

Before the  
**FEDERAL COMMUNICATIONS COMMISSION**  
Washington, DC 20554

In the Matter of	)	
Amendments of Parts 73 and 74 to Improve the	)	
Low Power FM Radio Service Technical Rules	)	MB Docket No. 19-193
	)	
Modernization of Media Regulation Initiative	)	MB Docket No. 17-105

**Comments of Educational Media Foundation**

Educational Media Foundation (“EMF”) hereby files its comments in the above-referenced proceeding.<sup>1</sup> EMF is a noncommercial broadcaster, holding licenses for more than 300 full-power noncommercial educational broadcast radio stations which operate in both the reserved and unreserved portions of the FM band. It is also the licensee of a similar number of FM translators, operating in communities large and small across the country. Given its extensive experience in operating both full-power stations and FM translators, EMF is well positioned to offer its comments on many of the proposals set out in this proceeding.

EMF files its comments in this proceeding not to address in any detail the Commission’s technical proposals for the LPFM service, including the proposals to allow for more routine use of directional antenna by LPFM operators, the use of boosters by LPFMs and the expansion of the definition of a minor change. EMF is not opposed to these ideas in theory but, as discussed in Section III below, these proposals must be adopted along with safeguards to ensure that the LPFM facilities are correctly constructed and protect existing operators from interference, including interference to full-power stations when the LPFM is operating in an area with

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<sup>1</sup> *Amendments of Parts 73 and 74 to Improve the Low Power FM Radio Service Technical Rules*, Notice of Proposed Rulemaking, 34 FCC Rcd 6537 (2019) (“NPRM”).

significant terrain irregularities – a real and important issue which the Commission has thus far refused to recognize.

EMF offers comments on three issues in this proceeding. First, it endorses the FCC's proposals to eliminate the restrictions on reserved-band noncommercial stations operating in areas served by Channel 6 TV stations. As set forth below in more detail, EMF believes this protection was rarely necessary in the analog world, and it certainly is not needed now that television operations have converted to digital operations. Second, EMF supports the continued flexibility accorded to LPTV operators to retain an analog audio signal which can be received by standard FM receivers. Finally, EMF responds to the Commission's invitation in paragraph 24 of the NPRM to submit other technical proposals for LPFM stations which have not been already addressed by the NPRM by submitting a request that the Commission reexamine the protections which LPFM stations must provide to full-power operators when the LPFM is located in areas where the terrain is significantly lower in one direction than in the other – allowing the LPFM's signal to travel far beyond the normally expected distance and vastly increasing the potential for interference. REC Networks, an LPFM advocacy group which first advanced many of the issues addressed in this proceeding, has itself recognized this issue, terming it the "foothills problem." EMF submits that the issue must be reexamined by the FCC before it adopts any other technical proposal which could expand technical service by LPFM stations and potentially adversely impact full-power stations. Each of these issues is examined in more detail below.

**I. TV Channel 6 Protections from Reserved Band FM is No Longer Necessary**

Sections 73.525 and Section 74.1205 of the rules require FM stations and translators operating in the noncommercial Reserved Band to protect television stations operating on Channel

6.<sup>2</sup> These rules were adopted when television was operating in an analog mode, and where the potential for interference from FM operations using a similar technology was possible. EMF, which operates many stations in the Reserved Band, has rarely found that such interference really occurred, even when television stations operated in analog. In Section IIIB of the NPRM, the Commission proposes to eliminate this required protection.<sup>3</sup> EMF fully supports the elimination of this protection requirement, and in fact advocated for such an abolition in its initial comments in the FCC's Media Modernization proceeding.<sup>4</sup>

The conversion of television operations to digital operations renders these rule provisions obsolete. The digital television format is not as subject to interference from adjacent channel operations – particularly radio broadcasts likely to be at significantly lower power than a Channel 6 TV operation. Despite operating hundreds of reserved-band stations, many of which operate in areas served by Channel 6 stations, EMF has not noted any instances of real interference from an NCE station to a digital Channel 6 TV operation. Yet EMF has still had difficulties getting Channel 6 station operators to consent to the location of its stations in the lower NCE band where such consent is required under the rules. This reluctance appears to be grounded in abstract concerns in protecting the TV station's signal from potential interference, even though the likelihood of such interference is minute. As these TV stations don't need any reason to say no, they have no incentive to allow an NCE station to operate near their facilities even if there is no real interference concern, and even with proposed contractual agreements to cease operation in the

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<sup>2</sup> See 47 C.F.R. §§ 73.525 and 74.1205. Section 1.420(h), Note 1, also addresses potential interference to Channel 6 television stations which should be considered in connection with applications to upgrade Class A FM stations operating on commercial Channel 221. This Note should be abolished for the same reasons set forth above.

<sup>3</sup> NPRM, 34 FCC Rcd at 6537 ¶ 8.

<sup>4</sup> See, Comments of Educational Media Foundation, *Modernization of Media Regulation*, MM Docket No. 17-105, filed July 5, 2017 at Section V.

event of actual interference.

