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October 20, 2000

Magalie Roman Salas
Office of the Secretary, TW-A306
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

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Re: **Petition for Reconsideration**

Responding to Memorandum, Opinion and Order (MO&O)

Creation of a Low Power Radio Service
MM Docket No. 99-25

RM-9208
RM-9242

Dear Ms. Salas:

I have enclosed an original and ten copies (two in color and eight black and white) of my formal Petition for Reconsideration in response to the Commission's *Memorandum, Opinion and Order* in the above captioned proceedings.

Please contact the undersigned if any questions should arise.

Respectfully Submitted,

Alan W. Jurison

Enclosures

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List ABCDE

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	MM Docket No. 99-25
Creation of a Low Power Radio Service	)	RM-9208 RM-9242

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PETITION FOR RECONSIDERATION

Pursuant to Section 1.429 of the Commission's rules and regulations, I, Alan W. Jurison am filing this Petition for Reconsideration ("Petition") in response to the Memorandum Opinion and Order ("MO&O") released September 28, 2000 by the Commission regarding Low Power FM ("LPFM") services on the FM Broadcast Band. For the record, I filed formal comments in this matter on July 19, 1999 and a Petition for Reconsideration ("Original Petition") on February 19, 2000.

Protection of Grandfathered Stations

Background. In the Order, the Commission outlined approximately 20 "grandfathered superpowered" stations operating in the reserved band which will receive protection to "distance separations for the class of station that most closely approximates its facilities."[1] The Commission outlines the 23 specific stations and their "LPFM Protection Class" in Appendix B of the Order.

In my Original Petition, I provided a basic mathematical analysis to indicate that the interference received by the LPFM station from a superpowered station will be intolerable. I stated that protecting LPFM operators from superpowered stations would not significantly reduce the amount of available LPFM allotments and petitioned for the Commission to extend this protection to *all* existing grandfathered superpowered stations regardless of commercial or non-commercial nature.[2]

The Commission states in the MO&O that I did not establish "sufficient justification for requiring LPFM stations to provide non-reserved band superpowered stations with greater protection than that being currently provided by existing full service

[1] *See* Report and Order at ¶ 70.

[2] *See* Petition for Reconsideration of Alan W. Jurison (February 19, 2000) at 2-3.

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stations."[3] The Commission did recognize that interference can occur when using its distance separation tables but stated "[i]t will be the LPFM applicant's responsibility to consider the facilities of nearby superpowered stations when considering its choices for site and/or frequency."[4]

Technical Analysis. In an effort to provide "sufficient justification" to my claim that non-reserve band superpowered stations should have increased distance separation requirements to prevent interference, I performed a contour analysis based on the current LPFM rules using a station I am intimately familiar with, WNTQ(FM) in Syracuse, NY. WNTQ is a grandfathered Class B station with an effective radiated power ("ERP") of 97kW and Height Above Average Terrain ("HAAT") of 201 meters. A Class B maximum facility has an ERP of 50kW and HAAT of 150 meters.[5]

Because the Commission does not recognize commercial grandfathered facilities in the LPFM rules, the minimum distance separation required for a co-channel 100-watt LPFM station to any Class B station is 112km, or about 70 miles.[6] For WNTQ, I know this is inadequate because it can be easily heard 70 miles to the North. The signal will also scan on many car radios at this distance. I picked a site 113km or 71 miles away and performed a contour analysis.[7] **See Figure 1**.

Using standard Commission contour methodology, In Figure 1, the 40dBu F(50,10) interfering contour of WNTQ (marked in red) should not cross the 60dBu F(50,50) protected contour of the LP-100 station (marked in blue)[8]. Note that the interfering contour of WNTQ completely passes over into the service area of the LP-100's blue contour by over 40 miles. The LPFM station will be trampled by WNTQ. Severe interference will result.

Likewise, the 34dBu F(50,10) interfering contour of the LP-100 station (marked in red) should not cross the 54dBu F(50,50) "protected"[9] contour of WNTQ (marked in blue). Yes, there will be interference in the outer fringe coverage of WNTQ, but very limited in scope compared to the drastic effect WNTQ will have on the LPFM station.

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[3] *See* Memorandum Opinion and Order at ¶ 55.

[4] *Ibid.*

[5] *See* 47 C.F.R. § 73.211(b)(1).

