

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

In the Matter of	)	
	)	
Amendment of Parts 73 and 74 to Further	)	RM No. 11810
Implement the Local Community Radio Act	)	
of 2010 and Make Other Improvements	)	
to Low Power Radio Service	)	

**Comments of the  
National Association of Broadcasters**

**I. Introduction and Summary**

The National Association of Broadcasters (NAB)<sup>1</sup> hereby files comments on the above-captioned Petition for Rulemaking regarding low power FM (LPFM) service.<sup>2</sup> In the Petition, REC Networks proposes sweeping changes to the power limits, interference protections, and other technical parameters that govern LPFM service. As discussed below, NAB submits that approving these proposals would reduce the technical integrity of the FM band, increase interference to other FM services, and potentially alter the fundamental “hyper-local” nature of LPFM service.

When the Commission established LPFM service in 2000, it was determined to “preserve the integrity and technical excellence of existing FM radio service” and ensure that LPFM service “not cause unacceptable interference to existing radio service.”<sup>3</sup> To that end, the Commission imposed minimum distance separation requirements between LPFM

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<sup>1</sup> NAB is a nonprofit trade association that advocates on behalf of local radio and television stations and also broadcast networks before Congress, the Federal Communications Commission and other federal agencies, and the courts.

<sup>2</sup> *Amendment of Parts 73 and 74 to Further Implement the Local Community Radio Act of 2010 and Make Other Improvements to Low Power Radio Service*, Petition for Rulemaking, REC Networks, RM No. 11810 (June 13, 2018) (Petition).

<sup>3</sup> *Creation of Low Power Radio Service*, Report and Order, 15 FCC Rcd 2205, 2206 and 2209 (2000) (LPFM Report and Order).

stations and FM stations operating on co-, 1st- and 2nd-adjacent and intermediate frequency (IF) channels.<sup>4</sup> The Commission specifically chose to use distance separations to control interference caused by LPFM stations, instead of contour protections, to ensure that LPFM engineering and filing demands would be simple and efficient.<sup>5</sup> In addition, a primary goal of the Commission was to create a class of radio stations designed to serve “very localized communities or underrepresented groups within communities.”<sup>6</sup> Therefore, LPFM stations were limited to 100 watts to help guarantee this local aspect of LPFM service.<sup>7</sup>

However, Petitioner’s proposals would substantially upend these tenets of LPFM service. Introducing more LPFM stations through a contour-based protection scheme would inevitably increase congestion on the already crowded FM broadcast band, escalate the risk of interference to other FM services, and unduly tax the resources of both LPFM applicants and Commission staff. Moreover, increasing the maximum LPFM power output could not only increase interference to existing FM services, but potentially change the carefully designed hyper-local nature of LPFM service. NAB thus requests that the Commission decline REC Networks’ request for a rulemaking proceeding to consider the proposals described in the Petition.

**II. Adopting a Contour-Based Interference Protection Regime for LPFM Service Would Reduce the Technical Integrity of the FM Band and Complicate LPFM Applications**

REC Networks constructs a tortured interpretation of the Local Community Radio Act of 2010<sup>8</sup> to justify the creation of an entirely new method for controlling interference from

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<sup>4</sup> *Id.* at 2207.

<sup>5</sup> *Id.* at 2233.

<sup>6</sup> *Id.* at 2208.

<sup>7</sup> *Id.* at 2210.

<sup>8</sup> Pub. L. No. 111-371, 124 Stat 4072 (2011) (LCRA).

LPFM stations.<sup>9</sup> This new regime would use a combination of the former LP10 distance separations table, which the Commission deleted six years ago,<sup>10</sup> and contour overlaps.<sup>11</sup> As NAB understands the Petition's somewhat convoluted proposals, any LPFM station could use this alternative if it cannot comply with the current rules either because it would be short-spaced to another FM service or seeks to exceed the current 100-watt maximum for LPFM service.<sup>12</sup> Under its proposal, an LPFM station would be able to short-space toward an FM station based on the former LP10 separation tables (the spacings in which were developed based upon an assumed LPFM transmit power of 10 watts), even if the LPFM station operated at 100 or even 250 watts. Also, an LPFM station would be allowed to short-space toward stations in secondary services like FM translators so long as there is no contour overlap, instead of satisfying the existing distance separations.

