes in Broadcast Facilities Without a Construction Permit*, 12 FCC Rcd 12371 (1997).

issue. The Letter Request states, in footnote 2, that the staff considers that the phrase “terrain departs widely” in paragraph (1) above specifically means a delta-h of 20 or less, or 100 or more.<sup>2</sup> For the reasons set forth below, this new “20-100” rule is procedurally and substantively invalid, and the applicant does not believe it should be required to comply with it. Nevertheless, as shown in Section II below, the terrain in the instant application varies widely even according to the 20-100 rule.

**A. The 20-100 Rule Is Invalid Because It Was Not Adopted with Proper Procedures.**

As an procedural matter, the staff are without authority to create this new 20-100 rule. The staff cannot do so without a grant of delegated authority, and the Commission has not granted the staff the authority to make such a rule. Moreover, for the Commission to grant such authority would violate the Administrative Procedure Act (“APA”) for two reasons. First, the Commission formulated its rules with respect to supplemental showings in a rule making proceeding, and the Commission cannot change rules promulgated in that manner without invoking rule making procedures.<sup>3</sup> Significantly, the Commission stated in the 1997 Report and Order that it would *not* set standards for supplemental showings beyond the five numbered guidelines set forth above.<sup>4</sup> However, contrary to the Commission’s informed decision in that proceeding, the staff *have* attempted to set further standards for such showings. Acting in this manner circumvents notice-and-comment rule making procedures, and is thus unlawful.

Second, it would amount to an abuse of discretion for the Commission to formulate the 20-100 rule -- a rule of general applicability -- in a licensing decision such as this one. *See NLRB v. Bell Aerospace Co.*, 416 U.S. 267, 294 (1974). The Commission already has an ongoing rule making proceeding in which the adoption of the 20-100 rule could be raised in a proper procedural context.<sup>5</sup> It should propose the rule there and solicit public comment before making a change with such a potentially widespread effect.

**B. The 20-100 Rule Is Without a Proper Substantive Foundation.**

The substantive value of the 20-100 rule is also in doubt. While the general concept of “delta-h” may be a relevant factor in determining whether terrain varies widely, there is no clear rule prescribing how delta-h should be calculated in a specific case. The concept of delta-h was introduced in 1975 as a measure of terrain roughness, and codified in Sections

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<sup>2</sup> As an alternative, the staff would permit a showing involving an “extended radial,” including points in the range from 16 kilometers from the transmitter site to the community. This alternative is nearly worthless for a Class A facility, for which the 70 dBu contour distance is already approximately 16 kilometers.

<sup>3</sup> *Molycorp, Inc. v. EPA*, 197 F.3d 543, 546 (D.C. Cir. 1999).

<sup>4</sup> *Certain Minor Changes in Broadcast Facilities Without a Construction Permit*, *supra*, 12 FCC Rcd at 12403 [¶ 72]. A sixth item in the original list, the coordinates of the proposed main studio location, is not at issue here.

<sup>5</sup> *See Streamlining of Radio Technical Rules in Parts 73 and 74 of the Commission’s Rules, Second Report and Order*, 15 FC Rcd 21649, 21650 (2000).

73.313(f)-(g) and the associated Figure 4.<sup>6</sup> However, as the Letter Request notes, Sections 73.313(f)-(g) and Figure 4 are currently without force, having been suspended shortly after their adoption.<sup>7</sup> Accordingly, they cannot be relied upon as the basis for any new rule.

Moreover, even if those suspended rule sections are to be taken as a guide, the procedure set forth therein for calculating delta-h bears little relationship to the relevant terrain in this case. Since the 70 dBu contour from this Class A facility is predicted to fall approximately 25 kilometers away from the transmitter site, Section 73.313(g) (if it were deemed to be in force) would prescribe an examination of the terrain segment between 10 and 25 kilometers from the transmitter site for computing delta-h. However, this procedure would ignore the terrain segment from 3 to 10 kilometers from the transmitter site, which constitutes approximately 32% of the terrain affecting the signal propagation in the direction of the community. This terrain segment clearly has great relevance to the propagation of the signal from a Class A or C3 station. Indeed, as shown in the exhibits attached hereto, calculations using the full relevant terrain segment from 3 to 25 km in the case of the instant application exhibit a much lower variance in the delta-h values between the radials of interest, and thus a greater degree of reliability, than calculations using the truncated terrain segment between 10 and 25 km.

