

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

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

**REPORT AND ORDER**

**Adopted: January 20, 2000**

**Released: January 27, 2000**

By the Commission: Chairman Kennard and Commissioners Ness and Tristani issuing separate statements; Commissioner Furchgott-Roth dissenting and issuing a statement; and Commissioner Powell approving in part, dissenting in part and issuing a statement.

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## I. INTRODUCTION

1. With this *Report & Order*, we authorize the licensing of two new classes of FM radio stations -- one operating at a maximum power of 100 watts and one at a maximum power of 10 watts. Both types of stations, known as low power FM stations (LPFM), will be authorized in a manner that protects existing FM service. They will be operated on a noncommercial educational basis by entities that do not hold an attributable interest in any other broadcast station or other media subject to our ownership rules. Initially, only entities located in the communities the stations serve will be eligible to participate in this service. Even once this eligibility criterion is relaxed, we will grant a significant selection preference to locally-based applicants. We believe that the LPFM service authorized in this proceeding will provide opportunities for new voices to be heard and will ensure that we fulfill our statutory obligation to authorize facilities in a manner that best serves the public interest.

2. In establishing this new service, we are determined to preserve the integrity and technical excellence of existing FM radio service, and not to impede its transition to a digital future. In this regard, our own technical studies and our review of the record persuade us that 100-watt LPFM stations

operating without 3<sup>rd</sup>-adjacent channel separation requirements will not result in unacceptable new interference to the service of existing FM stations. Moreover, imposing 3<sup>rd</sup>-adjacent channel separation requirements on LPFM stations would unnecessarily impede the opportunities for stations in this new service, particularly in highly populated areas where there is a great demand for alternative forms of radio service. We will not, therefore, impose 3<sup>rd</sup>-adjacent channel separation requirements. To avoid any possibility of compromising existing service, given the new nature of the LPFM service, we will impose separation requirements for low power with respect to full power stations operating on co-, 1<sup>st</sup>- and 2<sup>nd</sup>-adjacent and intermediate frequency (IF) channels.<sup>1</sup> We believe that the rules we are adopting will maintain the integrity of the FM band and preserve the opportunity for a transition to a digital radio service in the future, while affording significant opportunities for new radio service.

## II. ISSUE ANALYSIS

### A. Goals

3. The *Notice of Proposed Rulemaking* we adopted on January 28, 1999<sup>2</sup> responded to petitions for rule making and related comments indicating substantial interest in, and public support for, increased citizens' access to the airwaves.<sup>3</sup> In the year since we issued the *Notice*, proposing rules authorizing the operation of new low power FM radio stations, we have received comments and letters from thousands of individuals and groups seeking licenses for new radio stations. Many of these comments, which will be discussed in greater detail below, included comprehensive engineering studies and valuable suggestions for service rules. These comments -- from churches or other religious organizations,<sup>4</sup> students,<sup>5</sup> labor unions,<sup>6</sup> community organizations and activists,<sup>7</sup> musicians,<sup>8</sup> and other

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<sup>1</sup> Existing FM stations must protect and are protected from interference from stations operating on the same, *i.e.*, co-channel, frequency, and each of the first three adjacent FM channels. Distance separation requirements are based on a desired-to-undesired signal strength ratio methodology and are designed to permit the reception, generally, of a "desired" station throughout its protected service area. Co-channel protection is based on the "desired" signal providing a signal strength of at least 40 dB greater than an "undesired" co-channel signal and 6 dB greater than an "undesired" first-adjacent channel signal within the "desired" station's protected service area. This methodology also ensures that a "desired" signal is not less than 40 dB less than an "undesired" 2nd- or 3rd-adjacent channel signal within the "desired" station's protected service area.

<sup>2</sup> *Notice of Proposed Rulemaking*, MM Docket No. 99-25, 14 FCC Rcd 2471 (1999) (*Notice*).

<sup>3</sup> Petition of J. Rodger Skinner, RM-9242, *Public Notice*, Report No. 2254 (February 5, 1998); Petitions of Nickolaus Leggett, Judith Leggett, and Donald Schelhardt, RM-9208, *Public Notice*, Report No. 2261 (March 10, 1998).

<sup>4</sup> *See generally* Comments of Abyssinian Baptist Church; Comments of Crown Heights Jewish Community Council; Comments of the United States Catholic Conference; Comments of Immanuel Presbyterian Church; Comments of the Jewish Community Federation of Cleveland, Ohio; Comments of Association of Islamic Charitable Projects; Comments of Mendan Presbyterian Church; Comments of Calvin Christian Reformed Church; Comments of the United Church of Christ, et al. (UCC, et al.).

<sup>5</sup> *See generally* Comments of Justin W. Clifton on behalf of KAMP Student Radio; Comments of University of Arizona; Comments of Adrian Kohn, General Manager, WGTB, Georgetown University; Comments of Brookland High School, Brookland, Arkansas; Comments of El Cerrito High School, El Cerrito, CA.

<sup>6</sup> *See generally* Comments of AFL-CIO; Comments of Communications Workers of America.

citizens -- reflect a broad interest in service from highly local radio stations strongly grounded in their communities. In authorizing this new service today, we enhance locally focused community-oriented radio broadcasting.

4. Our goal in creating a new LPFM service is to create a class of radio stations designed to serve very localized communities or underrepresented groups within communities. To that end, in the *Notice* we proposed to establish two classes of low power FM radio service: a 1000-watt primary service and a 100-watt secondary service. We also sought comment on whether to establish a secondary class of stations operating between one and 10 watts.<sup>9</sup> Commenters supporting low power radio generally argued for the creation of an LPFM service consisting of 100 or 10 watt stations. Most commenters did not support the creation of 1000 watt stations, arguing that the local aspect of LPFM service could be diminished by the size of the service area of such stations.<sup>10</sup> Some commenters opposing the institution of 1000 watt service argued that 1000 watt stations present a greater interference potential than 100 or 10 watt stations.<sup>11</sup> We also stated in the *Notice* a hope that the largest of the proposed LPFM stations, at 1000 watts, could serve as a proving ground and an “entry” opportunity for new entrants into the full-power broadcasting industry. While we continue to view this as a worthwhile goal, we are persuaded by commenters that establishment of a 1000 watt service would not best fulfill our goals at the present time. Our establishment of a low power radio service consisting of two classes operating at maximums of 100 watts and 10 watts will allow licensees to serve their local communities, and will permit a greater number of new stations to be authorized, fostering a diversity of new voices on the airwaves.

5. Another goal expressed in the *Notice* was that any new LPFM service specifically include the voices of community based schools, churches and civic organizations. In the *Notice*, we raised the question of whether the LPFM service should include both commercial and noncommercial licensees or whether it should be entirely noncommercial. We also proposed that any stations of one to 10 watts be exclusively noncommercial, as we did not see commercial potential in stations with such limited service areas. Many of the commenters supporting LPFM strongly supported the establishment of an entirely noncommercial service.<sup>12</sup> We tentatively concluded that auctions would be required if

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<sup>7</sup> See generally Comments of Mount Pleasant Broadcasting Club; Comments of Haitian American Community Broadcasting Federation; Comments of Zeitgeist Community Gallery of Cambridge; Comments of Advocates for a Better Community.

<sup>8</sup> See generally Comments of Louisiana Music Commission; Comments of Michigan Music is World Class Campaign; Letter from Low Power Radio Coalition by Artists (September 22, 1999); Comments of Jazz Music Radio.

<sup>9</sup> In the *Notice* we referred to the one-to-10 watt stations as “microradio” stations; for simplicity, however, throughout this *Order* we will use the term “LP10” stations.

<sup>10</sup> See, e.g., Comments of National Lawyers Guild, et al. at Section V; Reply Comments of the United Church of Christ, et al. (UCC, et al.) at 4.

<sup>11</sup> See, e.g., Comments of Walt Disney Company (Disney) at 5.

<sup>12</sup> See, e.g., Comments of National Lawyers Guild, et al. at Section II; Comments of Prometheus Radio Project at 2.

mutually exclusive applications for commercial LPFM facilities were filed, but noted that licenses for noncommercial educational or public broadcast stations are specifically exempted from auction by Section 309(j).<sup>13</sup> Given the overwhelming support for the establishment of a noncommercial service, and the tendency of auctions to skew the allocation of licenses away from noncommercial entities that are more likely to serve underrepresented sections of the community, we conclude that eligibility for LPFM licenses should be limited to noncommercial, educational entities and public safety entities.

6. Finally, in proposing the creation of a new LPFM service, we made clear that we will not compromise the integrity of the FM spectrum. We are committed to creating a low power FM radio service only if it does not cause unacceptable interference to existing radio service. The *Notice* proposed that current restrictions on 3<sup>rd</sup>-adjacent channel operations might be eliminated in order to establish an LPFM service and also sought comment as to whether 2<sup>nd</sup>-adjacent channel separations are necessary. The modification of our existing rules concerning channel separations has generated extensive comment, as well as extensive engineering studies.<sup>14</sup> Our Office of Engineering and Technology has conducted its own engineering tests, and has comprehensively reviewed the studies submitted by commenters. The rules adopted today reflect our well-considered conclusion that the elimination of 3<sup>rd</sup>-adjacent channel separation requirements for LPFM stations will not cause unacceptable levels of interference to existing radio stations. We recognize that the elimination of restrictions on both the 2<sup>nd</sup>- and 3<sup>rd</sup>- adjacent channels would create many more opportunities for community-based LPFM stations, but, given the ambiguity in the record on this issue and our commitment to ensure that the new LPFM service does not unacceptably interfere with existing radio services or impede a digital future for radio broadcasting, we must proceed cautiously. Accordingly, we will impose 2<sup>nd</sup>-adjacent channel separation requirements on LPFM stations.

## B. Classes of Service

7. Background. In the *Notice*, the Commission proposed to authorize two classes of LPFM stations: (1) an LP1000 class which would be for primary stations operating with an effective radiated power (ERP) of between 500 and 1000 watts and with an antenna height above average terrain (HAAT) up to 60 meters, and (2) an LP100 class which would be for stations operating on a secondary basis with between 50 and 100 watts ERP and with antennas up to 30 meters HAAT. We also sought comment on a very low power secondary LP10 service with an ERP between one and 10 watts. For each proposal, the Commission sought comment on the power levels associated with each class, the eligibility for such stations and the effects that each class may have on the full power radio service.

8. Comments. *LP1000.* Generally speaking, the proposal to authorize LP1000 stations generated the most controversy among the commenters. The topic was one of the few areas that generated opposition by both current full service broadcasters and low power radio proponents, although for different reasons. Commenters connected to the existing broadcast industry and the Association of Federal Communications Consulting Engineers (AFCCE) expressed their concerns regarding the large

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<sup>13</sup> 47 U.S.C. § 309(j)(2).

<sup>14</sup> See generally Comments of National Association of Broadcasters (NAB); Reply Comments of UCC, et al.; Comments of the Consumer Electronics Manufacturing Association (CEMA); Comments of the Corporation for Public Broadcasting (CPB); Comments of National Public Radio (NPR).

potential for interference posed by such operations.<sup>15</sup> Additionally, AFCCE, as well as commenters that generally support the LP1000 proposal, expressed concerns that the service could preclude other lower powered LPFM stations. Most commenters supporting the LP1000 proposal proposed to limit LP1000 stations to rural areas or areas where sufficient spectrum could be found for both LP1000 and LP100 classes of service.<sup>16</sup>

9. *LP100.* The proposal for LP100 stations generated the most positive comments. Commenters generally felt that LP100 stations would provide a reasonable coverage area while remaining small enough to continue focusing on local needs. From an engineering standpoint, various commenters, including AFCCE, stated that the LP100 proposal appears “reasonable” and the proposed power range would allow the use of equipment, such as exciters and simple single bay antennas, that are already available.<sup>17</sup> Not all comments were favorable, however. In general most negative comments shared the view stated by Disney that “[a] secondary LP100 service is undesirable for two reasons: first, because it would be difficult to establish a procedural and enforcement framework that would adequately protect FM broadcasters from interference; and second, because LP100 stations would create only marginal new radio listenership given the overriding levels of interference they would receive from full service stations.”<sup>18</sup>

10. *LP10.* The Commission’s proposal for an LP10 service operating with 10 watts or less elicited both highly favorable support and vociferous opposition. Most support for the proposal came from individuals and public interest groups. The comments in favor of LP10 generally viewed such a service as suitable for school campuses and local community organizations that wish to serve small areas and do not have the resources to construct and operate a higher-powered facility.<sup>19</sup> Furthermore, given what they saw as a smaller potential for interference, these groups considered LP10 as the best option for crowded urban areas where higher-powered facilities are not likely to fit.<sup>20</sup> On the other hand, most comments opposing the LP10 proposal came from broadcasters and individuals concerned that the Commission would not be able to enforce its rules against the numerous LP10 stations and that widespread interference would result. In fact, the NAB stated that, while the Commission feels that an LP10 station would not result in significant interference, the sheer number of LP10 stations may result in more interference than the higher-powered station proposals would create. Additionally, the NAB cited the Commission’s 1978 determination that Class D 10 watt operations result in inefficient spectrum usage.<sup>21</sup> However, one broadcaster, WEOK Broadcasting Corporation, noted that “[v]ery low power

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<sup>15</sup> See Comments of AFCCE at 11-13; see also Comments of NAB at 37-40; Comments of Disney (August 2, 1999) at 3-5, Engineering Statement at 6-7.

<sup>16</sup> See, e.g., Comments of Vincent Chiao; Comments of Spencer Graddy Clark.

<sup>17</sup> See Comments of AFCCE at 13.

<sup>18</sup> See Comments of Disney at 2.

<sup>19</sup> See, e.g., Comments of National Lawyer’s Guild; Comments of Amherst.

<sup>20</sup> See, e.g., Comments of ACLU, et al.; Comments of REC Networks.

<sup>21</sup> See Comments of NAB (August 2, 1999) at 81-85 (Vol. One).

stations (perhaps one to 10 watts) could operate as useful adjuncts to college campuses,” provided there are some restrictions on usage.<sup>22</sup> Likewise, not all public interest groups felt that an LP10 service would be a good idea. For example, the Civil Rights Organizations stated that LP10 stations should not be authorized because they would be “hard-to-regulate.”<sup>23</sup>

11. Decision. We will not authorize 1000 watt stations. We will, however, authorize LP100 and LP10 stations, in two separate stages. First, we will license LP100 stations. These stations generally will provide coverage appropriate to community needs and interests expressed in the record in this rule making. The Mass Media Bureau is delegated authority to issue an initial and subsequent public notices inviting the filing of applications for LP100 stations on dates consistent with this *Order* and processing requirements. After a period of time sufficient to process the initial LP100 applications, the Mass Media Bureau is authorized to open a filing window for applications for LP10 stations, which can also serve very localized community needs. We adopt this sequential process in order to provide the larger (100 watt) stations with their greater service areas the first opportunity to become established. Given that some LP10 stations can be sited where LP100 stations cannot, we expect that opportunities will remain for LP10 after the initial demand for LP100 stations has been accommodated. Additionally, our own resources will be better spent first advancing service to relatively greater areas.

12. However, the record, including comments from both current broadcasters and public interest groups who were opposed to stations as large as 1000 watts, convinces us that licensing such a service is not in the public interest. As argued by commenters, 1000 watt stations may pose a greater interference concern for existing broadcasters and are not necessary to meet the most pressing and widespread demand for service expressed in the record. Moreover, LP1000 stations could have a significant preclusive effect on the licensing of LP100 and LP10 stations. Yet, these lower powered stations will permit many more opportunities for community-oriented service than would 1000-watt stations.

### 1. LP100 Service

13. LP100 stations will be authorized to operate with maximum facilities equivalent to 100 watts ERP at 30 meters (100 feet) HAAT<sup>24</sup> and minimum facilities equivalent to 50 watts at 30 meters (100 feet). This would permit a maximum 1 mV/m contour (60 dBu) with a radius of approximately 5.6 kilometers (3.5 miles), subject to the radio environment. Depending on population density, such a station could serve hundreds or thousands of listeners. This service will allow LPFM licensees to broadcast affordably to communities of moderate size and interest groups that are geographically proximate, such as ethnic, professional, industry and student groups, and retirement neighborhoods. Spectrum rights and responsibilities for this service are addressed below.

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<sup>22</sup> See Comments of WEOK Broadcasting Corporation at 7.

<sup>23</sup> See Reply Comments of the Civil Rights Organizations at 13 n. 24.

<sup>24</sup> Antenna heights greater than 30 meters HAAT would be permitted, but an appropriate downward adjustment in ERP would have to be made such that the 1 mV/m F(50,50) signal contour radius would not exceed 5.6 kilometers.

## 2. LP10 Service

14. LP10 stations will operate at between one and 10 watts ERP and an antenna height of up to 30 meters (100 feet) HAAT. Such stations will produce a 60 dBu signal out to about 1.6 to 3.2 kilometers (1 to 2 miles) from the antenna site. Such stations will fit in some locations where LP100 stations cannot, due to separation requirements, and will provide groups with the opportunity to operate stations that reach smaller communities or groups with a common interest. Spectrum rights and responsibilities for this service are addressed below.

### C. Nature of Service and Licensees

#### 1. Noncommercial Educational Service

15. Background. In proposing the creation of a new LPFM service, the Commission set forth its goals of encouraging diverse voices on the nation's airwaves and creating opportunities for new entrants in broadcasting. We raised the question of whether the service should be noncommercial in nature. We noted that while mutually exclusive commercial broadcast applications are subject to auction, certain noncommercial stations are specifically exempted from our auction authority.<sup>25</sup>

16. Comments. Of those commenters supporting LPFM, an overwhelming majority endorsed establishing it as a noncommercial service. Commenters stressed the diversity that would be created by a noncommercial service,<sup>26</sup> and argued that noncommercial radio is the best way to serve local communities.<sup>27</sup> Other commenters, however, argued that low-power FM licensees should be available to both noncommercial and commercial licensees.<sup>28</sup>

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<sup>25</sup> 47 U.S.C. § 309(j)(2)(C).

<sup>26</sup> *See, e.g.*, Comments of Civil Rights Organizations at 16 (noncommercial stations would serve groups, including those defined by race, religion ethnicity, language or age, that are poorly served by advertiser-supported radio).

<sup>27</sup> *See, e.g.*, Comments of Civil Rights Organizations at 16-17 (noncommercial LPFM service is the best means of creating locally-based radio likely to serve needs of the local communities); Comments of National Lawyers Guild at 6-8 (noncommercial service will attract those who truly wish to provide a service to their community). *See also* Comments of The National Federation of Community Broadcasters (Community Broadcasters) at 7 (noncommercial LPFM service would avoid the debate over the impact of LPFM on the economics of radio broadcasting); *see also* Comments of Creative Educational Media Corp. at 4; Comments of Mid-America Broadcasting Co. at 3, Comments of Nassau Broadcasting at 3; Comments of WATD at 4; Comments of WBRV at 3.

<sup>28</sup> *See, e.g.*, Comments of Amherst (filed April 28, 1999) at 32-34 (supporting licensing all categories of LPFM service, but arguing that noncommercial uses should be given priority); *see also* Comments of Media Island International (both commercial and noncommercial stations should be licensed but noncommercial should be given a two-year "head start" on commercial); Comments of Trident Media at 2-3 (LPFM stations should have the option of being commercial in order to generate revenues and remain viable).

17. Decision. We will establish LPFM as a noncommercial educational service. Our goals in establishing this new service are to create opportunities for new voices on the air waves and to allow local groups, including schools, churches and other community-based organizations, to provide programming responsive to local community needs and interests. We believe that a noncommercial service is more likely to fulfill this role effectively than a commercial service. Commercial broadcast stations, by their very nature, have commercial incentives to maximize audience size in order to improve their ratings and thereby increase their advertising revenues. We are concerned that these commercial incentives could frustrate achievement of our goal in establishing this service: to foster a program service responsive to the needs and interests of small local community groups, particularly specialized community needs that have not been well served by commercial broadcast stations. We believe that noncommercial licensees, which are not subject to commercial imperatives to maximize audience size, are more likely than commercial licensees to serve small, local groups with particular shared needs and interests, such as linguistic and cultural minorities or groups with shared civic or educational interests that may now be underserved by advertiser-supported commercial radio and higher powered noncommercial radio stations.<sup>29</sup> We note that commenters addressing this issue favored establishing LPFM as a noncommercial service by a substantial margin, though some have argued that a commercial service could provide ownership opportunities for new entrants.<sup>30</sup> While we have considered the entrepreneurial opportunities that low power radio stations might create, we nonetheless conclude that a noncommercial service would best serve the Commission's goals of bringing additional diversity to radio broadcasting and serving local community needs in a focused manner.<sup>31</sup>

18. Establishing LPFM as a noncommercial service will have the added benefit of giving us additional flexibility to assign licenses for this service in a manner that is most likely to place them in the hands of local community groups that are in the best position to serve local community needs. As a general matter, where mutually exclusive applications are filed for initial commercial licenses or construction permits, the licenses or permits must be awarded by competitive bidding pursuant to 47 U.S.C. § 309(j). Licenses for noncommercial educational broadcast stations, as described in Section 397(6) of the Act, however, are not subject to competitive bidding.<sup>32</sup> Accordingly, having decided to establish LPFM as a noncommercial service, we will require that LPFM licensees comply with the eligibility requirements of Section 397(6) of the Act.<sup>33</sup>

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<sup>29</sup> Comments of Civil Rights Organizations at 16-17

<sup>30</sup> See e.g., Comments of UCC, et al. at 25-26 (commercial low power stations could provide an important entrepreneurial opportunity for members of demographic groups that have historically been underrepresented in the broadcast industry as licensees and professionals).

<sup>31</sup> While opposing the establishment of an LPFM service generally, NPR stated that "if there can be some assurance that prospective licensees will serve the community and the public interest, it is by" applying the "current eligibility criteria" for noncommercial educational licensees to all LPFM stations. Comments of NPR at 29-30.

<sup>32</sup> See 47 U.S.C. § 309(j)(2)(C) and 397(6).

<sup>33</sup> As discussed below, we will license LPFM stations to operate in both reserved and non-reserved portions of the FM band. Nevertheless, the same eligibility and noncommercial service restrictions will apply to all LPFM stations, regardless of the portion of the FM band in which they are licensed to operate. In this regard, LPFM NCE stations will be different from full-service NCE stations that operate in the non-reserved band. The latter can convert from NCE status to commercial status at will by filing a notification letter with the Commission, but LPFM stations (continued....)

19. Section 397(6) of the Act defines “noncommercial educational broadcast station” as a station which:

(A) under the rules and regulations of the Commission in effect on the effective date of this paragraph, is eligible to be licensed by the Commission as a noncommercial educational radio or television broadcast station and which is owned and operated by a public agency or nonprofit private foundation, corporation, or association; or

(B) is owned and operated by a municipality and which transmits only noncommercial programs for education purposes.<sup>34</sup>

Since the statute incorporates by reference the Commission’s noncommercial eligibility rules, we must look to those rules in determining noncommercial eligibility under Section 397(6) of the Act. The Commission’s rules limit eligibility for noncommercial radio stations to nonprofit educational organizations that show that the station will be used “for the advancement of an educational program.”<sup>35</sup> In applying this rule, the Commission has required that applicants be (a) a government or public educational agency, board or institution, or (b) a private, nonprofit educational organization, or (c) a nonprofit entity with a demonstrated educational purpose.<sup>36</sup> We require that an applicant described in (a) or (b) have an educational program and demonstrate how its programming will be used for the advancement of that program. An applicant applying as (c) must specifically show (i) that it is in fact a nonprofit educational organization, (ii) that it has an educational objective, and (iii) how its programming will further that objective.<sup>37</sup>

20. The requirement that NCE licensees provide programming that advances an educational objective may be satisfied by a variety of programs, including but not limited to “instructional programs, programming selected by students, bible study, cultural programming, in-depth news coverage, and children’s programs such as Sesame Street that entertain as they teach.”<sup>38</sup> We have also stated that “in order to qualify as an educational station, it is not necessary that the proposed programming be

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will not be permitted to change their noncommercial status.