NAB strongly opposes these proposals because the net effect would be more congestion and interference in the already crowded FM band, particularly in suburban and urban areas. Indeed, REC Networks' stated purpose is to relax the LPFM interference protections afforded to full-power FM stations and translators in order to cram more LPFM stations into the nation's most populous, most spectrum-limited markets.<sup>13</sup>

First, notwithstanding REC Networks' awkward analysis of the LCRA to justify use of the LP10 distance separation tables, it simply makes no technical or policy sense to use these tables to ensure interference protection from higher-powered LPFM stations. The

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<sup>9</sup> Petition at 10-13.

<sup>10</sup> *Creation of a Low Power Radio Service Amendment of Service and Eligibility Rules for FM Broadcast Translator Stations*, Fifth Order on Reconsideration and Sixth Report and Order, 27 FCC Rcd 15402, 15477-78 (2012) (LPFM Sixth Report and Order).

<sup>11</sup> Petition at 13.

<sup>12</sup> *Id.* at 14-15.

<sup>13</sup> *Id.* at 1.

Commission initially created LP10 service to enable “microradio” service in places where 100-watt stations could not fit without causing interference to other services.<sup>14</sup> The LP10 separation tables were therefore calculated to protect other services from such extremely low power stations that typically reach only a few blocks. The Commission subsequently deleted the LP10 separation tables from its rules in 2012 because it found that 10-watt stations were an inefficient use of spectrum and not economically viable.<sup>15</sup> In any event, using the LP10 tables to prevent interference protection from higher-powered stations would bring LPFM stations too close to full-power FM stations, which often have listeners outside their protected contour, and would reduce the existing 20 km buffer zone between some LPFM and FM stations by more than 81 percent.<sup>16</sup>

The current buffer zone was implemented after careful study. The Commission recognized that the FM band is not static, given that FM stations often change transmitter sites either involuntarily or to improve service. Transmitter moves are generally less than 20 km, so imposing a 20 km buffer allows FM stations room to move while also reducing the potential impact on LPFM stations and decreasing the likelihood that an LPFM station would cause interference within an FM station's community of license.<sup>17</sup> Accordingly, the Commission should decline to reduce the LPFM buffer zones because it will inevitably lead to diminished sound quality for FM listeners, particularly to IBOC digital signals, and more frequent, costly interference conflicts.

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<sup>14</sup> LPFM Report and Order, 15 FCC Rcd at 2212.

<sup>15</sup> See *supra* note 10.

<sup>16</sup> Petition at 17.

<sup>17</sup> LPFM Report and Order, 15 FCC Rcd at 2234.

Second, the Petition fails to demonstrate a need to create a new contour-based method for protecting FM stations from interference caused by LPFM stations. LPFM service has thrived under the current distance separations approach, with over 2,170 LPFM stations now licensed and operating in the U.S.<sup>18</sup> Yet, despite this success, Petitioner seeks to add a new “contour protection” regime to pack even more stations onto the already-crowded FM dial. Petitioner also fails to acknowledge that use of contour protections, as currently authorized for certain FM stations, requires such stations to first specify a fully-spaced allotment reference point.<sup>19</sup> This prerequisite helps to avoid congestion of the FM band and maintain the technical integrity of the band. NAB submits that if the Commission allows contour protection for LPFM stations, it should also require an applicant to demonstrate the existence of a fully-spaced reference site. Otherwise, LPFM applicants would seek to “shoehorn” a station into every potential market and neighborhood, without regard for the interference impact on other FM services.

