

Before the
FEDERAL COMMUNICATIONS COMMISSION
 Washington, DC

In the matter of:)	
)	
Amendments of Part 73 and 74 to Improve the Low Power FM Radio Service Technical Rules)	MB Docket 19-193
)	
Modernization of Media Regulation Initiative)	MB Docket 17-105

SUMMARY

Next January will be the 20 year anniversary of the creation of the low-power FM radio service (LPFM). Throughout those 20 years, the service has been through two pieces of direct impacting legislation, some misinterpretation of that legislation and a lot of pushback from those representing incumbents.

In the past 20 years, LPFM has experienced two filing windows and has licensed over 2,600 stations across the country. These stations are located in our communities, our schools, churches, Native American Communities and along our highways. They broadcast in English, Spanish, Creole, Hebrew, Chinese, Japanese, Russian, Ukrainian, Arabic, Somali, Amharic, Hawai’ian, Navajo, Yaqui, O’odham, Quechan, Umatilla, Nez Perce, Sioux and other languages. Many LPFM stations reach audiences that are not served by full-service commercial and noncommercial broadcast stations yet face the same competition from “non-radio” services that full-service radio stations face.

In the past 20 years, we have seen LPFM’s role in times of crisis including being the only stations on the air over a wide area during Hurricane Katrina. We have seen LPFM stations step up in the hours leading up to major wildfires in California and being there for the recovery effort. In Baltimore, public transit information is broadcast over LPFM to reach those who don’t have access to the internet. In various states, LPFM stations are being used for traveler information, road conditions and other public safety education and information.

In the past 20 years, operators of LPFM stations have been able to “kick the tires” and gain experience. REC has been following the progress of these stations for all of that time. We have heard about the many issues that affect LPFM stations. We have seen first-hand how 100 watts is working, and how it is not working.

In the past 20 years, not much has changed in LPFM. LPFM stations are still 100 watts with no real path for improvement. They are still subject to restrictive legislation that can’t be fixed at the FCC. They are being held back from a fuller potential, even within the confines of legislation like the LCRA, because of the influence of membership organizations that are starting to run out of reasons why LPFM stations should be held back.

In the past 20 years, we have seen the rise of the smartphone and the explosion of audio streaming options, we have seen The Great Translator Invasion and AM Revitalization, we have been through two generations of FCC filing systems, our community has developed many systems to keep the administrative costs of starting stations low, yet we still have a 5.6 km service area and can’t be trusted to do a contour study. We have seen FM translators boxing in LPFM stations, preventing them to move and an archaic and misinterpreted federal policy which prevents LPFM stations from finding a place where stations can be more equally distributed.

20 years is enough time to take the training wheels off and move LPFM forward into the next 20 years.

The following comments and proposals include the work product over the past 20 years that REC has been involved across all segments of the LPFM service. We are seeking common sense solutions in respect of the rule of law and procedure and without an underlying social justice agenda. In Japanese culture, when someone turns 20, they come of age. It’s time for LPFM to do the same.

LP-250

In RM-11749, REC proposed a simplified LP-250 plan that was an enhanced version of what was proposed in 2012 in the *Fourth NPRM*. It called for LP-100 distance separations through penetrating the “buffer zone” and still providing a padding of protection in most places. For those areas where it wasn’t, a contour study was proposed to be used to demonstrate a lack of contour overlap on a more equal footing with FM translators.

In RM-11810, in response to the aggressive activity taking place by FM translators in the scurry surrounding AM Revitalization. REC proposed a different, but very controversial LP-250 plan, known as the “§73.815 Regime”. It called for using LP-10 distance separation taking advantage of a loophole in the LCRA that would allow it and to use a §73.215 style of contour overlap and added in an interference remediation policy similar to FM translators.

In comments, REC is calling for reconsideration of the tentative rejection of LP-250 in areas where the spectrum crowding would allow. We propose to take the distance separation requirements from RM-11749 (using LP-100 tables) and the interference remediation from RM-11810 which includes an up-front contour study to show that LP-250 will not cause a contour overlap thus making the facility superior to a translator and will include a “back stop” interference remediation policy that mirrors the one recently adopted for FM translators. Most importantly, we are withdrawing the “§73.815 Regime” and the use of LP-10 tables.

LP-250 will allow hundreds of LPFM stations, mainly in rural and suburban areas to grow and better serve their communities. Since we propose upgrades only, these stations would already be more experienced broadcasters as opposed to new entrants. Upgrade only also permits the ability to gauge demand for spectrum after filing windows.

The NPRM suggests that nothing has changed since 2012. We disagree, a lot has changed. This proposal also takes into consideration many of the concerns raised over the years by NAB and EMF and we feel that we have a solid proposal and we are willing to work with NAB and EMF to make it even stronger.

Translator Relief

When the Radio Broadcast Protection Act passed in 2000, it specified that the FCC prescribe distance separation protection between LPFM stations and other broadcast stations. This Act was replaced by the Local Community Radio Act of 2010 which changed the statutory language to stat that the FCC must prescribe protections and at the same time, cannot reduce the minimum distances between LPFM and *full-service FM* stations. Language in other parts of the LCRA designate FM translators and FM boosters as entities separate from full-service FM stations.

Radio Broadcast Protection Act of 2000	Local Community Radio Act of 2010
(a)(1) The Federal Communications Commission shall modify the rules authorizing the operation of low-power FM radio stations, as proposed in MM Docket No. 99-25, to-- (A) prescribe minimum distance separations for third-adjacent channels (as well as for co-channels and first- and second-adjacent channels);	§2: Sec. 632. (a) The Federal Communications Commission shall modify the rules authorizing the operation of low-power FM radio stations, as proposed in MM Docket No. 99-25, to-- (1) prescribe protection for co-channels and first- and second-adjacent channels §3(b)(1): IN GENERAL- The Federal Communications Commission shall not amend its rules to reduce the minimum co-channel and first- and second-adjacent channel distance separation requirements in effect on the date of enactment of this Act between-- (A) low-power FM stations; and (B) full-service FM stations.

With this language change, it demonstrates that Congress intended to maintain protections, including the “buffer zone” around full-service stations but afforded additional flexibility towards FM translator stations, especially in the spirit of Section 5 which calls for a more equal status between the LPFM and translator services. 9 years after enactment of this change in the law, the Media Bureau still misinterprets the law.

Meanwhile, FM translators are still permitted to overtake LPFM stations because of the disparity in the protection rules where FM translators can use a more flexible contour method but LPFM is relegated to a cookie-cutter distance separation method. The language in the LCRA specifically breaks that cookie-cutter where it comes to FM translators (but not full-service FM).

REC is asking for reconsideration of the tentative rejection of translator relief, which may have gotten lost in the confusion over the “§73.815 Regime”. Under REC’s Translator Relief proposal, if an LPFM station proposes a location that is §73.807(c) short-spaced to an FM translator, the LPFM can use a contour study to demonstrate a lack of interference. In addition, LPFM stations using this method will also be subject to translator style interference remediation in the event there is real-world interference. Contour compliance may need to be realized by using the directional characteristics of LPFM antennas or reduced power.

REC is also asking for the ability to do similar short-spacing arrangements between LPFM stations.

We note that for LPFM stations, the use of contour studies is not as “costly” as originally perceived. This same NPRM is allowing contour studies for LPFMs near the Mexican border, those wishing to move more than 5.6 km and those wanting to operate between 88.1-91.9. Contour studies have been used for many years in some cases involving second-adjacent channels. As one of the organizations that perform contour studies for LPFM stations, the Commission has underestimated the roles and expense of those doing this type of work to support LPFM stations.

LPFM stations should be afforded every flexibility allowed by statute and what REC proposes is allowed by the changes made between the RBPA and the LCRA. We ask for serious consideration to these revised proposals and ask for the Commission to adopt a *Further Notice of Proposed Rulemaking* in order to obtain a full and complete record on these items. Since these items are intended for existing LPFM stations, the delay of putting them on a *FNPRM* will not delay any future filing windows for new stations.

NPRM

REC generally supports the items proposed in this NPRM including relief for stations near the Mexican border, the expansion of the minor move, the codification of LPFM boosters and the long overdue elimination of protections between reserved band FM stations and TV channel 6 broadcast stations.

EAS

REC has worked closely with the PSHSB alerting team, especially in the 2019 NPT. At the request of the Commission, we are making some observations in the experiences LPFM stations are facing where it comes to the Emergency Alert System.

Other Issues

Finally, we ask the Commission to address a loophole in the rules regarding LPFM stations not meeting their minimum operating schedules and to consider a request from another advocate regarding LPFM call signs.

Respectfully submitted,

/S/

Michelle Bradley, CBT
Founder
REC Networks

TABLE OF CONTENTS

	Paragraph
I. INTRODUCTION	1
II. THE COMMISSION NEEDS TO REOPEN THE “LP-250” DISCUSSION IN A <i>FURTHER NOTICE OF RULEMAKING</i>	2
A. Overview	2
B. A brief regulatory history of the effort to implement an improved LPFM service....	8
1. Fourth Further Notice of Proposed Rulemaking	8
2. Sixth Report and Order	9
3. REC’s first <i>Petition for Rulemaking</i> (RM-11749)	10
4. REC’s second <i>Petition for Rulemaking</i> (RM-11810)	11
C. Why LP-250 is necessary	15
1. Improved coverage within the “core” LP-100 service area	15
2. “Equal footing” with FM translators	17
3. Availability of LP-250 in urban, suburban and rural areas	19
D. LP-250 and the LCRA	22
1. Legislative history has no bearing on LP-250 stations	22
2. LCRA provisions applicable to LPFM stations on third adjacent channels .	23
3. Application of the LCRA to LP-250 without a third adjacent requirement ..	24
4. Application of the LCRA to LP-250 with a third adjacent requirement	25
5. LP-250 and LCRA Section 5	31
E. Addressing concerns about alleged increase interference and compliance	33
1. Introduction	34
2. The “foothill effect”	35
3. Compliance: painting LPFM with a broad brush	39
4. Low Power and Full-Service should be working together against the much bigger threat of pirates and streaming services	41
F. A revised plan to introduce LP-250 in a manner that addresses interference concerns	41
1. Proposal basics	41
2. Restricting LP-250 to upgrades from LP-100	44
3. Protection to full-service stations on third-adjacent channels	48
a. Introduction	48
b. What is there was a third-adjacent channel protection requirement?	49
c. A third-adjacent channel protection “backstop” already exists.....	50
4. Preventing contour overlap by “foothill effect” stations	54
5. Interference remediation by LP-250 stations	59
6. Antennas and transmitters used for LP-250	64
III. THE COMMISSION NEEDS TO CONSIDER THE USE OF CONTOURS IN RESPECT TO FM TRANSLATORS AND OTHER LPFM STATIONS	68
A. Overview	68
B. The disparity between LPFM and FM translator interference protections.....	69
C. Assuring that local voices remain on the air.....	73
D. How the LCRA fits into this	77
E. “Short-spacing” between two LPFM stations	82
F. Interference remediation	86
G. The Commission needs to reconsider this statutorily sound method of this efficient use of spectrum	88

IV. THE ELIMINATION OF THE FM TO CHANNEL 6 PROTECTION REQUIREMENT IS LONG OVERDUE 96

A. Introduction 96

B. Interim LPFM protections prior the the analog LPTV sunset..... 98

C. Timing of future filing windows for new NCE-FM and LPFM stations 99

D. Channel 6 low-power TV stations targeting radio listeners (FM6) 101

1. Overview 101

2. FM6 “hybrid” technology is an ancillary service subject to Title 18 102

3. “Second” and “third” adjacent channel interference 104

4. Ancillary services other than radio reading services are not entitled to any special protection 106

V. THE PROPOSED RULE CHANGES REFLECT LPFM AS A MATURE SERVICE 107

A. Codification of FM boosters for LPFM 107

B. Definition of a minor change 110

C. Directional antennas 111

VI. FOR SMALL “DECODE ONLY” STATIONS, THE EAS CERTIFICATION IS AN UNDUE BURDEN DESPITE ALTERNATIVES AVAILABLE 114

VII. OTHER LPFM ISSUES THAT SHOULD BE CONSIDERED BY THE COMMISSION 123

A. Silent LPFM stations 123

B. Call signs for LPFM stations 126

VII. CONCLUSION 129

A. But first, a short story 129

B. Even at LP-250, LPFM is still hyperlocal 132

C. 19-193 should be adopted, including some tentatively rejected items 134

APPENDIX A – PROPOSED RULES FOR THE *FURTHER NOTICE OF PROPOSED RULEMAKING*

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COMMENTS OF REC NETWORKS

I. INTRODUCTION

1. REC Networks (“REC”) is a leading advocate of common-sense regulation and a citizen’s ability to access radio spectrum, which includes intensive advocacy for the LPFM service across all segments of users. REC was the author of most of the items that the Commission has adopted in this *Notice of Proposed Rulemaking* as well as some very important items that were tentatively rejected by the Commission for consideration based on some misunderstandings by the Commission of the overall record of the LPFM service. In these comments, REC supports all of the items that the Commission proposes to adopt, we withdraw our consideration of a highly controversial proposal that was tentatively rejected by the Commission and discuss the status of LPFM in respect to the Emergency Alert System.

II. THE COMMISSION NEEDS TO RE-OPEN THE “LP-250” DISCUSSION IN A FURTHER NOTICE OF PROPOSED RULEMAKING

A. Overview

2. Currently, LPFM stations are authorized to operate at 100 watts Effective Radiated Power (ERP) at 30 meters Height Above Average Terrain (HAAT) with an average 60 dBu coverage contour of 5.6 kilometers.¹ Since the creation of the LPFM service, REC and others have promoted the establishment of a secondary broadcast service operating at 250 watts ERP at 30 meters HAAT with an average 60 dBu coverage contour of 7.1 kilometers. One of REC’s primary goals is to establish a 250-watt LPFM service (“LP-250”). Since 2012, there have been three proceedings in which comments have been collected

¹ - 47 CFR §73.811(a).

including a previous *Notice of Proposed Rulemaking*.² Based on the coverage issues expressed by existing “LP-100” broadcast licensees as well as concerns by groups that have had a history of opposing LP-250 such as the National Association of Broadcasters (NAB) and Educational Media Foundation (EMF), REC continues to support the creation of an LP-250 service.

3. Because there have been three different proceedings where LP-250 has been proposed in one form or another, REC does feel that there is now a complete record in which it can analyze the outcome of the implementation of LP-250 using different parameters. We have also looked at the recommendations that have been made by the opposition and looked at how some of those suggestions would impact the availability of LP-250. Our goal is simple, to establish LP-250 wherever it can be provided and in a manner that is cognizant to operations of incumbent facilities in a very crowded FM spectrum. REC sees a value in LP-250 but at the same time, we also see the crowded spectrum. In the past, other proponents had recommended forms of “redlining” in order to limit LP-250 to deep rural areas.³ In the past, REC, supported by other LPFM advocates at the time including the previous iteration of Prometheus Radio Project supported an LP-250 service “wherever it can fit”.⁴

4. *The Commission did error when they rejected LP-250 in this proceeding* – REC disagrees with the Commission’s tentative rejection of the concept of an LP-250 service.⁵ The Commission states that REC “does not present any evidence that the decision [in the *Sixth Report and Order* was incorrect nor does it cite to changes since those decisions warranting a different result.”⁶

² - See *Creation of a Low Power Radio Service*, Fourth Notice of Proposed Rulemaking, 27 FCC Rcd. 3315 (2012) (“Fourth NPRM”).

³ - See Amherst Alliance comments, MB Docket 99-25 (Jan. 23, 2008) at pp. 15-16 (restricting LP-250 stations to areas outside of “Standard Metropolitan Statistical Areas” (SMSA) and “Micro Metropolitan Statistical Areas” (MMSA). According to the US Census Bureau, the SMSA was created in 1959 and was replaced by “metropolitan statistical area” in 1983.)

⁴ - Instead of restricting LP-250 stations to a specific rural polygon as specified by the U.S. Census Bureau, using the concentration of other LPFM and FM translators as a gauge of whether LP-250 would be available on a particular channel in a particular area.

⁵ - See NPRM at Note 15.

⁶ - See *Id.* citing *Sixth R&O*, 27 FCC Rcd 15479 at ¶¶ 205-206. We note that in Note 15 of the NPRM, the Commission further cites *LPFM Order*, 15 FCC Rcd 2220, 2213 at ¶¶ 4, 8, 12, 17-18 (declining to establish an LP-1000 service). We note that in any of the modern proceedings since 2012, REC has not requested nor endorsed a 1000-watt LPFM service. We would oppose a LP-1000 service if introduced today as it would be contrary to the local flavor of the LPFM service. Also, in Note 15, the Commission also rejected our proposal for a “§73.815 regime” which called for a “hybrid” of reduced distance separation using the LP-10 tables and then using distance separation to determine maximum ERP (up to 250 watts at 30m HAAT). REC agrees with the Commission’s rejection of the §73.815 regime, however we feel that this rejection has overshadowed the more simplistic proposal

5. *The Fourth NPRM was clouded by the LP-10 question* – First and foremost, the *Fourth NPRM* was clouded by the by the question of whether to eliminate the LP-10 class of service.⁷ The Amherst Alliance, which, compared to REC, PRP and CF did not actually touch any parties that were actually engaged in LPFM station operations nor had any strong presence within the LPFM community at that time, were attempting to maintain the LP-10 service in urban areas thus supporting the limitation of LP-250 facilities to deep rural areas.⁸ In contrast, the groups that *actually* support and advocated for LPFM stations (REC, PRP and CF) argued for LP-250 facilities without geographic restrictions allowing the density of LP-100 stations and FM translators to gauge the areas where LP-250 stations could be made available.⁹

6. *“Foothill Effect” rules introduced in RM-11749* – When REC filed a *Petition for Rulemaking* which became docketed as RM-11749, it explained how LPFM stations were experiencing building penetration issues, even within their 5.6 coverage contour.¹⁰ REC also raises the issue of interference by “foothill effect” stations in light of the dispute between Razorcake-Gorsky Press and EMF.¹¹

by REC in RM-11749, which is mainly the same proposal that the Commission forwarded in the *Fourth FNPRM* (27 FCC Rcd 3315, 3335-3336 at ¶¶ 49-51) but rejected because of opposition from those who claimed to be advocating for LPFM (Nickolaus Leggett and Don Schellhardt) (collectively “Amherst”) being opposed to offering it in urban areas despite overwhelming support by groups such as REC, Prometheus Radio Project (PRP) and Common Frequency (CF) which are groups that actually interface with current (at the time) and potential LPFM applications and therefore are the true representatives of LPFM’s interests.

⁷ - *Fourth FNPRM* at ¶ 48. (“Accordingly, we seek comment on whether to eliminate the LP10 class of service.”). LP-10 stations were created in the *LPFM Order* to operate at 10 watts ERP at 30 meters HAAT in a status sub-secondary to LP-100 stations and FM translators. No LP-10 stations were ever authorized and the Commission rightfully discontinued the class of service in the *Sixth R&O*.

⁸ - See *Written Comments of Amherst Alliance*, MM Docket 99-25 (May 7, 2012) at pgs. 6, 9-12.

⁹ - See MM Docket 99-25: Comments of REC Networks (May 7, 2012) at ¶ 41; Comments of Prometheus Radio Project (May 6, 2012) at pp. 30-34; Comments of Common Frequency (May 7, 2012) at pp. 16-18. PRP and CF also supported LPFM stations being originally authorized as LP-100 and then being able to be allowed to upgrade to LP-250 based on the outcome of the LP-100 filing window. This is a position that REC supports to this day.

¹⁰ - See *REC Networks Petition for Rulemaking*, RM-11749 (RM-11749) at pp. 3-7 (citing the real-world experiences of WDFC-LP, Greensboro, NC, WBED-LP, Bedford, IN, KLEK-LP, Jonesboro, AR and KQRP-LP, Malakoff, TX.)

¹¹ - See RM-11749 at pp. 17-20 alluding to *Razorcake-Gorsky Press, Inc.*, File No. BNPL-20131114AXZ (Razorcake) (granted June 30, 2016, permit cancelled June 30, 2019). In this file, see *Educational Media Foundation*, “Request for Clarification” (May 23, 2014) at pp. 3-4 citing interference to KYLA, Fountain Valley, CA. REC defines “foothill effect” as an “extremely large lobe of a service [or interfering] contour that is created by an LPFM station placed at a location overlooking valley and at the foothills of a considerably large mountain range.” (RM-11749 at p. 17). (REC could not directly reference *Razorcake* at that time as it was still an open proceeding and REC did not want to influence a decision in that case in violation of the *ex parte* rules.)

In RM-11749, REC proposed that if any portion of the 60 dBu coverage contour of the proposed LPFM station would extend at least 12.7 km from the transmitter site in any direction, it would be declared a “foothill station” and subject to an additional requirement for showing to demonstrate that the interfering contour of the proposed LP-250 would not overlap the protected coverage contour of the incumbent facility.¹² The concept of the Foothill Effect stations was not realized in the *Fourth NPRM*, and that identified real-world cases where Foothill Effect is causing such a contour overlap was not realized until *after* the *Sixth R&O* and also after the completion of the 2013 LPFM filing window. The creation of an LP-250 service with additional protections to incumbent stations was new in RM-11749 and therefore can be considered a “change” that was not considered in the *Fourth NPRM*.

7. REC submits that because of the issues surrounding the debate over LP-10 stations in the *Fourth NPRM*, the changes in the spectral environment as a result of the reality of “foothill effect” LPFM stations and due to the fact that LPFM stations have been able to experience operations and discovery of the real-world technical problems that affect their stations, there is new and changed information presented in proceedings subsequent to the *Sixth R&O* and that the time is ripe for a new upgrade LP-250 service with no geographical “redlining” restrictions, gauged solely by spectrum congestion; and with that, in the interest of not delaying a future LPFM filing window, the issue of a new LP-250 should be brought forward in a *Further Notice of Proposed Rulemaking* in this proceeding.