<sup>34</sup> 47 U.S.C. § 397(6).

<sup>35</sup> 47 U.S.C. § 73.503(a). The same eligibility requirements were in effect on the effective date of Section 397(6) of the Act. *See also* Appendix A to *Notice of Inquiry*, In the Matter of Eligibility for Noncommercial Educational FM and TV Broadcast Station Licenses, BC No. 78-164, FCC 77-382, 43 Fed. Reg. 30842 (1978), 30844 (processing guidelines for institutional and organizational applicants for noncommercial educational licenses).

<sup>36</sup> *See generally* Appendix A to *Notice of Inquiry*, In the Matter of Eligibility for Noncommercial Educational FM and TV Broadcast Station Licenses, BC No. 78-164, FCC 77-382, 43 Fed. Reg. 30842, 30844 (1978).

<sup>37</sup> *See, e.g.*, In re Applications of Music Ministries, Inc. and Community Education and Religious Broadcasting, *Hearing Designation Order*, 9 FCC Rcd 3628 (Aud. Serv. Div. 1994).

<sup>38</sup> *Further Notice of Proposed Rulemaking*, In the Matter of Reexamination of the Comparative Standards for Noncommercial Educational Applicants, MM Docket No. 95-31, FCC No. 98-269, 13 FCC Rcd 21167, 21169 (1998).

exclusively educational.”<sup>39</sup> Given the latitude that entities have under our rules to qualify as NCEs, we do not believe that limiting eligibility for LPFM licenses to NCEs will unduly limit the range of groups that will be eligible to apply for LPFM licenses or the services that they can provide.<sup>40</sup>

## 2. Public Safety and Transportation

21. Background. One appropriate use of LPFM stations is use by public safety or transportation organizations. Although the *Notice* did not specifically raise this issue, a number of commenters proposed it.

22. Comments. We received a number of comments from public safety and transportation entities arguing that they would use LPFM stations to serve communities’ need for public safety and traffic information. The New York State Thruway Authority (Thruway) argued that low power FM stations could be used for the benefit of public safety and transportation entities throughout the country to provide critical real-time information to travelers confronting emergency situations, traffic patterns and accidents.<sup>41</sup> The Texas Department of Transportation stated a low power FM service would offer more reliable service to travelers than does its existing AM Travelers’ Information Stations (TIS).<sup>42</sup>

23. Decision. The public safety and transportation commenters propose important uses for low power FM stations. LPFM stations could be used by state or local governments or other not-for-profit entities to provide traffic, weather, and other public safety information to local communities. The use of LPFM stations for public safety purposes will further our goal of better serving local communities. Certain of these entities already hold TIS or other broadcast licenses. We emphasize, however, that we will not exempt these licenses from the cross-ownership restrictions, described below, and will therefore require TIS licensees or other public safety or transportation licensees, to return their existing licenses upon the initiation of LPFM service. Thus, in addition to noncommercial, educational organizations, associations or entities as described above, public safety radio services used by state or local governments or not-for-profit organizations, as defined in 47 U.S.C. § 309(j)(2)(A), will be eligible for LPFM licenses.

### D. Eligibility and Ownership

24. In order to further our diversity goals and foster local, community-based service, we will

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<sup>39</sup> *Memorandum Opinion and Order*, In re Application of Lower Cape Communications, Inc., FCC 80-453, 47 RR2d 1577, 1579 (1980). *See also Memorandum Opinion and Order, Florence Bridges*, FCC 78-719, 44 RR2d 667, 668 (1978).

<sup>40</sup> We note, however, that individuals cannot qualify as NCEs.

<sup>41</sup> Comments of the New York State Thruway Authority at 2. *See also* Comments of the Port Authority of New York and New Jersey (LPFM stations could be used to facilitate the transmission of travel information to the public).

<sup>42</sup> Comments of Texas Department of Transportation at 2.

not allow any broadcaster or other media entity subject to our ownership rules to control or to hold an attributable ownership interest in an LPFM station or enter broadcast related operating agreements with an LPFM licensee. Additionally, to foster the local nature of LPFM service, we are limiting eligibility to local entities during the first year LPFM licenses are available. We are also adopting a significant local ownership preference to be applied in resolving mutually exclusive applications. After local entities have had an opportunity to apply for construction permits, we will permit applications by qualified non-local applicants. After the first two years, we will permit multiple ownership of LPFM stations nationally, but only up to a maximum of 10 LPFM stations over a phased-in period.

25. Throughout this discussion we use the term “community” in a manner different from our traditional use of the term.<sup>43</sup> Here, we use the term to refer to the very small area and population group that will make up the potential service area and audience of an LPFM station. Given the very small nature of LPFM service contours and prospective audiences, we do not expect LPFM service areas to be coincident with traditional political boundaries that we use to define communities in other contexts, such as our allocations process.<sup>44</sup>

### 1. Cross-Ownership Restrictions

26. Background. In the *Notice*, the Commission tentatively concluded that strict cross-ownership restrictions would be appropriate for low power radio. We proposed to prohibit any person or entity with an attributable interest in a broadcast station from having an ownership interest in any LPFM station in any market. We sought comment on whether the proposed strict cross-ownership restrictions would unnecessarily prevent individuals and entities with valuable broadcast experience from contributing to the success of the LPFM service. We also asked for comment on whether broadcasters with an attributable interest in broadcasting stations should be allowed to establish an LPFM station in a community where they do not have an attributable broadcast interest. We proposed to prohibit joint sales agreements, time brokerage agreements, local marketing or management agreements, and similar arrangements between full power broadcasters and low power radio entities. We also sought comment on whether the cross-ownership restriction should be extended to prevent common ownership of LPFM stations with cable systems, newspapers, or other mass media.

27. Comments. Several commercial broadcasters, educational broadcasters and individuals propose that cross ownership be allowed.<sup>45</sup> The NAB opposes restricting current broadcasters from low power ownership, claiming that consolidation of ownership in fact increases diversity of broadcast formats because of economic efficiencies.<sup>46</sup> The NAB further alleges that such a prohibition would

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<sup>43</sup> The “community” concept is significant with respect to the limits on local ownership of LPFM stations. The concept of “community” is not relevant to our cross-ownership restrictions, which, as discussed below, are absolute and thus do not depend on a determination of the locality of a particular media interest.

<sup>44</sup> In allocating full-power FM stations to specific communities, we define a community as a geographically identifiable population grouping, usually determined based upon whether the area is incorporated or is listed in the U.S. Census. *Amendment of Section 73.202(b)*, MM Docket No. 90-385, 6 FCC Rcd. 5835 (1991).

<sup>45</sup> See, e.g., Comments of NAB at 71; Comments of Nassau Broadcasting Partners at 7.

<sup>46</sup> Comments of NAB at 70.

preclude low power stations from realizing efficiencies through joint operations with a full power counterpart.<sup>47</sup> Some commenters propose that current broadcasters be allowed to apply for LPFM stations, but that they should be required to give up their current station license prior to initiating operations at the LPFM station.<sup>48</sup> Others propose that full service station owners not be barred, so long as the LPFM station is in another market.<sup>49</sup> Metro Detroit Broadcasting Corporation proposes a waiver of multiple ownership provisions for minority-owned low power stations.<sup>50</sup>

28. Most commenters, however, oppose cross-ownership of full-service stations and LPFM stations.<sup>51</sup> The National Lawyers Guild, for example, asks why the Commission would allow the few companies who already hold a broadcast license also to hold a low power license when 99.9 percent of the American people are barred from using the most effective communications media in the nation.<sup>52</sup> Most commenters also support the Commission's proposal to prohibit arrangements between full service broadcasters and LPFM entities, such as joint sales and time brokerage agreements. UCC, et al., adds that not only should such agreements between full power licensees and low power licensees be prohibited, but also that agreements of a similar nature between two or more low power licensees should be disallowed.<sup>53</sup>

29. Decision. We will prohibit common ownership of LPFM and any other broadcast station, including translators and low power television stations, as well as other media subject to our ownership rules.<sup>54</sup> Thus, no broadcaster or other media entity, or any party with an attributable interest in them, can hold any attributable ownership interest in an LPFM licensee. One of the most important purposes of establishing this service is to afford small, community-based organizations an opportunity to communicate over the airwaves and thus expand diversity of ownership -- a purpose inconsistent with common ownership of LPFM stations and existing broadcast facilities or other media interests. Moreover, many of the commenters' remarks favoring cross ownership are directed to the establishment of the proposed LP1000 service. These arguments regarding efficiencies and economies and competitive standing for stations that might compete commercially, however, are less applicable to noncommercial educational LP100 and LP10 stations. Similarly, our own expressed concern that cross-ownership limits could retard the development of low power radio by excluding entities with broadcast experience is less pressing in the absence of commercial 1000 watt stations. We conclude that our interest in providing for

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<sup>47</sup> *Id.* at 70-71.

<sup>48</sup> *See, e.g.*, Comments of Morris Broadcasting Company of New Jersey, Inc. at 6; Comments of the University of Dayton at 6; Comments of El Cerrito High School - West Contra Costa Unified School District at 6.

<sup>49</sup> Comments of Douglas E. Smith at 2-3.

<sup>50</sup> Comments of Metro Detroit Broadcasting Corporation at 5.

<sup>51</sup> *See, e.g.*, Comments of Amherst at 38.

<sup>52</sup> Reply Comments of the National Lawyers Guild, etc. at 4.

<sup>53</sup> Comments of UCC, et al. at 13.

<sup>54</sup> 47 C.F.R. §§ 73.3555 & 76.501.

new voices to speak to the community, and providing a medium for new speakers to gain experience in the field, would be best served by barring cross-ownership between LPFM licensees and existing broadcast owners and other media entities. This prohibition is national and absolute in nature, unlike our existing cross-media ownership rules. Thus, for example, a newspaper cannot have an attributable interest in any LPFM station, regardless of whether the newspaper and LPFM station are co-located. We believe our interest in promoting diversity warrants such a strict approach.

30. We have also decided to prohibit operating agreements in any form, including time brokerage agreements, local marketing or management agreements, and similar arrangements, between full power broadcasters and LPFM broadcasters, or between two or more low power licensees, as suggested by UCC, et al.<sup>55</sup> As noted above, many commenters strongly oppose allowing any form of operating agreement that would dilute new ownership in the low power service. We are concerned that such agreements too readily could undermine the strict cross-ownership restriction adopted by allowing an ineligible entity to program or manage an LPFM station. We see no harm, however, in permitting any existing licensee to apply for an LPFM station on the condition that it is otherwise qualified and it represents that it will divest its interest prior to commencement of LPFM operations.

## 2. Requirement That Applicant Be Community-Based

31. Background. In the *Notice*, we sought comment on whether to establish a local residency requirement, although we were not inclined, at that time, to do so. We were concerned that a residency requirement would limit the pool of potential owners of low power stations and would deny opportunity to individuals and entities who resided in a location where no frequency is available, as there will not be low power frequencies available in every community. We also noted that we expected in the case of LP100s and LP10 stations, in particular, that the very nature of the stations would attract primarily local or nearby residents. We note that given our decision to restrict eligibility to noncommercial educational entities, the term “residency” is somewhat misleading. The issue now is whether we should limit applicants to entities based within the local community they wish to serve and, if so, how we should define whether or not they are community-based. Nonetheless, given that the *Notice* and comments are cast in terms of residency, we will continue to use the term, but do so in the organizational or institutional sense noted here.

32. Comments. Most commenters support a requirement that LPFM licensees be locally based.<sup>56</sup> They argue that local residents are more likely to be aware of issues of importance to the local community, and to gear their programming accordingly. UCC, et al. proposes that a majority of the entity’s board reside in the station’s service area.<sup>57</sup> The Civil Rights Organizations suggest that a majority of the licensee’s board of directors, the head of the board and the CEO be local residents.<sup>58</sup>

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<sup>55</sup> Comments of UCC, et al. at 13.

<sup>56</sup> See, e.g., Comments of the American Civil Liberties Union of Massachusetts et. al. at 6; Comments of Community Broadcasters at 9.

<sup>57</sup> Comments of UCC, et al. at 31-32.

<sup>58</sup> Comments of Civil Rights Organizations at 21-22.

Some commenters propose that applicants should be based within 25<sup>59</sup> or 50 miles<sup>60</sup> of the new low power station, or within the station's proposed contour.<sup>61</sup> Community Broadcasters proposes that a majority of the members of the governing body of the LPFM licensee be residents within the primary service contour of the proposed station.<sup>62</sup> On the other hand, many commenters oppose the imposition of a residency requirement. Some argue that a local residency requirement would be struck down under the standards set forth by *Bechtel v. FCC*,<sup>63</sup> discussed below. Some point out that a residency requirement is incompatible with a five- to ten-station national ownership cap.<sup>64</sup>

33. Decision. We continue to be concerned about the potentially preclusive effect of a strict local "residency" requirement and do not believe that local sources are the only valuable sources of information and service. Nonetheless, this service is intended to respond to the highly local interests that are not necessarily being met by full-power stations. Furthermore, since LPFM will be a noncommercial educational service, we cannot rely on commercial market forces and business incentives to ensure that local needs are fulfilled. Given the small coverage of LPFM stations, and our intention that the particular needs and interests of these small areas be served, local familiarity is more significant than it might be for a station serving a larger area and population. We thus conclude, after consideration of the comments and on further reflection, that the disadvantages of imposing a requirement that applicants be community-based are outweighed by the benefits to be gained by maximizing the likelihood that LPFM stations are operated by entities grounded in the communities they serve. Accordingly, for the initial and subsequent windows opened within two years after the first filing window for LPFM service has been opened, all LPFM applicants must be based within 10 miles of the station they seek to operate. This means that the applicant must be able to certify that it or its local chapter or branch is physically headquartered, has a campus, or has 75 percent of its board members residing within 10 miles of the reference coordinates of the proposed transmitting antenna. We chose the 10-mile distance as proportionate to most stations' likely effective reach. We are concerned that a larger distance, in many areas of the country, could lead to ownership outside the bounds of the station's real community and the people they will actually serve. We are concerned that a smaller area would too severely and unduly restrict the opportunities presented by LPFM. An organization providing public safety radio services will be considered community-based in the area over which it has jurisdiction.<sup>65</sup> Beginning two years after the first window for LPFM service has been opened, non-local applicants will be eligible to apply in subsequent windows for those classes

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<sup>59</sup> See, e.g., Comments of Anthony M. Marimpietri, Jr. at 2; Comments of Quinnipiac College at 2; Comments of Amherst at 37; Comments of Salida Colorado Radio Club at 2.

<sup>60</sup> See, e.g., Comments of Charles C. Knight at 1; Comments of Joseph T. Norton at 1; Comments of Jonathan Tesser at 2; Comments of American Civil Liberties Union of Massachusetts et al. at 6.

<sup>61</sup> Reply Comments of Grid Radio at 23.

<sup>62</sup> Comments of Community Broadcasters at 9.

<sup>63</sup> 10 F.3d 875 (1993). See, e.g., Comments of Morris Broadcasting Company of New Jersey, Inc. at 8; Comments of Creative Educational Media Corporation, Inc. at 9.

<sup>64</sup> See Comments of Andrew Morris at 9.

<sup>65</sup> For example, a Virginia TIS entity would be eligible to apply for an LPFM license anywhere in the state of Virginia but not in any other state.

of stations pursuant to public notices issued by the Mass Media Bureau. By this approach, we intend to make it more likely that local entities will operate this service. If no local entities come forward, however, we do not want the available spectrum to go unused.

34. We do not find convincing the argument made by some commenters that imposition of a local residency eligibility requirement here would pose the same legal problems as the “integration of ownership and management” factor formerly employed as a comparative criterion in the commercial broadcast service. While that comparative criterion was overturned as arbitrary and capricious in the *Bechtel* case,<sup>66</sup> that case did not invalidate a preference for locally based applicants *per se*. Rather, it rejected a preference for a particular form of business organization -- in which station owners worked more than a certain number of hours per week at their station -- that had not been shown to provide superior service even though the preference had been used for many years. The preference for local licensees here, in contrast, rests on our predictive judgment that local entities with their roots in the community will be more attuned and responsive to the needs of that community, which have heretofore been underserved by commercial broadcasters. We believe that local residence should carry particular weight here because we envision LPFM as a uniquely local service designed to serve local community needs. We note that while the court invalidated the integration criterion in the *Bechtel* decision, it recognized that an applicant who is familiar with the community is likely to be aware of its special needs.<sup>67</sup>

35. Furthermore, we believe that local roots are particularly important in a noncommercial educational service like LPFM. As noted above, we cannot rely on commercial market forces to ensure that LPFM licensees are responsive to local needs because they will be noncommercial entities providing noncommercial program services. Indeed, Congress and the Commission have long recognized the unique role played by local entities in providing noncommercial educational programming, and we have favored local entities in providing other noncommercial educational services.<sup>68</sup>

36. Finally, we do not believe that our preference for local applicants here raises the concerns voiced by the court in *Bechtel*. The court was concerned in *Bechtel* that the integration preference elevated quantitative factors – the number of hours the station owners promised to work at the station – over arguably more important qualitative factors such as broadcast experience and established local residence. In contrast, the community-based requirement that we adopt today does not rest on quantitative factors and is not based on promises of future conduct. Rather, we are adopting a simple, straightforward requirement that applicants be based in the local community. In addition, a primary concern underlying the court’s decision was that there was no obligation for a successful applicant in the commercial broadcast service to adhere to its integration proposal, and there was no evidence indicating the extent to which licensees had done so in the past. In contrast, LPFM licenses will not be transferable, so we can be assured that a local entity that is awarded the license will continue to operate the station.

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<sup>66</sup> 10 F.3d 875 (1993).

<sup>67</sup> *Id.* at 885.

<sup>68</sup> *See Second Report and Order*, ITFS, MM Docket No. 83-523, 101 FCC 2d 50 (1985) *recon. denied Memorandum Opinion and Order*, MM Docket No. 83-523, 59 R.R. 2d 1355 (1986); 47 U.S.C. § 396.

For these reasons, we do not believe that the community-based requirement that we adopt today suffers from the problems identified by the court in the *Bechtel* decision.

### 3. National Ownership Limits

37. Background. In the *Notice*, we also sought comment on the issue of a national multiple ownership cap. In particular, we asked whether a limit of five or ten stations nationally would provide a reasonable opportunity to attain efficiencies of operation while preserving the availability of the stations to a wide range of applicants and their essentially local character.

38. Comments. Comments on this issue are wide-ranging in their opinions. Some groups favor an absolute nationwide one-station-per-owner limit, arguing that a one-station-per-entity cap would distribute the low power stations as widely as possible and create the opportunity for the most diverse ownership.<sup>69</sup> The Civil Rights Organizations “disagree in the strongest terms” with the idea that a low power licensee could hold more than one license.<sup>70</sup> UCC, et al., states that the Commission’s belief that economies of scale from national ownership will improve service is especially ill-founded.<sup>71</sup> It similarly exhorts us to disallow “agreements” between low power stations.<sup>72</sup> Some commenters support a less strict national cap, arguing that some national cap will promote greater diversity in the service, but that a one-per-owner limit is excessively restrictive.<sup>73</sup> Several commenters agree with the Commission’s suggested range of five to ten stations, nationally.<sup>74</sup> Finally, some groups oppose any type of national cap. The NAB does not believe that a national ownership cap is allowed under the 1996 Act, and believes that common ownership will improve efficiency in the service.<sup>75</sup>

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<sup>69</sup> See, e.g., Comments of Amherst at 441; Comments of Civil Rights Organizations at 23; Comments of UCC, et al. at 13, 39; Comments of Christopher Conly at 1; Comments of Peter Brinson at 2.

<sup>70</sup> Comments of the Civil Rights Organizations at 25.

<sup>71</sup> Comments of UCC, et al. at 14-15.

<sup>72</sup> Comments of UCC, et al. at 13.

<sup>73</sup> Comments of Morris Broadcasting Company of New Jersey, Inc. at 8; Comments of Mid-America Broadcasting Company, Inc. at 7; Comments of Nassau Broadcasting Partners, L.P. at 8; Comments of Creative Educational Media Corporation, Inc. at 8-9. Some commenters proposed specific national caps. See, e.g., Comments of Ronnie V. Miller at 17, Comments of Glenda Brookens at 1; Comments of Anthony M. Marimpietri, Jr. at 2 (3-station cap); Comments of Metro Detroit Broadcasting Corporation at 8 (at least 10-station cap); Comments of Trident Media and Broadcasting, Ltd. at 3 (15-station cap); Comments of Thomas M. Eells at 20 (20-station cap).

<sup>74</sup> Comments of Kenneth Bowles at 17 (5 stations or more); Reply Comments of Randall C. Wright at 4 (no more than 10 nationally); Comments of Craig Admunson at 2 (maximum of 10); Comments of Tom A. Bunch at 2 (5 to 10 nationally); Comments of Andrew Morris at 8-9 (5 to 10 nationally); Comments of Scott D. Fowler at v (limit of 10).

<sup>75</sup> Comments of NAB at 72.

39. Decision. We are adopting a staged rule, which will initially foster diversity by disallowing any common ownership of LPFM stations, but eventually permit the accumulation of additional stations where local applicants fail to come forward. This will increase the service available to the public and permit the efficiencies that can be achieved by multiple ownership where there is not an immediate local interest in operating a station. To achieve this, we will require that for the first two years of LPFM service, any one entity may own only one LPFM station. The two year-long period will begin on the day that the first LP100 filing window opens for applications. After the first two years, to bring into use whatever low power stations remain available but unapplied for, we will allow one entity to own up to five stations nationally, and after the first three years of this service, we will allow an entity to own up to ten stations nationwide.

40. In addition to ensuring the fullest use of LPFM spectrum in the long term, we believe that this tiered system will balance the interests of local entities, which we expect to be the first entrants in this service, and national noncommercial educational entities, which may be interested in additional local outlets to increase their reach and to achieve certain efficiencies of operation. We note the attribution exception for national or other large entities with local community-based chapters, discussed below in the attribution section, which will allow the local chapters to apply as individual entities and thus not be constrained by this national ownership provision.

41. In the *Notice*, we tentatively concluded that Section 202 of the Telecommunications Act of 1996 (the 1996 Act)<sup>76</sup> eliminating national multiple ownership restrictions for existing full power commercial stations does not apply to a new broadcast service. Given our decision to limit LPFM to noncommercial educational broadcasters, Section 202 clearly does not apply to LPFM and we need not discuss this issue further.<sup>77</sup>

#### 4. Local Ownership Limits

42. Background. In the *Notice*, we proposed to prohibit entities from owning more than one LPFM station in the same community. We were concerned that it would be difficult to achieve wide new entry into the broadcasting market and enhance diversity if more than one low power station in an area were under common control. At the same time, we sought comment on whether such a restriction would inappropriately deny to LPFM licensees the efficiencies achievable through multiple ownership, and on what cooperative arrangements might facilitate the development of LPFM service without unduly diluting its benefits. We also sought comment on the appropriate definition of “market” or “community” for the purposes of LPFM service.

43. Comments. Many commenters agree strongly with the Commission’s proposal that LPFM ownership should be limited to one station per community.<sup>78</sup> They argue that allowing multiple

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<sup>76</sup> P.L. 104-104, 110 Stat. 56, § 202 (1996).