[6] *See* 47 C.F.R. § 73.807(a)(1).

[7] In reality, the site picked cannot fit an LP-100 station because of adjacent channel issues. However, if adjacent stations did not exist, current rules would permit an LP-100 station at this location.

[8] *See* 47 C.F.R. § 73.215(a)(1) and (2).

[9] I use "protected" loosely as grandfathered facilities are only protected to the maximum distance allowed by a regular station of its class, in this case, a Class B station, 65.1km or about 40 miles. *See* 47 C.F.R. § 73.207 and § 73.215 where applicable.

Using a secondary example, KBIG-FM is a grandfathered Class B station with an ERP of 84kW and HAAT of 882 meters. While KBIG is a Class B station, its facilities actually exceed a full Class C. I selected a site that fit the spacing requirements to KBIG by being 116km (72 miles) on the same frequency.[10] **See Figure 2.**

In Figure 2 the majority of the LPFM station's 60dBu protected contour (blue) is *inside* the KBIG predicted "protected" 54dBu contour (blue). The 40dBu interfering contour (red) of KBIG extends an additional 70 miles past the LP-100 station. And the 34dBu interfering contour (red) of the LP-100 station not only crosses the KBIG protected contour, but comes close to its predicted 70dBu City-Grade contour (black). Severe interference to both stations will exist. Interference to LP-10 stations would be much worse.

Discussion and Requests. These two examples *clearly* show that the distance separation tables for LPFM stations are inadequate when a superpowered facility is in the equation. Any regular application filed with the Commission with similar interference would be rejected because these combinations grossly exceed existing interference standards. The Commission needs to extend protection to *all* grandfathered superpowered stations that significantly exceed their licensed class facilities[11]. Both stations used in the examples above should be protected as Class C stations in regards to LPFM allocations. Not protecting grandfathered superpowered stations from LPFM stations and vice versa is simply bad engineering practice. The laws of physics will prevail, interference will happen whether the signal is on the reserved or non-reserved band.

One of the primary duties of the Commission is to prevent interference[12], yet it is refusing to accept an active role regarding commercial superpowered stations when the Commission is aware of the possibility of interference[13]. The Commission has made special provisions to help prevent interference for over 200 stations carrying radio-reading services as well as 23 grandfathered superpowered reserved band stations. With fewer than 150 of these superpowered stations on the commercial band, the Commission would not be burdened by protecting the service areas of the grandfathered station or the inappropriately short-spaced LPFM station. The Commission *must* protect the integrity of the FM broadcast band and not shift this responsibility to the novice applicants of LPFM stations. It is the Commission's responsibility to play an *active* role in preventing interference.

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[10] Again, no spacing study was performed in regards to adjacent channels. Figure shows what rules would permit assuming there are no adjacent spacing issues.

[11] Grandfathered stations on the commercial band with facilities slightly increased over the maximum class restrictions could be excluded from such an exemption, as it would cause only incrementally more interference than a station of maximum facilities. (i.e.: with predicted protected contours 1km or less than that of the protected contour of a maximum facility in its class.)

[12] *See* 47 U.S.C. § 303(f).

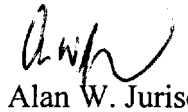
[13] *See* Memorandum Opinion and Order at ¶ 55.

In its effort to provide a "stable and enduring"[14] LPFM service, the Commission is unfairly leading some LPFM applicants on the road to disaster. One of the Commission's concerns throughout this proceeding has been to relieve burdens for LPFM operators that other broadcasters must adhere to[15]. However, at the same time the Commission is burdening LPFM applicants with responsibility to perform a complex and expensive signal analysis to ensure they are not in the path of a superpowered station. Most LPFM applicants are unfamiliar with the technical side of broadcasting and will be unable to identify, much less understand the consequences of locating near a grandfathered superpowered station. A LPFM station will receive large amounts of interference if permitted to operate in the shadow of many of these superpowered stations, as the current rules permit. LPFM applicants should not be handed this liability, as it is much greater than the "burdensome" public file and ownership report requirements they are excluded from. The Commission is misleading LPFM applicants by granting a license in such situations.