B. A brief regulatory history of the effort to implement an improved LPFM service

1. *Fourth Further Notice of Proposed Rulemaking*

8. In the *Fourth FNPRM*, the Commission proposed the elimination of LP-10 and at the request of Amherst Alliance and the Catholic Radio Association, proposed a new class of service of 250 watts at 30 meters HAAT (LP-250), limited to “rural areas where population densities are low and larger coverage areas are possible.”¹³ The *Fourth FNPRM* inquired on whether the higher power level would allow LPFM stations better meet the needs of their local communities, whether LP-250 would undermine the LCRA protection standards and interference remediation procedures and if such an increase is possible with maintaining the distance separations where they are or increasing them.¹⁴ The *Fourth FNPRM* further

¹² - See RM-11749 at p. 19.

¹³ - *Fourth FNPRM* at ¶¶ 48-49.

¹⁴ - *Fourth FNPRM* at ¶ 51.

inquired on the geographic restrictions for the new LP-250 and offered different variations such as permitting LP-250 outside of the Top-100 markets, limiting to more than 30, 20 and 10 km from the center coordinates for the top 20, 50 and 100 markets respectively or anywhere outside of the top 50 markets.¹⁵ The Commission also proposed distance separations on co- and first- adjacent channels at the same distances as LP-100 by penetrating the so-called 20 km “buffer zone” between the standard interfering contour of the proposed LPFM station and the standard (class-maximum) protected contour of an incumbent full-service station.¹⁶

2. *Sixth Report and Order*

9. Citing inefficient use of the spectrum, the Commission eliminated the LP-10 service and rejected an REC proposed compromise “LP-50” (50 watts ERP at 30 meters HAAT) service.¹⁷ The Commission rejected the establishment of LP-250 due to a “disagreement among commenters about, among other things, LP-250 station location restrictions”.¹⁸ We also note that the Commission also pointed out, in response to NAB and NPR, that the LCRA does not include any language limiting the power levels at which an LPFM station may be licensed and finds unpersuasive NAB and NPR’s reliance on certain statements made in the legislative history which described the rules governing LPFM service at the time that Congress was considering the LCRA.¹⁹ On the elimination of LP-10, the Commission would deny the reconsideration filed by “Let The Cities In!” (another name for Amherst).²⁰

¹⁵ - See *Id.*

¹⁶ - *Fourth FNPRM* at Note 125.

¹⁷ - *Sixth R&O* at 201-204.

¹⁸ - *Sixth R&O* at ¶ 206 (citing comments of National Layers Guild (NLG) and Media Alliance in comparison to comments by Prometheus Radio Project. Like with Amherst, NLG and Media Alliance were not engaged in direct dialog with LPFM stations thus was not representing the interests of LPFM stations seeking an upgrade to LP-250, meanwhile, Prometheus, along with REC and CF, supported LP-250 without any specific geographic redlining. It is REC’s position that the Commission did error on that decision by taking the word of social justice organizations by confusing those organizations as those that directly touch LPFM stations on a daily basis. REC’s petitions RM-11749 and RM-11810 specifically address this misjudgment and brings the issue back to light with the support of the organizations that actually represent the interests of current on-air LPFM stations).

¹⁹ - See *Id.*

²⁰ - See *Sixth Order on Reconsideration*, 28 FCC Rcd 14489, 14504-14510 (2013) at ¶¶ 39-53.

3. REC's first *Petition for Rulemaking* (RM-11749)

10. On April 20, 2015, after LPFM stations that were established from the 2013 filing window were on the air and have had a chance to get their “feet wet” and after substantial analysis of the demand of spectrum at the time, REC had filed a *Petition for Rulemaking* with the Commission which would eventually be docketed as RM-11749. RM-11749 would present some testimonials by four LPFM stations expressing the issues they are facing with building penetration and other performance issues within their 60 dBu coverage contour and how additional field strength would help improve their ability to provide community service.²¹ RM-11749 proposed a new LP-250 service as an upgrade to existing LP-100 stations.²² RM-11749 addressed some of the issues, including objections raised by incumbent broadcast interests in the *Fourth FNPRM* by proposing special provisions for stations proposed in “foothill” locations.²³ RM-11749 called for an “automatic upgrade authority” in order to provide a process that was not just streamlined for the applicant but also for the Commission by giving qualified stations the ability to “self-upgrade” by increasing the facility to LP-250 and then following up with filing a Form 319.²⁴ Stations that did not upgrade during that period could still upgrade in the future through a minor modification. RM-11749 also proposed extending a minor move to 12.3 kilometers, requested a pro-rated minimum local service hour requirement for time-shared stations and removing the requirement that a commonly-owned LPFM translator must have some kind of contour overlap with its primary station.²⁵

4. REC's second *Petition for Rulemaking* (RM-11810)

11. On June 26, 2017, during the period of when the Commission was starting to work on the *Modernization of Media Regulation Initiative*, REC filed comments in MB Docket 17-105 to express

²¹ - See *RM-11749* at pp. 4-7.

²² - See *RM-11749* at pp. 7-8.

²³ - See *RM-11749* at pp. 17-20; See also ¶ __ *supra*.

²⁴ - See *RM-11749* at pp. 26-28.

²⁵ - See *RM-11749* at pp. 33-36. We also note that shortly after RM-11749 was docketed, a separate *Petition for Rulemaking*, originated by Low Power Advocacy Group (LPFM-AG) was filed and assigned RM-11753. RM-11753 called for among other things, commercial operations and a complete replacement of the LPFM engineering rules with the Part 74 rules that apply for FM translators. REC opposed most of RM-11753 on statutory grounds and a lack of desire by many in the LPFM community to introduce commercial service, especially considering the statutory and other liabilities that would come with it. Unlike Amherst, REC does consider LPFM-AG as an organization that has had a history of interfacing with LPFM stations. REC has referenced for consideration one item proposed by LPFM-AG in RM-11753 regarding LPFM call signs. See ¶¶ 126-128 *infra*.

concerns in regards to burdensome aspects of the rules related to LPFM stations.²⁶ As requested in the NPRM, REC followed up its recommendations in MB Docket 17-105 with a separate *Petition for Rulemaking*.²⁷ RM-11810 touched on issues such as assignments, transfers and construction periods.²⁸ These issues are currently under consideration in a different proceeding.²⁹ Other issues brought up in RM-11810 are either being considered or tentatively rejected in the instant proceeding.

12. RM-11810 was filed at a time when LPFM stations were starting to feel the negative impacts of the *AM Revitalization* efforts taking place at the Commission. This included the ability for FM translators to be moved up to 250 miles as well as the establishment of the Auctions 99 and 100 filing windows for new cross-service FM translators. RM-11810 was intended in part, to call out the disparity in the protection requirements for LPFM stations using distance separation and FM translators using contours.³⁰ In RM-11810, REC calls out various aspects of the LCRA including how they changed since the predecessor legislation, the Radio Broadcast Protection Act.³¹

13. In RM-11810, REC would make an argument that FM translators were not considered “full-service FM” stations and therefore not subject to Section 3(b)(1) of the LCRA which states that the Commission cannot amend its rules to reduce minimum distance separations “between low-power FM stations and full-service FM stations”.³² REC continues to hold this position and is disagrees with the Commission’s tentative rejection of proposals by REC to use contour overlap protection and directional antennas by LPFM stations in order to provide a more equal playing field in respect to the protection of FM translators.³³

²⁶ - See *Commission Launches Modernization of Media Regulation Initiative*. Public Notice, 32 FCC Rcd. 4406 (2018). See also *Comments of REC Networks*, MB Docket 17-105 (June 26, 2017).

²⁷ - See *Amendment of Parts 73 and 74 to Further Implement the Local Community Radio Act of 2010 and to Make Other Improvements to the Low Power Radio Service*, Petition for Rulemaking, REC Networks, RM-11810 (June 20, 2018) (RM-11810).

²⁸ - See *RM-11810* at ¶¶ 56-63, 67-69.

²⁹ - See *Reexamination of Comparative Standards and Procedures for Licensing Noncommercial Educational Broadcast Stations and Low Power FM Stations*, Notice of Proposed Rulemaking, 34 FCC Rcd. 851 (2019) (“Administrative NPRM”) at ¶¶ 80-85.

³⁰ - See *RM-11810* at ¶ 70.

³¹ - Pub. L. No. 106-553, §632, 114 Stat. 2762, 2762-A-111 (2000) (RBPA). See also *RM-11810* at ¶¶ 2-6, 13-16.

³² - See *RM-11810* at ¶¶ 7-9.

³³ - See *Id.* at ¶ 32.

14. In RM-11810, REC would make an additional argument that the Commission is permitted, under statute to allow for the use of the “LP-10” distance separation tables for LPFM stations.³⁴ Based on this proposed interpretation, REC had proposed a second “regime” of protection for upgraded LP-250 stations which called for a “hybrid” method that would use the LP-10 distance separation tables as a statutory minimum distance separation requirement and a requirement that there is no prohibited contour overlap with incumbent facilities.³⁵ This proposal in RM-11810 was loosely based on §73.215 which permits “short-spacing” of commercial FM facilities through the use of contour overlap with a minimum distance separation.³⁶ Upon examination of the record in RM-11810, REC is withdrawing the “§73.815 regime” concept which uses the LP-10 distance tables in respect to protections to full-service FM stations. In REC’s concept for LP-250 in this pleading, we will maintain the minimum “LP-100” distance separation values but will continue to propose a 250-watt ERP at 30 meter HAAT service with a prohibited contour overlap backstop in the event of a “foothill” station with a very large lobe on their protected or interfering contour. Also, while withdrawing the “§73.815 regime” concept, we are still calling for LPFM stations to be able to use contour overlap to protect short-spaced FM translators and other LPFM stations.

C. Why LP-250 is necessary

1. Improved coverage within the “core” LP-100 service area

15. In RM-11749, REC discussed, WDFC-LP in Greensboro, NC, an LP-100 station authorized for only 10 watts at 91 meters HAAT.³⁷ WDFC-LP’s primary outreach includes seniors who are shut-ins and are less likely to be computer literate in order to use a streaming service to receive news and entertainment. Instead, they depend on radio like they have all of their lives. WDFC-LP would tell REC that in one retirement home, only those residents who are on one side of the building are able to hear the station while those on the other side of the building would experience a weaker unlistenable signal. This goes to the building penetration issues, even inside the 3.5 mile coverage area of LP-100 stations. We also heard from KLEK-LP, Jonesboro, AR, which had a limited antenna height in order to meet FAA requirements.³⁸ KLEK is facing issues with obstructions and sporadic incoming interference from a distant

³⁴ - See *Id.* at ¶¶ 14-16.

³⁵ - See *Id.* at ¶¶ 20-27.

³⁶ - 47 C.F.R. § 73.215.

³⁷ - See RM-11749 at p. 4.

³⁸ - See *Id.* at p. 5.

full-service FM station. The increased field strength in the 3.5 mile area would definitely help stations in situations like KLEK-LP improve their coverage and bring diverse programming to Jonesboro. KQRP-LP in Malakoff, Texas operates 100 watts with a 2-bay antenna and they told REC about how the construction of the building impacts building penetration thus favoring wood structures over metal and concrete buildings.³⁹ These are cases where LP-250 improves the quality of life in the core areas in which the Commission has already well established as being a part of the local nature of LPFM. The public reaction to RM-11749 from stations and listeners alike, warrant serious consideration as “new evidence” by the Commission in support of the creation of LP-250.⁴⁰

16. In response to RM-11810, we heard from WSWO-LP which had expressed issues about in-building listening within their core area while mobile reception was better in comparison.⁴¹ James Knybel would discuss how his area’s two local LPFM stations WSFT-LP and WBSV-LP perform, even for mobile listening for him to reach a conclusion that “[I]n many cases, 100 watts is wholly inadequate for providing an acceptable broadcast service to the station’s community.”⁴² WGKZ-LP is reporting building penetration issues to the point of getting reports from listeners even as close as a quarter mile away, but as they tell their listeners, they are “operating at the maximum outputs allowable by federal law.”⁴³ We heard from KZRJ-LP located in Arizona’s “high country” who states that the LP-250 service class would be better able to penetrate the signal into canyons within their service area.⁴⁴

³⁹ - See *Id.* at pp. 5-6.

⁴⁰ - In RM-11749: *Heidi Haines* (WGLU-LP), Comments (Jun. 29, 2015) (“*We have found the radio signal often isn’t even strong enough to allow others to listen within our town of license*”); *Wes Treadway* (KFIM-LP), Express Comment (Feb. 23, 2017) (*Rural LPFM station, occasionally getting interference from a station “on the other side of the state”*); *Stella Linder Byrne* (KMRD-LP), Comment (Jun. 18, 2015) (“*Our community is rural, with many living off the grid. [...] Increasing LPFM power would allow us to more effectively serve our community, especially those listeners.*”); *Comments of Divine Mercy Radio, Inc.* (KXDM-LP) (Jun. 15, 2015) (“[T]he increase to 250 watts would allow us more flexibility in locating our transmission site.”)

⁴¹ - *Southwestern Ohio Public Radio*, Comments in RM-11810 (Jul. 19, 2018) at ¶ 2.4.

⁴² - *Comments of James Knybell*, RM-11810 (Jul. 19, 2018) at p. 1.

⁴³ - *Kingsford Community Radio*, Express Comment, RM-11810 (Jul. 19, 2018).

⁴⁴ - *Richard J. Martin* (KZRJ-LP), Express Comment, RM-11810 (Jul. 12, 2018). Additional comments in RM-11810 regarding building penetration and other coverage issues came from: *BJ Mora* (KGCE-LP), Comments (Jul. 19, 2018); *Larry Flegle* (WUCG-LP), Express Comment (Jul. 18, 2018); *Gunard Polite* (KONN-LP), Express Comment (Jul. 18, 2018); *Don Davis* (WDXM-LP), Express Comment (Jul. 5, 2018) and *Daniel Slentz*, Comment (Jun. 23, 2018).

2. “Equal footing” with FM translators

17. As stated in RM-11749, LPFM stations face unique challenges that are not faced by full-service or FM translator stations.⁴⁵ LP-100 stations are limited to a service contour of 5.6 kilometers and are further limited by a massive overprotection by a 20 kilometer “buffer zone” added to the “standard” protected contour distances of full-service FM station classes.⁴⁶ The Commission, recognizing this overprotection, did propose to penetrate into the buffer zone in the *Fourth FNPRM* by keeping the minimum distance separations between LP-250 stations and full-service FM stations on co- and first-adjacent channels the same as LP-100.⁴⁷ The Commission would further recognize that the establishment of LP-250 would “put LPFM stations on a similar footing to FM translator stations which may operate with a maximum output power of 250 watts ERP.”⁴⁸ Recently, the FCC announced that as of September 30, 2019, there are 8,177 licensed FM translators.⁴⁹ Of those 8,177 translators, 818 facilities (10%) have service contours (based on ERP and HAAT curves calculations) of 5.6 kilometers or less. An additional 915 facilities have service contours between 5.6 and 7.1 kilometers (the latter being the service contour size of a proposed LP-250 station). Even with the establishment of a LP-250 service, four-fifths of all FM translators will continue to have facilities superior to that of an LPFM station. Therefore, it can be further argued that the establishment of LP-250 is in the public interest as it puts LPFM on a more equal footing with FM translators.

18. It could also be argued that because this footing is only 21% that LPFM stations should be granted additional contour beyond that of what REC had proposed in RM-11749 for LP-250 such as the creation of a “LP-1000” service or an increase in HAAT which brings the service contour above 7 kilometers.⁵⁰ We disagree. When the Commission created the current rules for non-fill in FM translators, they had divided the nation and created the equivalent of a 7.3 kilometer service contour in areas east of the Mississippi River and in most of California where population is more dense and a 13.3 kilometer service

⁴⁵ - See RM-11749 at pp. 3-4.

⁴⁶ - See *Report and Order*, 15 FCC Rcd. 2234 at ¶ 71.

⁴⁷ - See *Fourth FNPRM* at note 125.

⁴⁸ - See *Id.* at ¶ 51.

⁴⁹ - See *Broadcast Station Totals as of September 30, 2019*, Public Notice (Oct. 2, 2019).

⁵⁰ - See *Rickey Green*, RM-11749, Express Comment (Sep. 10, 2015) (“*The truth of the matter is, the FCC should do the responsible thing and allow LPFMs to go as high as 1,000 watts.*”). We do note though that the original *Notice of Proposed Rulemaking* for LPFM did seek comments on a 1,000-watt LPFM service. See 14 FCC Rcd. 2471 et. seq. (1999) at ¶¶ 23-29.

contour in areas west of the Mississippi River where population is likely to be more sparse. The original non fill-in translators in the west were designed to serve a wider area spanning multiple communities, mainly in the mountainous areas where in the east, a non-fill in translator, especially for a NCE station, was intended to introduce a service into a smaller town. It is REC's position that a 7.1 kilometer (4.4 mile) service contour as proposed in the 4th FNPRM, RM-11749 and RM-11810 would allow LPFM stations to slightly expand out to outlying communities, many times within the same jurisdiction (county, parish, etc.) while improving the quality of service within the core (5.6 kilometer) coverage area of the LPFM station. REC sees no reason why expanding the coverage contour by a one mile radius would cause such harm to the local flavor of the LPFM service. In addition, a LP-250 service would result in larger distance separation requirements and/or further reduction of the "buffer zone" and would run contrary to the purpose of the overall proposal which is to improve licensed LPFM stations by providing higher field strengths within their core service areas and to permit some expansion of service, especially in more rural areas where incoming interference is less likely.

3. Availability of LP-250 in urban, suburban and rural areas

19. Much of the controversy that resulted in the outcome in the *Sixth R&O* stemmed from a dispute over the availability of LP-250 stations in more urbanized settings. As stated before, much of this controversy was originated by Amherst in an effort to preserve the former LP-10 service.⁵¹ As mentioned, with the issue of LP-10 well past us, the purpose of RM-11749 and RM-11810 was to take a fresh look at LP-250 without this prior distraction.

20. As proposed, LP-250 stations would be required to afford additional distance separation to FM translator stations and other LP-100 stations. LP-250 stations operating 101 watts ERP or more will be required to also protect the intermediate frequency (I.F.) of full-service stations.⁵² LP-250 stations would also have an increased protection requirement incumbent second-adjacent channel facilities as well as increased protections towards foreign facilities.⁵³ In addition, REC is also evaluating the concept of requiring a third-adjacent channel distance separation requirement towards full-service FM facilities. Like with translators, that third-adjacent channel separation can be waived, if based on Undesired to Desired

⁵¹ - See *Comments of Amherst Alliance*, MB Docket 99-25 (May 7, 2012) at p. 10 ("We agree with the Commission that LP250 stations should be free to compete in the other 99% of the Lower 48 land area. However, 1-10 watt stations deserve and require a sanctuary somewhere.")

⁵² - See RM-11749 at pp. 15-16.

⁵³ - See *Id.* at pp. 14-15, 21-22.

Ratio (U/D Ratio) that there is no population in an area where the interfering contour of the proposed LP-250 facility and the incumbent full-service facility overlap similar to existing policy towards second-adjacent channels.⁵⁴ Based on these additional requirements for an LP-250 service, as well as the proposed “foothill backstop” being proposed *infra*, the availability of LP-250 can be naturally controlled in a manner that does not require geographic redlining as originally suggested by Amherst.

21. Likewise, we propose to introduce LP-250 as an upgrade to LP-100 only.⁵⁵ This would mean that during a filing window, all facilities would be filed for as LP-100. This will allow us to gauge demand for new LP-100 stations and if there is room, then those would be able to upgrade to LP-250 during an upgrade opportunity where prospective upgrading stations would have to meet a larger distance separation (LP-250 to LP-250) and then after the upgrade opportunity window, changes between LP-100 and LP-250 (and vice versa) should be considered as minor changes. A similar position as taken by Prometheus and Common Frequency during the *Fourth FNPRM*.⁵⁶ It is most likely that LP-250 availability would remain limited to suburban and rural areas but in a manner without redlining thus making any valid opportunity available where possible.

D. LP-250 and the LCRA

1. Legislative history has no bearing on LP-250 stations

22. Over the history of the attempts to adopt a 250-watt LPFM service, there have been several arguments in opposition to the service. The main arguments have historically come from NAB and NPR which has stated that the legislative history of the LCRA shows Congress’ understanding that LPFM stations operate at a maximum of 100 watts.⁵⁷ In the *Sixth R&O*, the Commission finds these arguments unpersuasive and that the LCRA does not specifically any language limiting the power levels at which LPFM stations may be licensed.⁵⁸

2. LCRA provisions applicable to LPFM stations on third adjacent channels

⁵⁴ - See *Living Way Ministries, Inc.* Memorandum Opinion and Order, 17 FCC Rcd 17054, 17056 (2002) at 5. *Recon denied* 23 FCC Rcd 15070 (2008).

⁵⁵ - See also RM-11749 at p. 25

⁵⁶ - See *Comments of Prometheus Radio Project*, 4th NPRM at pp. 31-33; See also *Comments of Common Frequency*, 4th NPRM (May 7, 2012) at p. 18.

⁵⁷ - See *Reply Comments of NAB*, Fourth FNPRM (May 21, 2012) at p. 10.

⁵⁸ - See *Sixth R&O* at 206. See also *Sixth Order on Reconsideration*, 28 FCC Rcd. 14489 (2013) at 35 (In respect to provisions in the LCRA, “The Commission is required to implement and interpret the legislation as enacted...”)