<sup>77</sup> *Id.*

<sup>78</sup> *See, e.g.*, Comments of National Lawyers Guild, etc. at 21; Comments of Civil Rights Organizations at 23-24; Comments of Thomas M. Eells at 3.

ownership in a local area would reduce the number and diminish the diversity of new entrants. Most contend that the demand for stations from local owners will be plentiful and that there will be no need to allow outside owners to own low power stations.<sup>79</sup> The NAB opposes the proposed ban on common local ownership, saying that common ownership leads to increased efficiencies.<sup>80</sup> A few commenters address the issue of the definition of “community” for the purpose of determining the limitations of local ownership but none offered specific alternative definitions. Some commenters expressed concern that the current Commission definition of a “community” is ambiguous and therefore subject to inequitable application.<sup>81</sup>

44. Decision. We will restrict local ownership and allow one entity to own only one LPFM station in a “community.” We concur with those commenters who expressed concern over the potential for diminution of diversity in ownership if one entity were allowed to control more than one station in their community. The comments opposing the restriction seem directed to and more appropriate in the context of the proposed 1000 watt service, which could have operated commercially. The primary benefit of local multiple ownership, increased efficiency, is less compelling with respect to LP100 and LP10 noncommercial educational stations, particularly as compared to the benefit to a community of multiple community-based voices. As noted above, we use the term community in this *Report and Order* to refer to the very small population group that makes up a station’s potential audience. For purposes of the local ownership limits, we will require that no entity own or have an attributable interest in two or more LPFM stations located within 7 miles of each other. That is, to comply with our local ownership limits, the antennas of commonly-owned stations must be separated by at least seven miles. We believe seven miles is appropriate given the approximately 3.5 mile signal reach of LP100 stations. Although the signal reach of LP10 stations is smaller, for the sake of simplicity we will apply the seven-mile ownership separation to both classes of service.

45. In the *Notice* we noted that Section 202 of the 1996 Act permitted significant local multiple ownership of full power commercial radio stations but questioned whether this standard would apply to a new low power service. Our decision here, however, to limit LPFM stations to noncommercial educational service renders this question moot. As discussed above regarding the national multiple ownership issue, Section 202, by its terms, does not apply to noncommercial stations.

46. We note that the attribution exception for local chapters of national entities, discussed in the next section, will allow local chapters to apply as individual entities and thus avoid the bar that the national ownership rules would otherwise impose.

## 5. Attribution

47. Background. Given the significance we have accorded the ownership of LPFM stations,

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<sup>79</sup> See, e.g., Comments of Civil Rights Organizations at 21.

<sup>80</sup> Comments of NAB at 72.

<sup>81</sup> Comments of University of Dayton at 7; Comments of Positive Alternative Radio, Inc., et al. at 12; Comments of Morris Broadcasting Company of New Jersey, Inc. at 6.

the strict cross- and multiple-ownership rules and the community-based eligibility and selection criteria we are adopting, determining who “owns” or constitutes a low power radio applicant or licensee is critically important. In the *Notice*, we sought comment on what interests or relationships should be attributable in this regard.

48. Comments. Comments on attribution vary widely. Some commenters express concern that if the existing attribution rules were applied to these stations, some entities with large national organizations and small chapters would be unable to hold multiple licenses even though they maintain a local presence and would provide community-oriented programming.<sup>82</sup> Other commenters propose that attribution rules be waived in the case of accredited educational institutions, so that they can hold a full power station and also an LPFM station.<sup>83</sup> Amherst argues that it should be illegal for a subsidiary, affiliate, agent or franchisee of any institution holding a broadcast license to acquire an LPFM license.<sup>84</sup>

49. Decision. We will apply rules similar to the existing commercial attribution rules to determine a licensee’s compliance with the ownership limits set forth above. Because many of the entities that will hold LPFM licenses will be non-stock corporations (or other non-stock entities), we will attribute the interests of the applicant, its parents, its subsidiaries, their officers and members of their governing boards. If an entity that holds an LPFM license does have stock, then the existing attribution rules will apply and voting stock interest of 5% or more will be attributable unless the investor is passive in nature, in which case voting stock interests of 20% or more will be attributable. Partners and non-insulated limited partners are attributable, as are officers and directors. Non-voting stock and debt are not attributable unless they satisfy the “equity-debt-plus” standards set forth in our recent attribution order.<sup>85</sup> Thus, for example, if a full-power broadcaster in a community were to invest in an LPFM licensee in that same community and the investment accounted for more than 33% of the LPFM’s total capitalization, the investment would be attributable and would violate the cross-ownership ban discussed above. Similarly, if a director of the same full power broadcaster were to act as an officer of the LPFM, the director would be attributed with both stations and would violate the ban. Consistent with the existing commercial attribution rules,<sup>86</sup> however, an exception will apply to certain officers and directors

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<sup>82</sup> See, e.g., Comments of National Council of La Raza at 2; Reply Comments of the United States Catholic Conference at 2.

<sup>83</sup> See, e.g., Comments of Aaron Read at 8; Comments of Geoffrey M. Silver at 1. Likewise, Salida Colorado Radio Club sought an exception for school districts that may like to have very small wattage licenses for different schools in the same district. Comments of Salida Radio Club at 2.

<sup>84</sup> Comments of Amherst at 42-43.

<sup>85</sup> *Report and Order* in MM Docket Nos. 94-150, 92-51 & 87-154, FCC 99-207 (August 6, 1999) (“*Attribution R&O*”).

<sup>86</sup> 47 C.F.R. § 73.3555 Note 2(h) (“The officers and directors of a parent company of a broadcast licensee, cable television system or daily newspaper, with an attributable interest in any such subsidiary entity, shall be deemed to have a cognizable interest in the subsidiary unless the duties and responsibilities of the officer or director involved are wholly unrelated to the broadcast licensee, cable television system or daily newspaper subsidiary, and a statement properly documenting this fact is submitted to the Commission.”); see also *Attribution of Ownership Interests*, 97 FCC 2d 997 (1984), *on recon.*, 58 RR 2d 604 (1985), *on further recon.*, 1 FCC Rcd 802 (1986).

of the parent of an LPFM applicant or licensee. Such an officer or director may hold otherwise attributable interests in a broadcast licensee or other media entity subject to our ownership rules without making the LPFM applicant ineligible, provided the duties and responsibilities of the officer or director are wholly unrelated to the LPFM station and the officer or director recuses himself or herself from consideration of any matters affecting the LPFM station.<sup>87</sup> This exception will avoid making ineligible entities that will serve the purposes of this service well, such as universities or schools, which may have large and diverse board membership, while protecting against control of an LPFM licensee by ineligible media owners. For the same reason, in the LPFM context we will extend the exception to officers and directors of the LPFM applicant or licensee itself, if that entity is a multifaceted organization, such as a university, and the duties and responsibilities of the officer or director are wholly unrelated to the LPFM station and the officer or director recuses himself or herself from consideration of any matters affecting the LPFM station.<sup>88</sup> We emphasize that these exceptions are narrow in scope. An individual holding an attributable media interest may not act as an officer of the LPFM station, nor function in any other attributable role.

50. We will, moreover, include an attribution exception for local chapters of national or other large organizations. In the event that a local chapter can demonstrate that it: (1) is separately incorporated, and (2) has a distinct local presence and mission, the local chapter can apply for a license in its own right and the national entity's "ownership" will not be attributed to it. In order to meet this standard, the local entity must be able to show a significant membership within the community, as well as a local purpose that can be distinguished from its national purpose. For example, the general purpose of raising awareness of the toxic waste problem in the United States would not suffice, but raising awareness of the toxic waste problem in particular local areas would meet the local purpose standard.

## 6. General Character Qualifications and Unlicensed Broadcasters

51. Background. In the *Notice*, we generally proposed to apply the same standards for character qualification requirements to all LPFM broadcasters as we do to full power broadcasters. The Commission asked if commenters saw any reason to distinguish between full and low power radio licensees for this purpose. In addition, we sought comment on whether to disqualify unlicensed broadcasters who once violated or who still are violating Commission rules. We sought comment on whether the Commission should adopt a middle ground and accept applications from parties who have broadcast illegally, but who either (1) promptly ceased operation when advised by the Commission to do so, or (2) voluntarily ceased operation within ten days of the publication of the *Notice* in the *Federal Register*.

52. Comments. The National Lawyers Guild and the Civil Rights Organizations both argue for amnesty for unlicensed broadcasters.<sup>89</sup> Many individuals insist that without radio "pirates," LPFM

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<sup>87</sup> Given the nature of the LPFM service and our goal of limiting the burdens imposed on the service, we will not require the submission of a statement to the Commission documenting this recusal (*cf.* 47 C.F.R. § 73.3555 Note 2(h)), but we expect licensees to effect such a recusal and to abide by it.

<sup>88</sup> Unlike in the commercial attribution rule, we will not require the applicant or licensee to seek a waiver under these circumstances. *See* 47 C.F.R. § 73.3555 Note 2(h).

<sup>89</sup> Comments of the National Lawyers Guild, etc. at 3-4; Comments of Civil Rights Organizations at 33.

would not have been created.<sup>90</sup> Others, such as Amherst and UCC, et al., support the middle ground set forth in the *Notice*, saying that it is most fair to the interests of future low power broadcasters and to the public.<sup>91</sup> The Alliance for Community Media also supports the Commission's proposed compromise.<sup>92</sup> Many commenters believe that anyone who has operated illegally should not be eligible for a license. NAB believes that because "pirate" broadcasters operated illegally, they should not be excused or granted amnesty.<sup>93</sup> Some object to restricting parties with an interest in a broadcast station from owning an LPFM station, but allowing "pirates" to own them.<sup>94</sup>

53. Decision. We have decided, as we proposed, to apply the same character qualification requirements to low power station licensees as we currently apply to full power licensees. The Commission's character policy is underpinned by our interest in a licensee's truthfulness and reliability. We have a critical need to ascertain whether a licensee will in the future be forthright in its dealings with the Commission and operate its station in a manner consistent with the requirements of the Communications Act and the Commission's rules and policies.<sup>95</sup> No commenter showed a reason to distinguish between full and low power broadcasters on this basis, and we do not believe one exists.

54. The most significant specific question that character concerns raise in the context of this proceeding, as discussed in the *Notice*, is how past illegal broadcast operations reflect on that entity's proclivity "to deal truthfully with the Commission and to comply with our rules and policies,"<sup>96</sup> and thus on its basic qualifications to hold a license. We are persuaded to adopt our original proposal and accept a low power applicant who, if it at some time broadcast illegally, certifies, under penalty of perjury, that: (1) it voluntarily ceased engaging in the unlicensed operation of any station no later than February 26, 1999, without specific direction to terminate by the FCC; or (2) it ceased engaging in the unlicensed operation of any facility within 24 hours of being advised by the Commission to do so. Applicants will be required to make such certifications as part of their applications for an LPFM station. Such certifications will be made with respect to the applicant as well as all parties to the application (*i.e.*, any party with an attributable interest in the applicant). Submission of false or misleading certifications will subject the applicant to enforcement action including fines, revocation of license and criminal penalties.

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<sup>90</sup> See, e.g., Comments of Stephen G. Toner at 2.

<sup>91</sup> Comments of Amherst at 56; Comments of UCC, et al. at 33.

<sup>92</sup> Comments of Alliance for Community Media at 5.

<sup>93</sup> Comments of NAB at 74.

<sup>94</sup> Comments of Wisconsin Rapids Broadcasting, L.L.C. d/b/a WHFR/WGLX Radio at 3-4. Many others object to "rule-breakers" receiving licenses. Comments of Colorado West Broadcasting, Inc. at 2; Comments of North Cascades Broadcasting, Inc. at 8; Comments of Omni Communications, Inc. at 6; Comments of Association of Islamic Charitable Projects at 1.

<sup>95</sup> Policy Regarding Character Qualifications in Broadcast Licensing, 102 FCC 2d 1179, ¶54-55 (1986); *recon. granted in part and denied in part*, 6 FCC Rcd 3448 (1991).

<sup>96</sup> *Id.*

55. Contrary to some commenters' arguments, this rule does not unconstitutionally infringe on the First Amendment rights of unlicensed broadcasters.<sup>97</sup> Disqualification under this rule is based solely on lack of compliance with statutory and regulatory requirements. All parties should note, however, that as licensed broadcasters, ignorance, whatever its cause, is not considered an excuse for violation, and full compliance with our rules will be required. Moreover, as implied by the provisions of the *Notice*, the illegality of unauthorized broadcasting must now be presumed to be well-known, and any unlicensed broadcast operation occurring more than 10 days after the *Notice* was issued will make the applicant ineligible for low power, full power, or any other kind of license and will be subject to fines, seizure of their equipment, and criminal penalties.

## E. Technical Rules

### 1. Spectrum for Low Power Radio

56. Background. In the *Notice*, the Commission stated that it did not intend to allocate new spectrum for a low power radio broadcasting service. The utilization of new spectrum would require listeners to purchase new equipment to receive the service, which would significantly delay the benefits of the service to the public. We proposed to authorize low power radio stations within the FM band only. This determination was based partly on the extent of congestion within the AM band, with numerous existing stations experiencing significant interference. Furthermore, we recognized that low power AM stations were capable of causing significantly higher levels of interference as a result of AM signal propagation characteristics. With regard to the use of the FM band, we concluded that the large number of existing FM stations precluded us from designating any specific frequencies for LPFM service, as no such channels are available throughout the country. Thus we sought comment on whether we should allow LPFM stations to operate throughout the entire band or restrict the reserved portion of the FM band (Channels 201-220) for noncommercial educational (NCE) stations. We also contemplated that low power radio stations would desire to use auxiliary broadcast frequencies, where available -- for example, for studio-to-transmitter links and transmissions of remote broadcasts -- and sought comment in this regard.

57. Comments. No commenters specifically supported the allocation of new spectrum for the proposed service.<sup>98</sup> Many commenters agreed that existing interference within the AM band and the relative complexity of AM facilities should preclude consideration of a low power AM service.<sup>99</sup> Some commenters, however, argue that an AM low power station should be an option in areas where the FM spectrum is too crowded to permit new stations. With regard to the FM band, most commenters support the view that the reserved band should continue to be reserved for NCE use only. However, NPR, CPB

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<sup>97</sup> See *National Broadcasting Co. v. United States*, 319 U.S. 190 (1943).

<sup>98</sup> One commenter did propose operation on "Channels 198, 199 and 200" (presumably 87.5 MHz, 87.7 MHz, and 87.9 MHz). See Comments of American Civil Liberties U, et al at 14. These frequencies are currently allocated for television broadcasting on TV Channel Six (82-88 MHz). Channel 200 is reserved for Class D (secondary) stations relocating to eliminate interference and was not proposed for low power use at this time. See 47 C.F.R. § 73.512.

<sup>99</sup> See, e.g., Comments of Aaron Reed; Comments of Chuckie Broadcasting Company; Comments of Oklahoma Department of Transportation.

and several other commenters are particularly concerned that the introduction of numerous new stations in the reserved band would potentially increase interference to existing stations, especially in areas beyond their protected contours.<sup>100</sup> At the same time, other commenters expressed the desire to allow NCE low power stations throughout the FM band.<sup>101</sup>

58. Decision. We will authorize low power radio stations throughout the FM band, where the stations will fit, but not in the AM band. Although FM band crowding may preclude or limit LPFM opportunities in certain markets, we are not persuaded that the creation of an AM low power radio service is warranted. Likewise, we acknowledge the concerns of CPB and NPR about the current “crowding” within the reserved band. However, we note that we are adopting minimum distance separations between LPFM and full-service stations based upon the assumption that full service stations operate with maximum height and power for their class. Therefore, an LPFM station would generally provide greater protection to stations operating in the reserved band than that afforded to them by other full service stations, for which station facilities are spaced more closely on the basis of the contour protection methodology.<sup>102</sup> Because LPFM stations will be licensed throughout the FM band, they will not be concentrated in the reserved portion of the FM spectrum. We note, however, that LPFM stations, regardless of their location in the FM band, are reserved to qualified NCEs. We will apply the same interference protection and other technical standards for LPFM operations in the reserved and nonreserved bands. This will facilitate application processing and uniform LPFM technical operating requirements.

59. In view of their relatively smaller service areas, we believe that most LPFM stations will co-locate program origination and transmission facilities. As a result, these stations would not require studio-to-transmitter links (STL) between these facilities. However, we will not foreclose LPFM operators the use of broadcast auxiliary frequencies used by full-service radio stations for this purpose. LPFM stations may also desire to air programming relayed from a remote location, such as an athletic event, or in connection with news gathering. Generally, we will permit entities authorized to operate LPFM stations to use remote pickup frequencies and radio broadcast auxiliary frequencies in the manner in which full-service stations use these frequencies, pursuant to the technical rules and procedures given in Subparts D and E of Part 74 of our rules. However, we will require that LPFM operations on auxiliary frequencies be secondary to that of full-service broadcast stations and other primary users, given the congestion of frequency use in some locales. We note that TV auxiliary frequencies are licensed to low power TV stations on this basis.<sup>103</sup> An entity seeking to operate an LPFM station may apply for broadcast auxiliary license only after it has been authorized to construct the LPFM station.<sup>104</sup>

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<sup>100</sup> See Comments of NPR (August 2, 1999) at 18; Comments of CPB at 19.

<sup>101</sup> See, e.g., Comments of Amherst (April 28, 1999) at 70-71; American Civil Liberties Union of Massachusetts at 13.

<sup>102</sup> We have identified a finite number of “superpowered” facilities operating in the reserved band that exceed the permissible maximum class facilities. Such facilities will receive protection in proportion to their operating facilities. See ¶ 70.

<sup>103</sup> 47 C.F.R. § 74.602(f).

<sup>104</sup> Broadcast auxiliary applications are filed on FCC Form 600 and are processed by the Commission’s (continued....)

## 2. LPFM Spectrum Rights and Responsibilities

60. Background. In the *Notice*, we raised issues regarding the spectrum priority of the contemplated classes of LPFM service. We recognized that our resolution of these issues would affect where LPFM stations could locate and the stability of their operations. Additionally, LPFM interference protection rights and responsibilities could affect existing and future FM radio service. The *Notice* proposed a 1000-watt primary service and a 100-watt secondary service. It sought comment on a 10-watt class of LPFM station that would be secondary to all other FM radio services. As proposed, LP100 and LP10 stations would not be permitted to interfere within the protected service contours of existing and future primary stations and would not be protected against interference from these stations. We sought comment on whether LP100 stations should be permitted to select channels without regard to interference received and on the extent to which LP100 stations should protect FM translator and booster stations.

61. Comments: Given our decision not to create a 1000-watt LPFM station class, this summary is limited to the issue of spectrum priorities for LP100 and LP10 stations. The comments were divided on whether LPFM stations should have a primary or secondary regulatory status. Several commenters supported primary status for all LPFM stations, mainly to help ensure their survival.<sup>105</sup> The ACLU of Massachusetts believes that all LPFM stations should be primary, but should be willing to accept higher than normal amounts of interference.<sup>106</sup> The Community Broadcasters Association supported primary status for all LPFM stations as a way to open capital markets for these stations.<sup>107</sup> Some commenters supported a modified form of primary status for LPFM. Amherst Alliance supported a status that would not permit LPFM stations to “bump” other stations, but would also protect LPFM

<sup>108</sup> Community Broadcasters commented that LPFM stations should be given primary status with respect to analog stations, but have a secondary status with respect to digital radio stations.<sup>109</sup> Other commenters, including some broadcast licensees, supported a secondary status for LPFM stations.<sup>110</sup> Big City Radio, Inc., for example, stated that LPFM stations should not be permitted to block the relocation of full-power stations forced to relocate their transmitter sites.<sup>111</sup>

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Wireless Telecommunications Bureau.

<sup>105</sup> See, e.g., Comments of Media Island International at 1; Comments of City of Berkeley, CA at 1; Comments of Citizens Telecommunications & Technology Advisory Board of Seattle at 4; Comments of Jennifer Anne Barrios at 1; Comments of Citizens for Access to the Airwaves at 2.

<sup>106</sup> Comments of ACLU of Massachusetts at 98.

<sup>107</sup> Comments of Community Broadcasters Association at 1.

<sup>108</sup> Comments of Amherst Alliance at 7.

<sup>109</sup> Reply Comments of Community Broadcasters at 9.

<sup>110</sup> See, e.g., Comments of Bible Broadcasting Network, Inc. at 3; Comments of WATD at 6; Comments of Emmis Communications Corporation at 1; Reply Comments of Cumulus Media, Inc. at 13; Comments of Infinity Broadcasting at 25.

<sup>111</sup> Comments of Big City Radio, Inc. at 22.

Mississippi Valley Broadcasters, LLC commented that LPFM stations should be given the same secondary spectrum priority as FM translator stations.<sup>112</sup> According to the Association of Federal Communications Consulting Engineers, LP100 stations should be secondary and not be permitted to displace FM translator stations.<sup>113</sup> Aaron Read commented that Class D FM stations should be secondary to LP100 stations because of their higher power, but that microradio stations should be secondary to Class D.<sup>114</sup> Jeffrey Richman, chief operator of a Class D station, commented that Class D licensees should not be secondary to LPFM licensees.<sup>115</sup>

62. Decision. In crafting interference protection rights and responsibilities for an LPFM service, we seek to balance our vital interest in maintaining the technical integrity of existing radio services with our desire to create a supple and viable community-oriented radio service. First and foremost, we must require that new LPFM stations protect radio reception within the service areas of existing full-service stations, as well as the existing services of FM translator and booster stations. Second, LPFM stations, with their much smaller service areas and fewer service regulations, should not prevent FM stations from modifying or upgrading their facilities, nor should they preclude opportunities for new full-service stations. Additionally, LPFM applications will be required to protect vacant FM allotments. Subject to these constraints, however, we want to foster a stable and enduring LPFM service. Once an LPFM station is built and operating, we wish to permit it to continue operating on its channel, wherever possible, as the radio environment changes around it. We want to minimize, to the extent possible, the situations in which we would require an LPFM station to change its channel or cease operating. This measure of stability, we believe, would assist LPFM station applicants or operators in obtaining financing to construct and operate stations and to better serve their communities. It may also create an incentive for the operation of a first local radio station in many communities or radio service that would be responsive to other unmet needs. We believe the approach set forth below appropriately balances the above objectives.

63. *Protection to existing FM radio services:* Applicants for new or modified LP100 or LP10 facilities will be required to meet minimum station separation distances to protect the service contours of authorized commercial and noncommercial FM stations of all classes, including Class D. In the same manner, they will be required to protect the existing service of FM translator and booster stations and LP100 stations. We will also require LPFM applicants to protect full-service FM, FM translator and LP100 facilities proposed in applications (for example, FM minor change applications) filed before a public notice announcing an LPFM application filing window. Applications filed after the release date of an LPFM window notice will not be protected against LPFM applications filed in that window. However, full-service applicants will not be required to protect the facilities proposed in LPFM

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<sup>112</sup> Comments of Mississippi Valley Broadcasters at 8.

<sup>113</sup> Comments of the Association of Federal Communications Consulting Engineers at 13. The comments of National Public Radio also contend that LPFM stations should not be permitted a higher priority than FM translator stations, Comments of NPR at 23-27. The National Association of Broadcasters, while opposing the creation of any LPFM service, submits that FM translators and boosters must be protected against new LP100 stations, Comments of NAB Volume One (August 2, 1999) at 63-64.

<sup>114</sup> Comments of Aaron Read at 2.

<sup>115</sup> Comments of Jeffrey Richman at 1.

applications. We believe this approach fairly balances the interests of full-service and LPFM applicants. LPFM station proposals to operate on channels 201-220 will also be required to protect television stations operating on TV Channel 6. Applicants for LP100 stations will not be required to protect authorized LP10 stations or LP10 application proposals, given the relatively smaller service areas of LP10 stations.<sup>116</sup> Station separation requirements for these various purposes are described in paragraphs 68-72 and 114 and the separation distances are presented in the tables in the attached rules.