Conclusion

This Petition for Reconsideration seeks to protect LPFM applicants from being in the path of a grandfathered superpowered station on the non-reserved band. The Commission should not permit such imprudent authorizations. Please do not cause disservice to existing broadcasters, future LPFM operators and the public by ignoring this issue. I urge the commission to correct this problem before commencement of LPFM services.

Respectfully Submitted,



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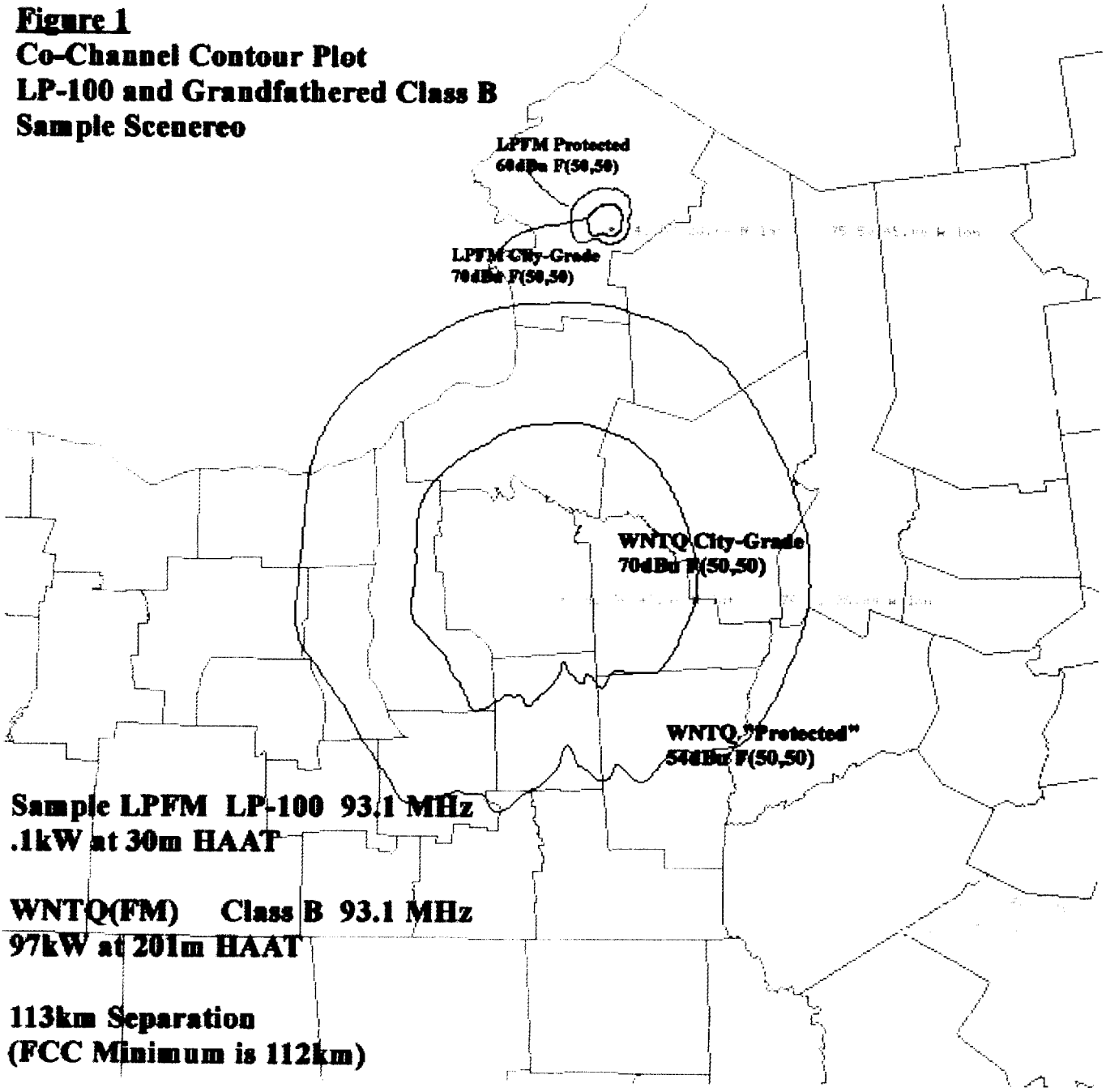
[14] *See* Report and Order at ¶ 62.

[15] I.e.: Omission of public file and ownership reports *See* MO&O at ¶ 101, and extra modulation requirements at ¶ 32.