Third, the Petition glosses over the negative administrative impact of allowing LPFM stations to use a contour-based interference protection scheme. Contours are only approximations of coverage based upon an abstraction of the surrounding terrain and their validity decreases as power levels decrease. For FM and LPFM stations, the distance to the relevant contour is based upon a calculation of the average terrain elevation between 3 and 16 kilometers (2–10 miles) distant from the transmitter site. Since the 60 dBu coverage contour of a 100-watt LPFM station extends perhaps 5.6 kilometers (3.5 miles), the average terrain calculation both ignores the most relevant terrain (that within 3 km of the transmitter

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<sup>18</sup> See *Broadcast Stations Totals as of June 30, 2018*, FCC (July 3, 2018), available at <https://docs.fcc.gov/public/attachments/DOC-352168A1.pdf>.

<sup>19</sup> 47 C.F.R. § 73.215(b)(2)(i).

site) and includes terrain that lies beyond the station's coverage area (that beyond 5.6 km up to 16 km from the transmitter site.) Thus, the use of contours to predict the coverage of an LPFM station cannot be supported by reasonable engineering application of the contour method because at the low power levels of LPFM stations the contour method improperly weights terrain beyond the expected coverage distance of LPFM stations while ignoring terrain within that coverage area. While the predicted interference contour may arguably be more relevant, the widespread practice of using contour protection will lead to unreliable or incorrect predictions concerning both coverage and interference.

Accordingly, the Commission determined that using minimum distance separations for LPFM service was the most efficient, practical way to govern interference. The Commission recognized that more LPFM stations could likely be "squeezed in" under a contour overlap approach than under distance separations,<sup>20</sup> but specifically decided against the former because it is more complicated and resource intensive for both applicants and Commission staff.<sup>21</sup> The Commission was not persuaded then by the potential benefits of jamming in some additional LPFM stations and should not be persuaded today. Indeed, given the growth in congestion on the FM band since LPFM was established in 2000, the preparation of such engineering exhibits may be even more complicated and expensive today.

Finally, NAB lacks confidence that LPFM operators could properly operate under a contour-based regime in a way that fully safeguards other FM services from interference. Although Petitioner by all accounts provides excellent engineering services, too few LPFM

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<sup>20</sup> *Creation of a Low Power Radio Service*, Notice of Proposed Rulemaking, 14 FCC Rcd 2471, 2487 (1999).

<sup>21</sup> LPFM Report and Order, 15 FCC Rcd at 2233.

licensees have the resources to consistently comply with the Commission's technical rules for operating a station. For example, in just the past couple of years, the Commission has taken enforcement actions against multiple LPFM stations for violating its technical and administrative rules, including a Florida licensee that was operating from a structure more than four miles from its authorized location, using an antenna taller than authorized, and operating at a transmitter power output of 1,910 watts (83 times the authorized power of 23 watts).<sup>22</sup> Other LPFM stations have been disciplined for exceeding their power limits in Sacramento, California (209 watts instead of authorized 86 watts)<sup>23</sup> and Salem, South Carolina (300 watts instead of authorized 50),<sup>24</sup> operating on transmitters not located at their authorized site in Hollywood, Florida (four miles away)<sup>25</sup> and Hanford, California (two miles away),<sup>26</sup> and violating the rules prohibiting commercial advertisements,<sup>27</sup> just to name a few.

More troubling, less than half of all LPFM operators bothered to participate in the Commission's last nationwide test of the Emergency Alert System (EAS) in September 2017.<sup>28</sup> The Petitioner itself concedes that even using the Commission's incredibly simple

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<sup>22</sup> *The Truth Will Set You Free Inc., Licensee of Station WEXI-LP*, Notice of Violation, File No. EB-FIELDSCR-17-00025704 (Apr. 4, 2018).

<sup>23</sup> *California Black Chamber of Commerce, Licensee of Station KDEE-LP*, Notice of Violation, File No. EB-FIELDWR-17-00024321 (Sep. 1, 2017).