64. The extent of interference protection from LPFM stations to existing FM, LPFM and FM translator and booster service generally will be that afforded by minimum station separation requirements. These were designed to provide the same degree of interference protection that full-service stations provide each other.<sup>117</sup> 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. LPFM stations will not be required to eliminate interference caused to FM stations by their lawful operations. They will, however, be required to eliminate interference caused by operations that violate the terms of the station's authorization or the Commission's Rules; for example, radiation of excessive emissions outside of the station's authorized channel. LPFM station operators will also be required to respond to complaints of "blanketing" interference (*see* paragraph 113.). They will also be subject to international agreements regarding the elimination of interference to primary Canadian or Mexican broadcast stations. Until these agreements are modified, we believe it is appropriate to apply to LPFM stations the international provisions applicable to FM translators, which operate at comparable power levels.

65. *LPFM rights and responsibilities with respect to subsequently modified, upgraded or new full-service FM stations.* We are not adopting for the LPFM service many of the regulations applicable to full-service stations; for example LPFM stations will not be required to have a main studio. LPFM stations also will service much smaller areas than full-service stations. For these reasons, we do not believe that an LPFM station should be given an interference protection right that would prevent a full-service station from seeking to modify its transmission facilities or upgrade to a higher service class. Nor should LPFM stations foreclose opportunities to seek new full-service radio stations. Accordingly, operating LPFM stations will not be protected against interference from subsequently authorized full-service facility modifications, upgrades, or new FM stations. Because we will not protect LPFM from future FM facilities, we will not require LPFM applicants to meet minimum distance separation requirements to protect their service areas against interference received. However, as a guide to LPFM applicants, the attached rules includes minimum station separation distances necessary to protect an LPFM station's 60 dBu contour.

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<sup>116</sup> In this regard, LP10 stations will be authorized on a secondary basis to LP100 stations. However, interference protection from LP10 stations to LP100 stations will be limited to the extent of the protection afforded by the station separation requirements.

<sup>117</sup> The minimum separation distances governing LPFM stations authorizations are based on the same protection criteria used to derive the minimum separations among full-service FM stations; *i.e.*, the same desired-to-undesired signal strength ratios applied at a station's protected contour and the assumption that a protected station operates at the maximum height and power permitted for its class.

66. We expressed our desire to provide a measure of stability to operating LPFM stations. For this purpose, we will permit LPFM stations to continue operating even though they would cause interference within the protected service contours of a subsequent authorized FM service, including new stations and facilities modifications or upgrades of existing stations. In such situations, the LPFM operator would decide whether interference received to its service would permit the station to continue operating on its channel. However, we must make one exception to this policy. FM stations have a core responsibility to service their principal communities. Therefore, we will not permit an operating LPFM station to cause interference within a commercial or NCE FM station's 3.16 mV/m (70 dB) contour. This issue can only arise in connection with a subsequently filed full-service new station or modification application. If grant of such an application would result in predicted interference within the 3.16 mV/m (70 dBu) contour of the proposed station, the affected LPFM station will be provided an opportunity to demonstrate that interference is unlikely to occur within this contour due to, for example, terrain shielding. If the LPFM station fails to make a sufficient showing, it will be directed to cease operations upon the commencement of program tests by the commercial or NCE FM station.

67. We recognize that actual interference within the 3.16 mV/m contour might still be possible where the LPFM station has demonstrated that it is unlikely. In these circumstances, a complaint of actual interference must be served on the LPFM station and filed with the Commission, attention Audio Services Division. The LPFM station must suspend operations within twenty-four hours of the receipt of a complaint unless the interference has been eliminated by the application of suitable techniques and to the satisfaction of the complainant. An LPFM station may resume operations only at the direction of the Commission. If the Commission determines that a complainant has refused to permit the LPFM station to apply remedial techniques that demonstrably will eliminate the interference without impairment of the original reception of the full-service station, the licensee of the LPFM station will be absolved of further responsibility. As a practical matter we believe that in many cases involving FM station modifications or upgrades, interference to new or expanded areas will be offset by the conservative separation distances met by the LPFM station when it was initially authorized, particularly because of the 20-kilometer interference protection buffer.

### 3. Minimum Distance Separation Requirements

68. Background. The *Notice* tentatively concluded that minimum distance separation requirements for LPFM stations would provide the most efficient means to process a large number of applications while ensuring the overall technical integrity of the FM service. We proposed minimum spacings to protect full-service station operation on the same channel, first-adjacent channel and intermediate frequency (IF) channels. We proposed to exclude third-adjacent channel protection and questioned the need for second-adjacent channel spacing requirements. We noted that the use of a contour overlap methodology could significantly delay the implementation of the LPFM service because it would require substantial preparation on the part of applicants and the Commission and would increase the processing burden on the staff. The *Notice* included spacing tables for the proposed LPFM classes based on the interference protection ratios that underlie full-service radio separations and the assumption that stations operate at the maximum height and power for their station class. We sought comment on the accuracy of the specific values listed in these tables. In addition, we requested comment as to whether alternate approaches, including contour overlap methodology and/or more sophisticated terrain modeling programs, should be used at a later time, based on our initial experience in authorizing LPFM service.

69. Comments. No comments challenge any of the specific values listed in our proposed

minimum distance separation tables. However, one commenter, Summit American, Inc. (Summit), suggests an alternate methodology based upon a full service station's 44 dBu F(50,50) protected service contour, instead of the 60 dBu contour that defines the protected service contours for all NCE and many commercial stations. The 44 dBu contour is cited by Summit as the "extent of listenable service for the average listener," based upon the comments filed by USADR, one of the proponents of an in-band-on-channel digital audio broadcasting (IBOC DAB) system. In support of the definition of service beyond that protected by the Commission, Summit cites the Commission's FM translator interference rules which define interference as affecting an area where there is reception of "a regularly used signal."<sup>118</sup> Although it does not calculate distance separations, the North Carolina Association of Broadcasters and the Virginia Association of Broadcasters (NCAB/VAB) echo Summit's concerns and argue that our separation requirements should protect actual service areas beyond protected contours.<sup>119</sup> Several commenters urged either the use of a contour overlap methodology or a combination of contour overlap and separation requirements in order to accommodate the licensing of additional LPFM stations.<sup>120</sup>

70. Decision. We recognize that a distance separation methodology will preclude new LPFM stations in some areas. However, we are not persuaded that the potential benefit of some additional stations is substantial enough to warrant the preparation of more complex and costly engineering exhibits based on contour protection and the resulting delays in the authorization of LPFM service. Therefore, we are adopting minimum separation requirements for the LPFM service as the means of protecting full service commercial and noncommercial educational stations.<sup>121</sup> We also adopt spacing rules to protect FM translator stations and other LPFM stations, as well as a spacing table for LPFM stations operating on Channels 201 through 220 with respect to protection of TV Channel 6.<sup>122</sup> As we proposed in the *Notice*, we will not establish minimum separations between LPFM stations that operate two or three channels apart. Special case spacing tables are also being adopted for Puerto Rico and the U.S. Virgin Islands. Additionally, appropriate spacings will be used for the approximately 20 "grandfathered superpowered" stations operating in the reserved band.<sup>123</sup> These spacing tables are set forth in the new rules, in Appendix A. LPFM applicants should be mindful of the fact that the minimum separation distances being adopted will not protect LPFM stations against interference from the full

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<sup>118</sup> See Comments of Summit (August 2, 1999) at 2-4; see also Comments of USADR (August 2, 1999), Exhibit A at 3.

<sup>119</sup> See Comments of NCAB/VAB (August 2, 1999) at vii-ix.

<sup>120</sup> See, e.g., Comments of Dr. C. William Chignoli at ¶ 3.

<sup>121</sup> Unlike full service commercial and noncommercial educational stations, we are not adopting spacing requirements for stations removed three channels from the LPFM frequency (third adjacent channel), for reasons which will be explained in a subsequent section.

<sup>122</sup> Currently, noncommercial educational stations operating in the reserved band (Channels 201 to 220, or 88.1 MHz to 91.9 MHz) must provide protection to reception of television channel 6 in accordance with the provisions of 47 CFR § 73.525. We have decided that LPFM stations should also protect reception of TV Channel 6. This issue

<sup>123</sup> Superpowered stations will be protected under the distance separations for the class of station that most closely approximates its facilities. This determination will be made based upon the stations 1 m V/m reference contour and the procedures for determining class listed in §73.211. A listing of correct reserved band superpowered stations is included in Appendix B.

service stations, but are designed to prevent the LPFM station from causing interference to the protected service areas of full-service FM and other protected stations. However, as a guide to LPFM applicants, we are including in the rules a table giving the minimum separations necessary to avoid interference within the LPFM station service areas.

71. The minimum distance separation requirements that we adopt here for LPFM stations do not apply to full-service stations and FM translators. To prevent subsequently filed FM translator stations from causing interference to existing LPFM stations, we will expand the current FM translator interference protection rules to include a requirement that previously authorized LPFM stations be protected. As noted above, we will permit a full service station to modify its facility in a manner that reduces these separations to LPFM stations. However, in such cases we generally will not require the LPFM station to cease operation. Instead, the affected stations will have to bear any interference caused by facilities changes, such as an FM transmitter site move. However, so as to reduce the potential impact on the affected stations, the spacing rules we adopt today include a 20 km “buffer” for co-channel and first-adjacent channel LPFM-to-full-service-FM stations. This additional separation is included for two reasons. First of all, we recognize that the FM band is not static. For example, broadcast stations often change transmitter sites to provide better service to their communities and service areas. Same-station-class transmitter site moves are generally less than 20 km from the original site. Therefore, inclusion of the 20 km buffer spacing allows full-service stations room to move while also reducing the potential impact on existing LPFM stations. Second, and equally important, the additional separation affords the LPFM station an increased likelihood that its operation would not cause interference within a full service station’s community of license. This additional 20 km separation will apply only to the initial establishment of the LPFM station. Subsequent site moves by the LPFM station would either need to meet this distance separation requirement, or if the existing spacing were already less than this amount due to a prior site move by a full service station, the spacing could not be less than the currently existing separation.

72. *International Coordination Provisions.* We are also adopting provisions for LP10 and LP100 stations which lie within 320 km of the Canadian or Mexican borders, consonant with existing international agreements between the respective countries. We will apply the existing FM translator rule, 47 CFR § 74.1235, and current international coordination procedures to LPFM stations in these areas.<sup>124</sup> In the attached rules, we include distance separation tables that were intended to ensure compliance with the appropriate international agreements. We will adopt these tables to the extent that foreign stations are provided the appropriate protection. We have also derived similar tables for LP10 stations. We will only accept LPFM proposals that meet these distances. Such proposals will be coordinated as required by the pertinent agreements. In addition, LP10 and LP100 applicants in the U.S. Virgin Islands should be aware that international coordination may be required with the British Virgin Islands in some instances.

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<sup>124</sup> Pursuant to § 74.1235, FM translators within 250 km of the Canadian border may be authorized if the 34 dBu F(50,10) interfering contour does not exceed 60 km in any direction from the transmitter site. FM translators located within 125 km of the Mexican border will be permitted to operate with an ERP not to exceed 50 watts, provided that the 34 dBu F(50,10) interfering contour does not extend more than 32 km toward the Mexican border, and the 60 dBu F(50,50) service contour cannot extend more than 8.7 km from the transmitter site in the direction of Mexico. FM translators located further than 125 km from the Mexican border, but less than 320 km from the border, may operate with the maximum ERP permitted for LP10 and LP100 stations, however, the location of the 60 dBu contour must lie more than 116.3 km from the Mexican border.

#### 4. Second and Third Adjacent Channel Protection

73. Background. In the *Notice* we sought comment on the interference protection criteria to be used to govern the authorization of low power radio services. We stated that low power stations would be subject to existing co-channel and 1<sup>st</sup>-adjacent channel protections but that to the extent possible we were inclined to authorize low power service without any 2<sup>nd</sup>- and 3<sup>rd</sup>-adjacent channel protection standards.<sup>125</sup> We stated our belief that a strong case could be made for not requiring 3<sup>rd</sup>-adjacent channel protection to or from any of the contemplated classes of LPFM stations. We indicated that such an approach would entail little risk of interference to existing radio service. We noted that areas of potential interference to a full power station would be very small and occur only in the immediate vicinity of the low power transmission facility. We further indicated that such interference would generally only occur if the low power station were located at, or very near, the outer edge of the full power station's service contour where the full power station's signal is the weakest. We noted that 3<sup>rd</sup>-adjacent channel protection was eliminated for certain grandfathered and short-spaced full power stations in 1997.<sup>126</sup> On balance, we stated that creating opportunities for a new LPFM service should outweigh any small risks of interference to and from LP1000 and LP100 stations.<sup>127</sup>

74. With regard to 2<sup>nd</sup>- adjacent channel protection, we noted that "grandfathered" short-spaced FM facilities were permitted to modify their facilities without regard to 2<sup>nd</sup>- and 3<sup>rd</sup>- adjacent channel spacings during the period from 1964 to 1987, and from 1997 to the present. We indicated that no interference complaints were received as a result of those modifications and found that the small risk of interference was outweighed by improved service. Similarly, we noted that we have been willing in the past to accept small amounts of potential 2<sup>nd</sup>- and 3<sup>rd</sup>-adjacent channel interference in the noncommercial FM service where such interference is counterbalanced by substantial service gains.<sup>128</sup> We sought comment on the state of receiver technology and the ability of receivers to operate satisfactorily in the absence of 2<sup>nd</sup>-adjacent channel protection. We also sought comment on the impact of eliminating 2<sup>nd</sup>- adjacent channel protection on the possible conversion of existing analog radio services to a digital mode, in particular with regard to in-band-on-channel (IBOC) technology. In this regard, we noted that one IBOC proponent, USA Digital Radio Partners, L.P. (USADR), suggested that 2<sup>nd</sup>-adjacent channel signals from analog FM stations in the existing radio environment would not pose an interference threat to its digital IBOC signal.<sup>129</sup>

75. Comments. Three technical studies of FM receivers were filed in response to the *Notice*. These studies were: 1) *FM Interference Tests, Laboratory Test Report*, Thomas B. Keller, Robert B. McCutcheon, Consumer Electronics Manufacturers Association (CEMA), 1999, conducted under the

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<sup>125</sup> See *Notice* at ¶ 42.

<sup>126</sup> See *Report and Order* in MM Docket No. 96-120, 12 FCC Rcd 11840, 11847-49 (1997) (*Grandfathering of Short-Spaced Stations R&O*).

<sup>127</sup> See *Notice* at ¶ 45.

<sup>128</sup> See *Educational Information Corporation*, 6 FCC Rcd 2207 (1991).

<sup>129</sup> See *Notice* at ¶ 47.

auspices of National Public Radio (NPR), CEMA and the Corporation for Public Broadcasting (CPB) (CEMA study); 2) *Technical Studies and Reports* filed by the National Association of Broadcasters (NAB study); and 3) *Receiver Evaluation Project* conducted by Broadcast Signal Lab, LLP for the National Lawyers' Guild, Committee on Democratic Communications (NLG study).<sup>130</sup> The Commission's Office of Engineering and Technology also completed a study of FM receivers that was placed in the record of the proceeding (OET study).<sup>131</sup> In addition, NAB and CEMA filed supplementary technical information in their reply comments and a *Technical Analysis of the Low Power FM Service* by Theodore S. Rappaport (August 26, 1999) was submitted by the Media Access Project as part of its replies (Rappaport study).

76. *CEMA Study and Comments.* CEMA states that the purpose of its study is to document the sensitivity of consumer FM receivers to interference from other FM band signals. CEMA tested 16 consumer receivers, including 5 automobile radios, 5 "Home Hi Fi" tuners or receivers, 3 portable stereo systems, 2 portable radios and one "Walkman" radio. These receivers were tested under a number of conditions including co-channel, and 1<sup>st</sup>-, 2<sup>nd</sup>-, and 3<sup>rd</sup>- adjacent channel interference. CEMA asserts that its tests indicate that the FCC's proposal to eliminate 2<sup>nd</sup>- and 3<sup>rd</sup>- adjacent channel protections could result in significant interference to current and future FM service and threaten the deployment of future digital audio radio services. It therefore recommends that the 2<sup>nd</sup>- and 3<sup>rd</sup>-adjacent channel (and intermediate-frequency related) protections be maintained.

77. CEMA's test results are as follows:

- The current FCC co-channel desired to undesired (D/U) signal protection ratio of 20 dB results in an average audio signal-to-noise (S/N) ratio of 24 dB. To achieve what CEMA regards as the desired target audio quality level, *i.e.*, 45 dB, an additional 22 dB of protection is needed.<sup>132</sup>
- The current FCC 1<sup>st</sup>-adjacent channel protection ratio of 6 dB results in an average S/N ratio of 36 dB. To achieve the 45 dB S/N level, an additional 11 dB of protection is needed. Tests also show potential analog-to-digital interference.
- The current 2<sup>nd</sup>-adjacent channel protection ratio of -40 dB results in an average S/N of 28 dB, while at a D/U ratio of -30 dB the average S/N ratio is 35 dB.
- The current 3<sup>rd</sup>-adjacent channel protection ratio of -40 dB results in an average S/N of 36 dB. Based

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<sup>130</sup> The NLG study was funded by NLG, UCC, et al., and several others.

<sup>131</sup> See *Second and Third Adjacent Interference Study of FM Broadcast Receivers*, OET Report FCC/OET TRB-99-1, prepared by William H. Inglis and David L. Means, July 1999.

<sup>132</sup> CEMA target level was an audio Weighted Quasi-Peak (WQP) S/N ratio of 45 dB. It indicated that NPR had established the 45 dB audio S/N ratio for quality broadcasting on a previous project. See CEMA's *Laboratory Test Report* at p.1.

on this finding, CEMA argues that the 3<sup>rd</sup>-adjacent protection should be maintained.

- Intermodulation tests show that the current intermediate frequency (IF) protection requirements are required to avoid both IF interference and local oscillator interference.<sup>133</sup>

78. *NAB Study and Reply Comments.* As part of its comments, NAB submitted a technical study of FM receivers. In addition, it provided extensive tabular and geographical data illustrating what it believed would be the impact of various LPFM operations on existing FM broadcast service. NAB states that the receiver study was conducted to determine the susceptibility of modern FM receivers to co- and adjacent-channel signals and to determine the potential for interference to existing FM stations should a new low power FM service be authorized. NAB tested a total of 28 FM radios. This sample included 8 automobile, 5 component, 5 portable, 5 personal and 5 clock radios. In its reply, NAB argues that its sample is the only one of those used in the four studies that fairly represented all receiver categories.

79. In conducting its study, NAB chose a 50 dB audio S/N ratio as its performance measure. It considered interference to occur when the audio S/N ratio was degraded to this level. For radios that could not attain a 50 dB audio S/N ratio in the absence of an interfering signal, interference was judged to occur when the audio S/N ratio was degraded by a factor of 5 dB. NAB's test results demonstrate that receivers are most sensitive to co-channel interference and are progressively less sensitive to interference as the spacing between the desired and undesired frequencies increases. Based on its performance measure, NAB indicates that 15 to 22 of the 28 receivers in its sample would experience interference from signals on 3<sup>rd</sup>-adjacent channels at the current -40 dB D/U protection ratio.<sup>134</sup> NAB also indicates that 22 to 23 receivers in its sample would experience interference from signals on 2<sup>nd</sup>-adjacent channels. NAB therefore concludes that FM receivers generally do not perform up to the current FCC interference standards and that the Commission's assumptions that these restrictions could be eliminated for LPFM stations are incorrect.

80. In its reply comments, NAB also criticizes the receiver samples used in the other technical studies. It argues that only its study tested five different categories of receivers and a full price range of receivers in all categories. It also argues that OET and CEMA did not test clock radios and OET did not test personal radios, while CEMA only included one personal radio in its sample. NAB further asserts that while NLG tested all categories, its sample was too small to derive any general conclusions. NAB notes that all of the studies agree that automobile radios and, in some cases, component receivers, tend to be more effective at rejecting adjacent channel interference than clock, personal and portable radios.<sup>135</sup> However, NAB asserts that all of the studies confirm that modern FM receivers do not perform as well as the existing FCC protection criteria for 2<sup>nd</sup>- and 3<sup>rd</sup>-adjacent channel interference assume.

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<sup>133</sup> See Comments of CEMA at ii-iii, and *Laboratory Test Report* at pp. 1-7.

<sup>134</sup> See Comment of NAB Vol. 2 at 22-26.

<sup>135</sup> See Reply Comments of NAB at 8.

81. *NLG Study.* The NLG study examined a sample of 10 consumer FM radios. These radios were grouped in three broad categories as follows: 1) 3 higher priced radios (generally above \$150); 5 lower priced radios (\$20 to \$150); and 3) 2 factory installed car radios. Based on its test results, NLG observed that car radios and higher priced radios performed “far better than one would predict based on the FCC interference ratios” and that “substantial signal strengths were required to cause 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> adjacent channel interference.”<sup>136</sup> It also observed that the performance of lower priced radios tended to “straddle” the FCC interference protection standards.

82. NLG indicated that it was difficult to establish a definition of unacceptable interference, noting that its tests demonstrated that even the best receivers showed measurable, often imperceptible, increases in distortion in the presence of extremely low level undesired signals. It stated while the traditional practice is to establish a standard based on an absolute level of noise or distortion, such as a 3% increase in distortion or a S/N ratio of 30 dB, actual FM listening conditions are dependent on such variables as reception conditions, baseline radio performance without interference, and the various sounds and effects that interference can create. NLG stated that these variables make it difficult to scientifically derive a universal measure of unacceptable interference. NLG indicated that in testing radios, it found that the distortion and noise performance of each radio exhibited a “transition zone” where the radio would suddenly fail to receive the desired signal. It used these transition zones to make comparisons between radios, between forms of undesired signal modulation, and between interference from signals on adjacent channels.<sup>137</sup>

83. The NLG study’s findings are as follows:

- More aggressive modulation of the undesired signal did not cause a significant increase in interference and that this was especially true for signals on 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> adjacent channels. Less costly radios were more susceptible to modulation induced interference than more costly radios.
- The response of all radios tested for co-channel and first adjacent channel interference matched or exceeded the FCC interference protection ratios.
- Higher priced radios tend to withstand 2<sup>nd</sup>-adjacent channel interference better than lower priced radios. Higher priced radios and car radios withstood undesired signal levels higher than the FCC interference protection standards. The poorest performing radios were susceptible to 2<sup>nd</sup>-adjacent channel undesired signal levels that were as much as 50 dB lower than the levels that affected the best performers.
- 3<sup>rd</sup>-adjacent channel interference was slightly less challenging to most radios than 2<sup>nd</sup>- adjacent

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<sup>136</sup> See Executive Summary of the NLG study.

<sup>137</sup> NLG stated that while the transition zone in its distortion and noise tests did not pinpoint the conditions under which a listener would decide a signal is undesirable to listen to, it was the most identifiable characteristic common to the radios in its tests.

channel interference. Higher priced radios and car radios tended to fare better than lower priced radios.

84. *OET Study.* The OET study examined four broad categories of FM receivers: 1) small, inexpensive receivers with integral antenna; 2) small, moderate-cost receivers with antenna connection; 3) dash-mount automobile receivers; and 4) moderately expensive audio component receivers. In the OET study, 21 FM receivers were tested. These included 5 small, moderate-cost receivers with antenna connections (portable and “boom-box” receivers), 7 automobile receivers, and 9 moderately expensive audio component receivers (“component” or home stereo type receivers). No inexpensive receivers with integral antennas were selected for the test sample because of the difficulty of providing test signals at accurately controlled levels to this type of device.<sup>138</sup> The OET study found that nearly all the receivers in the sample appear to meet or exceed the current 40 dB 2<sup>nd</sup>-adjacent channel protection requirement and to exceed the 3<sup>rd</sup>-adjacent channel protection by a wide margin. The OET study indicated that there was about an 8-10 dB improvement in overall performance with regard to interference immunity with regard to 3<sup>rd</sup>-adjacent channel signals as compared to 2<sup>nd</sup>-adjacent channel signals. The study also investigated the effect of reducing the maximum FM deviation on the interfering signal and found that a small improvement in 2<sup>nd</sup>- and 3<sup>rd</sup>-adjacent channel interference immunity can be expected for most receivers.