23. Section 2 of the LCRA states in part, that the Commission shall prescribe protections for co-channels, first- and second-adjacent channels.⁵⁹ Section 3 of the LCRA directs the Commission to “modify its rules to eliminate third-adjacent channel minimum distance separation requirements between low power FM stations and full-service FM stations, FM translator stations and FM booster stations and that the Commission shall not amend its rules to reduce the minimum co-channel, first- and second-adjacent channel distance separation requirements between low-power FM stations and full-service FM stations.”⁶⁰ Section 4 requires minimum distance separation separation requirements to broadcast facilities operating a radio reading service by analog subcarrier for which the Commission had previously interpreted to include third-adjacent channels.⁶¹ Section 7(1) states that while LPFM stations may operate on third-adjacent channel, those that do not meet the minimum separation requirements, an interference remediation rule similar to that applicable to FM translator and FM booster stations as set forth in §74.1203 as in effect as of the enactment date of the LCRA would apply these “short-spaced” LPFM stations.⁶²

3. Application of the LCRA to LP-250 *without* a third-adjacent requirement

24. As stated, the Commission has already concluded that the LCRA does not specify a maximum power limit. The Commission would remain in compliance with Sections 2, 3(a) and 3(b)(1) with the establishment of a new LP-250 service as there is no modification to the distance separation rules. Section 3(b)(2) only addresses *second* adjacent short-spacing and that policy would still be in place. Section 4 would continue to require that third-adjacent channel radio reading services be protected without a provision for a waiver. Section 7(1) requires that the Commission put a third-adjacent channel interference remediation policy in place which they did in §73.810(a). This remediation policy already is in effect today for LP-100 stations. This implementation of a LP-250 service would extend this policy to that service.

4. Application of the LCRA to LP-250 *with* a third-adjacent requirement

25. Even though one of the main goals of the LCRA was to remove the third-adjacent channel protection requirement for LPFM stations, the LCRA was really a compromise legislation between the

⁵⁹ - LCRA §2 (§632(a)(2)).

⁶⁰ - LCRA §3(a) and (b)(1).

⁶¹ - LCRA §4. See also *Fifth R&O*, 27 FCC Rcd. 3315 (2012) at ¶ 9.

⁶² - LCRA §7(1). See also 47 C.F.R. §74.1203(a) as published in the *Code of Federal Regulations*, October 1, 2017 edition prior to its amendment in MB Docket 18-119, 34 FCC Rcd. 3457 (2019). This language is fairly consistent with 47 CFR § 73.810(a).

NAB and the LPFM proponents. The LCRA also addresses other activities that took place prior to enactment including the aftermath of the 2003 Auction 83 FM translator window and the various policies put into place as well as the Commission's handling of LPFM stations subject to displacement by modifications of full-service FM stations between 2007 and the enactment of the LCRA. Therefore, even if the Commission was to require a third-adjacent channel protection requirement for LP-250, the LCRA would remain in force.

26. Section 2 directs the Commission to maintain co-, first- and second-adjacent channel protections. It does not prohibit the Commission from implementing any other requirements such as third-adjacent or intermediate frequency protections.

27. Section 3(a) states that the Commission shall modify its rules to eliminate third-adjacent channel minimum distance requirements between LPFM and full-service FM, FM translator and FM booster stations. This subsection is subject to interpretation because of the word "shall". The ninth edition of *Black's Law Dictionary* lists five different meanings for *shall*:

shall, vb. (bef. 12c) 1. Has a duty to; more broadly, is required to "the requester shall send notice" "notice shall be sent". This is the mandatory sense that drafters typically intend and that courts typically uphold. 2. Should (as often interpreted by courts) "all claimants shall request mediation". 3. May "no person shall enter the building without first signing the roster". When a negative word such as not or no precedes shall (as in the example in angled bracket), the word shall often means may. What is being negated is permission, not a requirement. 4. Will (as a future tense verb) "the corporation shall then have a period of 30 days to object". 5. Is entitled to "the secretary shall be reimbursed for all expenses". Only sense 1 is acceptable under strict standards of drafting.

The mainstream Merriam-Webster Dictionary defines "shall" in part as "used to express a command or exhortation" and "used in laws, regulations, or directives to express what is mandatory". By the Commission amending the Rules to remove third-adjacent channel requirements on LP-100 stations shortly after enactment of the LCRA, it can be seen that the Commission has complied with this statute. The wording of the LCRA does use different verbs in Section 3 in respect to Congress' direction to the Commission. In Section 3(a), Congress directs that:

"The Federal Communications Commission shall *modify* its rules to eliminate third-adjacent minimum distance separation requirements..."⁶³

Where, in contrast, Section 3(b)(1), Congress directs that:

⁶³ - LCRA §3(a) (*emphasis added*)

“The Federal Communications Commission shall not *amend* its rules to reduce the minimum co-channel...”⁶⁴

The second edition of Black’s Law Dictionary would suggest that to “modify” means “to alter; to change in incidental or subordinate features.” where to “amend” means “to improve; to make better by change or modification.” This could suggest that “modify” and “amend” appear to have the same root meaning.

28. REC came into this proceeding with a completely open mind and with that, we have seriously considered a past suggestion by the NAB to require third-adjacent channel minimum distance for LP-250 stations while not requiring it for LP-100.⁶⁵ This deep analysis of the use of the word *shall*, a word that seems to have caused significant debate in the legal profession over the decades has reared its ugly head in this proceeding.⁶⁶ As REC has stated in past proceedings, the LCRA is a document loaded with contrasting phrases and in the opinion of REC, has been frequently misinterpreted by the Commission on various occasions.⁶⁷ However in the instant case, the language in Section 3(a) not only directs the Commission to immediately remove third-adjacent channel protections at the first available moment after enactment but also to prohibit future Commissions from reinstating third-adjacent channel protection requirements to the LPFM service. As the Commission has already interpreted that the language of the LCRA does not prohibit the Commission from introducing any specific power levels, it can be interpreted that the LCRA would prohibit the Commission from requiring a third-adjacent channel distance separation requirement on a new LP-250 class of service in the same manner that Section 3(a) can be interpreted as prohibiting future Commissions from reinstating a third-adjacent channel separation requirement for LP-100 stations.

29. Section 3(b)(2) as written, specifically applies to second-adjacent channel waivers. Likewise, there is no provision in the LCRA prevents third-adjacent channel waivers except where full protection is required under Section 4 for radio reading services, a provision of the LCRA that would continue to apply.⁶⁸ Section 7(1) mandates the pre-2018 FM translator protection rules to protect short-

⁶⁴ - LCRA §3(b)(1) (*emphasis added*)

⁶⁵ - See NAB Reply Comments, MB Docket 99-25 (May 21, 2012) at pp. 11-12.

⁶⁶ - See also Garner, Bryan A., *Shall We Abandon Shall?*, ABA Journal, American Bar Association (Aug 1, 2012). Retrieved October 11, 2019 from http://www.abajournal.com/magazine/article/shall_we_abandon_shall

⁶⁷ - See REC Networks *Petition for Reconsideration* to Sixth Report and Order, MB Docket 99-25 (Jan. 11, 2013) (recon. denied) at ¶ 11.

⁶⁸ - LCRA §3(b)(2).

spaced third adjacent channel stations.⁶⁹ Again, regardless of the LPFM power level and whether third-adjacent protections are required at each power level, Section 7(1) protects incumbent stations in the same manner by applying the pre-2018 FM translator interference remediation rules to LPFM stations.

30. REC's preference is for LP-250 to be deployed with service rules consistent with those for LP-100 (i.e., not requiring a new third-adjacent channel protection requirement), depending on how you view the definition of *shall*, the argument remains on whether the Commission is precluded from requiring a third-adjacent channel separation requirement on a new LPFM class of service as suggested by NAB. REC's position is that the LCRA language precludes *any* attempt to reimpose a third-adjacent channel separation requirement on *any* LPFM service, including newly established classes of service. This aspect of the LP-250 argument may need to be further examined in a *Further Notice of Proposed Rulemaking*. For now, REC will continue to keep an "open mind" on this issue and will continue to present our analysis in this proceeding in respect to requiring or not requiring additional third-adjacent channel protections for LP-250.⁷⁰

5. LP-250 and LCRA Section 5

31. In comments made by NAB in RM-11749, they claim that "[p]ermitting LPFM stations to *increase power to 250 watts would further complicate [the] process by further overcrowding the FM band, thereby blocking licensing opportunities for translators to be used by AM stations, contrary to Section 5 of the LCRA*" citing the "channel floor" process that took place prior to the 2013 LPFM window and then stating "[t]he LCRA requires a similar analysis prior to authorizing 250-watt LPFM stations, to ensure that frequencies remain available for AM broadcasters' first opportunity to participate in a translator filing window."⁷¹

32. The concern that was raised by the NAB is now moot because AM broadcast stations had their opportunity in the Auction 99 and 100 FM translator filing windows. In addition, since REC, and other LPFM stakeholders only support the creation of LP-250 as an upgrade to an existing LPFM station, Section 5 of the LCRA would not apply in the case of these upgrades as Section 5 only addresses *new*

⁶⁹ - LCRA §7(1).

⁷⁰ - However, we would consider a third-adjacent channel protection requirement with the ability to do third-adjacent channel waivers (except in the case of third-adjacent channel radio reading services) if that is what it takes to create a LP-250 service and if the Commission finds it statutorily compatible. Regardless, there is still a stricter interference remediation backstop for third-adjacent channel LPFM. See ¶ 50-53 *infra*.

⁷¹ - NAB Comments, RM-11749 (June 15, 2015) at 9-10 (*emphasis added*)

licenses.⁷² Since any facility becoming LP-250 must already be an LP-100 facility, the facility would have already passed through the “needs of the local community” requirements of Section 5 at the time when the original construction permit was applied for. Therefore, allowing for LP-100 stations to be permitted to upgrade to LP-250 would have no impact on Section 5.

E. Addressing concerns over alleged increased interference and compliance

1. Introduction

33. Over the years since the Commission and REC has been moving forward towards achieving a new LP-250 service class, there have been many concerns that LP-250 stations would cause new interference to an already crowded FM broadcast band. Some entities, such as the NAB attempt to paint LPFM stations with a broad brush as being noncompliant facilities without regard for the rules and therefore should not be eligible for any type of service improvement.

2. The “foothill effect”

34. In the past, EMF had expressed legitimate concerns about interference from certain LPFM stations that are located in a manner where their location is between the peak of a mountain range and a valley below.⁷³ The result is an 8-radial height above average terrain (HAAT) that “averages out” to a lower number by taking the high terrain in half of the evaluated area and averaging it with the low terrain in the other half.⁷⁴ This can result in an interference contour that is unusually long in a particular direction that it could overlap the protected contour of a full-service FM station. EMF’s concerns regarding this theory, which REC refers to as “foothill effect”, was brought to light in *Razorcake*. REC immediately recognized that *foothill effect* could be an issue especially at the LP-250 level and wrote proposed language in RM-11749 that would require any LP-250 application where the 60 dBu coverage contour would extend at least 12.7 kilometers in any direction (to the equivalent of the 50 dBu service contour based on flat earth using maximum facilities) that a contour study would be required to demonstrate that there is no overlap of the proposed LP-250 station’s interfering contour with the incumbent station’s protected service contour.

⁷² - See LCRA § 5 The Federal Communications, when licensing *new* FM translator stations, FM booster stations, and low-power FM stations, shall ensure that -

- (1) licenses are available to FM translator stations, FM booster stations, and low power FM stations;
- (2) such decisions are made based on the needs of the local community; and
- (3) FM translator stations, FM booster stations, and low power FM stations shall remain equal in status and secondary to existing and modified full-service FM stations. (*emphasis added*)

⁷³ - See *Educational Media Foundation* comments, RM-11749 (June 15, 2015) at pp. 4-6.

⁷⁴ - See 47 CFR §§73.813, 73.313(d).

REC's current proposed rules for LP-250 would require a contour study on all applications solely for demonstrating a lack of interference towards other stations.⁷⁵ This will also address some of past concerns by opponents about inexperienced broadcasters because if a contour study is included, then likely, the applicant has utilized "hired help" or they have enough knowledge to understand field strength contours. In no case should an application to upgrade to LP-250 not include a contour study.

3. Compliance: painting LPFM with a broad brush

35. The NAB continues to use compliance as a reason why LPFM stations should not have "good things", like LP-250.⁷⁶ By citing several cases of "bad actors" in the service, including some well-known to REC have engaged in various engineering and administrative violations including violations of the noncommercial nature of educational broadcast stations.⁷⁷ No service is free of "bad actors" and those who intentionally or inadvertently violate Commission rules, including commercial broadcast stations and FM translator licensees.⁷⁸ Despite these and other violations, NAB is not quick to state that full-service broadcasters or even translators should have "good things" despite the many violations as well as negligent behaviors that have ended in tragedy⁷⁹, nor does REC hold that position.

⁷⁵ - This addresses EMF's concerns expressed in their RM-11749 comments of how only proposed LP-250 stations with a peak 60 dBu lobe extending more than 12.7 kilometers would be evaluated as proposed in RM-11749.

⁷⁶ - See *NAB Comments*, RM-11810 at pp. 6-8,

⁷⁷ - *Id* at p. 7.

⁷⁸ - See *La Favorita Radio Network, Inc., Licensee of Radio Station KLOC, Turlock, CA*, Notice of Violation, File No. EB-FIELDWR-18-00027252 (EB, Aug. 29, 2019) (Failure to ID, tower painting, lighting and cleaning); See also *Cornerstone Broadcasting Corporation, Licensee of Station W274AY, Deltona, FL*, Notice of Violation, File No. EB-FIELDSCR-19-00029498 (EB, Aug. 20 2019) (spurious emissions causing harmful interference to FAA aeronautical communications); See also *Calvary Chapel of Twin Falls, Inc., Licensee of Radio Station WSMA, Scituate, MA*, Notice of Violation, File No. EB-FIELDNER-19-00029039 (EB, Jun 27, 2019) (spurious emissions causing harmful interference to FAA aeronautical communications); See also *Edgewater Broadcasting, licensee of Station K271BV, Santa Maria, CA*, Notice of Violation, File No. EB-FIELDWR-19-00029012 (EB, Jun 21, 2019) (Translator operating over 11 miles away from its authorized location); See also *Akma Broadcast Network, Licensee of Station WPSO(AM), New Port Richey, FL*, Notice of Violation, File No. EB-FIELDSCR-19-000289354 (EB, Apr. 16, 2019) (Daytime-only AM station operating after local sunset without authorization); See also *Elohim Group Corporation, Licensee of W228DF*, Notice of Violation, File No. EB-FIELDSCR-18-00026310 (EB, Mar 8, 2019) (Operating with two bays instead of one, change in transmitter power output without license modification, at other times operating at excessive power well above authorized tolerances).

⁷⁹ - See *Entercom License, LLC*, Hearing Designation Order, File Nos. BRH-20050728AUU and BRH-20170730ANM, 31 FCC Rcd 12196 (2016); also Memorandum Opinion and Order, 32 FCC Rcd 7149 (2017) at ¶ 4 ("[O]n February 3, 2017, Entercom notified the ALJ that it was discontinuing the operation of KDND(FM), no longer prosecuting its renewal applications for the station, and tendering the station's license for cancellation.")

36. Compliance is a huge issue for LPFM operators, which we feel that both REC and the NAB agree can include both experienced and inexperienced personnel. REC preaches LPFM compliance through our various channels including the website and social media. REC provides a “demystified” version of the Commission’s “Self Inspection Check List” training that puts the aspects of doing mock inspections into a more plain English form.⁸⁰ REC provides additional training resources as well as a review of underwriting content in order to assure compliance. Our resources are there as long as people ask for them.

37. REC also acknowledges that some LPFM licensees have obtained their licenses without the spirit of localism and the noncommercial nature of the service in mind. This is no different to the speculation that we may see in other services, such as the speculation activity that took place in the Auction 83 FM translator filing window. This is why once every eight years, the Commission offers an opportunity for the general public to participate in the process to keep stations “real”. This process is currently playing out for radio. We also note that REC has been historically active in “calling out our own” through our ongoing efforts to identify bad actors within LPFM.⁸¹ It is REC’s position that no LPFM station is above the law.

38. Where it comes to a more “advanced” style of application, such as contours, if the Commission sets expectations up front and enforces them during the application process (i.e. dismissing LP-250 upgrade applications that do not include a contour study), then we will be able to maintain the quality of the application and better assure that facilities will be constructed in accordance with their underlying permits. In addition, the concept of LP-250 that REC is requesting that the Commission move forward to a *Further Notice of Proposed Rulemaking* does address concerns raised by the Commission, NAB, EMF and others.

⁸⁰ - <https://recnet.com/checklist>

⁸¹ - See *South Miami Hispanic Community Radio*, REC Reply Comments, File No. BNPL-20131112BEE (Jun 8, 2017) (application dismissed by letter 1800B3-ATS, July 13, 2017); See also *HGN Music & Education Foundation*, Informal Objection of REC Networks, File No. BALL-20160930AAI (Oct. 3, 2016) at p. 5 (“The LPFM community is fed-up with the alleged conduct taking place by parties who give the impression that they are attempting to gainfully profit from this service as well destroy the integrity of LPFM (sic) and weaken the efforts to maintain a community-based service in future filing windows.”); See also *Omega Christian Communications* (Omega), Informal Objection of REC Networks, File No. BLL-20190523AAI and BTCL-20190523AAE (May 27, 2019) (questioning a transfer of control that raises concern about a close familial relationship that would result in a prohibited attributable interest with a full-service NCE station. After REC working with Omega to resolve, transfer application voluntarily dismissed Sep. 4, 2019, Informal Objection on license application withdrawn and license application granted Sep. 18, 2019); See also *San Pedro Hispanic Community Radio*, File No. BLL-20190802ABA, Informal Objection of REC Networks (Aug. 6, 2019 plus supplements) (demonstrated that facility was never constructed) (application and objection dismissed Aug 30, 2019).

4. Low Power and Full-Service should be working together against the much bigger threat of pirates and streaming services

39. Instead of working against the interests of hyperlocal radio (which LP-250 is also capable of being), the NAB should be working together with the LPFM and other radio communities in order to improve the “quality of life” on the 100 channels that our services have been allocated. This type of cooperation is more important than ever before, especially with the changing marketplace and fewer people actually turning on the radio to listen to any station, full-service, low-power or otherwise.⁸² Likewise, state broadcast associations should be more receptive to LPFM stations (some currently are) and encourage LPFM stations to participate in programs like ABIP.⁸³ REC does its best to reach out to as many LPFM stations as we can. This can be a challenge due to the segmented nature of the service.⁸⁴

40. If the Commission was to regulate entire services through the use of “broad brush” statements, such as those made about LPFM licensees in the past by the NAB, we would have never had any progress in any service at all. Again, the threat to radio is not LPFM; the real threats are “non-radio” (streaming services) and pirate radio.⁸⁵ The expansion of LPFM means more choices and more voices on the original “app” for information and entertainment, also known as radio. Once a listener rediscovers their radio (or discovers it for the first time), they will want to explore, and they will tune around. Giving more variety means more reasons to push the “on” button and more opportunities for listeners for both the commercial and noncommercial stations.⁸⁶

⁸² - See also Bradley, Michelle, *LPFM is Not A Threat To Full-Service Radio*, Radio World (May 22, 2019), pp. 29-30.

⁸³ - “ABIP” is the Alternative Broadcast Protection Program, which is a collaboration between the Commission’s Enforcement Bureau and various state broadcasters associations.

⁸⁴ - See also <https://recnet.com/6segments>

⁸⁵ - “Pirate radio” commonly refers to the unauthorized operation of radio frequency apparatus in the spectrum allocated for broadcasting in violation of 47 USC §301 and does not include certified intentional radiators operating in accordance with Part 15 of the Commission’s Rules.

⁸⁶ - See also McIntyre, Hugh, *Millennials Aren’t Very Interested In Traditional Radio Any More*, Forbes (Jul. 12, 2016), retrieved October 20, 2019 at <https://www.forbes.com/sites/hughmcintyre/2016/07/12/millennials-arent-very-interested-in-traditional-radio-any-more>

F. A revised plan to introduce LP-250 in a manner that addresses interference concerns

1. Proposal basics

41. As previously mentioned, REC is withdrawing the concept of the “§73.815 regime” that was originally proposed in RM-11810 in favor of a more “back to basics” approach similar to what was proposed in RM-11749 and in the *Fourth FNPRM*. Like as proposed in the *Fourth NPRM*, RM-11749 and RM-11810, LP-250 would be considered 250 watts (0.25 kW) at 30 meters HAAT with a standard service contour of 7.1 kilometers.

42. LP-250 would use the same minimum distance separation requirements as LP-100 stations towards domestic full-service FM stations on co- and first-adjacent channels by extending the interfering contours of LPFM stations into the 20 kilometer “buffer zone” that surrounds the class-maximum service contours of the full-service station classes. Distances to second-adjacent channel full-service stations, FM translators, other LPFM stations and foreign FM facilities and allotments would be increased to reflect the increased LP-250 interfering contour as the “buffer zone” was never implemented to these services.

43. To assure that LP-250 stations, especially those in “foothill” areas will not interfere with incumbent facilities, we propose several “backstops” to assure protection. At the application process, we propose that LP-250 upgrade applications must meet the minimum distance separations but also include a contour study to demonstrate that the upgraded service will definitely not result in any contour overlap. Then after the construction of the upgraded facility, an interference remediation policy similar to the one that has been recently implemented for FM translators can be used for LP-250 upgraded facilities at the time when a station commences their upgraded operation.

2. Restricting LP-250 to upgrades from LP-100

44. REC proposes that LP-250 stations must be restricted to upgrades to operating LP-100 stations only. By requiring upgrades to LP-250 as opposed to allowing LP-250 on an original construction permit, the demand for spectrum by LPFM stations can be properly gauged.⁸⁷ If spectrum is too crowded where two LPFM stations are spaced between 24 and 26 kilometers apart on co-channel, this could inhibit a future upgrade to LP-250. This will also assure that during the filing window, all mutually exclusive applicants are competing with like facilities. Stations upgrading to LP-250 would have already made their

⁸⁷ - See also RM-11749 at p. 25.

investment in their LP-250 facilities. For some existing stations upgrading to LP-250, it will mean either the addition of an additional antenna bay, switching to a higher gain antenna or upgrading to a higher powered certified transmitter that can handle more than 300 watts transmitter power output.