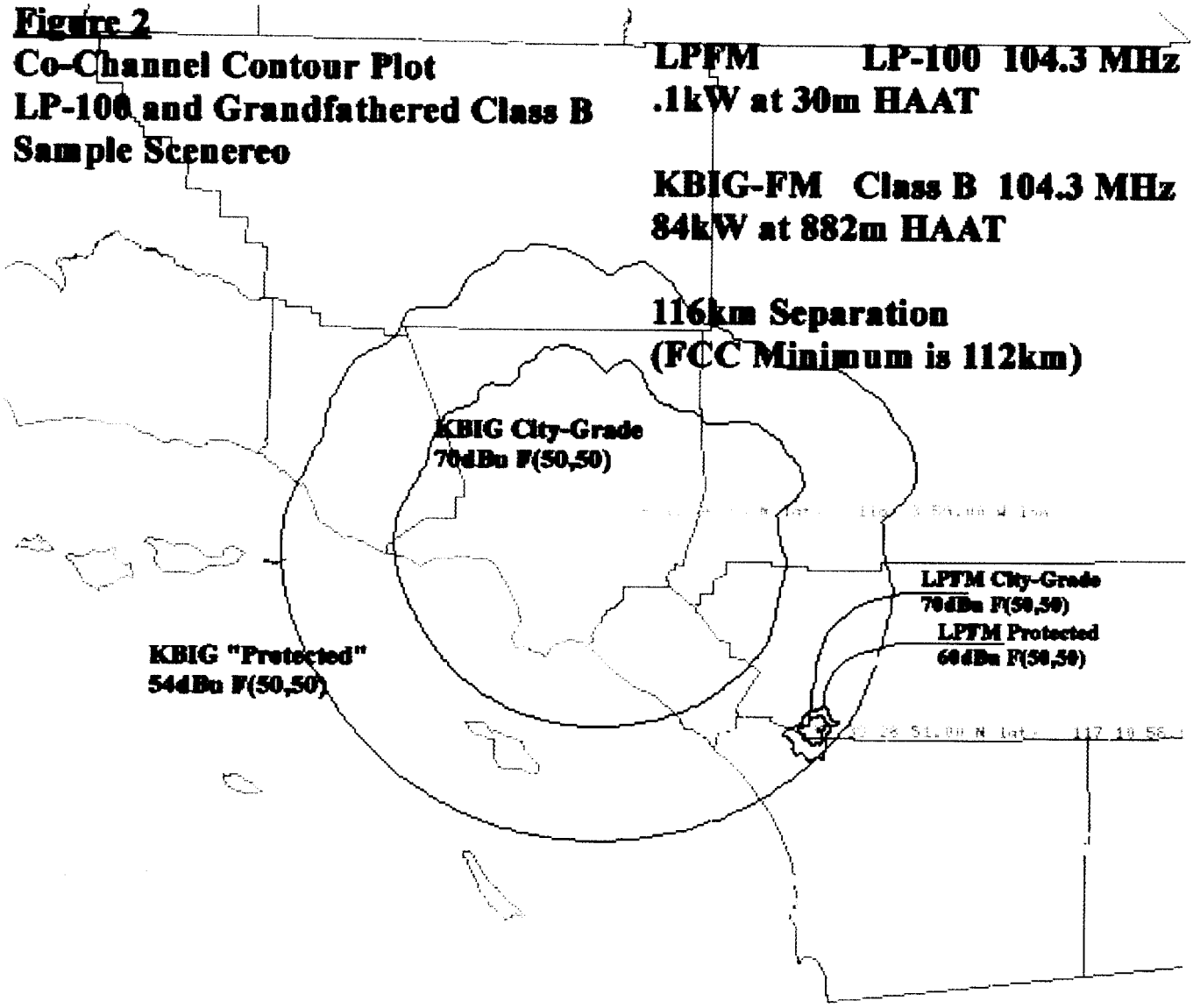
Figure 1
Co-Channel Contour Plot
LP-100 and Grandfathered Class B
Sample Scenereo



Sample LPFM LP-100 93.1 MHz
.1kW at 30m HAAT

WNTQ(FM) Class B 93.1 MHz
97kW at 201m HAAT

113km Separation
(FCC Minimum is 112km)

Figure 2

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