85. *Rappaport Study.* The Rappaport study<sup>139</sup> analyzes the other research, and concludes that LPFM will not cause unacceptable levels of service to existing FM broadcast stations. Rappaport indicates that the submitted technical studies support elimination of 2<sup>nd</sup>- and 3<sup>rd</sup>-adjacent channel protection for low power radio and that the small additional interference that would be induced by LPFM is miniscule in comparison to the already existing FM interference levels.<sup>140</sup> Rappaport also asserts that there was a clear bias in some of the technical studies to overstate potential LPFM interference. He indicates, for example, that NAB omitted automobile radios (which make up over 20% of the radios sold and over 44% of the radios listened to by the public) from its LPFM impact study and made up a “worst-case” radio based on measurements from different radios. Spectrum studies are also included that, according to Rappaport, indicate hundreds of LPFM stations may be deployed at power levels between one and 100 watts and serving tens of millions of listeners while having minimal interference impact on tens of thousands of listeners at most.

86. Rappaport states that NAB’s and CEMA’s tests appear to be designed to show how poorly FM receivers perform compared with the FCC interference protection ratios. He argues that these protection ratios were developed to ensure that stations were not built too close together, thereby providing acceptable reception by early generation of radios. He argues that today’s receivers drift less, have more reproducible electrical characteristics and better detection capabilities. He states that the fact that modern receivers do not meet the FCC protection ratios while still providing good consumer performance demonstrates that the protection ratios are overly stringent. Rappaport argues that FM receiver performance is based on actual real world environment, consumer expectations, and design/cost

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<sup>138</sup> See OET study at 3.

<sup>139</sup> Theodore S. Rappaport conducted this study on behalf of MAP. See ¶ 75.

<sup>140</sup> See Rappaport study at 2.

tradeoffs, and has nothing to do with how the FCC assigns station licenses.<sup>141</sup> Rappaport argues that studies show that consumers are pleased with FM radios that have much less protection immunity than assumed by the FCC protection guidelines, and thus LPFM can be easily implemented since LPFM will introduce only a small amount of additional interference.

87. Rappaport notes that the FCC regulations require that out-of-band emissions on the 1<sup>st</sup>-adjacent channels be at least 25 dB below the main carrier but that in practice they are 30 dB below this level. He therefore suggests that if LPFM transmitters are certified for proper operation as suggested, there is no reason to expect interference except for blanketing conditions.

88. Rappaport indicates that the interference potential of LPFM stations is as follows:

LPFM Power (Watts)	Interference Radius (mi.)	Interference Area (sq. mi.)	Service Radius (mi.)	Service Area (sq. mi.)
1	0.04	0.01	1.1	4.0
10	0.14	0.06	2.0	12.1
100	0.44	0.60	3.5	38.5

89. Rappaport also argues that several conditions must exist for interference to occur, such as: the LPFM station must be at the coverage fringe of the incumbent station; the listener only wishes to listen to a station 2 or 3 channels above or below the LPFM station; and the listener is using a poor performing radio like a clock radio. However, even in these circumstances, Rappaport asserts that, in many instances, the listener may be able to eliminate the interference by adjusting the position of the clock radio or boom box for good reception. Rappaport further argues that the percentage of people experiencing interference from a low power station is much less (0.24% to 1.56%) than the people that would be served by a low power station.<sup>142</sup>

90. Rappaport also criticizes several aspects of the receiver studies by NAB and CEMA. For example, he indicates that despite CEMA's claims, its receiver sample is not representative of the population of receivers in use. He also states that neither NAB or CEMA weighted their results to take into account the high proportion of listening (44%) that occurs in vehicles and that this failure over-emphasized the poor performance of certain other radios. Rappaport also does not believe that the quality criteria selected were appropriate. He notes that NAB chose a quality threshold that was impossible for the majority of its receivers to meet. He states that this suggests either the performance metric was unrealistic, or that there was an intentional effort to select inferior radios. He argues that choosing a fixed quality threshold creates testing and sampling problems. Rappaport argues that in an

<sup>141</sup> See Rappaport study at 12.

<sup>142</sup> The percentage values cited reflect differences in LPFM power levels from 1 watt to 100 watts and are based on the average population density for the 60 cities studied in the *Notice*. Rappaport acknowledges that results will vary from city to city. Rappaport Study at 23-24.

academic setting, the design of NAB's and CEMA's tests would be considered flawed and the results from such tests would be disregarded.<sup>143</sup> Rappaport also states that none of the four tests gives a complete picture of receiver performance because they all used only a limited range of desired input signals.

91. He indicates that while it is difficult to compare the different receiver studies, they demonstrate that car radios are much more robust to interference and are typically designed to meet the FCC 2<sup>nd</sup>- and 3<sup>rd</sup>- adjacent protection ratio (-40 dB D/U ratio). He indicates that other radios do not require this level of protection because, unlike automobile radios, they do not experience severe fading nor do they move rapidly towards an interfering signal.

92. Rappaport also criticizes NAB's mapping study. He states that this study seriously over-counted the number of people potentially affected by LPFM interference by counting affected people multiple times, using the worst possible receiver performance, inventing a "worst radio," and omitting interference from incumbent FM stations.<sup>144</sup> Finally, Rappaport indicates that IBOC proponents' concerns about 2<sup>nd</sup>-adjacent channel operation by LPFM are unwarranted.

93. Decision. We find that the record in this proceeding thus far, including the technical data and other studies submitted, supports a conclusion that any risk of interference from LPFM stations of 100 watts or less is small and, on balance, is outweighed by the benefits of this new service. We conclude that it is not necessary to apply 3<sup>rd</sup>-adjacent channel protection requirements to or from such stations. As discussed below, we believe that 100-watt LPFM stations operating on 3<sup>rd</sup>-adjacent channels will not result in significant new interference to the service of existing FM stations. Nor do we believe such operations are likely to have an adverse effect on digital IBOC signals.<sup>145</sup>

94. In considering the issues relating to potential interference from LPFM operation, we first observe that all of the technical studies before us have certain limitations that make direct comparison of the study results difficult. Most significantly, all of the studies used different measures to determine when interference occurs and the quality of service to be protected. This fact explains somewhat the differences in the conclusions drawn by the various studies.<sup>146</sup> As NAB indicates, the significant differences among the studies were not in the measurements or in the performance of the radio receivers tested, but rather in the criteria used to decide whether the effects of an interfering signal caused harm to

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<sup>143</sup> See Rappaport Study at 41.

<sup>144</sup> See Rappaport Study at 47-54.

<sup>145</sup> For example, in the *Notice* we referenced the view of USADR, an IBOC technology proponent, that "because of the design of the USADR IBOC system, digital reception is essentially not susceptible to 3<sup>rd</sup>-adjacent channel interference...." *Notice* Appendix C at ¶ 53.

<sup>146</sup> For example, CEMA and NAB, in their studies, conclude that 2<sup>nd</sup>- and 3<sup>rd</sup>-adjacent channel protections are needed and should be retained to protect against interference while the OET and NLG studies suggest that these interference protections may not be needed in certain circumstances.

the desired signal.<sup>147</sup> We generally concur with this assessment.

95. Both CEMA and NAB used an audio signal-to-noise criterion to define acceptable FM service.<sup>148</sup> CEMA used a S/N value of 45 dB based on an earlier study by NPR. NAB chose a 50 dB S/N criteria. NAB states that an audio S/N of 50 dB is necessary for interference-free reception.<sup>149</sup> NAB indicates that an estimate of the appropriate S/N can be made from the FCC co-channel desired-to-undesired (D/U) interference ratio of 20 dB. It states that the FCC co-channel protection ratio of 20 dB should produce an audio S/N ratio of approximately 50 dB for monophonic reception.<sup>150</sup>

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<sup>147</sup> See Reply Comments of NAB, Appendix B, Pickholtz/Jackson Review at iii.

<sup>148</sup> In this regard, NAB criticizes the OET study for its use of harmonic distortion measurements rather than the more traditional S/N measurements employed in the NAB and CEMA studies. We believe that this criticism is unwarranted. Both S/N and harmonic distortion measurements can be used to satisfactorily measure interference to FM receivers. Both of these techniques quantify in an accurate and repeatable manner the amount of energy produced by the interfering signal in the receiver's audio output. However, there are advantages and disadvantages to each approach. While it is true, as NAB and their consultants have suggested, that harmonic distortion measurements are relatively less sensitive – that is, they produce a smaller change in measured results for a given change in undesired-to-desired signal ratio – the change in distortion is well within the resolution capability of the measuring equipment. On the other hand, distortion measurements provide an advantage over S/N measurements in that they measure the effect of interference on audio output in the presence of the desired signal's modulation, thus capturing any audio intermodulation effects that might be caused by interaction of the desired and interfering signals. S/N measurements, in contrast, require that the desired signal's modulation be removed to measure the interference component, thus missing any opportunity to capture this effect.

We also note that there are slight differences between the NAB and CEMA S/N measurements. In measuring S/N, the value actually measured is  $(S+N)/N$ . To make this measurement, one first establishes a reference by measuring the total level of the unimpaired desired signal at baseband and any system noise also at baseband, then removing the desired baseband signal and measuring the relative level of the baseband noise in the presence of the impairment. So the ratio actually reported is *unimpaired* S+N to *impaired* N. Because of shifts in the reference level noted when impairments are introduced (shifts in either direction, apparently caused by either receiver desensitization or the contribution of noise, or both), CEMA chose to re-establish the reference level in the presence of the impairment while NAB did not. Thus, CEMA's reported ratio is actually *impaired* S+N to *impaired* N.

NAB also implies that the test methodology used in the OET study is faulty. NAB makes this claim based on its assertion that the OET test results are significantly different from its results and the results of the other studies when those other results are interpolated to NAB's 50 dB S/N criteria. We find NAB's argument in this regard specious and unpersuasive. Interpolating all test results, except one, to a given criteria and then commenting that the one test result not interpolated is different does not call into question OET's test methodology in our opinion but rather NAB's analysis. In this regard, a direct comparison between OET's test results at 3% distortion and measured and interpolated results at 50 dB S/N is not appropriate and provides no basis for calling into question the validity of OET's tests. We note that OET measured the S/N performance of one of the receivers in CEMA's sample and obtained the same results as CEMA.

<sup>149</sup> See Comments of NAB Vol. 1 at 28.

<sup>150</sup> NAB also cites ITU Recommendation 641, which specified an audio S/N of 50 dB assuming that receivers can produce a S/N of 56 dB without interference, in support of its S/N choice of 50 dB. Recommendation 641, "Determination of Radio-Frequency Protection Ratios for Frequency-Modulated Sound Broadcasting," 1986, ITU, Geneva, Switzerland. See Comments of NAB Vol. 2 at 8.

96. We do not find the audio S/N criteria suggested by either CEMA or NAB to be appropriate interference criteria for today's FM radio service. FM radio stations provide stereophonic not monophonic service. While a 20 dB D/U ratio yields a *monophonic* audio S/N of about 50 dB, according to an earlier study by NAB, for *stereophonic* transmissions, the 20 dB protection ratio yields an audio S/N of only about 30 dB.<sup>151</sup> While NAB and CEMA may desire that FM radio service be protected to higher levels of service, based on NAB's earlier study and the results of the technical studies before us herein, we do not believe that the existing interference protection standards, *e.g.*, the 20 dB co-channel interference requirement, generally provides for protection to such levels.

97. We also believe that accounting for both stereo performance and the FCC's current interference protection standards explains why many of the FM receivers tested did not meet the criteria chosen by CEMA and NAB, or did exhibit performance degradation higher than NAB's and CEMA's expectations. For example, the majority of receivers (17 of 28) chosen by NAB did not meet its 50 dB S/N criteria with *no* interference present and with the "strongest" desired signal.<sup>152</sup> Similarly, CEMA reports that none of its sample receivers "came near meeting the target S/N" of 45 dB at the FCC's co-channel standard of 20 dB.<sup>153</sup> NLG, in its study, states that "receiver performance data show that all receivers produce some measurable increase in noise at undesired signal levels below the FCC ratio reference levels." We therefore fail to see how 50 or 45 dB can be an appropriate measure when most radios do not perform at this level, even in the absence of any interference as was the case in NAB's tests. We have no reason to find that the vast majority of current FM receivers do not provide satisfactory service to the public and therefore believe that a lower value or measure of acceptable performance would be more appropriate for interference purposes. We believe that this is especially the case if we are to consider all categories of FM receivers, including lower cost models, such as clock, portable and personal units, as suggested by some of the commenting parties.

98. Another limitation of the studies was the relatively limited sample of FM receivers examined. The relatively small samples examined in each of the studies makes it difficult to draw statistical inferences with regard to the general population of FM receivers. However, the studies do clearly indicate that current FM radios exhibit a wide range of performance with regard to audio reception quality and interference rejection. While a 50 dB, 45 dB, or even 40 dB reception quality level, as suggested by Rappaport, may be expected for certain types of radios, such as automobile radios and home stereos, clearly from the data presented these levels of performance are not the norm for other types of radios, such as portable, personal and clock radios. In addition, all of the studies found that automobile radios and home stereo/component receivers tend to be more effective at rejecting adjacent

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<sup>151</sup> See NAB's Subjective Evaluation of Audio Degraded by Noise and Undesired FM Signals, Lawrence C. Middlekamp, November 17, 1982.

<sup>152</sup> Only 3 of the 28 receivers met the criteria of providing a S/N of 56 dB in the absence of interference. In addition, in its reply comments, NAB argues that the one of the only classes of receivers that come close to meeting its proposed 50 dB standard, *i.e.*, automobile radios, should be excluded and treated separately because they operate in a mobile environment and therefore require higher protection. NAB argues that an additional 30 dB of margin is needed in the protection ratios to account for multipath fading and other considerations of mobile operation. See Reply Comments of NAB at 15-16.

<sup>153</sup> CEMA also indicates that its sample did not meet its target S/N at the FCC's 1<sup>st</sup>-, 2<sup>nd</sup>-, and 3<sup>rd</sup>-adjacent channel protection ratios.

median receiver provides about -40 dB of rejection of 3<sup>rd</sup>-adjacent channel interference and that the

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<sup>154</sup> See Reply Comments of NAB at 8.

<sup>155</sup> The OET study did not, however, include small, inexpensive receivers with integral antennas, such as clock and personal radios. Similarly, the NLG study employed a sample of only 10 radios and, as pointed out by NAB, it is difficult to draw general conclusions for the FM receiver population from such a small sample.

<sup>156</sup> The above conclusions of the OET report that “nearly all the receivers in the sample appear to meet or exceed the 40 dB 2<sup>nd</sup>-adjacent channel criterion and exceed the 3<sup>rd</sup>-adjacent channel protection criterion by a substantial margin” reflect measurements taken at the 1% distortion level. NAB, in its reply comments, asserts that for the OET study, interference was considered to exist when the desired audio from the receiver contained 3% or more distortion than with no interfering signal present. NAB states that it assumes this to be the case because if 1% distortion were the interference point there would be no point in collecting 3% data. NAB’s assumption is incorrect. The 1% and 3% levels were merely two points at which data were collected. The 1% level corresponds to a point at which most listeners would not be able to perceive any degradation in performance. On the other hand, the 3% distortion represents a level at which most listeners would perceive a difference in the received signal. The 3% distortion level was also chosen after informal consultations by FCC staff with the test firm hired by NAB, which stated that it recommended this value as a test point.

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<sup>157</sup> CEMA reported average rather than median performance. Its findings showed an average S/N ratio of 34 dB at the -40 dB D/U level.

<sup>158</sup> NAB's study shows median receiver performance values at different desired signal levels. These median values are as follows:

Desired Signal Level	Median 2 <sup>nd</sup> Adjacent	Median 3 <sup>rd</sup> Adjacent
-45 dBm	-17.0 dB	-26.8 dB
-55 dBm	-23.7 dB	-32.0 dB
-65 dBm	-30.5 dB	-39.7 dB

<sup>159</sup> These interference estimates are calculated in accordance with the FM engineering charts in Section 73.333 of the rules, 47 CFR § 73.333.

included some of the poorer performing radios among the four studies.<sup>160</sup> In addition, as pointed out by Rappaport and others, whether interference in fact occurs to FM listening is dependent on a number of factors, besides the performance of the FM receiver. These include, among other things, the actual reception conditions, such as the location and position of the radio, the frequency and location of both the desired and undesired stations, and the type of program material being transmitted and received. CEMA notes, for example, that when the desired signal is modulated with rock music the interference was masked in its 2<sup>nd</sup>- and 3<sup>rd</sup>-adjacent channel subjective tests.<sup>161</sup>

104. Accordingly, we find that 100-watt LPFM stations operating on 3<sup>rd</sup>-adjacent channels will not result in significant new interference to the service of existing FM stations. Furthermore, we find that any small amount of interference that may occur in individual cases would be outweighed by the benefits of new low power FM service. With regard to 2<sup>nd</sup>-adjacent channel protection requirements, it appears that the risk of interference from LPFM signals on 2<sup>nd</sup>-adjacent channels may be somewhat higher. We find that this would also be true with regard to LPFM stations at power levels higher than 100 watts and antenna heights higher than 30 meters. Therefore, we will retain 2<sup>nd</sup>-adjacent channel protection requirements.

## 5. Other Technical Standards and Provisions

105. Background. In the *Notice*, we sought comment on which Part 73 technical operating requirements for full-service stations should be applied to LPFM stations. In general, most commenters stated that, although some requirements must remain to ensure a quality service, the LP100 and LP10 stations should be held to less stringent requirements than full service stations. While we do not want to overly burden LPFM operators, we nevertheless believe that the technical rules set forth below should apply to the LPFM stations. By doing so, we will not only facilitate technically sound LPFM operations and the use of available equipment, but will permit LPFM stations to engage in services such as those obtained through the multiplexing of FM subcarriers. There are some requirements applicable to full-service stations which we believe can be relaxed or not applied. Accordingly, we will apply certain rules to LP10 stations that apply to existing stations that operate with ten watts transmitter power output (TPO) or less.<sup>162</sup> The following paragraphs set forth the principal technical requirements and provisions for LPFM stations. These technical matters were generally non-controversial to parties who filed comments

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<sup>160</sup> As indicated above, NAB defines interference as a degradation in audio S/N performance of 5 dB. Using this measure, all five personal radios and two of the five portable radios tested by NAB could be considered to provide no service at all beyond the -45 dBm level, since they all exhibited a greater than 5 dB degradation in performance when the desired signal was reduced below -45 dBm even with no interference present. Therefore, it is questionable whether interference estimates for these radios using NAB's methodology are meaningful.

<sup>161</sup> See CEMA study at 6.

<sup>162</sup> In contrast, *effective radiated power (ERP)* refers to the power which is radiated from the antenna. ERP incorporates the transmission line loss – the power loss of the cable used between transmitter and antenna – and the gain of the antenna. Thus, it is possible for the effective radiated power to be greater than the transmitter power output (TPO), by using an antenna with a gain greater than 1.0. For simple systems, the  $ERP = TPO \times (\text{antenna gain}) \times (\text{efficiency of transmission line})$ , where the antenna gain and efficiency are decimal numbers (not in decibels = dB). In most cases, the antenna manufacturer or the transmission line manufacturer should be able to provide this information

in this proceeding. Other technical requirements for LPFM stations are given in the rules appendix.

106. *Power/Height restrictions.* Several commenters expressed the desire to operate facilities at heights in excess of those specified as the maximum/minimum facilities for the class. This would enable stations to use existing structures at sites where the localized elevation is such that the 30 meter HAAT would be exceeded regardless of the height of the structure. One commenter, the Arkansas Broadcasters Association, believes we should impose strict maximum height restrictions on LPFM stations since, due to the nature of the Commission's F(50,10) interference prediction curves, equivalent 1 mV/m (60 dBu) reference contours do not always guarantee proportionally sized interfering contours.<sup>163</sup> Although Arkansas Broadcasters is correct in this regard, we are not persuaded that this is of sufficient magnitude to warrant strict height restrictions on LPFM stations. Rather, we will allow LPFM stations to exceed the class-defined upper height restrictions as long as there is an offsetting decrease in the station's effective radiated power. For this purpose, we will authorize equivalent height and power combinations to produce the 60 dBu contour generated by the maximum and minimum permitted facilities for the LP100 and LP10 stations; *e.g.*, the maximum LP100 facilities of 100 watts and 30 meters produce a 60 dBu contour at a distance of 5.6 km.<sup>164</sup>

107. We recognize that computing a station's HAAT requires access to terrain database and numerous calculations.<sup>165</sup> Therefore, in order to streamline the application process, the staff will utilize a computer program to calculate the antenna HAAT based upon information provided by the LPFM applicant (the coordinates of the proposed antenna, the site elevation above mean sea level, and the antenna height above ground level (AGL)). If the calculated HAAT is less than or equal to 30 meters, the LPFM station will be authorized to operate with any ERP within the maximum and minimum limits for its class.<sup>166</sup> If the HAAT is calculated to exceed 30 meters, the permit will specify maximum and minimum ERP values that would produce the reference 60 dBu contours.<sup>167</sup>

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<sup>163</sup> See Comments of ABA at 14.

<sup>164</sup> As a practical matter, this allowance will limit LP100 stations to 450 meters HAAT and LP10 stations to 100 meters HAAT. These HAAT values would produce equivalent maximum class contours for stations operating with 1 watt ERP, the lowest value we will authorize.

<sup>165</sup> Antenna height above average terrain (commonly abbreviated HAAT) does not refer to the height of the antenna above ground level. The antenna height above average terrain is a measure of the height of the antenna relative to a generated average terrain level. The average terrain level is computed by considering the terrain along 8 or more evenly spaced radials centered at the antenna site. For each of these radials, the ground elevations at 50 or more evenly spaced points are determined and averaged. Then, the radial terrain averages are averaged together to determine the height of the average terrain above mean sea level (AMSL). The antenna height above average terrain (HAAT) is the difference between the height of the antenna (AMSL) minus the average height of the terrain AMSL.

<sup>166</sup> The Commission's prediction of coverage methodology does not account for HAAT's below 30 meters. In such cases, 30 meters is assumed when contour distances are determined.

<sup>167</sup> We will specify ERP to the nearest watt. This differs slightly from the full service FM rounding procedures. See 47 C.F.R. § 73.212.

108. *Directional antennas.* Under our current rules, full service FM stations may specify directional antennas to avoid interference to other stations. Such facilities are subject to several strict installation and pattern requirements.<sup>168</sup> Processing these applications is staff intensive. Construction permits for directional facilities generally contain numerous conditions. Since we are relying on a minimum distance separation methodology – rather than a contour-based approach -- to provide interference protection, we see no need for stations to employ directional antennas. Accordingly, to simplify applicant requirements and facilitate application processing and ensure that service can be implemented as expeditiously as possible, we will not authorize directional antennas for LPFM stations.