45. Requiring upgrades only will also put an LPFM station into a situation where, in the event that after the upgrade, there is actual interference as determined in a manner similar to the interference remediation rules put in place for FM translators that an LP-250 station would be able to remedy the situation by downgrading back to their previous LP-100 facilities without the loss of a significant investment. As noted in our proposal, LP-250 stations would be subject to an additional level of interference remediation and an “outer contour” protection requirement that would not be applicable to LP-100 stations.

46. In the past, Amherst and CRA had proposed that LP-250 be limited to rural and suburban areas while other organizations such as REC and Common Frequency supported LP-250 “wherever it can fit”. Amherst promoted the use of specific, but obsolete, U.S. Census Bureau area designations in order to state where LP-250 stations were permitted.⁸⁸ This position was reached based on the assumptions that the LP-10 service could be “saved” and that LP-250 could be applied for on the original construction permit.⁸⁹ Through the use of distance separation to other facilities, especially with all of the translators that were established since 2018 and the demand for new LPFM stations in an upcoming filing window, the areas of the country where LP-250 is available will come more “naturally”. While LP-250 may be available in a few more urbanized areas and clusters, the distance separation requirements to FM translators and other LPFM stations as well as the additional requirement of intermediate frequency protection for LP-250 stations operating 101 watts ERP or more will naturally control the distribution of LP-250 stations without the need to draw lines in the sand. For spectrum efficiency, this is definitely the better way to manage the opportunities for some LPFM stations to improve their coverage both inside their current 5.6 kilometer core area as well as expand out to better cover fringe areas.

47. Due to a lack of LPFM certified transmitters operating more than 350 watts, REC recommends LP-250 operation using a 2-bay circularly polarized antenna or high-gain vertical antenna and

⁸⁸ - See Note. # 3 *supra*.

⁸⁹ - See *Comments of Amherst Alliance*, MB Docket 99-25 (May 7, 2012) at p. 9 (“We believe that 1-10 watt stations belong in “center city areas while LP250s don’t.”)

a low loss feedline.⁹⁰ This can assure the ability to operate LP-250 using the existing certified transmitter that many LPFM stations had already purchased for LP-100 operation.

3. Protection to full-service stations on third-adjacent channels

a. Introduction

48. As a part of this proceeding, REC has agreed to have an “open mind” about the potential for a requirement for a third-adjacent channel protection requirement for LP-250. As a part of our open minded analysis, we have previously determined that the LCRA may prohibit the Commission from imposing a third-adjacent channel protection requirement but as the Commission had previously determined, the LCRA does not address the effective radiated power of LPFM stations. We are also mindful of the results of the MITRE Report that was ordered by the RBPA to evaluate LPFM performance on third-adjacent channel short spacings.⁹¹

b. What if there was a third-adjacent channel protection requirement?

49. This data applies only if the Commission was to impose a third-adjacent channel protection requirement that can be waived. Prior to determining whether an LPFM is otherwise disqualified for an upgrade due to short-spacing to an FM translator, another LPFM station, a subsequently authorized full-service station or allotment or a foreign facility, an analysis has determined that approximately:

- 9.0 % of LPFM facilities are short-spaced to both a second- and a third-adjacent facility and the third-adjacent channel facility puts a weaker field strength at the transmitter site. This would mean that for an upgrade, the LPFM would have to make a showing of a lack of interference in the interfering contour of the LPFM station based on the field strength of the third-adjacent channel station.
- 4.5 % of LPFM facilities are short-spaced to both a second and a third-adjacent facility and the third-adjacent channel facility puts a stronger field strength at the transmitter site. This means that for an upgrade, the the LPFM would have to make a showing of a lack of interference in the interfering contour of the LPFM station based on the field strength of the second-adjacent channel station.

⁹⁰ - REC maintains a list of LPFM certified transmitters at <https://recnet.com/certified>.

⁹¹ - See *Experimental Measurements of the Third-Adjacent Channel Impacts of Low Power Stations, Volume One: Final Report*, MITRE Corporation (May 2003) (“MITRE Report”) available at: <https://www.recnet.net/mitre/2.pdf>

- 18.3 % of LPFM facilities are not second-adjacent channel short-spaced but would be third-adjacent channel short spaced. This means that an LPFM station seeking to upgrade would be required, for the first, to make a showing of a lack of interference in the interfering contour of the LPFM station based on the field strength of the third-adjacent channel station.
- Just for information only, 30.7 % of LPFM facilities are second-adjacent channel short-spaced but not third-adjacent channel short-spaced. This means that for an upgrade, the the LPFM would have to make a showing of a lack of interference in the interfering contour of the LPFM station based on the field strength of the second-adjacent channel station.

If there was a third-adjacent channel requirement to upgrade to LP-250, it would impact approximately 31.8% of current LPFM stations. Again, we stress, this data only applies in the event that the Commission would ever require a third-adjacent channel spacing requirement, a move which we feel would violate statute, regardless of output power.⁹²

c. A third-adjacent channel protection “backstop” already exists

50. Regardless of whether there is a third-adjacent channel protection requirement or not, Section 7 of the LCRA already has a comprehensive third-adjacent channel remediation statute that would apply to both LP-100 and LP-250 stations. In Section 7(1), the LCRA states:

With respect to those low-power FM stations licensed at locations that do not satisfy third-adjacent channel spacing requirements under 73.807 of the Commission’s Rules (47 CFR 73.807), the Federal Communications Commission shall provide the same interference protections that FM translators and FM booster stations are required to provide as set forth in section 74.1203 of its rules (47 CFR 74.1203) as in effect on the date of enactment of this Act.⁹³

51. What this means is that as of today, full-service stations, FM translator and FM booster stations that are receiving actual interference from a LPFM station on a third-adjacent channel can use the “old” translator interference rules to seek relief from the LPFM station. This law was codified as §73.810(a). Even prior to the LCRA, there was a third-adjacent channel remediation rule that has existed in §73.810 since 2000.⁹⁴

⁹² - Based on REC analysis of CDBS raw data in effect as of close of business, October 15, 2019.

⁹³ - LCRA § 7(1).

⁹⁴ - Text of the original §73.810 adopted May 22, 2000, 15 FCC Rcd 19208:

§ 73.810. Third adjacent channel complaint and license modification procedure.

(a) An LPFM station is required to provide copies of all complaints alleging that the signal of such LPFM station is interfering with or impairing the reception of the signal of a full power station to such affected full power station.

(b) A full power station shall review all complaints it receives, either directly or indirectly, from listeners regarding alleged interference caused by the operations of an LPFM station. Such full power station shall

52. About 19 years have passed since §73.810 was first implemented. REC Networks is not aware of even one case where a third-adjacent channel interference case, under this rule has resulted in some form of displacement of an LPFM station thus suggesting in this day and age, that third-adjacent interference is nothing more than just an urban legend, especially at the lower powers of LPFM and FM translator stations. It is important to realize that for other parts of the world, the International Telecommunications Union (ITU) does not even publish protection standards for third-adjacent channels (600 kHz).⁹⁵

53. Therefore, it can be concluded on this issue that LPFM already has a comprehensive third-adjacent channel interference remediation requirement that is now even stricter than the one that is used for FM translators. Statute prohibits the Commission from enacting the revised translator interference rules to third adjacent channel LPFM interference cases. While the probability for an interference case would increase with the slightly larger LPFM interfering contour, REC does not foresee any significant increased interference to third-adjacent channel FM facilities as a result of the implementation of LP-250 without a

also identify those that qualify as bona fide complaints under this section and promptly provide such LPFM station with copies of all bona fide complaints. A bona fide complaint:

(i) Is a complaint alleging third adjacent channel interference caused by an LPFM station that has its transmitter site located within the predicted 60 dBu contour of the affected full power station as such contour existed as of the date the LPFM station construction permit was granted;

(ii) Must be in the form of an affidavit, and state the nature and location of the alleged interference;

(iii) Must involve a fixed receiver located within the 60 dBu contour of the affected full power station and not more than one kilometer from the LPFM transmitter site; and

(iv) Must be received by either the LPFM or full power station within one year of the date on which the LPFM station commenced broadcasts with its currently authorized facilities.

(c) An LPFM station will be given a reasonable opportunity to resolve all interference complaints. A complaint will be considered resolved where the complainant does not reasonably cooperate with an LPFM station's remedial efforts.

(d) In the event that the number of unresolved complaints plus the number of complaints for which the source of interference remains in dispute equals at least one percent of the households within one kilometer of the LPFM transmitter site or thirty households, whichever is less, the LPFM and full power stations must cooperate in an "on-off" test to determine whether the interference is traceable to the LPFM station.

(e) If the number of unresolved and disputed complaints exceeds the numeric threshold specified in subsection (d) following an "on-off" test, the full power station may request that the Commission initiate a proceeding to consider whether the LPFM station license should be modified or cancelled, which will be completed by the Commission within 90 days. Parties may seek extensions of the 90 day deadline consistent with Commission rules.

(f) An LPFM station may stay any procedures initiated pursuant to paragraph (e) of this section by voluntarily ceasing operations and filing an application for facility modification within twenty days of the commencement of such procedures.

⁹⁵ - See *Planning Standards for Terrestrial FM Sound Broadcasting At VHF*, ITU-R BS.412.9 (Dec. 1998) at § 2.3.2. See also *Id.* at Annex 2 § 2 ("[M]easurements were made with normal modulation of the interfering transmitter and for carrier spacing up to 1 MHz. The measurements showed that, beyond 400 kHz, there was no relationship whatsoever between protection ratios, whether or not the unwanted carrier was modulated.")

third-adjacent channel protection requirement and concludes that a third-adjacent channel protection requirement (regardless of statute) is not necessary for LPFM stations.

4. Preventing contour overlap by “foothill effect” stations

54. For LP-100, the Commission uses a distance separation method to protect incumbent facilities of all classes from new LPFM facilities.⁹⁶ As the current LP-100 service is based on a 5.6 kilometer average service contour, the station’s ERP is based on a calculation of HAAT. If the HAAT exceeds 30 meters, then a reduction of the ERP is made to achieve a 5.6 kilometer service contour. HAAT is calculated by taking into consideration by reviewing the elevations at 50 points between 3 and 16 kilometers along 8 equally spaced radials and then the elevation along each radial is averaged and then those calculations averaged to determine the HAAT.⁹⁷

55. The “foothill effect” is caused when using the calculation described in the previous paragraph shows that the transmitter site is at a location where about half of the land area is a much taller mountain range and the other half is a valley at a much lower elevation. As the elevations towards the mountain and those towards the valley “even out”, it will create a low HAAT thus meaning a LPFM station would be at a higher elevation in respect to the valley below and as a result of being able to operate maximum (100 watts) power, the LPFM station would create a larger than normal service and interfering contours towards the populated valley area.⁹⁸ In some cases, such as the former *Razorcake* case, “foothill effect” would result in a interfering contour of an LPFM station overlapping the protected contour of an incumbent station. In *Razorcake*, the 60 dBu service contour of the LPFM station (at LP-100) extended as far as 14.15 kilometers and the 40 dBu interfering contour extended to 46.54 kilometers. This created an overlap with KYLA, Fountain Valley, California. EMF fought to keep this station off the air. The station never made it to air.

56. Because of the general nature of terrain across this country, it is expected that on many stations along certain radials, the service contour would exceed 5.6 kilometers and likewise, along some radials, the contour would be less than 5.6 kilometers, especially if power is reduced. In most cases where

⁹⁶ - 47 C.F.R. §73.807.

⁹⁷ - 47 C.F.R. §73.313(d).

⁹⁸ - In *Razorcake*, the HAAT for the originally granted application was minus 235 meters based on FCC30 terrain data. The 8 radials were as follows: (0) minus 962.2 m, (45) minus 796.6 m, (90) minus 173.2 m, (135) 176.9 m, (180) 173.6 m, (225) 98.5 m, (270) minus 12.7 m and (315) minus 386.3 m. The resulting calculation was $((-962.2)+(-796.6)+(-173.2)+176.9+173.6+98.5+(-12.7)+(-386.3)) / 8 = \text{minus } 235$.

the service contour of the LPFM station exceeds 5.6 kilometers, the excess interfering contour is absorbed by the “buffer zone” put in place between LPFM and full-service FM stations.⁹⁹

57. While “foothill effect” can be caused by a small number of LPFM stations at the LP-100 level, it will be further amplified at the LP-250 level because of the larger interfering contours from LPFM stations. REC recognizes that this is something that concerns EMF and NAB alike. We can address “foothill effect” by putting into place, the use of contour overlap as a “backstop” to the current distance separation requirement. Under this backstop method, LPFM stations would still have to meet minimum distance separation as required by the LCRA. These distance separation requirements would be at the LP-100 level as REC has withdrawn the concept of using the “hybrid” “§73.815 regime” that was proposed in RM-11810.¹⁰⁰

58. Under our proposed rules for LP-250, all applications to upgrade to LP-250 must meet minimum distance separations based on the values proposed by the Commission in the *Fourth FNPRM* and by REC in RM-11749 and must also include a contour study that shows the interfering contour of the proposed LP-250 facility and a demonstration that the LP-250 interfering contour does not overlap or increase overlap to the protected contours of incumbent stations. If there is overlap at the 250 watt (7.1 km service contour) level, the applicant can request a reduced power as low as 101 watts (5.7 km service contour).

5. Interference remediation by LP-250 stations

59. A couple of main objectives of LP-250 is to demonstrate that LPFM is a mature service and to bring LPFM to a more level playing field with FM translators. REC has understood from day one that the increase in interference contours towards other broadcast stations could become a factor, especially in areas where “foothill effect” is an issue. Our industry’s recent experience with the placement of new FM

⁹⁹ - The “buffer zone” is calculated by adding the class standard distances of the LPFM interfering contour (18.577 km for co-channel and 7.987 km for first-adjacent channel) and the full-service service contour and then an additional 20 kilometer “buffer zone”. For example, co-channel distance separation to a Class A station is 67 kilometers. This is calculated by adding 18.577 + 28.295 (class A service contour) + 20 = 66.872 rounded to 67 kilometers. FM translators, LPFM stations and foreign FM facilities do not use the buffer zone.

¹⁰⁰ - LP-250 proposes to use the same distances as LP-100 for distance separation on co-channel and first-adjacent channel full-service FM stations. Distances to FM translators, other LPFM stations, foreign FM and second-adjacent channel full-service FM facilities would increase slightly as a result of the larger LPFM interfering contour at the LP-250 level. REC’s approach in the instant pleading is not the proposal from RM-11810 which called for using the lower LP-10 tables to make a “hybrid” contour-based regime. REC has withdrawn that strategy. What we are proposing here is closer to what was originally proposed in RM-11749 which addressed LP-250 proposals with unusually large interfering contours.

translators has demonstrated that despite the use of contour protection to space stations apart, there must also be an additional “backstop” to address those exceptional situations where distance separation and contour overlap are not sufficient to prevent actual interference to an incumbent facility.

60. Recently in MB Docket 18-119, the Commission had updated the interference remediation rules for FM translators by striking a balance between managing FM band spectrum, providing greater certainty for translator operators and preserving existing protections for full-service stations.¹⁰¹ With the exception of not having a third-adjacent channel protection requirement, an LPFM station is no different than an FM translator from a signal quality perspective. If anything, because LPFM uses distance separation instead of contour overlap, LPFM stations better protect full-service stations than FM translators do in most cases. Even with the increase of LPFM interfering contour as a result of LP-250, the increased interfering contour will remain inside the “buffer zone” in flat earth and most other terrain situations.¹⁰²

61. In order to assure that there would be redress available to incumbent facilities in the event of any actual interference that would take place as a result of an upgraded LP-250 stations, REC would endorse the use of the recently changed translator interference remediation rule in §74.1203(a) to also be used by LP-250 stations operating on co-channel, first- and second-adjacent channels.¹⁰³ Therefore, in the event of an upgraded or moved LP-250 causing interference to an incumbent station, the incumbent would have to identify a specific minimum listeners (based on coverage contour population) that are within their 45 dBu contour and where contours demonstrate that there is a qualifying undesired to desired (U/D) ratio in order to count the listener as part of a complaint package.

¹⁰¹ - See *Amendment of Part 74 of the Commission's Rules Regarding Translator Interference*, Report and Order, 34 FCC Rcd. 3457 (2019) at ¶ 4.

¹⁰² - At LP-100, the “flat earth” LPFM interfering F(50, 10) contour at co-channel is 26.8 km (34 dBu) towards Class B stations, 22.4 km (37 dBu) towards Class B1 stations and 18.6 km (40 dBu) towards all other classes of service. At LP-250, the LPFM interfering contour at co-channel is 35.6 km towards Class B (8.8 km inside the buffer zone), 28.5 km towards Class B1 (6.1 km inside the buffer zone) and 23.8 km (5.2 km inside the buffer zone) towards all other classes. Therefore, LP-250 can still afford an 11.2 km co-channel buffer zone towards Class B stations up to a 14.8 km buffer zone towards facilities other than Classes B and B1. The penetration of the LP-250 interfering contour into the buffer zone on first-adjacent channel is much smaller and at worst case, is 2.7 km into the buffer to protect Class B stations.

¹⁰³ - For third-adjacent channels, the LCRA mandates the current remediation rule codified in §73.810(a). See also LCRA § 7(1).

62. REC proposes this interference remediation rule only for LP-250 and not LP-100. At LP-100, the interference complaints and concerns have been few and far between.¹⁰⁴ There has been few, if any cases of true demonstrated interference from cases where LPFM (LP-100) stations located at §73.807 minimum distances operating at their authorized facilities has caused interference to incumbent stations. Therefore, if an LP-250 station does cause interference to a point where it triggers the §74.1203(a) process as a valid case of interference, the LPFM's recourse would be to create a solution within the LP-250 rules or by downgrading back to LP-100.

63. One of the arguments against LP-250 and other changes for LPFM has been that translators are better equipped to reduce power or shut down in the event of interference and that FM translators are more financially qualified to do and if it happens to an LPFM station, it could lead to financial ruin.¹⁰⁵ This will not happen if upgrades are limited to built and licensed LP-100 facilities. Under the proposed rules, if an LP-250 upgraded station causes actual interference, one of the recourses available to that station is to downgrade back to LP-100 and continue operating in that manner. In most cases, this is just as simple as turning the transmitter power output back to the former LP-100 level. We do not see this as being a huge impediment to potentially upgrading LP-100 stations and if implemented correctly, would make the opposition's remarks moot.

6. Antennas and transmitters used for LP-250

64. Currently, over 1,500 licensed LPFM stations are identified using some form of a single section antenna. This can include gain verticals but we do feel that a majority are operating circularly polarized antennas such the Nicom BKG-77 and the Shively Labs 6812b. In a single-bay configuration, circularly polarized antennas would normally have 3 dB of loss. Single-bay vertical antennas such as the Norwalk Dominator and the Comet FM-95SL do exhibit a gain of 3 dB or greater. A large majority of the transmitters that have been identified as certified for use in the LPFM service operate at power levels of

¹⁰⁴ - We note that even in *Razorcake*, since the station did not even go on the air, there was no way of demonstrating the true interference that facility would have caused. Early in the *Razorcake* proceeding, REC did point out that between the LPFM transmitter site and the victim full-service station, there was additional intervening terrain that would have shadowed or otherwise further attenuated the signal prior to reaching the full-service station's protected contour. See *Razorcake*, REC Opposition (Jul. 14, 2014) at p. 4.

¹⁰⁵ - See EMF *ex parte* letter (Jan 30, 2012) at p. 3 (“For a broadcaster, such a situation, while serious, is a cost of doing business. For an LPFM applicant, who may have raised funds specifically for the operation of an LPFM station on a given frequency, an interference complaint that causes them to shut down their station could cause the LPFM operator to lose everything – including the costs of establishing the station, with no opportunity to operate at all.”)

350 watts or less.¹⁰⁶ Circular polarized antennas operating with two or more bays will experience unity (zero) gain or an actual gain factor. For example, according to manufacturer's specifications, a 2-bay Nicom BKG77 or 88 antenna with 0.85 wavelength spacing could exhibit a gain of 2.14 dB.¹⁰⁷ Because the single-bay circular polarized antennas do have this insertion loss, it is not uncommon for a LP-100 station authorized at 100 watts ERP to be operating more than 250 watts transmitter power output.

65. In order for LP-250 to be successful, LPFM stations will need to operate an antenna system that exhibits gain or at least unity gain (0 dB). LPFM stations at lower HAAT with aspirations to eventually seek an upgrade authorization at LP-250 should plan for a minimum 2-bay circular polarized or a ground plane vertical with gain. This will assure that the transmitter power output remains under 350 watts, the maximum specified for the most popular LPFM certified transmitters. Of course, this would not stop the industry from certifying a higher class (i.e. 600 watt) transmitter for LPFM use. Even in a rare case where an LP-250 station is required to downgrade back to LP-100, the upgraded antenna system will still be able to handle the lower power assuming that there was no channel change or if the station is using a broadband antenna such as the Nicom BKG-77.

66. For LP-250 stations, we had proposed the requirement of a contour study as a backstop to the minimum distance separation requirements. With that comes a debate on whether §73.816 should be amended to permit LP-250 stations to use directional antennas in order to demonstrate a lack of contour overlap while still being subject to the interference remediation backstop that we had already proposed.

67. While REC prefers to permit directional antennas in order to protect incumbent stations, we recognize the reluctance by NAB and others who are concerned about LPFM stations operating directional antennas citing a "lack of experience". We do note that since we are proposing to limit LP-250 to upgrades by already licensed stations, the upgrades will only be done by organizations that have already experienced the construction of a station. The requirement of a contour study in all cases means that the applicant is much more likely to obtain the services of a professional consultant or consulting engineer. Not having directional antennas in LP-250 is not a dealbreaker for REC, but it is something that is preferred, especially given the additional interference remediation rules proposed for LP-250 that do not apply for

¹⁰⁶ - See <https://recnet.com/certified>

¹⁰⁷ - See <https://recnet.com/gain-tables>

LP-100.¹⁰⁸ We note that in some cases, LP-250 upgrade applicants may need to only reduce the ERP on a nondirectional antenna in order to clear the contours. For many LPFM stations, this will be a more cost-effective measure but regardless, the option for directional antennas should be there for those who have the resources to use them. This is no different than an FM translator.