These restrictions limit the operations of NCE stations and thus limit their service to the public by precluding the expansion of their service in areas near Channel 6 stations. Given the change to digital technology, the FCC should eliminate the rule which was adopted for an analog age.<sup>5</sup> The time is well past to eliminate these rules.

**II. The FCC Should Allow Channel 6 LPTV Stations to Provide Analog Audio Even After Their Conversion to Digital Operations**

In paragraph 13 of the NPRM, the FCC asks if allowing the operation of LPTV stations on Channel 6 with analog audio carriers even after the LPTV digital conversion should be permitted, and whether it would create interference issues for reserved-band NCE stations. EMF currently programs the audio channel of one of these LPTV stations and believes that audio services provided through these stations allows for the provision of diverse formats by adding audio capacity for what are essentially new radio services, particularly in larger markets where much if not all of the FM spectrum has already been claimed. EMF fully supports the continued operations of these LPTV stations with analog audio channels even after the digital conversion of all LPTV stations.

These LPTV stations are already operating and not creating interference to NCE stations which, at their closest, would be on second-adjacent channels – the LPTV analog audio being received on 87.7 with the closest possible NCE FM station operating on 88.1. Because of the

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<sup>5</sup> If the FCC deems it necessary to include some level of protection to Channel 6, it should allow the NCE stations to increase their facilities without regard to Channel 6 operations, but make them responsible for the resolution of any interference which occurs – much like translator operators are responsible for resolving interference to full-power FM stations. Like in the case of translators, the Channel 6 operators and the NCE licensee would be responsible for cooperating to determine if the NCE is the true cause of the interference to the TV station, and impose the responsibility for them to cooperate to resolve the interference. In addition, as with the FCC's recent rules on the resolution of translator interference, the FCC should set a minimum number of individuals who would have to complain before resolution would be required, so that a uniquely sensitive TV viewer would not be able to deprive NCE listeners of upgraded new services.

power levels of these Channel 6 audio operations, and the spectrum congestion in the markets in which these stations operate, EMF believes few situations will develop where there is the potential to locate a new NCE station on 88.1 in the vicinity of one of these 87.7 operations. Any such potential operations could be governed by the NCE interference rules of Section 73.509 of the rules. EMF submits that the issue will be rare or non-existent – and the benefits of the continuation of the services provided by these audio services from LPTV stations outweigh any limitations which might be imposed on new or increased facilities which would be precluded at the low end of the FM band.

### **III. The Commission Should Review the “Foothills Problem”**

In paragraph 24 of the NPRM, the FCC invites comments on “any additional technical proposals which follow logically from the proposals herein.” In proposing to adopt the technical changes to the rules regarding boosters, directional antenna and minor changes, the Commission must also review the issues which arise by the location of LPFM stations in areas of irregular terrain. In adopting the mileage separation requirements applicable to LPFM stations, the Commission relied on the likely coverage of these stations with their maximum power and height above average terrain as specified in Section 73.811 of the Commission rules, with a buffer zone in case the signals of these interference from these stations exceeded what was expected.<sup>6</sup> However, in doing so, the FCC apparently planned based on normal terrain considerations. In certain instances, however, where there are great elevations in one direction and lower elevations in another, and where the population is centered in the lower elevation areas, an LPFM’s height

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<sup>6</sup> *Creation of a Low Power Radio Service*, Report and Order, 15 FCC Rcd 2205, 2235 ¶ 64 (2000) (“We have added a 20-kilometer buffer to the separations for protecting co-channel and first adjacent channel full-service stations. This buffer will help to protect FM radio facilities that were modified or upgraded in a manner that would create a short-spacing with an operating LPFM station.”).

above average terrain may be low (because the mountain behind the LPFM station and the valley in front of it average out to a low “average” height above average terrain). Yet, the actual height of the LPFM antenna relative to the populated low-lying areas can be very high. This will allow the LPFM to extend its signal a great distance over those populated areas, well past the protections afforded by the mileage separations of Section 73.509. In such cases, there is the real potential to cause vast areas of interference to full-power stations. This interference should not be permitted from what is supposed to be a secondary broadcast service.

REC Networks, the proponent of many of the LPFM technical changes proposed in the NPRM, itself notes that the existence of “foothill area[s] with terrain so unique that there were areas between 2 and 10 miles to the east” where the LPFM contours extended far beyond what was expected when the mileage separation rules were adopted.<sup>7</sup> These are not necessarily unique situations, but situations which occur wherever an LPFM station is located in a foothills area, where the terrain to one side is very low, and the terrain to the other is significantly higher. While the overall height above average terrain of the LPFM antenna may be within permissible limits when the heights along these contours are averaged, the actual interfering contours of the LPFM over the lower land areas can vastly exceed the protections built into the mileage separation rules. In such areas, as in the Los Angeles market, tremendous interference can be caused within the service area of existing full-power stations – interference which would never be permitted if caused by a translator.