109. *Transmission standards.* The *Notice* asked whether different transmission standards should be employed for an LPFM service; for example, whether the bandwidth could be reduced from 200 kHz to some smaller value as a means of reducing the potential interference from LPFM stations. To ensure technically sound station operations, we have decided to apply to LPFM several transmission standards presently in use for commercial and noncommercial educational FM stations. In most cases, these standards will be met through the use of type certified equipment without need for further adjustment by the LPFM licensee. LPFM stations will be required to adhere to the 200 kHz channel bandwidth applicable to full service stations, as well as the out-of-channel signal attenuation requirements in 47 CFR § 73.317, the center frequency drift limits in 47 CFR § 73.1545(b), and the limits on modulation in 47 CFR § 73.1570(a) and (b). In addition, LPFM stations may, at their option, engage in monophonic or stereophonic broadcasting. LPFM stations may also transmit additional information via inaudible subcarriers during those periods when the audible FM signal is on the air.

110. *Antenna polarization:* We will permit LP10 and LP100 stations throughout the FM band to use horizontally polarized, vertically polarized, or circularly or elliptically polarized antennas, as desired by the applicant. We note that vertical-only polarized antennas have been used in the noncommercial educational FM service to protect reception of TV Channel 6 for nearly 15 years now, without adverse impact. This will afford LPFM stations a wider selection of antennas for use at LPFM stations.<sup>169</sup>

111. *Protection of AM radio radiation patterns:* LPFM applicants should also be aware that antenna structure construction within 3.2 km (2 miles) of a directional AM station or 0.8 km (0.5 miles) of a nondirectional AM station will subject the LPFM station to the requirements of 47 CFR §73.1692. This section requires the affected AM station to make before and after measurements of its installation to insure that the new antenna structure does not adversely affect the signal pattern through reflections of the AM signal produced by the new structure. The LPFM applicant is financially responsible for conducting the measurements and any corrective measures that may need to be undertaken. The measurements can be quite expensive to conduct, and correction even more so. Therefore, we encourage LPFM applicants to locate the antenna more than 3.2 km from any directional AM station, or more than 0.8 km from any AM nondirectional station.<sup>170</sup>

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<sup>168</sup> See 47 C.F.R. § 73.316.

<sup>169</sup> Manufacturers of suitable antennas can provide assistance in determining the antenna gain of a particular antenna, and also the input power needed to emit a specified effective radiated power.

<sup>170</sup> LPFM applicants may use the AM Query on the Internet to determine whether an AM station lies within 3.2 (continued....)

112. *Tower Height/FAA Coordination Requirements.* Any proposal before the Commission that specifies an antenna supporting structure in excess of 61 meters above ground level is subject to the Commission's requirements for antenna structure registration requirements. Certain lower structures located close to air facilities are also subject to these requirements.<sup>171</sup> All structures subject to registration requirements must obtain an FAA Determination of No Air Hazard for the structure before the tower may be registered. In a letter dated June 1, 1999, the FAA expressed some concern regarding the impact LP1000 stations may have upon nearby air facilities. No specific questions were raised regarding the lower powered facilities. Since we are not authorizing an LP1000 service at this time, we will continue determining compliance with our tower registration requirements in the manner set forth above.

113. *Blanketing Interference.* For one year after the commencement of transmissions with new or modified facilities, all FM stations are required to take remedial action to resolve blanketing interference complaints occurring within the immediate vicinity of the antenna site.<sup>172</sup> A station's specific blanketing interference radius is defined by our rules.<sup>173</sup> The blanketing contour for an LP100 station would extend approximately 125 meters from the transmitter site and a 10-watt LP10 blanketing contour would extend 39 meters. Thus, the blanketing area of either type of station is very small. We conclude that LPFM stations should be required to resolve blanketing interference complaints in the same manner applicable to full power stations. Although the potential for blanketing interference from LPFM stations may be quite limited, affected parties are entitled to relief from such interference caused by a new source of radiation, whether it is a full-power commercial station or a new low power community broadcaster. Accordingly, we will apply the requirements in § 73.318 to all LPFM stations.<sup>174</sup>

114. *Potential Television Channel 6 Interference.* Presently, noncommercial educational FM

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km of a particular set of coordinates. The query may be accessed at <http://www.fcc.gov/mmb/asd/amq.html#sprung5>

<sup>171</sup> For towers less than 61 meters in height, FAA approval is not required if the structure is more than eight kilometers from the nearest air facility. If the structure is within eight kilometers of an air facility, FAA notification is not required if the height of the structure, when considered along with the distance to the air facility and elevation of the antenna site, satisfies a "slope" calculation. (These criteria are independent of the ERP of the facility.)

<sup>172</sup> High strength RF signals, which emanate from the antenna before they are dissipated over space, are capable of covering, or blanketing, the reception of all other FM stations and possibly TV stations and other electronic communications, regardless of frequency, by simply overpowering the receiver's tuner. Thus, the name

<sup>173</sup> See 47 C.F.R. § 73.318.

<sup>174</sup> To a degree, Section 73.318 lacks detail regarding the exact requirements of licensees. However, over the years a clear interpretation of the rule has been developed by the Mass Media Bureau. The Commission proposed to codify this policy further in MM Docket 96-62, which is currently pending. See *In the Matter of Amendment of Part 73 of the Commission's Rules to More Effectively Resolve Broadcast Blanketing Interference, Including Interference to Consumer Electronics and Other Communications Devices*, 11 FCC Rcd 4750 (1996). We will apply the rule in accordance with the established precedents.

applicants are required to consider the impact of their operations on reception of television Channel 6, which operates on a frequency band (82 to 88 MHz) just below the FM band (88 to 108 MHz) in accordance with the provisions of 47 CFR § 73.525. Determining the affected interference area pursuant to this section usually requires complex calculations and detailed contour studies. Given the very limited potential for interference caused by LPFM stations, in order to simplify processing and lessen the filing burden on applicants, we will utilize a spacing table to protect TV Channel 6 stations. The values given in the table utilize the protection ratios of § 73.525 and worst case facilities for the TV Channel 6 and the LP10 and LP100 stations.<sup>175</sup> On this basis, we do not anticipate that interference will occur. However, we will require LPFM applicants to correct any complaints of interference caused to Channel 6 reception in accordance with our blanketing interference requirements (as are Channel 6 complaints regarding full service stations). In most cases, this will require the installation of simple filters on affected television sets. LPFM applicants will not be required to coordinate their proposals with any potentially affected Channel 6 television station.

115. *Radio Reading Services.* Several radio reading services have expressed concerns about interference from LPFM stations to their service to persons who are blind or who have low vision.<sup>176</sup> Programming provided by radio reading services is transmitted on subcarrier frequencies of a broadcast station, which are not audible on a standard radio. As the subcarrier frequencies are transmitted within the 200 kHz bandwidth of the broadcast station, they receive the same protection from interference as does the main broadcast programming. Thus, insofar as the transmitted subcarrier signal is concerned, there will be no increase in interference. With respect to subcarrier receivers used by the radio reading service audience, the Commission does not set technical standards for radio receivers. Thus, we cannot consider whether additional interference might affect SCA reception in the vicinity of an LPFM station, or whether different receiver construction could reduce possible interference. However, we note that the 20 km buffer between LPFM stations and co-channel or 1<sup>st</sup>-adjacent channel full service FM stations adopted in this *Order* should afford additional protection to subcarrier reception than was proposed in the *Notice*.<sup>177</sup>

116. *Transmitter Certification.* In the *Notice*, we tentatively concluded LPFM stations should utilize only transmitters deemed “type certified” by the Commission’s Office of Engineering and Technology (OET) to ensure the integrity of the FM radio spectrum. Type certification would prevent the use of transmitters with excessive bandwidth or modulation, spurious emissions, excessive power output, or insufficient frequency stability, which could cause interference to other existing stations. A large majority of commenters concurred with this conclusion. A few licensed amateur radio operators felt that they should be exempt from this requirement, asserting that many amateurs were capable of creating suitable equipment.<sup>178</sup> However, we remain concerned about the significant potential for interference caused by non-type certified transmitters, particularly given the interference-protection

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<sup>175</sup> This methodology is similar to that used in the FM translator rules. See 47 C.F.R. § 74.1205. The FM translator table was used in Appendix D of the *Notice*, “Spectrum Availability Analysis.”

<sup>176</sup> See, e.g., Comments of National Association of Radio Reading Services at 1.

<sup>177</sup> See ¶ 65, adding 20 km buffer.

<sup>178</sup> See, e.g., Comments of John Benjamin and Charles Coplein at 6; Comments of Spencer Graddy Clark at 6.

standards we are adopting. Nor do we believe that type certification of equipment by the manufacturer will add appreciably to the cost of equipment for a low power broadcast radio station. Accordingly, we will adopt the certification requirement as proposed in the *Notice*.<sup>179</sup> We emphasize that the use of non-type certified transmitters will not be tolerated. Use of non-type certified transmitters will subject the licensee to enforcement action including, but not limited to, fines.

117. *Unattended Operation.* We anticipate that many LPFM stations will be run as “attended operations,” since the transmitter sites will be located at the source of program origination. However, LPFM stations may also be operated in “unattended” mode. During these times, there may be no personnel at the studio or transmitter site to monitor operation. LPFM stations that will operate unattended will be required to advise the Commission by simple letter of the unattended operation, and provide an address and telephone number where a responsible party can be reached during such times. The responsible party must be able at all times to turn off the transmitter within 3 hours of receiving notice from the FCC that the equipment is not functioning properly. In addition, we encourage the use of monitoring equipment that can automatically shut off the transmitter within 3 hours if a fault (such as operation at excessive power operation or center frequency drift) occurs.<sup>180</sup> Finally, during periods when the LPFM station is not transmitting programming on its regular channel, the transmitter must be turned off.

118. *Station Logs.* Station logs provide a mechanism for verifying proper operation of a station, as they require the licensee to examine the operation before making a log entry. Logging requirements for LPFM stations will be minimal. The station log for LPFM will contain only the following entries:

- 1) Daily observation of proper function of tower obstruction lighting (if required by Section 17.47 of the Commission’s Rules);
- 2) Dates and a brief explanation regarding station outages due to equipment malfunctioning, servicing or replacement;
- 3) Any operation not in accordance with the station license;
- 4) Receipt of weekly EAS (Emergency Alert System) test;
- 5) Name of person making the entry.

119. These minimal requirements will not impose any significant burden on LPFM licensees. Except for any required daily tower lighting checks, entries need only be made when necessary. Logs must be retained for two years from the date of the last entry, and station logs must be made available to FCC personnel upon request.

120. *Environmental Requirements.* As with any applicant for a Commission license, an LPFM proponent will have to certify compliance with the environmental requirements of Section 1.1307

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<sup>179</sup> See 47 C.F.R. § 2.907.

<sup>180</sup> For additional information about unattended operation, please refer to the information sheet *Unattended Operation of Radio and Television Broadcast Stations*, which may be retrieved on the Internet through the address <http://www.fcc.gov/mmb/asd/decdoc/engrser.html#UNATTEND>.

of our rules. In order to facilitate the preparation and processing of LPFM applications, we will simplify the environmental compliance worksheets included in the current FCC Form 301 to account for the low operating power of LPFM stations.

121. *Radio Astronomy Installation Notifications.* Low power FM broadcast stations will be required to coordinate with and provide protection to the radio quiet zones at Green, West Virginia and at Boulder, Colorado, as is required for full service FM stations by Section 73.1030. In addition, low power FM applicants in Puerto Rico will need to coordinate with Cornell University regarding the radio coordination zone on that island. This requirement is necessary to ensure that research work at these installations will not be disrupted. Because of the low power and antenna height of LPFM stations, we anticipate that this requirement will affect very few applicants.<sup>181</sup>

## F. Application Processing

### 1. Electronic Filing

122. Background. The Commission recently mandated the electronic filing of broadcast applications after a transition period of six months from the date that each form becomes available for filing electronically.<sup>182</sup> Likewise, we proposed in the *Notice* to require that LPFM applications be filed electronically.<sup>183</sup> We stated that mandatory electronic filing could speed the introduction of LPFM service by enabling the staff to process more quickly and efficiently the large number of LPFM applications that we expect to receive. In addition, we indicated that electronic filing software could be designed to assist applicants with technical issues related to their applications, such as determining what frequencies are available based on current information in the Commission's database. We requested comment as to whether Internet access is sufficiently universal to warrant mandatory electronic filing of LPFM applications.

123. Comments. Commenters that addressed the matter generally support the use of electronic filing, but are divided as to whether it should be mandatory. Metro Detroit Broadcasting Corporation (Metro) opposes mandatory electronic filing on the ground that it would disadvantage minority groups due to a “significant race-gap” in Internet access.<sup>184</sup> In addition, Metro argues that permissive electronic filing would provide time for interested parties to develop proficiency in using an

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<sup>181</sup> In addition, as also detailed in § 73.1030, the Mass Media Bureau staff will coordinate action with the Enforcement Bureau if an application is predicted to place a signal strength of 80 dBu or more over an FCC monitoring station. As with current practice, there is no pre-filing notification requirement.

<sup>182</sup> 1998 Biennial Regulatory Review—Streamlining of Mass Media Applications, Rules and Processes, Report and Order in MM Docket No. 98-43, 13 FCC Rcd 23056 (1998) (“*Streamlining R&O*”).

<sup>183</sup> *Notice*, 14 FCC Rcd at 2504-06.

<sup>184</sup> Comments of Metro at 12-13. Metro also express concern that mandatory electronic filing would create barriers for small businesses. Comments of Metro at 12. The eligibility criteria we are adopting for LPFM applicants, however, will exclude for-profit businesses. See ¶ 17-20.

electronic system.<sup>185</sup> Andrew Morris argues that electronic filing should be required due to the threat of a backlog of paper-filed LPFM applications that would have to be entered manually into the Commission's database. However, several commenters express concern that electronic filing is untried and may delay the introduction of LPFM service. The Oklahoma and Texas Departments of Transportation comment that, based on their experiences renewing licenses and correcting addresses using the Commission's Web site, an electronic filing system is likely to be reasonably accessible and easy to use.<sup>186</sup> Several commenters urge that, regardless of whether electronic filing is required, LPFM filing procedures should be as simple and inexpensive as possible.<sup>187</sup>

124. Decision. We anticipate that electronic forms will be made available via the Commission's World Wide Web site prior to the opening of the first LPFM filing window. Based on our consideration of the record, however, we will not adopt a mandatory electronic filing system for LPFM application forms at this time. Rather, assuming availability of the forms, we will make electronic filing permissive for the first LPFM filing window, which we intend to open for LP100 stations shortly after the effective date of this *Order*. Whether electronic filing is permissive for the second window that we anticipate opening for LP10 stations, as well as for any subsequent LPFM filing windows, will be resolved at a later date and will depend on several factors, including our experience with both electronic and paper filing during the first LPFM window and the time that elapses between the first and second windows.

125. We recognize that, as some commenters point out, there may be disparities among potential LPFM applicants in terms of Internet access and/or computer skills. We believe that making electronic filing permissive at this time will accommodate applicants that might be disadvantaged by mandatory electronic filing. We previously have discussed the significant advantages of a mandatory electronic filing system in terms of realizing savings and efficiencies. We do not believe that electronic filing would necessarily constitute an undue burden or expense for potential LPFM applicants, as the costs of computer and modem equipment continue to fall, and Internet access increasingly is becoming available at minimal cost commercially and at public institutions such as libraries. In addition, the Commission has made, and will continue to make, great efforts to create a simple, user-friendly electronic filing system.<sup>188</sup> However, at present we are determined to be cautious with the first applications for a new service filed by applicants whose resources and familiarity with Commission processes may be very limited. We will reassess our electronic filing decision after our experience during the first filing window. We can better determine at that time whether the first filing window has provided a reasonable opportunity for interested parties to understand and arrange for Internet access and familiarize themselves with our Web site and electronic filing system. We can then determine whether

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<sup>185</sup> Comments of Metro at 13.

<sup>186</sup> Comments of the Oklahoma and Texas Departments of Transportation at 6.

<sup>187</sup> See Comments of Stephen Toner at 1; Comments of Dane Udenberg at 1.

<sup>188</sup> In order to simplify their use and speed their processing, the Commission has streamlined broadcast applications in adapting them to an electronic format. Open-ended questions requiring detailed exhibits have been replaced with simple yes/no questions as to compliance with Commission rules, supplemented by instructions and worksheets to explain the pertinent rules and help ensure that applicants answer the questions correctly. See *Streamlining Report and Order*, 13 FCC Rcd at 23067-68.

the public interest benefits of mandatory electronic filing will outweigh any difficulties encountered or inequities expected, and decide whether electronic filing will remain voluntary or be mandated for use by all.

126. Although electronic filing will be permissive, we strongly encourage applicants to take advantage of electronic filing, and expect that many will do so. The forms will be accessible to anyone with a computer and a modem, without the need to purchase any special computer software.<sup>189</sup> The Commission's software will make filing more certain for applicants by automatically notifying them of critical errors or omissions in their applications, and allowing them to correct the applications prior to submission. This software also will provide applicants with immediate verification that their applications have been received by the Commission. In addition, it will allow applicants to submit amendments, make corrections to their previously-filed applications, and submit narrative, explanatory exhibits. Furthermore, we intend to design additional software that will be available on the Commission's Web site to assist interested parties in making a preliminary determination as to which frequencies are available for LPFM use, based on current information in the Commission's database. Thus, LPFM applicants using the electronic filing system also will have access to a form of automated technical assistance in preparing their applications.

## 2. Window Filing Process

127. Background. We proposed in the *Notice* to adopt a window filing approach for LPFM applications, with short filing windows of a few days each to "lessen the occurrence of mutually exclusive applications and speed service to the public."<sup>190</sup> The Commission recently substituted a uniform window filing procedure for the various application procedures for new commercial broadcast stations, and for major changes to existing stations.<sup>191</sup> Under this procedure, the Commission announces by public notice a "window" or specific time period during which applications may be filed. When the window closes, the staff reviews the applications filed to determine whether any request mutually exclusive authorizations and, therefore, are subject to competitive bidding. Non-mutually exclusive applications are processed in accordance with our general procedures. Groups of mutually exclusive applications are identified by public notice and proceed to auction. The Commission also is considering substituting a window procedure for the two-step, cut-off list procedures now in place for full-service NCE broadcast applications.<sup>192</sup>

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<sup>189</sup> With regard to operation and security issues, the electronic filing system for LPFM applications will function in a similar manner as the Commission's system for other broadcast applications. *See Streamlining R&O*, 13 FCC Rcd at 23062-65.

<sup>190</sup> *Notice*, 14 FCC Rcd at 2506-07.

<sup>191</sup> *See Implementation of Section 309(j) of the Communications Act—Competitive Bidding for Commercial Broadcast and Instructional Television Fixed Services, First Report and Order*, MM Docket No. 97-234, 13 FCC Rcd 15920, 15972-74 (1998).

<sup>192</sup> *Reexamination of the Comparative Standards for Noncommercial Educational Applicants, Further Notice of Proposed Rulemaking in MM Docket No. 95-31*, 13 FCC Rcd 21167, 21175 (1998).

128. In the *Notice*, we also asked for comment as to whether a first come-first served process might serve the public interest better than a window process by more effectively avoiding mutual exclusivity among LPFM applications.<sup>193</sup> We speculated that electronic filing “might give us the capacity to ascertain the precise sequence in which applications are submitted by different parties.”<sup>194</sup> Thus, applications conflicting with ones filed “even a moment earlier”<sup>195</sup> might be rejected as unacceptable for filing, avoiding mutual exclusivity in many cases. We noted a number of drawbacks to this approach, however, including the possibility that applicants might lose filing rights based solely on the quality of their Internet connections.

129. Comments. Many commenters support a window filing approach, and offer various suggestions as to the appropriate duration of filing windows.<sup>196</sup> Joshua Weiss comments that, in order to even the playing field for potential LPFM applicants, the Commission should list available frequencies and locations well in advance of opening a window. Warren Michelsen states that a Commission database capable of helping applicants determine frequency availability in the areas in which they are interested would help avoid the occurrence of mutual exclusivity.<sup>197</sup> Some commenters instead favor a first come-first served filing system, generally contending that it would be a better means of avoiding mutual exclusivity than a window approach.<sup>198</sup> However, Ronnie Miller argues that a first-come first-served system would give an unfair advantage to applicants with superior financial and technical resources.<sup>199</sup> Several commenters suggest hybrid approaches combining elements of window and first

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<sup>193</sup> Under first-come first-served procedures, applications may be filed at any time, and the filing of an acceptable application precludes the subsequent filing of mutually exclusive applications, unless filed on the same day. Mutual exclusivity arises when competing applications are filed on the same day. These procedures now are used only for minor changes for commercial and NCE broadcast stations. See 1998 Biennial Regulatory Review—Streamlining of Radio Technical Rules in Parts 73 and 74 of the Commission’s Rules, *First Report and Order* in MM Docket No. 98-93, 14 FCC Rcd 5272, 5273-77 (1999).

<sup>194</sup> *Notice*, 14 FCC Rcd at 2506.

<sup>195</sup> *Id.*

<sup>196</sup> See, e.g., Comments of Michael Robert Birdsill at 5; Comments of Ronnie Miller at 18-19; Comments of Andrew Morris at 15; Reply Comments of Kenneth W. Bowles at 19 (supporting short filing windows of only a few days or less); Comments of Creative Educational Media Corp. at 11; Comments of Positive Alternative Radio at 15; Comments of Community Media at 9; Comments of Oklahoma and Texas Departments of Transportation at 6; Comments of UCC, et al. at 35 (supporting windows of several months, open each year at the same time).

<sup>197</sup> Joseph Belisle and Stephen Toner suggest that LPFM applicants be limited to one application per window to reduce the likelihood of mutual exclusivity and to prevent speculative or abusive filings. Comments of Joseph Belisle at 1; Comments of Stephen Toner at 1. We need not consider this suggestion in light of the eligibility requirements we are adopting for LPFM applicants. In addition, for the reasons discussed below, we reject the suggestions of several commenters that the first filing window be reserved for institutions that serve women and minorities, or for applicants with a demonstrated commitment to their communities. See ¶ 137.

<sup>198</sup> See, e.g., Comments of Joseph Belisle at 1; Comments of John Bowker at 18; Comments of Kirk Chestnut at 1; Comments of David McOwen at 3-4; Comments of Forrest Parsons at 2.

<sup>199</sup> Comments of Ronnie V. Miller at 18-19.

come-first served systems.<sup>200</sup>

130. Decision. Based on our consideration of the record, we will adopt a window filing process for LPFM applications. We previously stated that a window process “provides the staff with a mechanism to control effectively the filing and processing of broadcast applications.”<sup>201</sup> We believe that such a mechanism is important here because of the large number of LPFM applications that we expect to receive. In addition, the first-come first-served approach envisioned in the *Notice*, which would determine filing priority based on the exact time that applications are filed, is feasible only if electronic filing is required, which will not be the case, at least initially.<sup>202</sup> Moreover, we are concerned that such an approach, by placing a premium on filing at the earliest possible moment, might unfairly disadvantage certain applicants based solely on the quality of their Internet connections.<sup>203</sup> The filing of hundreds or thousands of applications at once also might place unbearable strains on the LPFM electronic filing system. A window filing process avoids these pitfalls, as applicants will be able to file at any time over a period of several days without losing filing rights.

131. Once this *Order* becomes effective,<sup>204</sup> the Mass Media Bureau, pursuant to delegated authority, will promptly release a public notice announcing a national filing window for LP100 applications.<sup>205</sup> We anticipate that this window will open in May.<sup>206</sup> The notice will be issued at least thirty days in advance of the opening of the filing window. Full power broadcast applications filed on or after the date of release of a public notice announcing the opening of an LPFM window will not preclude the filing of conflicting LPFM applications filed during that window. However, where the conflict ultimately is determined to relate to service inside the city grade contours of the full power station, the LPFM application will be dismissed.<sup>207</sup> The window itself will be open for a period of five business days. We believe that five days, combined with thirty days’ specific advance notice and the additional

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<sup>200</sup> See, e.g., Comments of Scott Drew at 2; Comments of Community Broadcasters at 18.