III. THE COMMISSION NEEDS TO CONSIDER THE USE OF CONTOURS IN RESPECT TO FM TRANSLATORS AND OTHER LPFM STATIONS

A. Overview

68. When the LPFM service, one of the goals of William Kennard's FCC was to assure that the service was simple.¹⁰⁹ Applicants only needed to use an online channel finder, including one provided by the Commission and then a more simplified version of a broadcast application (think of FCC Form 318 as the "1040-EZ" version of FCC Form 340). In addition, the Commission also put fewer "burdens" on these new-entrant LPFM stations including no requirement for a public inspection file and ownership reports.¹¹⁰ In a rush for simplicity, the 2000 Commission watered down certain rules and left some rules out altogether.¹¹¹ This includes rules that may have statutory consequences such as public notice, which is being discussed in a different proceeding, and requirements to report stations as "silent", which REC is addressing in these comments *infra*. The 2000 Commission also simplified LPFM by using simple distance separation requirements between all other facilities including full-service FM, FM translators, other LPFM stations, TV channel 6 stations and foreign FM facilities and allocations.¹¹²

B. The disparity between LPFM and FM translator interference protections

69. *LPFM protecting FM translators* - As just stated, LPFM stations use a very simplistic method of distance separation between their stations and other facilities including FM translators. In respect

¹⁰⁸ - For LP-250, we are willing to entertain a compromise on directional antennas which would require a minimum 15 dB maximum to minimum ratio and no more than 2 dB difference per 10 degrees. This would assure the LPFM station is operating the fullest service possible and still keeps the stations a reasonable distance from the otherwise overlapping facility.

¹⁰⁹ - See LPFM *NPRM*, 14 FCC Rcd 2471 (2000) at p. 62 ("However, recognizing that LPFM 100 and microradio licensees may be small, inexperienced operators who would be serving fairly limited areas and audiences, we intended to keep this service as simple as possible.")

¹¹⁰ - See *Id.* ("Accordingly, we intended to keep reporting, recordkeeping, and other compliance requirements to a minimum.")

¹¹¹ - See R&O at ¶ 166.

¹¹² - See R&O at ¶¶ 68-104.

to LPFM, FM translators are placed into three “sub-classes” based on the size of their average 60 dBu service contour.¹¹³ For example, an LPFM (LP-100) station is required to protect an FM translator that has an average service contour of more than 13.3 kilometers by at least 39 kilometers. For the purpose of the LPFM rules, the Commission treats all translators as non-directional facilities with 7.3, 13.3 or 20 kilometer service contours.¹¹⁴ LPFM rules do not take a translator’s directional antenna into consideration. LPFM rules also assume LPFM stations are operating at full facilities (100 watts ERP at 30 meters HAAT). LPFM stations must protect translators on co-channel, first- and second-adjacent channels. Because of the use of distance separation, there is no interference remediation backstop in the event that a new or modified LPFM facility causes actual interference to a FM translator.

70. *FM Translators protecting¹¹⁵ LPFM* – FM translators protect all other facilities, except for intermediate frequency by the contour overlap method.¹¹⁶ Using the contour overlap, the translator’s interfering contour may not overlap the protected contour of the incumbent facility, including LPFM stations. Except during the LPFM application process, LPFM stations are treated by FM translators to their actual facilities.¹¹⁷ Therefore, if a LPFM station is running reduced power due to a second-adjacent channel waiver, the translator only protects the actual smaller contour. Towards an LPFM station, the translator may take advantage of a directional antenna and use the null of their directional antenna in order to place the translator very close to the LPFM with a directional antenna looking away. FM translators have an interference remediation backstop rule where in the even of actual interference, despite a lack of contour overlap, the FM translator would be required to remediate the interference.¹¹⁸ FM translators are only required to protect LPFM stations on co- and first- adjacent channel.¹¹⁹ There is no second-adjacent channel protection requirement.

¹¹³ - See 47 C.F.R. §73.807(c).

¹¹⁴ - For FM translators of 13.3 kilometers or more, §73.807(c) requires a co-channel 39 kilometer separation. As the interfering contour of a LP-100 station is 18.577 kilometers, by adding a 20 kilometer protected contour of the translator, it comes out to 38.577 kilometers, rounded up to 39 kilometers.

¹¹⁵ - See R&O at ¶ 64.

¹¹⁶ - 47 C.F.R. §74.1204(a) for contour protection requirements and §74.1204(g) for intermediate frequency.

¹¹⁷ - See 47 C.F.R. §74.1204(a)(4), note.

¹¹⁸ - See 47 C.F.R. §74.1203(a).

¹¹⁹ - See 47 C.F.R. §74.1204(a)(4).

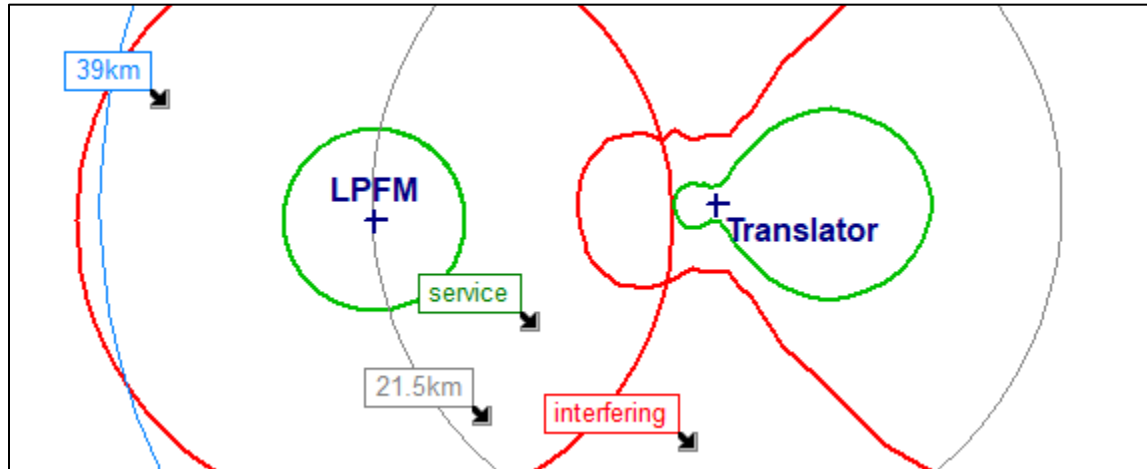
71. *The advantage goes to the translator* – Because the FM translator can use directional antennas to come in close to a LPFM station, it can create a “box-in” situation that prohibits the movement of LPFM stations in certain directions even if it could be shown that there is no interference using contour methodology. Because of the lack of a second-adjacent channel protection requirement by FM translators towards LPFM stations, an FM translator can place a 100 dBu interfering contour deep inside the LPFM station with no regard of that LPFM station’s protected contour. Likewise, it creates a new second-adjacent channel short-spacing which in many cases of facility moves by LPFM stations, prohibits the LPFM station from moving or requiring the LPFM station to invest in a much more expensive antenna during a facility move.

72. *LPFM overprotection of directional FM translators* – As we had stated, LPFM treats FM translators in one of three cookie-cutter configurations, all of which being considered non directional. Let’s say you have an FM translator with a 14 kilometer service contour and a directional antenna with a substantial null, such as a Kathrein Scala CL-FM and that null is in the direction of the LPFM, the spectrum is being blocked out from an LPFM opportunity for the sake of simplicity.

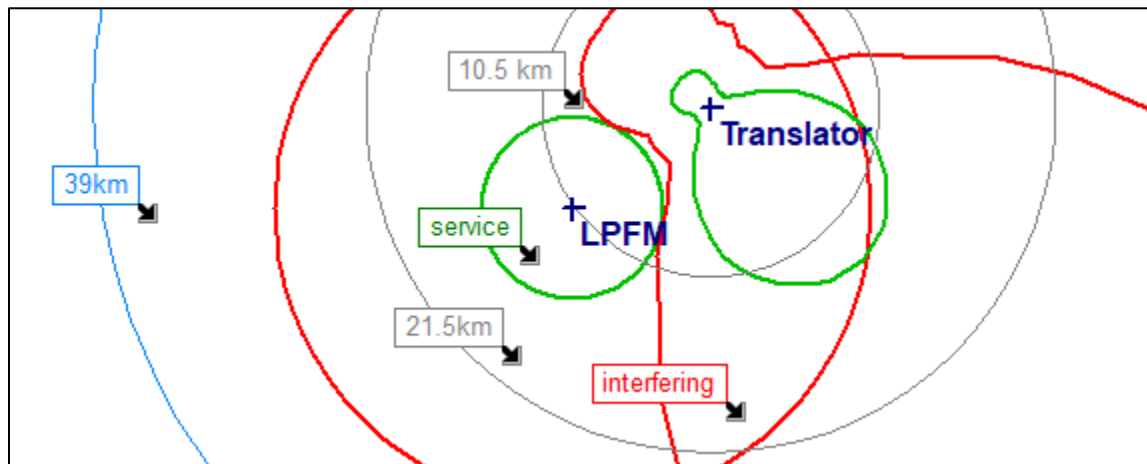
The following diagram depicts an LPFM translator with a 13.4 kilometer service contour and a directional antenna pointed 180 degrees in the opposite direction of the LPFM station. Because of the distance separation rule, this LPFM station can’t move any closer to a translator (this depicts current LPFM rules):



If that LPFM station was a translator, it could move a lot closer to the FM translator and still not place an interfering contour into the translator's protected contour. In this example, the LP-100 non-directional facility could potentially come as close as 21.5 km from an LPFM station if a contour overlap rule was in place for LPFM to translator protection:



However, if the tables were turned, the FM translator could move closer to the LPFM station and use their directional antenna to place the translator very close to an LPFM station (in this example, 10.5 km) and still put a significant signal to the east of the LPFM station:



As these diagrams have demonstrated, the advantage definitely goes to the translator.

C. Assuring that local voices remain on the air

73. As we have experienced with AM Revitalization, first with a migration of FM translators from smaller towns to bigger cities up to 250 miles away and then the explosive growth of FM translators as a result of the Auctions 99 and 100 filing windows, this concentration of translators, while has been a benefit to some struggling AM broadcasters has placed a new level of interference to the existing hyperlocal LPFM stations and because of the disparity in protection rules, has resulted in a reduction of choices of

channels that stations can move to in the event the interference is so serious, some stations have considered admitting defeat because LPFM stations have had their protected contours “hugged” by these translators, some claiming to operate with very questionable directional patterns.

74. Unlike the FM translators, LPFM stations do not have an alternate AM or HD-FM signal that is available for listeners. For LPFM stations, their 100 (or 250)-watt facility is their primary signal. While there is a complaint process, this process can be complex and expensive for LPFM operators, many without the financial or legal backing that urban FM translator owners are less likely to just “put up with it” or shut their stations down because of the invasive interference. In some cases, there may another channel with a translator on it but because of the directional antenna that translator is using, the LPFM station is precluded from moving to that site because of an overly-simplistic distance separation policy in which a directional FM translator operating 250 watts ERP at 110 meters HAAT is considered a nondirectional translator operating 250 watts at 233 meters HAAT.

75. REC’s plan for translator relief puts LPFM stations on a more level playing field by allowing LPFM stations to be placed in areas where interference is less likely and spectrum is more efficiently utilized. This means that our existing community voices will continued to be heard and that there is more opportunities to add new diverse voices to the dial. This type of ownership diversity is definitely in the public interest and has we had stated in previous proceedings, LPFM is a mature service in which a majority of the granted applications filed in the 2013 LPFM filing window were done with “hired help” or otherwise with the assistance of those with the expertise and the proper tools to engineer an LPFM station, especially since the introduction of the second-adjacent channel waiver to the service. In addition to the hired help, various online tools such as Prometheus Radio Project’s RFREE and REC’s myLPFM can be designed to handle contours and varying power levels.

76. So yes, LPFM translator relief and the use of a contour study to demonstrate a lack of interference with the backstop of the existing FM translator interference remediation policy will distribute LPFM and FM stations much more efficiently and will assure that the secondary voices of LPFM and smaller AM stations will remain on the air for years to come. Such a proposal is a win-win for both sides.

D. How the LCRA fits into this

77. REC acknowledges that in recent time, Media Bureau staff has been overwhelmed with arguments about the LCRA including the many filings by others that include a flawed misunderstanding of Section 5 which addresses only *new* FM translator stations as opposed to *modifications* of existing

stations.¹²⁰ The LCRA's application in translator relief and LPFM short-spacing is simple and straightforward as the LCRA's wording is clear on this.

78. Prior to 2011, the RBPA stated that the Commission shall not modify the rules authorizing the operation of LPFM stations to prescribe minimum distance separations for third adjacent channels as well as for co-channels, first- and second-adjacent channels.¹²¹

79. Section 2 of the LCRA changed Section 632 of the Departments of Commerce, Justice, and State, the Judiciary and Related Agencies Appropriation Act, also known as the RBPA to state that the Commission shall modify the rules authorizing LPFM stations to prescribe protections for co-channels, first- and second-adjacent channels. Most notably missing is the language related to minimum distance separations. In the LCRA, the reference to minimum distance separation would move to Section 3(b)(1) where the Commission is directed by Congress to not amend its rules to reduce the minimum co-channel, and first- and second adjacent channel distance separation between low-power FM stations and full-service FM stations.

80. In both Section 3(a) and Section 5, the LCRA makes a distinction between full-service FM stations, FM translator stations, FM booster stations and Low Power FM stations. The wording of the LCRA acknowledges that FM translator stations are not full-service FM stations. The wording in the LCRA, when compared to the predecessor RBPA specifically states that distance separation only applies to the relationship between low-power FM stations and full-service FM stations.

81. In the past, we have seen post-LCRA attempts to request a waiver of the rules to short-space a non-directional LPFM station to a translator dismissed by staff incorrectly stating that the RBPA language that requires LPFM applicants to protect co-channel and adjacent channel stations (without regard to station type) was "re-affirmed" in the LCRA.¹²² When Congress passed the LCRA, they clearly changed the language to clarify that while the Commission must continue to *prescribe protection* on co-, first- and second-adjacent channels, the Commission is only precluded from reducing *distance separation* on codified protections towards *full-service FM* stations. Therefore, the provision of §632(a) referred to in the NEOPA

¹²⁰ - See LCRA § 5 ("The Federal Communications Commission, when licensing **new** FM translator stations, FM booster stations and low-power FM stations, shall ensure that --...") (*emphasis added*)

¹²¹ - See RBPA at § 1(a)

¹²² - See *NEOPA*, Letter from James Bradshaw, File No. BPL-20180629ABR (Jul. 19, 2018).

Letter was incorrectly stated by Staff as being “re-affirmed”. Because the distance separation language was changed to §3(b)(1) and applied only to full-service FM stations, the Commission is not precluded from “reducing” distance separation by permitting, either by waiver or rule, an LPFM station to use contour methodology, an industry accepted solution to demonstrate a basic lack of interference as long as the short-spaced station is *not* a full-service FM station.¹²³

E. “Short-spacing” between two LPFM stations

82. While in most parts of the country where land is flat, a 24 kilometer co-channel and 14 kilometer first-adjacent channel separation between two LPFM stations is sufficient. However, in some parts of the country, such as in California, where there has been a demonstrated demand for LPFM services, there is also a significant amount of terrain features that can both help or hinder an LPFM station. The FM translator rules recognize that intervening terrain, directional antennas, or a combination of both, can attenuate a signal in a particular direction and permit simultaneous operation in areas that would otherwise be considered “short-spacing” if distance separation rules were to apply. Also, as we saw in the 2013 filing window in the Los Angeles MX Group #27, where at one time, there were 32 MX applicants, the use of off-the-shelf directional antennas, intervening terrain and creative time sharing arrangements would have permitted for simultaneous operations over a wide area while still providing protection between all stations that were simultaneously operating. At the time of writing, there is a request for a waiver for two LPFM stations, both facing site availability issues, that have mutually agreed to short-space and protect each station using the directional characteristics of one of the most popular antennas used for LPFM. In addition, intervening terrain attenuates the signals even more when they can demonstrate that there is no location, even using Longley/Rice where more than a -20 dB U/D ratio could be achieved.

83. When LPFM was created in 2000, LPFM stations were only required to protect other LPFM stations on co-, first- and second-adjacent channels. Following the enactment of the RBPA, despite prescribing protections to third-adjacent (as well as co-, first- and second-adjacent channels), it was never interpreted that this statute was meant to apply to LPFM to LPFM relationships as the intention of the RBPA was to address fears of interference by LPFM stations towards non-LPFM facilities and there were no changes to the LPFM distance separation requirements. Later, in 2011, when the LCRA was enacted to

¹²³ - See LCRA §3(b)(1) (“IN GENERAL- The Federal Communications Commission shall not amend its rules to reduce the minimum co-channel and first- and second-adjacent channel distance separation requirements in effect on the date of enactment of this Act between-- (A) low-power FM stations; and (B) full-service FM stations.”). FM translator stations are considered a different entity than “full-service FM stations” in the LCRA per §3(a)(2) and §5(3).

clarify that the Commission must continue to prescribe protection to co-, first- and second-adjacent channels and clarify that the distance separation protection method only applied in LPFM to full-service FM relationships, the LPFM distance separation rule remained the same. In other words, despite two statutes, the Commission never imposed a second- or third-adjacent channel protection requirement between two LPFM stations. This solidifies an applied interpretation that neither the RBPA, nor the LCRA applies to LPFM to LPFM relationships.

84. Southern California is a region that is very volatile region where it comes to natural disasters such as earthquakes, mudslides, rockslides as well as high winds that can spark and accelerate widespread brush fires. In November, 2018, the Woolsey Fire burned over 96,000 acres, destroyed 1,643 structures and resulted in three civilian fatalities.¹²⁴ LPFM station KBUU-LP, Malibu, California is located in a unique populated area where mountain ranges reach the ocean this meaning that there are limited routes to evacuate from the area in the event of a brush fire. In the 12 hours leading up to the approach of the spreading fire into the Malibu area, KBUU-LP was on the air with evacuation and other necessary information.¹²⁵ Malibu is not only a part of the #2 Nielsen Audio rated market but is also terrestrially shielded from many of the Los Angeles FM broadcast stations. While major stations such as KNX carried basic information about the fire to the entire market, only KBUU-LP was actually speaking directly to those potentially impacted by the fire. This kind of coverage, especially in a major market like Los Angeles, is only possible with an LPFM station. On October 11, 2019, the Sandalwood Fire in Riverside County burned 1,011 acres, destroyed 74 and damaged 16 structures. During the Sandalwood Fire, LPFM station KQLH-LP, Yucaipa, California was on the air broadcasting official information from first responder agencies in order to keep local residents informed in a hyperlocal manner that many full-stations were not able to achieve and in the case of the Sandalwood fire, there was very limited to no coverage observed on other full-service stations in the market.¹²⁶

85. Because of the local nature of LPFM stations and their utility to step up on issues that are just “too local” for larger full-service stations to cover, LPFM stations need an additional level of flexibility,

¹²⁴ - See <https://www.fire.lacounty.gov/woolsey-fire-incident/>

¹²⁵ - Tallal, Jimmy, *KBUU Radio 99.1 Is Now Broadcasting With Solar Power*, The Malibu Times (Aug. 22, 2019). Retrieved October 20, 2019 from http://www.malibutimes.com/news/article_471a427e-c47e-11e9-a9b6-d3cbb82b2c68.html

¹²⁶ - See *Gustuson, Rachel & Lopez, Michelle, Sandalwood Fire in Calimesa destroys 74 mobilehomes*, News Mirror (Oct. 18, 2019). Retrieved October 20, 2019 from https://www.newsmirror.net/news/local/sandalwood-fire-in-calimesa-destroys-mobilehomes/article_1d73d7f2-f104-11e9-a4ce-db7557ea3db3.html

especially in cases where the flexibility would only impact LPFM or other secondary services and not impact the primary full-service. The Commission has correctly interpreted the RBPA and the LCRA as not applicable to “LPFM to LPFM” relationships and therefore is fully empowered to modify the rules regarding these specific relationships as well as “LPFM to FM translator” relationships.

F. Interference remediation

86. Allowing short-spaced LPFM stations to use contour methodology in order to demonstrate protection to FM translators as well as other LPFM stations will bring LPFM on a more equal footing with FM translators. With that equal footing comes the additional responsibilities expected by FM translators including interference remediation.

87. In MB Docket 18-119, the Commission updated the rules related to the remediation of interference by FM translators. This comprehensive policy takes into consideration the number of listener complaints, the location of the listener within a 45 dBu contour and the U/D ratio of the “undesired” and “desired” stations at the listener’s location. MB Docket 18-119 recognizes that contours are not the perfect method of placing stations. However, if you were to compare contours to distance separation, it is a much more efficient use of spectrum and opens up more potential opportunities than the more simplistic distance separation method.

G. The Commission needs to reconsider this statutorily sound method of this efficient use of spectrum

88. *This proposal is not the §73.815 Regime* - In its tentative rejection of certain proposals by REC in this proceeding, the Commission was not convinced that the “Section 73.815 Regime” is compatible with an LCRA prohibition on reducing minimum distance separations between LPFM and full-service stations. REC accepts the rejection on the proposed “Section 73.815 Regime” in respect to the relationship between LPFM and full-service FM stations. Instead, we reminded the Commission of the original REC LP-250 proposal in RM-11749 which was more simplistic and did not reduce minimum distance separations.

89. What we are discussing here is the use of contour protections by LPFM stations to FM translators and other LPFM stations. Since the LCRA only requires prescription of protection and does not statutorily prohibit the “reduction” of distance separation between LPFM stations and FM translator stations and since neither the LCRA, nor its predecessor RBPA even address the relationship between two LPFM stations and with the withdrawal of the proposal to use the “LP-10” distance separation tables towards full-

service FM stations, any incompatibility with the LCRA no longer exists and this change can be done accordance with statute.