**C. The Adoption of a 20-100 Rule has Policy Implications that the Commission Should Take into Consideration.**

Even if the Commission were to propose the 20-100 rule properly in a notice-and-comment rule making proceeding, it should not be adopted because it would be bad policy. Terrain with a roughness factor of 20 or less or 100 or more is rarely found in the United States. Much of the land that satisfies one or the other of these criteria is uninhabitable or unsuitable for tower construction. By applying such an extreme requirement, the Commission will certainly exclude many applications that would otherwise be acceptable and provide excellent service to the public.

An applicant faced with zoning or FAA constraints, particularly where a tall tower is needed, and who would be able to provide service to the community but for the extreme 20-100 requirement, may be forced to file a petition for rule making to change its community of license. Thus, the effect of the 20-100 rule will be to create a large number of new requests for change of community of license that would otherwise not need to be filed. Unfortunately, processing a series of requests for change in community of license will have a much more deleterious effect on the Commission's administrative resources than simply processing the Section 73.313(e) supplemental showings in the first place. A change in community of license is handled by rule making, a process that consumes a far greater amount of time and staff resources than an application. Even uncontested rule making requests can take up to a year for decision, while routine applications take about 4 months. And a change in community of license is rarely uncontested, resulting in the consumption of even more administrative resources and delay in the provision of service to the public.

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<sup>6</sup> See *Report and Order in Docket Nos. 16004 and 18052*, 53 FCC 2d 855 (1975).

<sup>7</sup> *Temporary suspension of certain portions of Sections 73.313, 73.333, 73.684 and 73.699 of the Commission's Rules and Regulations*, 56 FCC 2d 749 (1975).

**D. The 20-100 Rule Should Not Be Applied Retroactively to the Instant Application.**

Finally, even if the procedural and substantive infirmities of the 20-100 rule were ignored, the rule should not be applied retroactively to this application. On information and belief, the 20-100 rule was first announced in a letter to Cumulus Licensing Corp. dated August 8, 2002.<sup>8</sup> This application was filed on June 11, 2002, two months before the rule was first announced. Fundamental fairness dictates that the Commission should not apply a new rule to applications properly on file before the rule was adopted.<sup>9</sup> The applicant had no reason to anticipate a rule change with respect to its Section 73.313(e) supplemental showing, and had every reason to expect that its showing would receive similar treatment to other applications recently processed and granted by the Commission without mention of a 20-100 rule.

**II. Applicant's Response To Request for Information Regarding Supplemental Showing Pursuant to Section 73.313(e).**

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

The area between the transmitter site and the community of Strasburg, Colorado is prairie, used primarily for pasture land. Because the slope is slightly concave with respect to the path from the proposed tower to a hypothetical receive antenna in Strasburg, there is complete line-of-sight coverage over all of Strasburg. In fact, at no point along the radials that cross Strasburg is the ray from the antenna ever any nearer to the earth's surface than 10 meters, and in most locations it is considerably higher. See terrain profiles. It is virtually all downhill from the tower to the town.

The F[50,50] curves presume that terrain will vary above and below an imaginary plane which represents "flat earth." This variation above and below, in most parts of the country, results in slight or partial obstruction of the ray from the antenna to the community. Such is not the case for KAGM and Strasburg. For these reasons, the assumptions underlying the F[50,50] curves do not adequately predict the distances to the 70 dBu contour along the bearings toward Strasburg.

KAGM is a Class A facility with a predicted 70 dBu contour distance of approximately 16 kilometers. For this reason, the terrain segment between 3 kilometers from the

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<sup>8</sup> See Letter from Dale Bickel to Mark Lipp, in re KMAJ-FM, Topeka, Kansas, File No. BPH-20000316ACF.