<sup>201</sup> *Auctions I<sup>st</sup> R&O*, 13 FCC Rcd at 15973 .

<sup>202</sup> Without mandatory electronic filing, the staff would have no way of determining the filing priority of applications that were electronically-filed and paper-filed on the same day.

<sup>203</sup> Cf. Review of the Commission’s Regulations Governing Television Broadcasting, Order on Reconsideration, MM Docket No. 91-221, FCC 99-343 (released November 10, 1999) (rejecting first come-first served processing of applications filed pursuant to modified rules adopted in the local broadcast ownership proceeding because, among other things, “a ‘first come, first served’ system could initiate a ‘race’ to Mellon Bank to file applications, and result in filers camping out to be first in line at the filing counter.”).

<sup>204</sup> This Order will become effective 60 days after publication in the Federal Register.

<sup>205</sup> For the reasons discussed above, the first filing window will be open solely to applicants for 100-watt LPFM stations. See ¶ 11-14. We anticipate opening a second filing window for 10-watt LPFM stations in the future, after the close of the first window. See *id.*

<sup>206</sup> Information about application procedures, and in particular the timing of the application window, will be available on the Commission’s LPFM website: [www.fcc.gov/mmb/prd/lpfm](http://www.fcc.gov/mmb/prd/lpfm).

<sup>207</sup> See discussion of the city-grade contour, at ¶ 67.

time between the release of this *Order* and the public notice announcing the window, should give interested parties sufficient time to prepare and file their LPFM applications, while minimizing the number of mutually exclusive LPFM applications. We emphasize that applications filed before or after the dates specified in the public notice will not be accepted.

132. In accordance with our window filing procedure for commercial broadcast applications, after the LPFM window closes, the staff initially will screen applications for the purpose of identifying those that are mutually exclusive and those that fail to protect existing broadcast stations in accordance with the standards adopted herein. Applications that fail to properly protect these existing stations will be dismissed without the applicant being afforded an opportunity to amend. This will increase the speed and efficiency with which LPFM applications can be processed by the staff. Technically acceptable non-mutually exclusive applications will be further reviewed for acceptability and processed by the staff in accordance with the Commission's general procedures. Groups of mutually exclusive applications will be identified in a subsequent public notice, and will be subject to the selection procedures set forth below.<sup>208</sup> After an application is tentatively selected from a mutually exclusive group, it will be reviewed for acceptability, and a public notice will be released announcing the finding that the application has been tentatively selected and is acceptable for filing.<sup>209</sup> Petitions to deny the application will be due within 30 days of the release of the public notice of its acceptability for filing.<sup>210</sup> Petitions and informal objections will not be considered unless and until the application has been tentatively selected for processing and found acceptable for filing.

133. As stated above, we are developing software to assist interested parties in determining whether specific frequencies may be available at specific locations for LPFM use. This software will not be able to determine conclusively whether a particular frequency will be available for an applicant, as frequency availability also will depend, among other things, on whether competing applications are filed during the LPFM filing window. Nevertheless, we anticipate that the software will help interested parties focus on potentially-available facilities, and will provide technical assistance for interested parties with limited financial resources. We anticipate that this software will be ready for use by the time we announce the first filing window for LPFM applications. The Mass Media Bureau will issue a public notice with information regarding how to access the software and the technical assistance it can provide. Such information also will be posted on the Commission's Web site.

### 3. Selection Among Mutually Exclusive Applications

134. Background. In the *Notice*, we requested comment as to whether the proposed LPFM

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<sup>208</sup> See ¶¶ 136-152.

<sup>209</sup> A tentative selectee whose application is found unacceptable for filing will be given a single opportunity to submit a curative amendment, provided that the amendment is minor and the amended application has the same number of points as originally claimed, or more than the points claimed by the next highest applicant. Tentative selectees whose applications remain unacceptable for filing after this opportunity will be removed from their mutually exclusive groups, and will not be provided with an additional opportunity to amend.

<sup>210</sup> See 47 C.F.R. § 73.3584.

service should be restricted to NCE applicants or open to both commercial and NCE applicants.<sup>211</sup> We tentatively concluded that, pursuant to statutory requirements, mutually exclusive applications for commercial LPFM facilities would be subject to auction.<sup>212</sup> We asked for comment on alternative methods for resolving mutual exclusivity among NCE LPFM applicants. We specifically referred commenters to our proceeding reexamining full-service NCE comparative standards, where we sought comment on three possible methods for selecting among mutually exclusive applicants: (1) comparative hearings; (2) a lottery process weighted in favor of certain applicants based on statutory requirements and other factors; and (3) a system assigning points to applicants based on various selection criteria.<sup>213</sup>

135. Comments. Most commenters that address the matter oppose the use of competitive bidding, arguing that it would undermine the Commission's stated goals in establishing the LPFM service.<sup>214</sup> Few commenters support the use of comparative hearings to resolve mutually exclusive NCE applications. There was support among commenters for the use of a lottery process, although most of these commenters argued the merits of lotteries over auctions, rather than over an alternative selection method.<sup>215</sup> A number of commenters also favored the use of a point system. In addition, several commenters suggest that we impose arbitration to resolve mutual exclusivity,<sup>216</sup> and one advocates the use of "conflict reduction methods" such as allowing "liberal channel and coverage changes."<sup>217</sup> Commenters also propose various selection factors for use within a comparative selection process.

136. Decision. Based on our consideration of the record, we shall adopt a point system for resolving mutual exclusivity among LPFM applicants. The point system will include three selection criteria: (1) established community presence; (2) proposed operating hours; and (3) local program origination. The system will employ voluntary time-sharing as a tie-breaker, that is, tied applicants will have an opportunity to aggregate points by submitting time-share proposals.<sup>218</sup> As a last resort, where a

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<sup>211</sup> *Notice*, 14 FCC Rcd at 2483, 2485.

<sup>212</sup> *Id.* at 2507-08, *citing* Balanced Budget Act of 1997, § 3002(a)(1), *codified as* 47 U.S.C. § 309(j); *see Auctions I<sup>st</sup> R&O*, 13 FCC Rcd at 15924-25 (concluding that auctions are mandatory for all primary and secondary commercial broadcast services).

<sup>213</sup> *See NCE Further Notice*, 13 FCC Rcd at 21170-81.

<sup>214</sup> *See, e.g.*, Comments of Mid-America Broadcasting Company at 4; Comments of Morris Broadcasting Company at 11-12; Comments of Mark Pfohl at 1; Comments of Positive Alternative Radio at 9; Comments of Keith Reising at 1; Comments of Douglas E. Smith at 2; Comments of Voice of Vashon at 2; Comments of Robert T. Wertime at 1; Comments of Zillah School District at 5. Likewise, many of the comments filed in response to the two petitions for rule making requesting the creation of low power radio services opposed the use of auctions. *See Notice*, 14 FCC Rcd at 2507.

<sup>215</sup> *See, e.g.*, Comments of Mid-America Broadcasting Company at 4; Comments of Morris Broadcasting Company at 10-11; Comments of Keith Reising at 1; Comments of Zillah School District at 5.

<sup>216</sup> *See, e.g.*, Comments of Alliance for Community Media at 9; Comments of Robert T. Wertime at 1.

<sup>217</sup> *See* Comments of CDC at 13.

<sup>218</sup> Applicants also will be able to propose time-sharing as part of a settlement agreement among all mutually (continued....)

tie is not resolved through time-sharing or settlement, we shall award successive equal license terms totaling eight years (the normal license term), without renewal expectancy for any of the licensees.

137. We conclude that the point system we are adopting is superior to alternative selection methods. As discussed above, the LPFM service will be reserved for noncommercial, educational service, and we are precluded by statute from using auctions to award station licenses on channels reserved for NCE use.<sup>219</sup> Accordingly, we need not discuss an auction-based selection mechanism. In our proceeding reexamining full-service NCE comparative standards, we tentatively rejected comparative hearings because they tend to be lengthy, cumbersome, and resource-intensive, without substantial offsetting benefits.<sup>220</sup> These disadvantages make comparative hearings particularly ill-suited for selecting LPFM applicants. Like comparative hearings, mandatory arbitration and engineering solutions could impose significant delays on the LPFM authorization process and impose additional expenses on applicants. Moreover, although we will encourage individual settlements as a means of resolving mutual exclusivity among LPFM applicants,<sup>221</sup> the Commission lacks the resources to administer a system that would require arbitration or the imposition of engineering solutions in every instance of mutual exclusivity. Finally, we conclude that a lottery system is comparatively inferior to a point system as an LPFM selection method. The primary benefits of a lottery system are the speed and ease with which it may be applied.<sup>222</sup> As discussed below, however, a point system offers like benefits. Moreover, there are unresolved legal and policy issues surrounding the use of a lottery system that pose a risk of delaying the introduction of LPFM service to the public.<sup>223</sup> A point system does not entail similar risks. A lottery process is also inherently inferior to a point system in its ability to further the Commission's policy goals due its random nature. This randomness may be mitigated, but not eliminated, by weighting in favor of certain types of applicants. For these reasons, in the case of LPFM service, we reject all of these approaches in favor of a point system.<sup>224</sup>

138. *Point System.* We believe that a point system is the best-suited selection methodology for promoting the Commission's policy goals for the LPFM service and speeding its introduction to the public. The Commission has used a point system procedure with success in the Instructional Television

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exclusive applicants, at any time after the release of a public notice identifying their mutual exclusive group. See ¶ 147.

<sup>219</sup> See *Auctions I<sup>st</sup> R&O*, 13 FCC Rcd at 15928-31.

<sup>220</sup> *NCE Further Notice*, 13 FCC Rcd at 21171.

<sup>221</sup> We clarify that we permit LPFM applicants to propose settlements to resolve mutually exclusive applications because the use of settlements serves the public interest in instances such as this where auctions are not permissible. In light of the fact that we are not auctioning this service, we believe settlements provide an appropriate method to resolve issues of unresolved mutual exclusivity and avoid the risk of protracted hearings. See ¶ 150.

<sup>222</sup> See *NCE Further Notice*, 13 FCC Rcd at 21171-72.

<sup>223</sup> See *Adarand Constructors v. Pena*, 515 U.S. 200 (1995).

<sup>224</sup> Our decision here is not intended to prejudge the issues raised in our proceeding reexamining the comparative standards for full-service NCE stations. See *NCE Further Notice*, 13 FCC Rcd at 21171-76.

Fixed Service (ITFS).<sup>225</sup> Like lotteries, point systems have the potential to be fast, inexpensive, and administratively efficient. Unlike lotteries, however, point systems make possible the selection of applicants based on objective criteria designed to best advance the public interest in the particular service at issue. Finally, the fact that LPFM licenses are non-transferable<sup>226</sup> eliminates a major potential disadvantage of any system based on selection criteria; it prevents the integrity of the system from being undermined by the rapid assignment or transfer of station licenses by an entity that was awarded the license over other applicants on some merit basis that is not necessarily found in the buyer.<sup>227</sup>

139. *Point System Operation—Selection Criteria.* Our point system will include three selection criteria for mutually exclusive applicants: (1) established community presence; (2) proposed operating hours; and (3) local program origination. These criteria are directly related to the advancement of the public interest that the Commission has found warrants the introduction of this new service. To protect the integrity of the selection process and ensure that its full benefits may be realized, we have chosen clear-cut selection factors that are objective in nature and do not require burdensome documentation.

140. *Established Community Presence.* For the reasons set forth above, first, applicants that have an established community presence of at least two years' duration will be awarded one point. An applicant will be deemed to have an established community presence where, for a period of at least two years prior to application, the applicant is able to certify that it has been physically headquartered, has had a campus, or has had 75 percent of its board members residing within 10 miles of the reference coordinates of the proposed transmitting antenna. This criterion will favor organizations that have been operating in the communities where they propose to construct an LPFM station and thus have "track records" of community service and established constituencies within their communities. We believe that such applicants, because of their longstanding organizational ties to their communities, are likely to be more attuned to, and have organizational experience addressing, the needs and interests of their communities. In this regard, a number of commenters suggest preferences based on prior community service and/or community support.<sup>228</sup> These suggested factors could be subjective in nature, however, and could be burdensome to demonstrate and verify. In addition, we believe that preferring organizations that have been in existence and physically present in the community for two years will help prevent maneuvering of the point system by those who might otherwise establish multiple organizations to file LPFM applications.

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<sup>225</sup> See 47 C.F.R. §74.913. The ITFS is a nonbroadcast, point-to-point service intended primarily to provide formal educational programming offered for credit to enrolled students of accredited schools. Pursuant to the provisions of the Balanced Budget Act of 1997, the Commission has determined that pending and future mutually exclusive ITFS applications shall be resolved by competitive bidding, unless Congress enacts legislation exempting ITFS from competitive bidding. See *Auctions I<sup>st</sup> R&O*, 13 FCC Rcd at 16003-04.

<sup>226</sup> See ¶ 163.

<sup>227</sup> See *NCE Further Notice*, 13 FCC Rcd at 21181-83.

<sup>228</sup> See, e.g., Comments of Kirk Chestnut at 1 (require competing applicants to demonstrate community interest in their applications with letters of endorsement from community leaders and citizens); Comments of Morris Broadcasting Company at 7 (preference for applicants with record of prior service to minority communities or prior employment of minorities).

141. As we stated above in our discussion of the community-based eligibility requirement, we do not believe this preference for established local entities contravenes the court's concerns in *Bechtel*. In adopting such a comparative factor, we further note that the *Bechtel* court was concerned that quantitative integration factors worked to the virtual exclusion of other factors the court deemed potentially relevant in determining the relative quality of service that would be provided by an applicant. For LPFM, we are including other selection factors and giving them equivalent weight in the selection process. Moreover, while the two-year presence factor has a quantitative aspect, it is objectively verifiable and does not depend on promises of future performance, as the integration preference did.

142. Applicants claiming points for established community presence will be required to certify in their applications that they meet the above-stated conditions. The application form will identify appropriate documentation that must be made available for the point claimed. Applicants will be required to submit this information at the time of filing and it will be available in our public reference room. As with other broadcast applications, the Commission will rely on certifications but will use random audits to verify the accuracy of the certifications.<sup>229</sup> This information also will enable applicants to verify that competing applicants qualify for the points they claim.

143. *Proposed Operating Hours.* Second, applicants that pledge to operate at least 12 hours per day will be assigned one point. As set forth below, the minimum operating hours for LPFM stations will be five hours per day.<sup>230</sup> This criterion does not impose any additional requirement, but awards points to applicants that pledge longer hours of operation. Applicants that propose more intensive use of the broadcast frequencies they seek will advance the Commission's general policy objective of ensuring efficient spectrum use and providing more programming to serve their communities.

144. *Local Program Origination.* Finally, applicants that pledge to originate locally at least eight hours of programming per day will be assigned one point. For purposes of this criterion, local origination will be defined as the production of programming within 10 miles of the reference coordinates of the proposed transmitting antenna.<sup>231</sup> This criterion derives from the service requirements for full-service broadcast stations, which are required to maintain the capacity to originate programming from their main studios.<sup>232</sup> LPFM licensees will not be subject to main studio requirements, and will have discretion to determine the origination point of their programming.<sup>233</sup> As a comparative selection factor, local program origination can advance the Commission's policy goal of addressing unmet needs

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<sup>229</sup> See *Streamlining R&O*, 13 FCC Rcd at 23084-87.

<sup>230</sup> See ¶ 182.

<sup>231</sup> See generally *Arizona Communications Corp.*, 25 FCC 2d 837 (1970), *recon. denied*, 27 FCC 2d 283 (1971).

<sup>232</sup> See Amendment of Section 73.1125 and 73.1130 of the Commission's Rules, the Main Studio and Program Origination Rules for Radio and Television Broadcast Stations, Memorandum Opinion and Order in MM Docket No. 86-406, 3 FCC Rcd 5024, 5026 (1988).

<sup>233</sup> See ¶ 186.

for community-oriented radio broadcasting.<sup>234</sup> In this regard, we believe that an applicant's intent to provide locally-originated programming is a reasonable gauge of whether the LPFM station will function as an outlet for community self-expression.

145. With regard to both the second and the third selection criteria, applicants will be required to certify in their applications that they will meet the qualifying conditions for the points claimed. We will require successful applicants to adhere to their operating hours and local program origination pledges.<sup>235</sup> As these criteria are prospective in nature, they will not be subject to verification at the application stage. The Commission will use random audits to verify the accuracy of the certifications, and will consider written complaints regarding actual performance. Consistent with our current practice, the staff may issue letters of inquiry requiring submission of documentation in connection with such audits. Where analysis of the requested information indicates that licensees have not fulfilled their pledges, appropriate action will be taken, including the possibility of monetary forfeitures and revocation proceedings.<sup>236</sup>

146. In choosing selection criteria, we have carefully considered the comments we received advocating various selection factors, as well as the point system elements under consideration in our proceeding reexamining full-service NCE comparative standards.<sup>237</sup> We believe that the factors we have chosen best balance our interest in furthering the specific localized objectives of the LPFM service and avoiding cumbersome, subjective and manipulable criteria. We note that a number of commenters advocate preferences for entities controlled by minorities.<sup>238</sup> We shall defer consideration of this matter. The Commission is conducting fact-finding studies as to whether such preferences may be justified consistent with the Supreme Court's decision in *Adarand Constructors v. Peña*.<sup>239</sup> Depending on the outcome of these studies, we will consider in the future whether to adopt minority control as a point system factor.

147. *1<sup>st</sup> Tiebreaker -- Voluntary Time-Sharing.* In the event that the point system results in a tie among two or more mutually exclusive applicants, applicants will have the opportunity, within 30 days of the release of a public notice announcing the tie, to submit amendments to their applications

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<sup>234</sup> See *Notice*, 14 FCC Rcd at 2471; see also Comments of Alliance for Community Media at 7 (advocating points to applicants providing most local programming); Comments of UCC, et al. at 35 (advocating point system using local program origination criteria).

<sup>235</sup> As noted above, a primary concern of the court in *Bechtel* was that there was no obligation for successful applicants to adhere to their integration proposals. See ¶ 34.

<sup>236</sup> See generally *Streamlining R&O*, 13 FCC Rcd at 23084-87.

<sup>237</sup> See *NCE Further Notice*, 13 FCC Rcd at 21177-80.

<sup>238</sup> See, e.g., Comments of Mid-America Broadcasting Company at 9; Comments of Southeast Association of Microbroadcasters at 1; see also Comments of Morris Broadcasting Company at 10-11 (preference for applicants with record of prior service to minority communities or prior employment of minorities).

<sup>239</sup> 515 U.S. 200 (1995).

incorporating voluntary time-share proposals. Each time-share proponent must propose to operate at least 10 hours per week. Time-share proposals may function as tie-breakers in two different ways. First, all of the tied applicants in a mutually exclusive group may propose a time-share proposal, in which case the staff will review and process all of the tied applications. Second, some of the tied applicants in a mutually exclusive group may submit a time-share proposal, in which case the time-sharers' points will be aggregated. Time-sharers may aggregate points under each of the three selection criteria.<sup>240</sup> The purpose of allowing point aggregation is to encourage time-share arrangements as a means of resolving mutual exclusivity among tied LPFM applicants. In addition, we believe that time-sharing arrangements will serve the public interest by increasing participation by a variety of local community organizations in the operation of LPFM stations.

148. Our decision to incorporate voluntary time-sharing into the point system as a tie-breaker is based on our judgment that voluntary time-share arrangements have the potential to advance the Commission's goals for the new service. We noted in our proceeding reexamining full-service NCE comparative standards that "[a] number of commenters dislike mandatory share-time arrangements, finding them confusing to audiences, and potentially inefficient for licensees."<sup>241</sup> On a voluntary basis, however, time-sharing has significant potential advantages for LPFM applicants. From a practical standpoint, the localized nature of the LPFM service is likely to enhance applicants' ability to time-share. In many cases, the small scale of LPFM operations also may make time-sharing more efficient for LPFM licensees. Furthermore, by increasing the number of new broadcast voices, time-sharing can advance our interest in promoting additional diversity in radio voices and program services through the LPFM service.<sup>242</sup>

149. *Final Tiebreaker -- Successive License Terms.* As a last resort, in cases where a tie is not resolved through settlement or time-sharing, the staff will review tied applications for acceptability. Applicants whose applications are grantable will be eligible for equal, successive license terms of no less than one year each, spanning a total of eight years. Successive license terms will not be granted for groups of more than eight tied, grantable applications. In the event of such a situation, the staff will dismiss all but the applications of the eight entities with the longest established community presences, as demonstrated by the documentation submitted with their applications. If this does not limit the group of applications to eight, the entire group will be deemed ungrantable and will be dismissed if, after a final opportunity to submit settlement proposals within 30 days of the release of a public notice, the situation is not resolved. Where successive license terms are granted, there will be no renewal expectancy for any of the licensees.<sup>243</sup> If none of the tied, grantable applications proposes same-site facilities, then all will be granted at the same time. The sequence of the applicants' license terms will be determined by the

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<sup>240</sup> For example, two time-sharers that claimed points individually for established community presence and proposed operating hours and local program origination may claim a combined two points for each of these criteria, for a total of six points. They need not aggregate hours of operation or locally-originated programming to aggregate their points for these criteria.

<sup>241</sup> *NCE Further Notice*, 13 FCC Rcd at 21180.

<sup>242</sup> *Notice*, 14 FCC Rcd at 2471.

<sup>243</sup> If for some reason a successive term licensee becomes unable to operate the station during its portion of the license term, that licensee's time will be divided equally among the remaining licensees for that station.

sequence in which they file their applications for licenses to cover their construction permits, based on the day of filing.<sup>244</sup> However, if any of the tied, grantable construction permit applications propose same-site facilities, the applicants proposing such facilities will be required, within an additional 30 days, to submit a settlement agreement proposing the sequence of the license terms for such applicants. If they fail to do so, they will be removed from the mutually exclusive group and the remaining applications will be granted.

150. *Settlements.* Applicants may propose a full settlement at any time during the selection process after the release of the public notice announcing the mutually exclusive group. Such settlements must be universal -- that is, they must involve all of the mutually exclusive applicants within a group -- and must comply with the Commission's general rules for settlements, including the requirement that the settling parties certify that they have not received consideration for the dismissal of their applications in excess of their legitimate and prudent expenses.<sup>245</sup> Settlements may incorporate voluntary time-share proposals.

151. *Delegated Authority.* As we explained in our proceeding reexamining full-service NCE comparative standards, the Commission currently may delegate authority for applying point systems only to administrative law judges or to individual Commissioners.<sup>246</sup> This statutory restriction is based on the fact that point systems technically are considered a type of simplified hearing. We believe that the staff would be able to administer the LPFM point system in a more streamlined manner than administrative law judges or individual Commissioners. Therefore, we will seek authority from Congress, through specific legislation, to delegate responsibility to the staff for applying the point system.<sup>247</sup> Until we receive such authority, the staff will refer point system proceedings to the Commission for disposition.

152. *Minor Modification of Authorized LPFM Stations.* We will adopt one exception to the window filing process to permit the filing at any time of certain "minor change" applications. For LP100 stations, a minor change may involve a transmitter site relocation of less than two kilometers. For LP10 stations, a minor change may involve a transmitter site relocation of less than one kilometer. Minor change applications may also propose a change to an adjacent or IF frequency or, upon a technical showing of reduced predicted interference, to any other frequency. Similarly, we will consider as minor any change in frequency necessary to resolve actual interference. All other changes will be classified as "major" and subject to our window filing procedures. Minor change applications also must satisfy the technical and legal requirements applicable to LPFM stations generally.

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<sup>244</sup> For example, assume an unresolved tie among four grantable applications. If permittees A, B, C and D file their license applications in that order, then their two-year license terms will be in that sequence, with the eight years commencing on the date that A's license application is granted.

<sup>245</sup> See 47 C.F.R. § 73.3525.