90. “Complexity to the licensing process” – The processes proposed in respect to including a contour study to support a short-spacing between and LPFM station and a FM translator or other LPFM station is no different than the complexity involved in the Commission’s proposed adoption of an interim use of a contour study in respect to TV Channel 6 for proposed LPFM operations in the reserved band. In many ways, the contour study between an LPFM station and a FM translator or other LPFM station is a simpler process than Channel 6. Instead of a 47 dBu protected contour (for Channel 6), we use a 60 dBu protected contour. Instead of 20 interfering contours used for channel 6, we use two.¹²⁷ We note that the Commission has always accepted this exact type of contour study on second-adjacent channel short-spaced proposals in cases where it can be demonstrated that the protected contour of the short-spaced second adjacent channel facility does not overlap the interfering contour of the proposed LPFM station. In a study to demonstrate lack of contour overlap towards a short-spaced FM translator or other LPFM station, we would only change the 100 (or 97 or 94) dBu interfering contour to either 40 dBu for co-channel or 54 dBu for first-adjacent channel. This is not a “complexity”, this is something LPFM is already doing, just with different numbers.

91. Regulatory history of contours in LPFM – In the original *Report and Order* for LPFM, The Commission decided to use minimum distance separations because it was “the most efficient means to process a large number of applications while ensuring the overall technical integrity of the FM service” noting that “the use of a contour overlap methodology could significantly delay the implementation of the LPFM service because it would require significant preparation on the part of applicants and the Commission and would increase the processing burden on the staff.”¹²⁸ We do note that this was from the year 2000, 19 years ago and CDBS was recently introduced as a filing system and at the time was not fully implemented. It was highly understandable at the time that the LPFM did not want to immediately tread into a contour intensive application for CDBS. We do note that by 2003, the concerns about burden on the staff and the ability for systems to handle contour overlap had magically disappeared with the 14,000 plus applications that were filed in the Auction 83 FM translator window.

¹²⁷ - The Commission already accepts contour studies showing lack of overlap in cases of LPFM short-spaced second-adjacent channel stations.

¹²⁸ - R&O at ¶ 68.

92. The specific discussion of contour methodology in respect to FM translators would occur again in the 2005 FCC LPFM Forum and then later addressed in the *FNPRM*. In the *FNPRM*, the Commission correctly stated that (at the time), they were statutorily barred from using any interference protection approach other than mileage separations (due to the RBPA).¹²⁹ Though conceding that the use of distance separation rather than contours was “more restrictive”, the Commission also stated that even if the RBPA did not mandate distance separation, the use of contours was “safe and reliable”, did not require “costly” engineering exhibits as well as citing a large number of errors made on applications filed in the first window.

93. Specifically on the issue of errors in the first LPFM filing window, while REC did not specifically track dismissal reasons¹³⁰, we do note that as a new service, there was a lot of excitement and while the Commission attempted to make the service “so simple, that you do not need a consulting engineer”, it still involved the use of the CDBS system, which for the uninitiated, is very intimidating and complex as well as using the archaic NAD27 system of coordinates. Many of the errors that REC recalls from the first window were applications made only out of excitement or speculation and did not properly utilize other tools such as channel search tools that were available at the time by REC and eventually by the Commission. Because of the excitement, the so-called simplicity and the lack of supporting resources, there were many errors. In contrast, REC did track the dismissals of the 2013 LPFM Window. In that window, there were approximately 2,766 applications filed. Of those applications,

- 115 were co- or first-adjacent channel short-spaced
- 43 forgot to include a second-adjacent channel waiver request and another 16 were unconvincing that the proposal would protect the short-spaced second adjacent channel station
- 8 were short-spaced on third-adjacent channels to radio reading services
- 10 specified locations outside of the United States (i.e. coordinate errors)

When you take the technical errors as well as the LPFM applications that were voluntarily dismissed and those that were dismissed as a part of a comparative review of mutually exclusive applications, the overall grant ratio was 55 percent. In other words, a majority of LPFM applications filed in 2013, were granted.

¹²⁹ - See *Creation of a Low Power Radio Service*, Further Notice of Proposed Rulemaking, 20 FCC Rcd. 6763 (2005) (“*FNPRM*”) at ¶ 34.

¹³⁰ - Mainly because the “Correspondence File” was not fully implemented in CDBS for the first filing window and in most cases, it was never known by the general public, the exact reason for the dismissals.

94. Things have changed a lot since 2005 – Since the last time these issues have been addressed there have been many events that have taken place that has changed the overall landscape:

- On September 30, 2005, there were 3,920 licensed FM translators and boosters and 598 licensed LPFM stations. LPFM represented 13.2% of all secondary FM stations.
- In 2007, the Commission would permit the use of second adjacent channel waivers on an interim basis as a method of addressing displacement by modifications of full-service FM stations.
- In 2011, President Obama would sign the Local Community Radio Act of 2010 replacing the Radio Broadcast Protection Act of 2000 resulting in a clarification stating that distance separation is only applicable by LPFM stations towards full-service FM stations as long as some form of protection was prescribed to other facilities such as FM translators.
- In 2012, in accordance with the LCRA, the Commission would finalize a process that would balance out the needs for Auction 83 FM translator applications that were still pending with assuring that spectrum was available for new LPFM stations.
- In 2012, the *Sixth Report and Order* would establish the *Living Way* method for second adjacent channel waivers in accordance with the LCRA. This includes using a contour study to demonstrate that the short-spaced second adjacent station does not place a service contour over the interfering contour of the proposed LPFM facility.
- In 2013, the Commission would hold the second generation LPFM filing window.
- In 2015, REC Networks builds an internal system that generates contour studies similar to some functionality in expensive software packages such as V-Soft and ComStudy2. Likewise, since 2005, Prometheus Radio Project would develop various tools as a part of their RFREE software suite that could support contours. These developments within the LPFM community make contour mapping more available at a more affordable price to the consultant or engineer.
- In 2016, as a part of AM Revitalization, existing FM translators were given an opportunity to move their facilities up to 250 miles in order to provide service to a primary AM station.
- In 2017, the Commission would open the Auction 99 FM translator filing window. This window was restricted to applicants proposing commonly-owned cross service translators specifying Class C or D AM broadcast stations that did not participate in the 2016 “250-mile move” opportunity.
- In 2018, the Commission would open the Auction 100 FM translator filing window. This window was restricted to applicants proposing commonly-owned cross-service translators for AM stations that did not participate in the 2016 “250-mile move” opportunity nor Auction 99.
- On September 25, 2019, the Licensing Management System (LMS) replaces the Centralized Database System (CDBS) for the filing of FCC Forms 318 and 319 for LPFM and Forms 349 and 350 for FM translators.

- On September 30, 2019, fourteen years later, there are 8,177 FM translators and boosters (an increase of 109% from 2005) and 2,186 LPFM stations (an increase of 266% from 2005). In 2019, LPFM represents 21.1% of all secondary FM stations.

Over these 14 years, while LPFM did experience growth, it still only represents one-fifth of all secondary FM stations. These events, plus several letter decisions along the way have warranted our need to continue to bring these issues before the Commission for consideration as they address many of the reasons why, in 2000 and 2005, the Commission was reluctant to consider contour studies.

95. *The overall translator relief (and LPFM short-spacing) proposal* – The proposal for LPFM short-spacing to FM translators and other LPFM stations is simple. If there is a §73.807 short spacing or the lessening of spacing to a subsequently short-spaced station, then a request for short-spacing, along with a contour study that demonstrates a lack of contour overlap between the interfering contour of the proposed LPFM facility and the existing protected contour of the incumbent FM translator or LPFM translator station. If a short-spacing under this rule is utilized, then the proposed LPFM facility would be subject to an interference remediation scheme similar to §74.1203(a), but only in respect to the FM translator or LPFM station being short-spaced. REC does support the use of directional antennas (even if there was a restriction that would require less than a 15% maximum to minimum ratio) in order to further demonstrate protection. Under this proposal, LPFM stations would still be required to use minimum distance separation to full-service FM stations based on existing LP-100 minimums.¹³¹ As demonstrated, the LPFM service is already doing contour studies for second-adjacent channel waivers and in this proceeding, the Commission is calling for similar studies to be permitted for Channel 6 TV protections and for minor moves of over 5.6 kilometers. Doing these contour studies are no different.

IV. THE ELIMINATION OF THE FM TO TV CHANNEL 6 PROTECTION REQUIREMENT IS LONG OVERDUE

A. Introduction

96. In RM-11749, RM-11810 and comments in MB Docket 17-105, REC had determined that the Commission was deeply overprotecting Low Power TV (LPTV) stations by LPFM stations by invoking a one-size-fits-all rule that assumed that all LPTV stations operating on Channel 6 were operating at full facilities when in fact, only a small number are. In the various filings, REC had endorsed a plan that would

¹³¹ - Even though our LP-250 proposal calls for contours to be used as an “outer limit”, that proposal does not decrease the minimum distance separation thus violating the LCRA.

a contour study to be used in a manner similar to §74.1205 in respect to short-spaced LPTV stations for LPFM stations proposing to operate in the reserved band. We note again, this is the same type of contour study that we have discussed in our proposals for a new LP-250 service, translator relief, LPFM short-spacing and is similar to the nature of some second-adjacent channel waiver requests where a lack of contour overlap was demonstrated. Despite the Commission's decade-old determinations that contour studies were too expensive and the Commission's recent findings that contour studies are "too complex", the Commission is considering the REC proposal as an interim solution in advance of the analog TV sunset in the summer of 2021 at which time, and to the surprise of REC, the Commission is considering removing all protection requirements to TV Channel 6 from all classes of broadcast stations in the reserved band on channels 201 through 220.

97. REC is not just surprised, but we are delighted at the Commission's overall long overdue proposal to eliminate the Channel 6 protection requirements. As NPR stated about 10 years ago, the need for these restrictions have been made obsolete by the conversion of television from analog to digital. REC agrees that many of these restrictions go back to a time when TV receivers used mechanical, analog tuners and as receiver technology has evolved, so has the receiver's resistance to adjacent channel interference. With that, REC supports the overall plan to eliminate this impediment to the development of broadcasting, both low-power and full-service in the reserved band.

B. Interim LPFM protections prior to the analog LPTV sunset

98. The proposed interim policy for LPFM Channel 6 protection will provide some LPFM stations with another option to change channels in the event of displacement by a full-service FM station or encroachment of a proposed FM translator taking advantage of the LPFM translator interference rules that well favors FM translators. REC estimates that the demand for this type of relief during the interim period would be fairly low, but in those events where it is needed, it may help get stations out of an instant bad situation. While REC is not currently aware of any LPFM stations needing to transition in this spectrum, we would hope that prior to codification that the Audio Division would entertain a waiver request prior to codification upon a compelling showing. The only thing we would add to the interim rule is to afford the LPFM station the flexibility to obtain a written agreement with the affected Channel 6 TV station to waive the need for a contour showing in advance of the analog sunset.

C. Timing of future filing windows for new NCE-FM and LPFM stations

99. The actions that the Commission will make in this proceeding and in MB Docket 19-3 are writing on the wall of future filing windows for new construction permits for LPFM, reserved band NCE

and possibly even commercial band NCE. Because of the fact that the analog sunset will definitely open up new reserved band channels for LPFM stations in some areas, we do not want to see a situation where there would be eventual displacement by full-service proposals. We also note that the last opportunity for full-service NCE in the reserved band was in 2007. In addition, full-service NCE stations only need to protect the nine full-service Channel 6 TV stations and not the dozens of LPTV stations that FM translators and LPFM stations would be required to protect.

100. If the Media Bureau is planning on a filing window prior to the analog sunset, such as after the adoption of MB Docket 19-3, it is REC's position that the first filing window should be for full-service NCE reserved band. By scheduling the NCE reserved-band window first, this will avoid a situation where an LPFM station filing on a reserved band channel during their window will not be displaced by a subsequently-filed primary NCE application in the reserved band. Running the NCE reserved-band window first sets the stage for the channels that would be available for LPFM stations with more of an assurance of their use of the channel despite secondary status. Our hope is for a NCE reserved-band window in late 2020 or early 2021 followed up by a LPFM window in late 2021 or early 2022. We are aware of the activity related to Auction 106 that will be timed in mid 2020. REC takes no position on the timing of a NCE commercial band filing window.

D. Channel 6 low-power TV stations targeting radio listeners (FM6)

1. Overview

101. Some analog stations LPTV are operating on Channel 6 with the primary goal of reaching radio listeners tuned to 87.7. Some in the industry refer to these stations as "Franken-FM", we refer to them as FM6 stations. REC is aware of concerns expressed in the FM6 industry in regards to the elimination of the Channel 6 protection rules and there has even been some suggestion that LPFM stations should be required to protect FM6 facilities on a second-adjacent channel.

2. FM6 "hybrid" technology is an ancillary service subject to Title 18

102. In the past, the FM6 industry had proposed to use a technology that would reduce the digital bandwidth of a 6 MHz TV channel and in the upper portion of the channel, insert an analog audio carrier.¹³² REC refers to this concept as "FM6 Hybrid". The FM6 industry is asking the Commission to consider FM6

¹³² - See *Venture Technologies Group, et al*, ex parte letter, MB Docket 14-175 (Jun. 6, 2019) ("TV6 letter") at p. 19 ("A supplementary 87.7 MHz audio signal would be an ancillary service and the Government would be entitled to 5% of gross revenues.")

Hybrid as an “ancillary service”. REC argues that the service operated in that manner is ancillary as it can not be received on a standard (non-digital) receiver. Since the FM6 would not be receivable on a digital television, it would not be a service not “readily accessible to the general public” as defined by 18 USC §2510(16)(c).

103. 18 USC §2511(2)(g)(i) states that unless a transmission is “readily accessible to the general public”, it is unlawful to intercept or access an electronic communication made through an electronic communication system that is not configured to be “readily accessible to the general public”. This would raise the question of whether the reception of a *television station* with an FM6 hybrid carrier with a device other than a TV receiver would be the unlawful reception of a subsidiary communications service. 18 USC §2512 makes the manufacture, distribution, possession or advertising of a device capable of receiving a subsidiary (ancillary) service a federal offense.

3. “Second” and “third” adjacent channel interference

104. Because of the LPTV rules, it may be possible to place up to a 3 kW aural carrier without much regard to height above average terrain. For example, a 3 kW aural carrier on Mount Wilson, the primary transmitter site for the Los Angeles metropolitan area would create a 65.5 kilometer 60 dBu service contour. This would well exceed the maximum service contour allowed for a Class B station.¹³³

105. To address the concerns that the FM6 industry is expressing over second and third adjacent channel interference from LPFM and FM translator stations operating on channels 201 and 202¹³⁴, REC has evaluated all of the sites that were identified in an *ex parte* presentation made by the FM6 industry. Our study, which we have already shared with representatives of the FM6 industry has shown that in the areas where the identified FM6 stations are located, LPFM use of channel 201 would be precluded in most areas due to distance separation protection requirements to existing full-service NCE stations operating on channels 201 and 202.

¹³³ - Based on 3 kW at 949 meters HAAT. While the 60 dBu contour may be 65.5 kilometers, the 54 dBu contour is 80.4 kilometers. By comparison, the 54 dBu class-maximum service contour for a Class B FM station is 65.1 kilometers.

¹³⁴ - Yet the TV6 industry claims their service will not cause interference to “adjacent radio stations”. See TV6 Letter at p. 12.

4. Ancillary services other than radio reading services are not entitled to any special protection

106. It is REC's position that a FM6 hybrid carrier would be considered an ancillary service not intended for general public reception using a television receiver but instead for private reception by subscribers only and the operation of such a service to the general public would violate Title 18. With the exception of LPFM's special protections to radio reading services for the blind and visually impaired on third-adjacent channels, FM broadcast stations are not required to protect ancillary services.¹³⁵ Therefore, REC's position is that FM6 hybrid services should not be afforded any specific protections by FM stations and that such ancillary services must afford protection to licensed services, primary and secondary that are intended for reception by the general public.

V. THE PROPOSED RULE CHANGES REFLECT LPFM AS A "MATURE" SERVICE

A. Codification of FM boosters for LPFM

107. On May 20, 2015, REC collaborated with Strategic International Ministries, licensee of REC area-of-interest advocated station KWSV-LP, Simi Valley, California to request a waiver of the Commission's Rules to install a booster in order to address an unusual terrain situation where only half of the station's protected service contour was being covered by the LPFM station.¹³⁶ On June 22, 2017, the Commission granted the application and on July 24, 2017, the first LPFM booster came on the air.¹³⁷ Boosters would eventually be granted for REC area-of-interest advocated stations in Laguna Beach, Yucaipa and Malibu, California.¹³⁸

108. Since the grant of the KWSV-LP booster, REC had received several inquiries from LPFM stations across the country and in many cases, we had found that boosters would not work for their specific situations however for a couple of stations in the west outside of Southern California, the booster may be an option. For those stations that are terrain challenged, the use of boosters will help fill in the areas within

¹³⁵ - See LCRA § 4; See also 47 CFR §73.807(a)(2). See also 47 CFR §§ 73.293, 73.295 and 73.593. Radio reading services are operated primarily on behalf of nonprofit organizations that issue special subsidiary communications authority (SCA) receivers to members of the blind and visually impaired community. The receivers remain the property to the nonprofit organization that loaned the receiver to the listener. Programming from radio reading services is not intended for reception by the general public. In contrast, the ancillary services proposed by FM6 stations are most likely to be commercial in nature.

¹³⁶ - File No. BNPFTB-20150521ACF (granted Jun 22, 2017).

¹³⁷ - File No. BLFTB-20170724AAA (granted July 28, 2017).

¹³⁸ - A booster has been authorized for KIEV-LP in Camas, Washington. That booster was subsequently licensed.

the service contour but are blocked by the hard terrain. Currently, we have been informed that the Yucaipa booster is nearing completion and there is an aggressive effort to design and build the Malibu boosters, which are part of a larger plan to develop an emergency communications network from Malibu to Santa Monica.

109. REC supports the codification of boosters where the program audio is able to be fed through any method such as microwave STL or internet. So far, the REC assisted booster stations have involved hard terrain and in the case of KWSV-LP, which is fed by internet, the delay is not an issue because of the hard terrain. In June, 2019, REC had conducted some field tests on the experience of the KWSV-LP booster through Santa Susana Pass where the primary station drops out and the booster kicks in and we found it to be a smooth transition. REC accepts the Commission's finding that FM boosters should count towards an LPFM station's translator count limiting a station to two facilities.

B. Definition of a "minor" change

110. The ability for LPFM applicants to use a contour study to demonstrate contour overlap in a minor move is a further step in bringing the LPFM service on a more equal footing with FM translators. The 5.6 kilometers limit on moves (which originally started as a 2 km limit) has been demonstrated based on the many waivers granted to be very over-restrictive. REC continues to support the ability to move further than 5.6 kilometers upon a contour study that demonstrates that there will be overlap between the current and proposed facilities. Again, we must remind the Commission that the contour study that is required to conduct these minor changes is also the same type of contour study used for the tentatively rejected proposals made by REC for the addition of LP-250 as an upgrade, translator relief and LPFM short-spacing.

C. Directional antennas

111. REC continues to support the use of directional antennas in order to comply with international agreements. This rule will be used mainly by a small number of LPFM stations that are located within 125 km of the Mexican border, especially in Tucson, Arizona which is a considerable distance from Mexico and where the use of the directional characteristics of widely-used LPFM antennas such as the Nicom BKG-77/88 would provide the correct attenuation towards Mexico while being able to allow these stations to finally grow to their full LP-100 potential in other places.

112. Much of the opposition to directional antennas over the years have been through unfounded fear and this stereotype of a typical LPFM stakeholder that has been fostered by both the NAB and the

Commission. The use of directional antennas in the LPFM service today is very few and far between. Even if directional antennas were allowed in cases where they are used to protect short-spaced FM translators, short-spaced LPFM stations or in order to limit radiation in a certain direction to prevent contour overlap by a proposed LP-250 station, REC continues to feel that the use of directional antennas would be minimal however the flexibility should still be there.

113. In the case of LP-250, translator relief and short-spaced LPFM stations, to address some of the concerns about using certain “tight” directional patterns with antennas such as the Kathrein Scala CL-FM, REC is willing to entertain a requirement for directional antennas in these situations in a manner similar to the directional antenna rules for full-service stations where the directional pattern must maintain a 15 dB maximum to minimum ratio and no more than a 2 dB difference per 10 degrees. This will permit the use of the directional characteristics of certain side-mounted antennas while still providing a level of “buffer” with the incumbent stations. Between these “semi-directional” antennas and the ability to reduce power will allow LPFM stations to still serve as many people as possible while demonstrating protection to other facilities. In some cases, LPFM stations will be able to use their existing antennas, possibly rotated in a particular direction in order to achieve the needed pattern.

VI. FOR SMALL “DECODE-ONLY” STATIONS, THE EAS CERTIFICATION IS AN UNDUE BURDEN DESPITE ALTERNATIVES AVAILABLE

114. REC, like many others in LPFM is very disappointed over the participation rates of LPFM stations in the annual National Periodic Tests (NPT). Since the Commission and FEMA have been conducting the NPT and the required reporting, REC has been working with the Alerting team in the Commission’s Public Safety and Homeland Security Bureau (PSHSB) in order to work towards raising awareness of the NPT and awareness of EAS in general within LPFM.

115. Unlike full-service radio, LPFM is a utility service. An LPFM station can be a full community service with a volunteer and paid staff with a store-front studio and provide many hours of local programming. An LPFM station can also be a in the storage room of a church connected to a satellite dish and carrying the programming of a national network. In the case of some public safety LPFMs, the equipment may be in a storage box along the side of an interstate highway or in a closet at the at a maintenance yard for the state highway department. There is no cookie cutter LPFM station. In fact, there are six major “segments” of LPFM stations: (1) community media, (2) government, (3) “micro-station”, (4)

secular educational, (5) cause-based organization and (6) faith-based.¹³⁹ This is more segmented than commercial radio or even noncommercial full-service radio.