<sup>9</sup> See *Taccoa, Sugar Hill, and Lawrenceville, Georgia*, 16 FCC Rcd 21191 (2001) (policy of not allowing counterproposals by petitioner applied prospectively); *Winslow, Camp Verde, Mayer, and Sun City West, Arizona*, 16 FCC Rcd 9551 (2001) (policy of not allowing alternative rule making proposals applied prospectively); *Headland, Alabama and Chattahoochee, Florida*, 10 FCC Rcd 10352 (1995) (policy regarding communities located near an urbanized area applied prospectively).

antenna and the community boundary is the most relevant segment in determining the received signal level over the community.<sup>10</sup> The attached exhibits demonstrate that along the radials from the antenna to the community, the delta-h values computed from the relevant terrain segment are between 118 meters and 136 meters, easily satisfying the 20-100 standard discussed above.

(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 to the 70 dBu contour of the standard contour prediction method.*

A comparison of the predicted signal level at each 0.5 km on each one-degree radial bearing towards Strasburg is attached. For each bearing, the F[50,50] distance is listed, and the percentage difference is calculated. All are well in excess of the 110% threshold.

(3) *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.*

A revised map showing both the F[50,50] and the alternative propagation method predicted contours is included, labeled Community Coverage Map Exhibit Amendment. Using the alternative propagation method, more than 80% of the community is covered by the principal community contour. Therefore, this application demonstrates substantial compliance under Commission policy with Commission's community coverage requirement. *See Certain Minor Changes in Broadcast Facilities Without a Construction Permit*, 12 FCC Rcd 12371, 12380 [¶ 11] (1997).

(4) *a list of assumptions and an explanation of the method used in generating the supplemental analysis.*

The individual radials are analyzed at 0.5 km intervals, tabulating the distance, the free space losses, the ITM loss, and the predicted field in dBu for each such interval. Finally, there is a "key" tabulated, which is a flag to indicate a point where the propagation parameter assumptions are not reliable. A zero indicates that the algorithm was successfully executed for the associated point. Results other than zero indicate possible error. A table of these error conditions is at the bottom of the contour distance tabulated results.

The results are computed on a PC using code that has been adapted (translated to Microsoft QBASIC) from the published Fortran version of Longley-Rice v1.2.2.

Parameters are consistent with the reliability quantile adopted by the FCC in connection with the F[50,50] curves, i.e., 50% of locations and 50% of the time. Dimensional

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<sup>10</sup> Using the method described in Sections 73.313(f)-(g), only the terrain segment from 10 kilometers to the community boundary would be considered. Restricting the terrain roughness calculation to this segment leads to inaccurate results for the reasons described above. Moreover, these rule sections currently are suspended and without effect, and cannot be relied upon. However, even restricted in this manner, the delta-h values are as large as 95 meters, which meets any reasonable definition of "departs widely" from the 50 meter norm.

values (receive antenna height, for example) are also consistent with those used by the F[50,50] curves.

Earth surface refractivity is assumed at 300 N-units. Climate is Continental Temperate.

(5) *sample calculations using the supplemental procedure.*

The calculation process is described in detail in the attached paper by George Hufford, "The ITS Irregular Terrain Model, version 1.2.2, The Algorithm." The computational methodology behind this model is well known to the FCC. *See, e.g., Establishment of an Improved Model for Predicting the Broadcast Television Field Strength Received at Individual Locations*, 15 FCC Rcd 12118 (2000), Appendix A (describing Longley-Rice v1.2.2). Following a telephone call between Frank McCoy and Michael Mehigan, it was determined that the foregoing description sufficed in lieu of sample calculations.

### **III. Applicant's Response to Tower Registration Requirement**

An application for approval of the tower site on Form 7460 was filed with the FAA. A follow-up examination of the information available revealed that the FAA was unaware of this application. The applicant presumes that its previously filed application was lost or misplaced after submission. A duplicate application has been prepared and filed with the ASW office of the FAA.

As soon as possible after the FAA issues a Determination of No Hazard, the applicant will register the tower and will add the Tower ID number to the application. The applicant regrets any inconvenience this delay may have caused.