REC itself, in its Media Modernization comments, suggested that these situations should be reviewed.<sup>8</sup> If the Commission is going to liberalize the technical rules for LPFM, it must also

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<sup>7</sup> REC Petition for Rulemaking, RM No. 11810 (rec. June 13, 2018) at 32 ¶ 53.

<sup>8</sup> See Comments of REC Networks, MB Docket No. 17-105, at 1-2, 18-19 ¶ 30 (filed June 27, 2017).

investigate whether its rules should allow this under-protection of full-power stations. The Commission has gone so far as to permit LPFMs to locate at sites requiring a second-adjacent channel waivers even though, by locating at such sites, they can cause massive interference to co-channel full-power stations.<sup>9</sup> EMF argued in the *Razorcake* case that this contravened the clear language of the LCRA which requires LPFMs with second-adjacent channel waivers not cause interference to “any station,” including the protection of listeners to co-channel stations just as much as it protects listeners to stations operating on second-adjacent channels.<sup>10</sup> In its review of the technical flexibility to be afforded to LPFM stations, the Commission must examine not only the situation where this issue arises in the context of second-adjacent channel waivers, but also where it arises in the absence of such waivers.<sup>11</sup> As part of any flexibility accorded to the LPFM service, the fundamental principle that interference should not be caused to existing FM users must be recognized in all situations where LPFMs are accorded any site-location flexibility.

In its Petition for Rulemaking which led to many of the proposals in the NPRM, REC suggested that these foothills areas where LPFM signals travel far beyond what would be anticipated in normal terrain might be areas in which it is appropriate for the LPFM station to be authorized a booster.<sup>12</sup> REC, in its proposals for changes in Sections 74.1204(f) and 74.1203(a), suggested that interference from such boosters to any service from a pre-existing FM station,

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<sup>9</sup> See *Application of Razorcake/Gorsky Press, Inc. For a New LPFM Station at Pasadena, California*, Memorandum Opinion and Order, 32 FCC Rcd 2697 (2017); *recon. dismissed*, Order on Reconsideration, 32 FCC Rcd 6593 (2017) (“Razorcake”).

<sup>10</sup> LCRA § 3(b).

<sup>11</sup> The Commission has not yet resolved what will happen if, when an LPFM with a second-adjacent channel waiver, commences operations, and actual interference to listeners to a co-channel station is caused. EMF expects this issue will arise if the FCC does not examine the situations addressed herein.

<sup>12</sup> Petition at 32 ¶ 53.

even outside of a station's protected service area, would be banned. If the FCC decides to make changes to its rules regarding wider use of boosters for LPFM stations, it must make clear that these boosters cannot be allowed to operate if they create interference to any pre-existing FM service, no matter where that service may be located. As boosters rebroadcasting these foothills LPFM stations would only increase potential interference to preexisting stations, this protection is crucial. No booster can be authorized where there is any predicted or actual interference to any regular listening to a pre-existing station, no matter the channel on which the preexisting station operates. This protection for all existing stations must be emphasized if any expanded use of boosters for LPFM stations is permitted.

The proposed change in the definition of "minor change" in the LPFM rules also serves to increase the potential for more interference to full-power stations. If an LPFM can change transmitter sites through a minor change to any location which has a 60 dBu overlap with the station's current facility, such a move could permit LPFM stations to aggravate existing situations of interference, such as those described above in foothills areas, without the petition to deny period applicable to major changes. Such moves should not be permitted as minor changes unless they are accompanied with the same caveats which EMF urges be attached to all of these proposed rule changes: the move cannot create any real or predicted interference to listeners of any pre-existing station – even outside the normally protected contour of these stations. Flexibility for LPFM stations should not come at the cost of the destruction of existing listening patterns of radio consumers.

Also concerning is the proposal to expand the use of directional antennas by LPFM stations. Such a proposal again would allow LPFM stations to be crammed into high-interference urban environments (the acknowledged goal of the REC proposals). Again, any



such flexibility must also come with the requirement that any LPFM using such an antenna protect all pre-existing FM stations. And it must be made clear that these interference protections apply to all pre-existing stations – not just those on second-adjacent channels. LPFMs should not be accorded more flexibility in site location at the cost of any loss of existing service – no matter on what channel that service may be provided.

EMF submits that the issue of interference from LPFM stations to full-power FMs in these foothills areas should be independently examined and LPFM use curtailed where they create significant interference to full-power stations. But, at the very least, the FCC should not exacerbate the problem by liberalizing the technical rules for LPFMs without making clear that any LPFM station taking advantage of these liberalized rules must protect all full-power stations.

#### **IV. Conclusion**

For the reasons set forth herein, EMF respectfully urges the Commission to eliminate the now-unnecessary protection of Channel 6 TV stations from NCE reserved-band stations, allow the continued use of an analog audio carrier by LPTV stations operating on Channel 6 even after the end of the digital transition, and address the “foothills problem” of LPFM signals causing massive interference in areas where their height above terrain is far beyond the normal maximums in certain directions.

Respectfully submitted,

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