116. *Commission communications to LPFM stations* – While commercial radio has the NAB and state broadcaster associations and some other segments of radio have their own membership organizations, LPFM stations are more like consumers where they are on their own. While REC does touch many LPFM stations, we can't always touch them. REC has contributed to the raising of awareness of EAS within those stations that have already reached out to us in the past, but that is still not all stations. For the 2019 NPT, PSHSB had followed some of REC's recommendations by sending e-mails to LPFM stations to remind them of the test. For the 2020 NPT, we are recommending that the PSHSB mail postcards to LPFM stations. One of the problems that REC has identified was that LPFM stations were not always being notified of the changes in EAS because (1) the notices are coming from PSHSB and not the Media Bureau and (2) the information about radio specific EAS matters are usually conflated with other emergency alerting functions such as Wireless Emergency Alerts and protocols used by first responder organizations and statewide "gatekeepers" of Open IPAWS. Without the clarity, some have been very confused on what to do. We feel that one way to handle this is through broadcast (radio and TV) specific public notices regarding upcoming changes to EAS be released by the Media Bureau instead of PSHSB. Even if the public notice only gives the key bullet points and directs the reader to the larger document released by PSHSB.

117. *Expenses related to equipment certification and protocol changes* – REC has heard from many LPFM stations that even though they are equipped with EAS decoders, the frequent changes to the CAP protocol that have been enacted by FEMA has been a major burden because of the time necessary to do the updates as well as, in many cases, the costs for software or firmware updates that stations have to endure in order to keep up with FEMA's changes. The interests of LPFM stations are currently not represented at FEMA and anytime there is a change to CAP, this may be huge for LPFM stations depending on what brand of EAS decoder they use. Some LPFM stations had even had to conduct fundraisers for the sole purpose of paying for a software update to their equipment. We feel that there are some LPFM stations that simply can't afford the \$2,000-plus cost for a "certified" EAS decoder. REC acknowledges that this is not necessarily a Commission issue that can be solved at the regulatory level, but the Commission and FEMA should encourage Congress to consider appropriations to LPFM, Class D and other small noncommercial broadcast stations to subsidize the purchase of EAS hardware and/or to subsidize the costs

¹³⁹ - See <https://recnet.com/6segments>

associated with required software and firmware updates that reflect changes in the protocol that are initiated by FEMA or the Commission.

118. *The broad coverage of EAS alert areas is incompatible with LPFM's hyperlocal nature* – The current EAS system, by design is intended for larger full-service broadcast stations. REC has heard from LPFM stations that are reluctant to participate in state and county EAS plans because the nature of alerts are at a county level as opposed to a more localized level. Unlike many stations that may cover an entire EAS operation area, LPFM stations are more hyperlocal and because activations are done at the FIPS (county) level, LPFM stations may receive alerts and program interruptions for more localized situations from areas more than 60 miles away but in the same county. This puts into question the true value of EAS in some LPFM environments. For those in larger counties, EAS is more of an impediment than a benefit and messages intended for the LPFM's actual area are more likely to be ignored by the listening public if they are otherwise interrupted with other messages intended for areas 60 miles away. In many parts of the country where counties are smaller, the existing county level FIPS code is sufficient for LPFM level emergencies. REC recognizes that this is not a Commission-specific issue, but it would be more beneficial to LPFM stations and other smaller broadcast stations if a more regional FIPS code approach was used that would better subdivide counties and offer better targeted alerts. Such alerts could be distributed through Open IPAWS and may encourage more local governments to utilize Open IPAWS by targeting alerts to specific areas without having to interrupt the entire operational area.

119. *The need for "open-source" EAS and access to IPAWS* – In preparation for the 2019 NPT, REC's Michelle Bradley attended a stakeholder meeting at PSHSB prior to the test. At this meeting, Ms. Bradley was able to get a sidebar discussion with a representative of FEMA. Ms. Bradley explained the concept of "open source EAS", the ability of allowing one to build their own decoder by using a computer, open source software, soundcard and switching equipment. Ms. Bradley explained software, such as Open Broadcaster, an open source software package that is currently being used in Canada to monitor their version of Open IPAWS and active when appropriate. The FEMA representative pushed back on the concept of open source because he was under an impression that a standard soundcard could not properly produce the header tones. In response, Ms. Bradley advised the FEMA representative that the users of open-source EAS would be LPFM and Class D FM stations which only have a decode requirement and not an encode requirement. Therefore, any degradation of quality in the header tones generated by the soundcard would be moot.

120. §11.34(e) permits waiver requests of the certification requirements of EAS decoders “which are constructed for use by an EAS participant, but are not offered for sale.”¹⁴⁰ This rule could be used to allow EAS decode-only participants to build their own EAS decoder using computer parts and free software that is developed within the open source community. The hardware is readily available to monitor two lead primary broadcast stations, decode header tones, record alert messages, interrupt the audio chain to play the message and log the activity. The biggest impediment in this process is the access to Open IPAWS. In Canada, “read-only” access to their Open IPAWS equivalent is truly open and is available through the internet as well as through a satellite transponder. In the United States, Open IPAWS is not truly “open”. Any access, even non-destructive “read-only” access requires a memorandum of understanding with FEMA. This impediment not only prevents the expansion of the awareness and use of EAS in the low-power broadcasting environment, but also with other technologies, such as small internet broadcast stations and even unlicensed broadcast band transmitters operating in accordance with Part 15. This is not an issue that can be solved solely by the Commission but is something that the Commission and FEMA needs to take into consideration. We see no national security risk in providing an open “read-only” access to the Open IPAWS data stream. Such access would not allow anyone to “add” new alerts and would only be able to access information intended for public dissemination.

121. *We should not have to remove LPFM EAS participation requirements* – We have heard some say that LPFM should be exempt from EAS requirements. We agree and disagree in part. REC believes in EAS as a method of disseminating emergency information on a local and national basis and we believe that it should be easier to “get the message out”. At the same time, we completely understand the issues that LPFM stations face when making decisions, especially financial, where it comes to the installation, maintenance and overall participation in the program. The current certification requirement and the “captive market” environment which inflates pricing is hurting LPFM and other small noncommercial stations. At the same time, the manufacturers need to stay in business. That, coupled with the use of countywide FIPS codes, especially in the western United States, devalues EAS to nothing more than a required burden that either conveys irrelevant information or very little to no information at all.

122. If the regulatory and statutory environment does not provide LPFM and other small noncommercial broadcast stations any relief, either through more access to open source alternatives or through any kind of subsidy to offset the costs to participate, then perhaps, we need to consider removing requirements for LPFM stations to have a certified EAS decoder. We should not have to go there. We

¹⁴⁰ - 47 CFR §11.34(e).

need a game plan that involves all stakeholders including LPFM stations, Class D and other small noncommercial stations, advocates, the Commission staff, FEMA, EAS equipment manufacturers, the open source community and Congress to work on a solution that would make EAS more palatable for LPFM, Class D and other small noncommercial broadcast stations. Until that happens, perhaps we may need to temporarily discontinue enforcement on decode-only LPFM and Class D FM stations.

VII. OTHER LPFM ISSUES THAT SHOULD BE CONSIDERED BY THE COMMISSION

A. Silent LPFM stations

123. The Commission's rules regarding operating schedules are in various places for the different services including §73.1740 for full-service commercial stations, §73.561 for noncommercial educational FM stations, §74.1263 for FM translator stations and §73.850 for LPFM stations. In all of these sections with the exception of §73.850, there is language that requires licensees to notify the Commission if a station is silent for more than 10 days and that permission through special temporary authority (STA) is required if the silence is expected to last 30 days or more. For LPFM stations, there is no rule either anywhere in Subpart G or within any other rule cross-referenced in §73.801 that points to a regulatory requirement that an LPFM licensee must notify the Commission that the station is silent. Despite the lack of a regulation, Section 312(g) of the Communications Act states that any broadcast station that fails to transmit signals for more than 365 days is subject to license cancellation. Section 312(g) does not mandate any requirement to notify the Commission after 10 days nor seek permission to remain silent for more than 30 days.

124. While this specific issue was never brought up in any of the recent rulemaking proceedings nor was this specific subject ever discussed through the initial 2000 rulemaking that established LPFM, it is REC's current interpretation that LPFM stations are not required to notify the Commission of a silent period unless the station has been silent for more than 365 days. REC's position on this issue is that this is yet another "oversight" by the 2000 Commission when establishing the service in order to reduce the reporting burdens on small LPFM stations. By culture though, many LPFM stations are filing for silent STA requests to go silent. Other LPFM stations that had not filed had not done so likely because (1) they were not aware of any kind of a silence policy that applies to other broadcast services, (2) they specifically know that there is no rule in Subpart G or cross-referenced in §73.801 to require notification or (3) the licensee is warehousing spectrum. Despite no formal discussion on this subject has been made until now, REC has informally discussed this in the past with Audio Division staff.

125. REC recognizes that this item is not in scope for this specific proceeding but we would not object if the Commission, on its own action, was to amend §73.850 to add language similar to §73.561(d) that would require LPFM stations not operating in accordance with their minimum operating schedule to notify the FCC within 10 days of going silent and requesting an STA in the event that the station plans to go silent for more than 30 days. If such a rule is enacted, LPFM stations that are currently silent should be given an opportunity to file for a silent STA, reflective of the original date the station went silent, even if that date is more than 10 days from the silent STA filing without any sanction. This change would not affect the statutory obligation of license cancellation if the silence is for more than 365 days. Applicants must be truthful of their silent dates.

B. Call signs for LPFM stations

126. REC would like to bring up one item that was proposed by the LPFM Advocacy Group (LPFM.AG) in their *Petition for Rulemaking* docketed RM-11753 that should be given some further attention. LPFM.AG brings up the issue of call signs for LPFM stations stating that some listeners may find the “LP” suffix in addition to the calls to be awkward and out of the norm.¹⁴¹ LPFM.AG argues that there is no good reason to force LPFM stations to add a mandatory and confusing “LP” to the end of their call letters, either at the top of the hour or in general.¹⁴² LPFM.AG asks that (1) LPFM stations are allowed to identify themselves without the –LP suffix if their primary calls are unique and must identify with the –LP suffix if their call sign is not unique and (2) to allow the station to amend the –FM suffix if the call is not unique.¹⁴³

127. The use of the –LP suffix can be traced back to the Low Power TV service. In the LPTV service, stations can be cross-owned by full-power radio and television service. Therefore, there can be a WXXX-TV and a separate commonly-owned LPTV station WXXX-LP. LPFM does not allow that kind of cross-ownership. Also, REC has reason to believe that some LPFM stations may be operating with call signs with the –LP suffix that are already in use as FM, AM or TV stations and the owners of those stations may have not granted permission to the LPFM station to use those call signs.

¹⁴¹ - See RM-11753 at 72.

¹⁴² - See Id.

¹⁴³ - See RM-11753 at 73.

128. REC supports the ability for LPFM stations to obtain call signs without suffixes as this does not impact the availability of these call signs in other services. If the call sign is in use by an LPFM station without the suffix and the LPFM grants permission to a station in another service, the LPFM station must take the –LP suffix.¹⁴⁴ If an LPFM station wishes to duplicate a call sign used in another service, the LPFM should be required to obtain written permission from the primary call sign holder and that permission must be submitted to the Media Bureau prior to the duplication of the call sign. The need for the –LP suffix in LPFM is not necessary to run the station, puts LPFM on a more level playing field with full-power NCE and commercial stations and also reduces the risk of unauthorized call sign duplication.

VIII. CONCLUSION

A. But first, a short story

129. The story of LPFM over the past 20 years is similar to the story of a child wanting to ride a bicycle, but with some strange twists. First, the child’s uncle, named Charlie considers the idea of the child riding something with wheels.^{NPRM} He had considered everything from strollers^{LP-10} to high performance motorcycles^{LP-1000}. There was a lot of heated discussion about this idea as people came from across the neighborhood to have their say. The Amherst’s were very supportive^{RM-9208}. So were the Skinner’s, but they had a motive of profit on their minds^{RM-9242}. Then there was the neighbor across the street, Mr. Nabb. Mr. Nabb was one of those who always sat on his porch with a shotgun and yelled “*get off my lawn!*”. Mr. Nabb was very opposed to the concept of anything that would interfere with his long-standing livelihood unless he came up with it himself, so he opposed it tooth and nail. Uncle Charlie agreed to allow the child to have a tricycle^{R&O}, but because of concerns he had because the child was “inexperienced” and due to the constant objections by Mr. Nabb, Uncle Charlie made the child wear bubble wrap.^{20km Buffer Zone}

130. That wasn’t good enough for Mr. Nabb who went to Congress, and played them recordings of a simulated screaming baby to describe what would happen if the child was allowed the ride the tricycle.¹⁴⁵ Congress agreed and passed a law which made the child also use a pacifier^{3rd Adjacent}, as well as the bubble wrap and designated areas where the child couldn’t go. They also forced Uncle Charlie to

¹⁴⁴ - Under common practice, if there are multiple facilities using a call sign and one of those stations is an AM station, the AM station takes the call sign without a suffix. We do not propose to change that.

¹⁴⁵ - A compact disc that was sent to members of Congress that “simulated” what third-adjacent channel interference would allegedly sound like to the reception of local DC area radio stations.

research why the child should not need to use a pacifier.^{RBPA} Over time, Uncle Charlie found that the tricycle was limiting and allowed the child to ride a bicycle with training wheels, but the pacifier and bubble wrap were still on because Uncle Charlie didn't have the authority to take them off.^{Third R&O} Mr. Nabb was still not happy. Uncle Charlie would eventually explain to Congress what would happen if the child did not use a pacifier.^{MITRE Report}

131. Mr. Nabb and The Petri's, who were advocating on behalf of the child would reach a compromise that would remove the pacifier but still keep a lot of restrictions on the child, including the bubble wrap; also, Congress quietly reduced the little areas where the child could not go but kept the big ones off-limits.^{LCRA} After Uncle Charlie told the child he could take the pacifier off, the Bradley's noticed this additional favor Congress did and asked Uncle Charlie let the child play in those certain little areas and take the training wheels off.^{RM-11749} Uncle Charlie initially ignored the Bradley's suggestion. Since then, Mr. Nabb has invited a motorcycle club to ride in places very close to the child limiting where the child could play.^{AM Revitalization} The child is now very frustrated with no place to go. The Bradley's again, remind Uncle Charlie about the other places where the child could ride^{RM-11810} and suggests that the child is ready to remove the training wheels.^{LP-250} All this time, Mr. Nabb keeps coming up with outlandish reasons why children should not be allowed to ride bicycles such as because they are inexperienced or because a couple of children violated the rules of the road. Uncle Charlie is still not allowing the training wheels to come off nor allowing the child to ride in those areas that Congress had allowed the child to ride in while keeping the bigger areas off-limits.^{This NPRM}

B. Even at LP-250, LPFM is still hyperlocal

132. That story may seem silly, but it does reflect the 20-year development of the LPFM service. In this case, the "child" (LPFM) has matured and has demonstrated that it can be an experienced and contributing member of the overall broadcast community, despite the ongoing bullying by "Mr. Nabb". No matter what the Commission does in the rulemaking, LPFM will continue to remain inferior to FM translators. Not only because of the LCRA, but also for the sake of hyperlocalism. REC does support the notion that a 7.1 kilometer service contour, when compared with a 28.3 kilometer contour for a Class A FM station, is still considered "hyperlocal". Since the *Sixth R&O* within the comments of RM-11749, RM-11810 and hopefully in this proceeding, we have heard from many LPFM stations from all parts of the country, in all terrain situations explaining their frustrations with coverage and the effects of the disparity in the protection rules between LPFM and FM translators. Despite what the Commission stated in its tentative rejection of the consideration of LP-250 and the use of contours on services not specified in the LCRA, a lot has changed since these issues were last addressed before the full Commission. REC agrees

that one issue (“§73.815 Regime” proposing the use of LP-10 tables to full service FM) was very controversial and therefore we withdrew this specific item from consideration.

133. With the “§73.815 Regime” out of the way, we feel the other items, such as LP-250, translator relief and LPFM short-spacing should be considered, especially since other items that use the same type of contour study, such as the use of directional antennas towards Mexico, minor moves of over 5.6 kilometers and the interim Channel 6 interference showings are being considered. We have demonstrated that these contour studies are not “costly” and complex like the Commission suggests. These items should be considered in a *Further Notice of Proposed Rulemaking* as not to delay the implementation of the items being considered in this proceeding and not to further delay LPFM and NCE filing windows.

C. 19-193 should be adopted, including some tentatively rejected items

134. Other than the §73.815 Regime, which REC has withdrawn support for, the remaining items in this proceeding, including the items from REC’s RM-11749 and RM-11810 which were tentatively rejected are sound, well thought out and statutorily compatible improvements to the LPFM service, which are long overdue. We’ve also had a very frank discussion about the status of EAS within LPFM and the many frustrations that these hyperlocal stations with limited budgets are facing. REC also agrees that the time is right to finish the transition to a *fully digital* television service and to return LPTV to being a video service and not a makeshift FM broadcast service and with that, remove all requirements for FM stations to protect Channel 6 TV stations using rules based on decades-old receiver technology. What REC proposed in RM-11749 and RM-11810 is available for any LPFM station that wants to use it. We designed these rules to allow for *status quo* for any station that likes things the way they are.

135. Full-service stations, LPFM stations, FM translators, FM boosters and even those who run micro transmitters in accordance with Part 15 are all users of this 100-room building we call the FM band. As the manager of the 100-room building, the Commission is responsible to come up with regulation that allows each of these users to use the building in a fair manner and to the fullest potential for the type of service they operate. This includes LPFM. REC’s comments in this proceeding should be the next chapter of this exciting service that is bringing people back to radio as both broadcasters and listeners. Finally, all users of the 100-room building need to recognize that the biggest threat we have is not each other, it is the outside influences that cause people to not even turn on a radio. Instead of fighting with each other, we need to work with each other to improve radio. Our door is open. Let’s talk!

136. REC supports all items proposed to be adopted by the Commission in this proceeding and we call for reconsideration of certain items that were tentatively rejected including LP-250 (using our proposal from RM-11749, not the §73.815 regime from RM-11810), FM translator relief, LPFM short-spacing (the use of contours in the event of §73.807 short spacing) and the use of a translator style interference remediation policy on any LP-250 or any facility short-spaced using contours. Items tentatively rejected should be considered in a *Further Notice of Proposed Rulemaking* as to not delay upcoming filing windows and to provide these important items with a complete record. REC thanks Chairman Pai and the rest of the Commission for allowing LPFM to have some of the spotlight in 2019 and we look forward to the third generation of LPFM stations.

Respectfully submitted,

/S/

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APPENDIX A**PROPOSED RULES FOR THE FURTHER
NOTICE OF PROPOSED RULEMAKING**

NOTE: In the event of a requirement for third-adjacent channel protection to full-service FM stations by LP250 stations, the rule text in a yellow background would also apply. In the event of a LP250 service without a third-adjacent channel protection requirement to full-service FM stations, the rule text in a cyan background would also apply.

Part 73 of Title 47 of the U.S. Code of Federal Regulations is proposed to be amended to read as follows:

Part 73 – Radio Broadcast Services

1. Section 73.807 is proposed to be modified, as follows:

§ 73.807 Minimum distance separation between stations.

Minimum separation requirements for LP250 and LP100 stations, as defined in §§ 73.811 and 73.853, are listed in the following paragraphs. Except as noted below, an LPFM station will not be authorized unless the co-channel, first-, second- and third-adjacent and I.F. channel separations are met. An LP100 station need not satisfy the third-adjacent channel separations listed in paragraphs (a) through (d) in order to be authorized. For LP100 stations, these third-adjacent channel separations are included for informational purposes only. LP100 and LP250 stations need not satisfy the third-adjacent channel separations listed in paragraphs (a) through (d) in order to be authorized. Third-adjacent channel separations are included for informational purposes only.

Minimum distances for co-channel and first-adjacent channel are separated into two columns. The left-hand column lists the required minimum separation to protect other stations and the right-hand column lists (for informational purposes only) the minimum distance necessary for the LPFM station to receive no interference from other stations assumed to be operating at the maximum permitted facilities for the station class. For second- and third-adjacent channel and intermediate frequency (I.F.) channels, the required minimum distance separation is sufficient to avoid interference received from other stations.

(a) Minimum distance separation to full-service FM stations.

(1) An LP100 station will not be authorized initially unless the minimum distance separations in the following table are met with respect to authorized FM stations, applications for new and existing FM stations filed prior to the release of the public notice announcing an LPFM window period for LPFM stations and vacant FM allotments. LPFM modification applications must either meet the distance separations in the following table or, if short-spaced, not lessen the spacing to subsequently authorized stations.

Station class protected by LP100	Co-channel minimum separation (km)		First-adjacent channel minimum separation (km)		Second and third adjacent channel minimum separation (km)
	Required	For no interference received from max. class facility	Required	For no interference received from max. class facility	Required
					Required
D	24	24	13	13	6
A	67	92	56	56	29
B1	87	119	74	74	46
B	112	143	97	97	67
C3	78	119	67	67	40
C2	91	143	80	84	53
C1	111	178	100	111	73
C0	122	193	111	130	84
C	130	203	120	142	93

(2) An LP250 station will not be authorized initially unless the minimum distance separations in the following table are met with respect to authorized FM stations, applications for new and existing FM stations filed prior to the release of the public notice announcing an LPFM window period for LPFM stations and vacant FM allotments. LPFM modification applications must either meet the distance separations in the following table or, if short-spaced, not lessen the spacing to subsequently authorized stations.