<sup>24</sup> *Salem Radio Inc., Licensee of Station WFBS-LP*, Notice of Violation, File No. EB-FIELDSCR-17-00024384 (Sep. 5, 2017).

<sup>25</sup> *American Multi-Media Syndicate Inc., Licensee of Station WDKK-LP*, Notice of Violation, File No. EB-FIELDSCR-18-00026933 (June 5, 2018).

<sup>26</sup> *First Unitarian Life Church of Hanford, Licensee of Station KOOH-LP*, Notice of Violation, File No. EB-FIELDWR-17-00025514 (June 5, 2018).

<sup>27</sup> *FCC Fines Tampa LPFM Under Consent Decree*, [www.allaccess.com](http://www.allaccess.com) (Mar. 9, 2017) (\$2,000 fine); *LPFM Station Fined for Violating Underwriting*, [www.catholicradioaccociation.org](http://www.catholicradioaccociation.org) (Sep. 11, 2017) (\$8800 fine).

<sup>28</sup> *FCC Releases Results of 2017 EAS Test*, Radio World, [www.radioworld.com](http://www.radioworld.com) (Apr. 16, 2018).

EAS Test Reporting System and maintaining functional EAS equipment can be too difficult for some LPFM operators.<sup>29</sup> NAB submits that, if LPFM stations are unable to comply with Commission rules for power output, antenna location, underwriting and EAS, the Commission should be very wary of the potential interference problems that may result if more LPFM stations are permitted to squeeze into already congested urban and suburban markets under a contour-based interference protection scheme.

For the same reasons, NAB opposes the Petition's request to allow LPFM licensees to use directional antennas.<sup>30</sup> LPFM service was designed to offer a simple, straight-forward, and inexpensive means of providing hyperlocal service. While off-the-shelf directional antennas can be obtained at relatively low cost, combinations of such antennas ("composite directional antennas") typically require extensive engineering that increases the cost. Additionally, composite designs depend critically on inter-antenna spacing and phasing. If not installed precisely as engineered, they will not function properly and will have unpredictable radiation characteristics. The Commission should not tolerate the resulting potential for interference in a service that is designed with simplicity and interference-prevention as primary goals.<sup>31</sup>

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<sup>29</sup> *LPFMs Need More EAS Outreach, Low-Power Advocacy Says*, Inside Radio, [www.insideradio.com](http://www.insideradio.com) (Apr. 27, 2018).

<sup>30</sup> Petition at 22-26.

<sup>31</sup> NAB has no objection to the continued use of composite antennas by TIS stations since it believes that local government entities are likely to employ qualified technicians for installation. *Id.* at 23.

### III. Approving 250-Watt LPFM Stations Could Potentially Change the Fundamental Nature of LPFM Service

The Petition also revives an earlier request to expand LPFM service to 250 watts.<sup>32</sup> The Commission previously raised this proposal in 2012,<sup>33</sup> but after considering a thorough record on the matter, ultimately decided against creating an LP250 class of service.<sup>34</sup> NAB remains opposed to this proposal because it would greatly expand LPFM service areas, increasing the risk of interference to FM services.<sup>35</sup> For example, approving 250-watt LPFM service would allow some stations to expand their service area from 99.9 km<sup>2</sup> to 158 km<sup>2</sup>, or almost 60 percent. It would also place the 40 dBμ interference contour of 250-watt LPFM facilities at a distance of 23.8 kilometers (14.8 miles) from the transmitter site, an increase of 28% (5.2 km) from the currently possible distance for a 100-watt LPFM station.

Moreover, the Petition would allow, for the first time, LPFM facilities at very high elevation sites with a corresponding high potential for causing widespread interference. For instance, at a relatively high site such as Sandia Crest, New Mexico, the proposed power level (1.2 watts ERP at a HAAT of 1300 meters) would produce an interference contour extending 44 km (27.3 miles), or an increase of 87% (20.5 kilometers) over the presently allowed limit of 23.5 km.<sup>36</sup>

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<sup>32</sup> *Id.* at 1 and 48.