Station class protected by LP250	Co-channel minimum separation (km)		First-adjacent channel minimum separation (km)		Second and third adjacent channel minimum separation (km)	I.F. channel minimum separations
	Required	For no interference received from max. class facility	Required	For no interference received from max. class facility	Required	10.6 or 10.8 MHz
					Required	
D	30	26	16	15	7	None
A	67	94	56	56	30	6
B1	87	121	74	77	47	9
B	112	145	97	106	68	12
C3	78	121	67	67	41	9
C2	91	145	80	85	54	12
C1	111	179	100	112	74	20
C0	122	194	111	131	85	22
C	130	205	120	144	94	28

(3) LP100 and LP250 stations must satisfy the second-adjacent channel minimum distance separation requirements of paragraphs (a)(1) and (a)(2) of this section with respect to any third-adjacent channel FM station that, as of September 20, 2000, broadcasts a radio reading service via a subcarrier frequency.

(4) LP250 stations operating with 100 watts or less effective radiated power (ERP) need not satisfy the I.F. channel minimum separations requirements.

(b) LPFM protection to full-service FM stations in Puerto Rico and the Virgin Islands.

(1) In addition to meeting or exceeding the minimum separations in paragraph (a)(1), new LP100 stations will not be authorized in Puerto Rico or the Virgin Islands unless the minimum distance separations in the following tables are met with respect to authorized or proposed FM stations:

Station class protected by LP100	Co-channel minimum separation (km)		First-adjacent channel minimum separation (km)		Second and third adjacent channel minimum separation (km)—required
	Required	For no interference received from max. class facility	Required	For no interference received from max. class facility	
A	80	111	70	70	42
B1	95	128	82	82	53
B	138	179	123	123	92

(2) In addition to meeting or exceeding the minimum separations in paragraph (a)(2), new LP250 stations will not be authorized in Puerto Rico or the Virgin Islands unless the minimum distance separations in the following tables are met with respect to authorized or proposed FM stations:

Station class protected by LP250	Co-channel minimum separation (km)		First-adjacent channel minimum separation (km)		Second and third adjacent channel minimum separation (km)—required	I.F. channel minimum separations—10.6 or 10.8 MHz
	Required	For no interference received from max. class facility	Required	For no interference received from max. class facility		
A	80	112	70	70	43	9
B1	95	129	82	85	54	11
B	138	181	123	145	93	19

(3) LP100 and LP250 stations must satisfy the second-adjacent channel minimum distance separation requirements of paragraphs (b)(1) and (b)(2) of this section with respect to any third-adjacent channel FM station that, as of September 20, 2000, broadcasts a radio reading service via a subcarrier frequency.

(4) LP250 stations operating with 100 watts or less effective radiated power (ERP) need not satisfy the I.F. channel minimum separations requirements.

NOTE TO PARAGRAPHS (a) AND (b): Minimum distance separations towards “grandfathered” superpowered Reserved Band stations are as specified.

Full service FM stations operating within the reserved band (Channels 201-220) with facilities in excess of those permitted in § 73.211(b)(1) or § 73.211(b)(3) shall be protected by LPFM stations in accordance with the minimum distance separations for the nearest class as determined under § 73.211. For example, a Class B1 station operating with facilities that result in a 60 dBU contour that exceeds 39 kilometers but is less than 52 kilometers would be protected by the Class B minimum distance separations. Class D stations with 60 dBU contours that exceed

5 kilometers will be protected by the Class A minimum distance separations. Class B stations with 60 dBu contours that exceed 52 kilometers will be protected as Class C1 or Class C stations depending upon the distance to the 60 dBu contour. No stations will be protected beyond Class C separations.

(c) LPFM protection to FM translator stations.

(1) In addition to meeting the separations specified in paragraphs (a) and (b), LP100 applications must meet the minimum separation requirements in the following table with respect to authorized FM translator stations, cutoff FM translator applications, and FM translator applications filed prior to the release of the Public Notice announcing the LPFM window period.

Distance to FM translator 60 dBu contour	Co-channel minimum separation (km)		First-adjacent channel minimum separation (km)		Second adjacent minimum separation (km)—required
	Required	For no interference received	Required	For no interference received	
13.3 km or greater.....	39	67	28	35	21
Greater than 7.3 km, but less than 13.3 km	32	51	21	26	14
7.3 km or less	26	30	15	16	8

(2) In addition to meeting the separations specified in paragraphs (a) and (b), LP250 applications must meet the minimum separation requirements in the following table with respect to authorized FM translator stations, cutoff FM translator applications, and FM translator applications filed prior to the release of the Public Notice announcing the LPFM window period:

Distance to FM translator 60 dBu contour	Co-channel minimum separation (km)		First-adjacent channel minimum separation (km)		Second adjacent channel minimum separation (km)—required
	Required	For no interference received	Required	For no interference received	
13.3 km or greater.....	45	69	30	37	22
Greater than 7.3 km, but less than 13.3 km	38	53	24	27	15
7.3 km or less	32	32	18	18	9

(d) Protection of other LPFM stations.

(1) An LP100 station will not be authorized initially unless the minimum distance separations are met with respect to authorized LPFM stations and applications for new or existing LPFM stations filed prior to the release of the public notice announcing an LPFM window period. LPFM modification applications must either meet the distance separations in the following table or, if short spaced, not lessen the spacing to subsequently authorized stations.

Class of LPFM Station	Co-channel minimum separation (km)		First-adjacent channel minimum separation (km)		Second and third adjacent channel minimum separation (km)—required
	Required	For no interference received	Required	For no interference received	
LP100.....	24	24	14	14	None
LP250.....	26	29	15	16	None

(2) An LP250 station will not be authorized initially unless the minimum distance separations are met with respect to authorized LPFM stations and applications for new or existing LPFM stations filed prior to the release of the public notice announcing an LPFM window period. LPFM modification applications must either meet the distance separations in the following table or, if short spaced, not lessen the spacing to subsequently authorized stations.

Class of LPFM Station	Co-channel minimum separation (km)		First-adjacent channel minimum separation (km)		Second and third adjacent channel minimum separation (km)—required
	Required	For no interference received	Required	For no interference received	
LP100.....	30	26	16	16	None
LP250.....	32	32	18	18	None

(3) During the first 30 days that LP250 is available for upgrade, no application would be accepted for filing which specifies LP250 facilities within 32 kilometers of a LP100 station on co-channel and within 18 kilometers of a LP100 station on first-adjacent channels.

(e) Existing LP250 and LP100 stations which do not meet the separations in paragraphs (a) through (d) of this section may be relocated provided that the separation to any short-spaced station is not reduced.

(f) Commercial and noncommercial educational stations authorized under subparts B and C of this part, as well as new or modified commercial FM allotments, are not required to adhere to the separations specified in this rule section, even where new or increased interference would be created.

(g) International considerations within the border zones.

(1) *With respect to Canada.*

(A) Within 320 km of the Canadian border, LP100 stations must meet the following minimum separations with respect to any Canadian stations:

Canadian station class	Co-channel (km)	First-adjacent channel (km)	Second-adjacent channel (km)	Third-adjacent channel (km)	Intermediate frequency (IF) channel (km)
A1 & Low Power	45	30	21	20	4
A	66	50	41	40	7
B1	78	62	53	52	9
B	92	76	68	66	12
C1	113	98	89	88	19
C	124	108	99	98	28

(B) Within 320 km of the Canadian border, LP250 stations must meet the following minimum separations with respect to any Canadian stations:

Canadian station class	Co-channel (km)	First-adjacent channel (km)	Second-adjacent channel (km)	Third-adjacent channel (km)	Intermediate frequency (IF) channel (km)
A1 & Low Power	54	33	22	20	4
A	76	53	42	40	6
B1	88	65	54	52	9
B	102	80	68	67	12
C1	123	101	90	88	19
C	133	111	100	98	28

(C) Applications for LPFM stations within 320 km of the Canadian border may employ an ERP up to a maximum of 250 watts. The distance to the 34 dBu interfering contour may not exceed 60 km in any direction.

(2) *With respect to Mexico.*

(A) Within 320 km of the Mexican border, LP100 stations must meet the following separations with respect to any Mexican stations:

Mexican station class	Co-channel (km)	First-adjacent channel (km)	Second- and third-adjacent channel (km)	Intermediate frequency (IF) channel (km)
Low Power	27	17	9	3
A	43	32	25	5
AA	47	36	29	6
B1	67	54	45	8
B	91	76	66	11
C1	91	80	73	19
C	110	100	92	27

(B) Within 320 km of the Mexican border, LP250 stations must meet the following separations with respect to any Mexican stations:

Mexican station class	Co-channel (km)	First-adjacent channel (km)	Second- and third-adjacent channel (km)	Intermediate frequency (IF) channel (km)
Low Power	33	19	10	3
A	49	35	26	6
AA	53	39	30	6
B1	74	57	46	9
B	102	80	68	12
C1	97	83	74	19
C	116	102	93	27

(C) LPFM stations located within 125 kilometers with the common border of Mexico are limited to 50 watts (0.05 kW) ERP, a 60 dBu service contour of 8.7 kilometers and a 34 dBu interfering contour of 32 kilometers in the direction of the Mexican border. LPFM stations may operate up to 250 watts in all other directions.

(D) LPFM stations located between 125 kilometers and 320 kilometers from the Mexican border may operate in excess of 50 watts up to a maximum ERP of 100 watts. However, in no event shall the location of the 60 dBu contour lie within 116.3 kilometers of the Mexican border.

(3) The Commission will notify the International Telecommunications Union (ITU) of any LPFM authorizations in the US Virgin Islands. Any authorization issued for a US Virgin Islands LPFM station will include a condition that permits the Commission to modify, suspend or terminate without right to a hearing if found by the Commission to be necessary to conform to any international regulations or agreements.

(h) Waiver of the second- and third-adjacent channel separations.

(1) The Commission will entertain requests by LP100 and LP250 stations to waive the second-adjacent **and by LP250 to waive the third-adjacent** channel separation standards in paragraphs (a) through (c) of this section on a case-by-case basis. In each case, the LPFM station must establish, using methods of predicting interference taking into account all relevant factors, including terrain-sensitive propagation models, that its proposed operations will not result in interference to any authorized radio service. The LPFM station may do so by demonstrating that no actual interference will occur due to intervening terrain or lack of population. The LPFM station may use an undesired/desired signal strength ratio methodology to define areas of potential interference.

(2) *Interference.*

(A) Upon receipt of a complaint of interference from an LPFM station operating pursuant to a waiver granted under paragraph (h)(1) of this section, the Commission shall notify the identified LPFM station by telephone or other electronic communication within one business day.

(B) An LPFM station that receives a waiver under paragraph (h)(1) of this section shall suspend operation immediately upon notification by the Commission that it is causing interference to the reception of an existing or modified full-service FM station without regard to the location of the station receiving interference. The LPFM station shall not resume operation until such interference has been eliminated or it can demonstrate to the Commission that the interference was not due to emissions from the LPFM station. Short test transmissions may be made during the period of suspended operation to check the efficacy of remedial measures.

(i) Commercial and noncommercial educational stations authorized under subparts B and C of this part, as well as new or modified commercial FM allotments, are not required to adhere to the separations specified in this rule section, even where new or increased interference would be created.

(j) Additional contour protection requirements.

(1) *Short-spaced LPFM and FM translator stations.* An application for a LP100 or LP250 station that does not meet the distance separation requirements in paragraphs (a) through (d) of this section or, if already short-spaced on co- or first-adjacent channels, reduces the distance towards the short-spaced station may be accepted for filing if it is accompanied by a showing that the proposed LP100 or LP250 station will not involve overlap or will create a decrease in overlap of predicted field contours with the other FM translator or LPFM station as set forth:

Frequency separation	Interference contour of proposed LPFM station	Protected contour of other LPFM station
Co-channel.....	0.01 mV/m (40 dBu)	1 mV/m (60 dBu)
200 kHz.....	0.05 mV/m (54 dBu)	1 mV/m (60 dBu)

(2) *LP250 stations.*

(A) In addition to meeting the distance separation requirements in paragraphs (a) through (d) of this section, applications for LP250 stations will not be accepted for filing if the proposed operation would involve overlap of predicted field contours with any other authorized commercial or noncommercial educational FM broadcast stations, FM translators, Class D (secondary) noncommercial educational FM stations, LP100 or LP250 stations as set forth:

(i) Commercial Class B FM Stations (Protected Contour: 0.5 mV/m)

Frequency separation	Interference contour of proposed LPFM station	Protected contour of commercial class B station
Co-channel.....	0.05 mV/m (34 dBu)	0.5 mV/m (54 dBu)
200 kHz.....	0.25 mV/m (48 dBu)	0.5 mV/m (54 dBu)
400 kHz.....	50.0 mV/m (94 dBu)	0.5 mV/m (54 dBu)

(ii) Commercial Class B1 FM Stations (Protected Contour: 0.7 mV/m)

Frequency separation	Interference contour of proposed LPFM station	Protected contour of other LPFM station
Co-channel.....	0.07 mV/m (37 dBu)	0.7 mV/m (57 dBu)
200 kHz.....	0.35 mV/m (51 dBu)	0.7 mV/m (57 dBu)
400 kHz.....	70.0 mV/m (97 dBu)	0.7 mV/m (57 dBu)

(iii) All other classes of FM stations (Protected Contour: 1 mV/m)

Frequency separation	Interference contour of proposed LPFM station	Protected contour of other LPFM station
Co-channel.....	0.01 mV/m (40 dBu)	1 mV/m (60 dBu)
200 kHz.....	0.05 mV/m (54 dBu)	1 mV/m (60 dBu)
400 kHz.....	100 mV/m (100 dBu)	1 mV/m (60 dBu)

(3) The following standards must be used to compute the distances to the pertinent contours:

(A) The distances to the protected contours are computed using Figure 1 of § 73.333 [F(50,50) curves] of this chapter.

(B) The distances to the interference contours are computed using Figure 1a of § 73.333 [F(50,10) curves] of this chapter. In the event that the distance to the contour is below 16 kilometers (approximately 10 miles), and therefore not covered by Figure 1a, curves in Figure 1 must be used.

(C) The effective radiated power (ERP) to be used is the maximum ERP of the main radiated lobe in the pertinent azimuthal direction. If the transmitting antenna is not horizontally polarized only, either the vertical component or the horizontal component of the ERP should be used, whichever is greater in the pertinent azimuthal direction.

(D) The antenna height to be used is the height of the radiation center above the average terrain along each pertinent radial, determined in accordance with § 73.313(d) of this chapter.

(4) *Interference remediation.* For LPFM stations authorized under this paragraph:

(A) An LPFM station authorized under this paragraph will not be permitted to continue to operate if it causes any actual interference to:

(i) The transmission of any authorized broadcast station; or

(ii) The reception of the input signal of any FM translator or FM booster station; or

(iii) The direct reception by the public of the off-the-air signals of any full-service station or previously authorized secondary station. Interference will be considered to occur whenever reception of a regularly used signal is impaired by the signals radiated by the FM translator or booster station, regardless of the channel on which the protected signal is transmitted; except that no listener complaint will be considered actionable if the alleged interference occurs outside the desired station's 45 dBu contour. Interference is demonstrated by:

(a) The required minimum number of valid listener complaints as determined using Table 1 of this section and defined in § 74.1201(k) of the part;

(b) A map plotting the specific location of the alleged interference in relation to the complaining station's 45 dBu contour;

(c) A statement that the complaining station is operating within its licensed parameters;

(d) A statement that the complaining station licensee has used commercially reasonable efforts to inform the relevant translator licensee of the claimed interference and attempted private resolution; and

(e) U/D data demonstrating that at each listener location the undesired to desired signal strength exceeds -20 dB for co-channel situations, -6 dB for first-adjacent channel situations or 40 dB for second-adjacent channel situations, calculated using the Commission's standard contour prediction methodology set out in § 73.313.

(f) This procedure does not apply when the complaining station is on a third-adjacent channel. The complaint procedure for third-adjacent channel stations is set forth in Section 73.810(a) of this subpart.

TABLE 1 TO §73.807(j)(4)(A)(iii)

Population within protected contour	Minimum listener complaints required for interference claim
1-199,999.....	6
200,000-299,999.....	7
300,000-399,999.....	8
400,000-499,999.....	9
500,000-999,999.....	10
1,000,000-1,499,999.....	15
1,500,000-1,999,999.....	20
2,000,000 or more.....	25
LPFM stations with fewer than 5,000.....	3

(B) If interference cannot be properly eliminated by the application of suitable techniques, operation of the offending LPFM station shall be suspended and shall not be resumed until the interference has been eliminated. Short test transmissions may be made during the period of suspended operation to check the efficacy of remedial measures. LP250 stations authorized under subparagraph (j)(2) of this section can remediate the interference by downgrading the station back to the LP100 service class.

(5) The provisions of this subsection concerning prohibited overlap will not apply where the area of overlap lies entirely over water. In addition, an application otherwise precluded by this section will be accepted if it can be demonstrated that minimal or no interference will occur due to intervening terrain, lack of population or such other factors that may be applicable.

(6) Supplemental showings including topographic maps as well as Longley/Rice and other similar propagation studies may be used to demonstrate no interference between two LPFM stations only.

(7) Public safety applicants may propose short spacing between two public safety LPFM stations during the application process in connection with establishing a single frequency network. Short spacing arrangements with a non-commonly owned LPFM station would require a written agreement between the two stations consenting to such an agreement. No such agreement is required if both LPFM stations are commonly-owned by public safety or tribal entities.

(k) The Commission will initiate international coordination of a LPFM proposal even where the above Canadian and Mexican spacing tables are met, if it appears that such coordination is necessary to maintain compliance with international agreements.

2. Revise §73.811 to read as follows:

§73.811 LPFM power and antenna height requirements.

(a) Maximum facilities.

(1) LP100 stations will be authorized to operate with maximum facilities of 100 watts ERP at 30 meters HAAT. An LPFM station with a HAAT that exceeds 30 meters will not be permitted with an ERP greater than that which would result in a 60 dBu contour of 5.6 kilometers. In no event will an ERP of less than one watt ERP be authorized. No facility will be authorized in excess of one watt at 450 meters HAAT.

(2) LP250 stations will be authorized to operate with maximum facilities of 250 watts ERP at 30 meters HAAT. An LPFM station with a HAAT that exceeds 30 meters will not be permitted with an ERP greater than that which would result in a 60 dBu contour of 7.1 kilometers. In no event will an ERP of less than one watt ERP be authorized.

(b) Minimum facilities.

(1) LP100 facilities may not operate with facilities of less than 50 watts ERP at 30 meters or the equivalent necessary to produce a 60 dBu contour that extends at least 4.7 kilometers.

(2) LP250 facilities may not operate with facilities of less than 101 watts ERP at 30 meters or the equivalent necessary to produce a 60 dBu contour that extends at least 5.7 kilometers.

2. Revise §73.816 to read as follows:

§73.816 Antennas.

* * * * *

(c) * * * * *

(2) LPFM permittees and licenses proposing a waiver of the second- and/or third-adjacent channel spacing requirements of Section 73.807 may utilize directional antennas for the sole purpose of justifying such a waiver, or

(3) LPFM permittees and licensees proposing operation within 320 kilometers of the Mexican or Canadian border in accordance with §73.807 subparagraphs (g)(1)(C), (g)(1)(D) and (g)(1)(E) of this subpart, or

(4) LPFM permittees and licensees subject to an additional contour protection requirement in accordance with §73.807(j) of this subpart may utilize directional antennas as set forth:

(A) Applications for the use of directional antennas that propose a ratio of maximum to minimum in the horizontal plane of more than 15 dB will not be accepted.

(B) Directional antennas that have a radiation pattern which varies more than 2 dB per 10 degrees of azimuth will not be authorized.

* * * * *

3. Revise §73.825 to read as follows¹⁴⁶:

§73.825 Protection to reception of TV channel 6.

The requirements of this section will sunset on July 13, 2021.

(a) LPFM stations will be authorized on Channels 201 through 220 only if the pertinent minimum separation distances in the following table are met with respect to all full power TV Channel 6 stations.

FM channel number	Class LP100 to TV channel 6 (km)	Class LP250 to TV channel 6 (km)
201	140	143
202	138	141
203	137	139
204	136	138
205	135	136
206	133	135
207	133	133
208	133	133
209	133	133
210	133	133
211	133	133
212	132	133
213	132	133
214	132	132
215	131	132
216	131	132
217	131	132
218	131	131
219	130	131
220	130	130

(b) LPFM stations will be authorized on Channels 201 through 220 only if the pertinent minimum separation distances in the following table are met with respect to all low power TV, TV translator, and Class A TV stations authorized on TV Channel 6.

FM channel number	Class LP100 to TV channel 6 (km)	Class LP250 to TV channel 6 (km)
201	98	101
202	97	99
203	95	97
204	94	96
205	93	94
206	91	93

¹⁴⁶ - We anticipate that any action out of the *Further Notice of Proposed Rulemaking* would not be implemented until after the analog LPTV sunset.

207	91	92
208	91	92
209	91	92
210	91	92
211	91	92
212	90	91
213	90	91
214	90	91
215	90	90
216	89	90
217	89	90
218	89	89
219	89	89
220	89	89

3. Revise §73.870 to read as follows:

§73.870 Processing of LPFM broadcast station applications.

(a) A minor change for an LPFM station authorized under this subpart is limited to transmitter site relocations not exceeding 5.6 kilometers or less for LP100 stations, 7.1 kilometers or less for LP250 stations or where the 60 dBu contour of the authorized facility overlaps the 60 dBu contour of the proposed facility.. These distance limitations do not apply to amendments or applications proposing transmitter site relocation to a common location filed by applicants that are parties to a voluntary time-sharing agreement with regard to their stations pursuant to § 73.872 paragraphs (c) and (e). These distance limitations also do not apply to an amendment or application proposing transmitter site relocation to a common location or a location very close to another station operating on a third-adjacent channel in order to remediate interference to the other station; provided, however, that the proposed relocation is consistent with all localism certifications made by the applicant in its original application for the LPFM station. Minor changes of LPFM stations may include:

(1) * * * * *

(2) * * * * *

(3) Changes in class of service from LP100 to LP250 or vice versa.

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