<sup>33</sup> *Creation of a Low Power Service*, Fifth Report and Order, Fourth Further Notice of Proposed Rulemaking, and Fourth Order on Reconsideration, MM Docket No. 99-25, 27 FCC Rcd 3315, 3334-35 (2012) (Fourth Further Notice).

<sup>34</sup> *Creation of a Low Power Radio Service and Amendment of Service and Eligibility Rules for FM Broadcast Translator Stations*; MM Docket No. 99-25, MB Docket No. 07-172, 27 FCC Rcd 15402, 15479 (2012) (LPFM Sixth Report and Order).

<sup>35</sup> Reply Comments of the National Association of Broadcasters, MM Docket No. 99-25 (May 21, 2012), at 9-14 (NAB 2012 Reply); see also Comments of National Public Radio, Inc., MM Docket No. 99-25 (May 7, 2012), at 2-4 (NPR 2012 Comments).

<sup>36</sup> 47 C.F.R. § 73.811.

Such a tremendous increase in the potential for LPFM stations to cause interference necessitates a commensurate increase in the minimum distance separation requirements to avoid interference. Despite this seemingly basic notion, the Petitioner fails to even acknowledge the need for expanded distance separations. The Commission itself recognized this issue, as it sought comment on whether it could raise the LPFM maximum power level without undermining the LCRA interference protection standards (which it presumed to be grounded on the existing maximum 100-watt power level for LPFM stations).<sup>37</sup> The LCRA was carefully designed to balance the interest in providing LPFM licensing opportunities with the need to prevent interference to FM stations and protect the technical integrity of the FM band, and this balance was based on LPFM service with a maximum power level of 100 watts. Congress never contemplated an entirely new class of high-powered 250-watt LPFM stations and approving such a change would upend this deliberate compromise that underpins the LCRA.<sup>38</sup> NAB requests that the Commission not adopt the proposed power increase or related rule changes because they will not adequately protect existing full-power and other stations.

Finally, allowing such a dramatic increase in LPFM coverage also calls into question the highly-touted “hyperlocal” nature of LPFM service. As NPR has explained, the underlying rationale for creating LPFM service was to “fill in gaps in spectrum that would otherwise go unused by full-powered stations,”<sup>39</sup> and create a service that is “designed to serve very

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<sup>37</sup> Fourth Further Notice, 27 FCC Rcd at 3334.

<sup>38</sup> NAB 2012 Reply at 10-11; NPRM 2012 Comments at 2-3 (describing LCRA legislative history that reveals Congress’ understanding that LPFM stations may operate with no more than 100 watts of power).

<sup>39</sup> NPR 2012 Comments at 8 *citing Creation of a Low Power Radio Service*, Memorandum Opinion and Order, 15 FCC Rcd 19208, 19236 (2000).

localized communities or underrepresented groups within communities,”<sup>40</sup> or “small, local groups with particular shared needs and interests.”<sup>41</sup> Several rules reinforce this hyperlocal nature of LPFM service, including requirements to have an “established community presence” and to provide at least eight hours of locally originated programming per day.<sup>42</sup>

Permitting LPFM stations to more than double their power output and substantially expand their service area would potentially alter the fundamental hyperlocal nature of the service. It certainly would be difficult to characterize a station with a coverage area of approximately 108 square kilometers (41.7 square miles) as hyperlocal.

#### **IV. Conclusion**

For the foregoing reasons, NAB opposes the Petition and respectfully requests that the Commission dismiss the Petition because the policy changes proposed therein do not warrant further consideration in a rulemaking proceeding.

Respectfully submitted,

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<sup>40</sup> LPFM Report and Order, 15 FCC Rcd at 2208.

<sup>41</sup> *Id.* at 2213.

<sup>42</sup> 47 C.F.R. § 73.872(b)(1) and (2).