<sup>246</sup> See *NCE Further Notice*, 13 FCC Rcd at 21176, n. 22. 47 U.S.C. §155(c)(1).

<sup>247</sup> The Commission previously secured similar legislation allowing it to delegate authority to the staff to conduct ITFS point system proceedings. See *id.*

#### 4. License Terms and Renewals

153. Background. In the *Notice*, we asked how often and how closely we should actively monitor, within the parameters of our statutory responsibility, the performance of LP100 stations in connection with the license renewal process. We asked whether a *pro forma* process would satisfy any statutory requirement, in the absence of specific public complaint. We also asked for comment on whether stations other than LP1000 stations should be authorized for finite, nonrenewable periods, such as five or eight years, to create additional opportunities for new entrants in the LPFM service. We explained that making broadcast outlets available to more speakers is a fundamental premise of this rulemaking effort, and that we did not expect that such a limitation would discourage the very modest investment required to build such a station. We sought comment on whether the disruption of service to the public that non-renewability would involve outweighed the potential benefits of making this service available to more speakers on a consecutive basis.

154. Comments. Commenters propose a variety of LPFM license terms and the majority argue that LPFM licenses should be renewable. Commenters suggest license terms of one,<sup>248</sup> two,<sup>249</sup> four,<sup>250</sup> five,<sup>251</sup> and seven years.<sup>252</sup> REC Networks advocates a five-year renewable license term. According to REC Networks, granting a short license term would place the burden on LPFM licensees to demonstrate their continuing interest in providing local service.<sup>253</sup> Other commenters contend that LPFM stations should have the same eight year license periods granted to full power stations.<sup>254</sup>

155. Most commenters argue that all LPFM licenses should be renewable.<sup>255</sup> Jeffrey Richman believes that licenses should be renewable because (1) applicants might be deterred if they do not have

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<sup>248</sup> Comments of Robert W. Federal at 5; Comments of Scott D. Fowler at 4; Comments of John D. Bowker at 16.

<sup>249</sup> Comments of Craig F. Amundsen at 1.

<sup>250</sup> Comments of Jeffery A. Copeland at 2; Comments of Aaron Read at 14.

<sup>251</sup> Comments of Jennifer Anne Barrios at 1; Comments of Robert Keves, MD at 1; Comments of REC Networks at 16.

<sup>252</sup> Comments of Amherst at 12-13; Comments of NLG at 35; Comments of Jonathan Tesser at 2.

<sup>253</sup> Comments of REC Networks at 16.

<sup>254</sup> Comments of Michael Robert Birdsill at 4; Comments of Sunbury Broadcasting Corp. at 2.

<sup>255</sup> Comments of Crawford Broadcasting Co. at 7; Comments of Craig F. Amundsen at 1; Comments of John R. Benjamin and Charles Coplien at 3; Comments of Spencer Graddy Clark at 3; Comments of William T. Croghan, Jr. at 10; Comments of Judith Fielder and Nickolaus E. Leggett at 5; Comments of John D. Bowker at 16; Comments of Gary L. Nixon at 2; Comments of Scott D. Fowler at 44; Comments of Warren Michelsen at 6; Comments of Andrew Morris at 13; Comments of Jeffrey S. Richman at 3; Comments of REC Networks at 6; Comments of Douglas E. Smith at 4.

the expectation of renewal; (2) off-air periods between transfers would be confusing to the public; and (3) nonrenewable licenses would be inconsistent with the “renewal expectancy” Congress intended in sections 307(c) and 309(k)(1) of the Act.<sup>256</sup> Douglas E. Smith and Warren Michelsen believe that even with renewable licenses, there would be turnover in ownership because, *e.g.*, the leadership of community groups will rotate and individual owners move frequently.<sup>257</sup> REC Networks believes that through proper frequency coordination and time-sharing arrangements, many in crowded urban areas would have their turn at the microphone without having to wait several years for a license to expire.<sup>258</sup> Commenters also contend that LPFM licensees should have the same renewal expectancy as existing broadcasters.<sup>259</sup> On the other hand, Jennifer Anne Barrios and Robert Keves believe LPFM licenses should not be renewable.<sup>260</sup>

156. Decision. We will provide LP100 and LP10 licensees with the same license terms and renewal expectancy as full-power FM radio stations. Accordingly, licenses will be renewed for a term not to exceed eight years from the date of expiration of the preceding license<sup>261</sup> and LPFM licenses will be renewed, without consideration of competing applicants, if they have met the renewal standard of Section 309(k)(1) of the Act. Upon considering the comments filed in this proceeding, we find that granting renewable licenses is consistent with the goals we are seeking to advance with this service. Moreover, we believe that nonrenewable licenses would discourage licensees from developing facilities and audiences to the fullest extent possible. We therefore will grant, with one exception described in paragraph 159 below, renewable licenses for LPFM stations.

157. Section 73.1020(a) divides the country into 18 different regions containing one or more states for purposes of establishing synchronized schedules for radio and television licenses.<sup>262</sup> Radio station licenses expired under this rule in intervals between October 1, 1995, and August 1, 1998, and those licenses, renewed for eight years, will expire again between September 30, 2003, and July 31, 2006.<sup>263</sup> We consistently grant initial terms for all new broadcast authorizations to fit into this

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<sup>256</sup> Comments of Jeffrey S. Richman at 3-4.

<sup>257</sup> Comments of Douglas E. Smith at 4; Comments of Warren Michelsen at 6.

<sup>258</sup> Comments of REC Networks at 16.

<sup>259</sup> See Comments of NLG at 35; Comments of John D. Bowker at 16; Comments of Scott D. Fowler at 44. NLG suggests that a renewal preference be given initially to LPFM licensees, but that preference could be lessened after a 10-year period and possibly eliminated after a twenty-year period. NLG further believes that a renewal preference should be given to an LPFM station that has joined a local self-regulatory organization. Comments of NLG at 35.

<sup>260</sup> Comments of Jennifer Anne Barrios at 1; Comments of Robert Keves, MD at 1.

<sup>261</sup> 47 C.F.R. § 73.1020(a). We may, however, issue either an initial or renewed license for a lesser term if we find doing so is in the public interest, convenience, and necessity. *Id.*; see 47 U.S.C. §307(c).

<sup>262</sup> Implementation of Section 203 of the Telecommunications Act of 1996 (Broadcast License Terms), Sections 73.1020 and 74.15, MM Docket No. 96-90, *Report and Order*, 13 FCC Rcd 1720, 1727, ¶ 18 (1997).

synchronized schedule, although it means initial terms are usually for a period of less than eight years.

158. We adopt these synchronized schedules for LPFM licenses because maintaining the predictability, administrative efficiencies, public awareness, and fairness inherent in the existing synchronized schedule of license cycles serves the public interest. Accordingly, an initial LPFM license granted within any renewal period set forth in Section 73.1020 of our rules will be assigned the expiration date assigned to those full-power FM stations licensed in the same region during the same licensing cycle.<sup>264</sup> Because of the cyclical nature of this process, granting initial full eight-year license terms in the middle of a licensing cycle could undermine the synchronization of the whole process. Like full-power licenses, LPFM licenses may then be renewed for a term not to exceed eight years from the expiration date of the preceding license. This approach will reduce the regulatory burden on LPFM broadcasters by affording them the same maximum license terms now granted other broadcasters, and will correspondingly reduce the associated burdens on the Commission. We see no compelling reason to vary from the term set by Congress for full-power stations. We further note that, while we will authorize eight-year license terms, the public may scrutinize station performance and file complaints with the Commission at any time during the term of an LPFM license.

159. The one exception to this rule pertains to situations where we grant successive license terms under the final tiebreaker procedures. These tiebreaker licenses will not be based on the synchronized licensing cycle of Section 73.1020.<sup>265</sup> If applicants were granted last resort tiebreaker licenses conformed to the synchronized schedule, each licensee, depending on where in the renewal cycle we were, might receive authorizations to operate for a very short period of time, *e.g.*, a few months, with no opportunity to renew their license.

160. We will also extend the renewal expectancy provisions of Section 309(k)(1) of the Act to LPFM licensees.<sup>266</sup> Providing incumbents with the likelihood of renewal encourages licensees to make investments to ensure quality service.<sup>267</sup> Upon receiving an application for renewal of an LPFM license,

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<sup>263</sup> Licenses renewed for eight years in Maryland, the District of Columbia, Virginia, and West Virginia will expire on September 30, 2003. 47 C.F.R. §73.1020(a)(1). Licenses renewed for eight years in Delaware and Pennsylvania will expire on July 31, 2006. *Id.* §73.1020(a)(18).

<sup>264</sup> Thus, for example, initial applications for licenses in Maryland filed within the current license cycle will expire on September 30, 2003, and initial applications for licenses in Pennsylvania filed within the current license cycle will expire on July 31, 2006. While we anticipate that many applicants will be licensed in Maryland with expiration dates of September 30, 2003, any applicant licensed in Maryland after September 30, 2003, will be assigned an expiration date no later than September 30, 2011. Likewise, any applicant licensed in Pennsylvania after July 31, 2006, will be assigned an expiration date no later than July 31, 2014.

<sup>265</sup> See ¶ 149.

<sup>266</sup> See 47 U.S.C. § 309(k)(1).

<sup>267</sup> See Formulation of Policies and Rules Relating to Broadcast Renewal Applicants, Competing Applicants, and Other Participants to Comparative Renewal Process and to the Prevention of Abuses of the Renewal Process, *Third Further Notice of Inquiry and Notice of Proposed Rule Making*, 4 FCC Rcd 6363, 6364, ¶ 9 (1989) (quoting *Central Florida Enterprises, Inc. v. FCC*, 683 F.2d 503, 507 (D.C. Cir. 1982), see also *Greater Boston Television* (continued....)

we will determine whether the licensee has served the public interest, convenience, and necessity; whether there have been any serious violations of the Act or Commission rules; and whether there have been any serious violations that, taken together, would constitute a pattern of abuse. Only if incumbent LPFM licensees fail to meet these requirements will other applicants be eligible to apply for the same license. As noted, an exception is where the license is held for successive terms as a result of the final tiebreaker procedure. Such licenses will be nonrenewable.

## 5. Transferability

161. Background. In the *Notice*, we noted that some commenters urged us to restrict the sale of LPFM stations to deter the filing of speculative applications and trafficking in construction permits.<sup>268</sup> We stated our belief that, in light of the limits we proposed on ownership of LPFM stations, we did not believe that it was necessary to restrict the sale of any class of LPFM station. We invited commenters to address this issue, including whether restrictions on sales would be advisable if the Commission adopts ownership rules other than those proposed in the *Notice*.

162. Comments. While comments on the transferability of LPFM stations were mixed, the majority of commenters that addressed this issue supported either prohibiting transfers altogether or severely restricting them.<sup>269</sup> UCC, et al., and Civil Rights Organizations proposed the adoption of rules prohibiting the sale of an LPFM station held for less than five years.<sup>270</sup> Civil Rights Organizations argued that such a restriction would discourage speculators, who could operate even in a noncommercial environment, without deterring committed local broadcasters.<sup>271</sup> ACLU of Mass. *et al.* argues that permitting transfer of licenses and construction permits will permit the creation of a secondary market where LPFM licenses can be obtained without regard to licensing priorities that favor diversity and localism. Instead, it proposes that if an LPFM licensee decides that it can no longer own and operate its station, the license should be returned to the FCC where it can be reissued in accordance with the criteria adopted by the Commission.<sup>272</sup> A few commenters were in favor of permitting transferability of LPFM

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*Corp. v. FCC*, 444 F.2d 841, 858 (D.C. Cir. 1970) (stating that renewal expectancies are provided “to promote security of tenure and to induce efforts and investments, furthering the public interest, that may not be devoted by a licensee without reasonable security”).

<sup>268</sup> *Notice*, 14 FCC Rcd at ¶ 86; CRC Petition for Rule Making at 5.

<sup>269</sup> *See, e.g.*, Comments of ACLU of Mass. *et al.* at 5-6; Comments of KVOI at 1; Comments of City of Berkeley, CA at 1; Comments of Jennifer Anne Barrios at 2; Comments of Eric Brown at 1; Comments of Mari J. Caro at 1; Comments of Robert Keves MD at 1; Comments of Miles Ohlrich at 1. John Bowker would permit sale of a license only for an amount equivalent to the depreciated value of the existing plant. Comments of John Bowker at 16. Quinnipiac College would permit the sale of stations only to entities that do not own other commercial stations. Comments of Quinnipiac College at 2.

<sup>270</sup> Comments of Civil Rights Organizations at 26; Comments of UCC, et al. at 16. UCC, et al. would permit waiver of the anti-trafficking rule for good cause.

<sup>271</sup> Comments of UCC, et al. at 16.

<sup>272</sup> Comments of ACLU of Mass. *et al.* at 5-6.

stations, arguing generally that owners who have invested in such stations should be able to realize the fair market value of such stations.<sup>273</sup>

163. Decision. After careful review of the comments, we have decided to prohibit the transfer of construction permits and licenses for LPFM stations. Contrary to our initial view stated in the *Notice*, we are persuaded that a prohibition on transfers will best promote the Commission's interest in ensuring that spectrum is used for low power operations as soon as possible, without the delay associated with license speculation. We are also persuaded that the goals of this new service, to foster opportunities for new radio broadcast ownership and to promote additional diversity in radio voices and program services, will best be met if unused permits and licenses are returned to the Commission. Given the modest facilities and noncommercial nature of LPFM stations, we do not believe non-transferability will discourage LPFM licensees from serving their listeners.

## **G. Programming and Service Rules**

### **1. Public Interest Requirements**

164. Background. In the *Notice*, we proposed to require LP1000 licensees to adhere to the same Part 73 requirements regarding public interest programming as apply to full-power FM licensees. We noted that this meant that each LP1000 licensee would be required to air programming serving the needs and interests of its community, using its discretion as to how to meet that obligation. We also listed several other rules, such as those regarding the broadcasting of taped, filmed, or recorded material, sponsorship identification, personal attacks, and periodic call sign announcements and sought comment on whether they should apply to LPFM stations. We stated a disinclination, however, to impose public interest programming requirements on LP100 and LP10 licensees, given the size of operations we envisioned and the simplicity we were striving to achieve in this service. We expected that the very nature of LP100 and LP10 would ensure that they served the needs and interests of their communities.

165. Comments. We received few comments on public interest requirements. Some commenters contend that we must apply all of the same basic public interest requirements to LPFM licensees that are applied to full-power broadcasters.<sup>274</sup> The Low Power Radio Coalition believes that LPFM licensees must be held to high standards similar to those established for full-power broadcasters.<sup>275</sup> UCC, et al., argues that the Commission must require all LPFM broadcasters to comply with the requirements of the public interest standard, as well as the sponsorship identification duties required by section 317 of the Act.<sup>276</sup> NAB argues that all FM broadcast stations should be required to follow the same rules and contends that there is no basis on which to distinguish between different classes of stations.<sup>277</sup> On the other hand, NLG contends that public interest rules outlined in the *Notice*

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<sup>273</sup> See, e.g., Comments of Scott D. Fowler at 45.

<sup>274</sup> See Comments of John D. Bowker at 15; Comments of William T. Croghan, Jr. at 9.

<sup>275</sup> Comments of Low Power Radio Coalition at 6.

<sup>276</sup> Comments of UCC, et al. at 19-21.

<sup>277</sup> Comments of NAB at 75-76.

should not be applied to LPFM stations with a 100 watt maximum.<sup>278</sup> Similarly, other commenters oppose any requirements for LP100 and LP10 stations, arguing that it would place an unreasonable burden on those stations.<sup>279</sup>

166. Decision. Every broadcast licensee is required to operate its station in the public interest.<sup>280</sup> Given the nature of the LPFM service, however, we conclude that certain obligations imposed on full-power radio licensees would be unnecessary if applied to LPFM licensees. We expect that the local nature of this service, coupled with the eligibility and selection criteria we are adopting, will ensure that LPFM licensees will meet the needs and interests of their communities. Thus, for example, consistent with our rules for low power television, we will not adopt a rule requiring LPFM licensees to provide programming responsive to community issues or to maintain a list of issues addressed or specific programs aired.<sup>281</sup>

167. We will, however, apply certain specific rules applicable to all broadcasters to LPFM licensees. First, LPFM operators must, of course, comply with those rules required by statute. Thus, for example, like all broadcasters, LPFM licensees will be expressly prohibited from airing programming that is obscene, and restricted from airing programming that is “indecent” during certain times of the day.<sup>282</sup> They must also comply with our sponsorship identification and political programming rules.<sup>283</sup> In addition, we will require LPFM licensees to comply with our rules regarding taped, filmed, or recorded material,<sup>284</sup> personal attacks,<sup>285</sup> and periodic call sign announcements.<sup>286</sup> Violation of any of these rules by an LPFM licensee would be as detrimental to its audience as violation by a full-power broadcaster, and widespread disregard for these rules could outweigh the benefits to the public this service is intended to bring.

## 2. Locally Originated Programming

168. Background. In the *Notice*, we sought comment on whether to impose a minimum local

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<sup>278</sup> Comments of NLG at 36.

<sup>279</sup> Comments of Andrew Morris at 10; Comments of Trident Media at 2; Comments of Gary L. Nixon at 1.

<sup>280</sup> See 47 U.S.C. § 309(a).

<sup>281</sup> See *Report and Order*, BC Docket No. 78-253, 51 RR 2d 476 (1982) (*Low Power Television R&O*).

<sup>282</sup> 18 U.S.C. § 1464; 47 C.F.R. § 73.3999 (prohibits broadcasting of indecent material from 6:00 a.m. until 10:00 p.m., hours when children are likely to be in the audience).

<sup>283</sup> 47 U.S.C. § 317; 47 C.F.R. § 73.1212. See ¶ 75 for a discussion of political programming rules.

<sup>284</sup> 47 C.F.R. § 73.1208.

<sup>285</sup> 47 C.F.R. § 73.1920.

<sup>286</sup> 47 C.F.R. § 73.1201.

origination programming requirement on any of the three proposed classes of LPFM service. We opined that listeners benefit from local programming, because it often reflects needs, interests, circumstances, or perspectives that may be unique to that community. We also noted that many of LPFM's initial supporters argued that the Commission's rules should actively promote locally oriented programming by, for instance, limiting the amount of network programming a station could air. We expressed an expectation, however, that a significant amount of programming for LPFM stations would be locally produced as a matter of course. We also asserted that programming does not have to be locally produced to have interest or value to the listeners in a particular locale. Accordingly, we stated that we were inclined to give LP100 and LP10 licensees the same discretion as full-power licensees to determine what mix of local and non-local programming would best serve the community. To promote new broadcast voices, however, we proposed that an LPFM station not be permitted to operate as a translator, retransmitting the programming of a full-power station.

169. Comments. Many commenters favor the adoption of a locally originated programming obligation.<sup>287</sup> According to UCC, et al., for example, a locally originated programming requirement would attract applicants that intend to provide a locally oriented service, is a basic element of the Commission's implementation of the public interest standard, and would resemble the duty TV stations have to provide educational and informational programming for children.<sup>288</sup> A number of commenters oppose any specific obligations on LPFM licensees regarding locally originated programming.<sup>289</sup> Amherst argues, for example, that the best way to prevent LPFM stations from becoming "corporate satellites" is through limits on LPFM license eligibility.<sup>290</sup> If any locally originated programming requirements are applied, however, Amherst asserts that those requirements should be modest in scope and narrowly targeted to prevent stations from becoming mere "fronts" for the airing of material

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<sup>287</sup> Comments of UCC, et al., at 3-4; Comments of William T. Croghan, Jr. at 8 (advocating 50% locally originated programming); Comments of Gregory Caliri at 2 (advocating two-thirds locally originated programming); Comments of NLG at 25-26; Comments of Joseph Crump at 1; Comments of Jason D. Patent at 1 (advocating 75% locally originated programming); *see* Comments of Bott Broadcasting Co. at 35; Comments of Robert Keves, MD at 1; Comments of Ronnie V. Miller at 9; Comments of Libraries for the Future at 1 (advocating 80% locally originated programming); Comments of Gene Kirby at 1 (advocating 100% locally originated programming).

<sup>288</sup> Comments of UCC, et al. at 10-11. NLG considers the Commission's proposal not to impose a local programming requirement a major mistake that could undermine the entire LPFM service. Comments of NLG at 25-26; *see* Comments of Aaron Read at 10 (arguing that without strict restrictions to ensure local programming, national programmers will obtain LPFM licenses to rebroadcast nationally sourced programming, eliminating any new or local voices). REC Networks suggests that LPFM stations be required to provide at least eight hours of local programming each weekday, but contends that there should be no restrictions between 10:00 p.m. and 7:00 a.m. on weekdays or any time on weekends. Comments of REC Networks at 14-15.

<sup>289</sup> *See, e.g.*, Comments of the Alliance for Community Media at 7 (believes local programming should not be mandatory, but suggests that the Commission give "priority points" to applicants based on the amount of public interest programming proposed); Comments of Warren Michelsen at 3 (supports the Commission's proposal to give low-power and LP10 licensees the same discretion as full-power licensees to determine what mix of local and non-local programming will best serve the community); Reply Comments of Kenneth W. Bowles at 16 (argues that local programming should not be required because LPFM is locally oriented by its nature).

<sup>290</sup> Comments of Amherst at 57-58.

produced by larger entities.<sup>291</sup>

170. Commenters generally agree that LPFM stations should not be used as translators for retransmitting full-power station programming.<sup>292</sup> The Civil Rights Organizations and Gary L. Nixon argue that an LPFM operator should not be permitted to operate as a translator or booster, except where an LPFM station might retransmit another station's programming for the purpose of student training.<sup>293</sup> Nixon also notes that LPFM stations should be prohibited from using any satellite programming.<sup>294</sup> UCC, et al. states that the Commission should not allow low power stations to replicate another station's programming because it would turn the purpose of low power radio, to provide local programming, on its head.<sup>295</sup>

171. Decision. We continue to believe that LPFM licensees' provision of a significant amount of locally originated programming will enhance the success of this service. This is why we are encouraging the provision of locally originated programming by means of a licensing preference.<sup>296</sup> However, we also believe that in certain cases, programming need not be locally originated to be responsive to local needs. Therefore, we do not believe it is necessary to impose specific requirements for locally originated programming on LPFM licensees. We believe that the nature of the service, combined with the eligibility criteria and preferences we are adopting, will ensure that LPFM licensees provide locally originated programming or programming that is otherwise responsive to local needs.

172. We do, however, agree with commenters that LPFM stations should not be used for retransmitting, either terrestrially or via satellite, the programming of full-power stations. This would significantly undercut a fundamental basis for the establishment of this service. This prohibition against LPFM stations operating as translators also promotes locally originated programming by eliminating a

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<sup>291</sup> Comments of Amherst at 58-59. For example, Amherst suggests that use of all central source feeds, combined, could be "capped" at 49 percent of programming, or use of any single central source feed could be "capped" at 25 percent of programming. *Id.* Amherst also argues that local content requirements should not apply to any materials that LPFM stations develop and donate or syndicate to each other or larger institutions. According to Amherst, syndication of original material could become a major source of influence or income for LPFM stations, and a way to get innovative, but potentially popular, material to the mainstream. *Id.* at 59. *See also* Comments of the Salida Colorado Radio Club at 3 (opposing regulating locally originated programming, suggesting instead that LPFM stations show a reasonable effort to have at least half of their programming of local origination and that compliance should be reviewed through enforcement actions).

<sup>292</sup> Comments of North Cascade Broadcasting at 7; Comments of Gary L. Nixon at 2; Comments of Trident Media at 2; Comments of the Alliance for Community Media at 3; Comments of John D. Bowker at 14.

<sup>293</sup> Comments of Civil Rights Organizations at 26; Comments of Gary L. Nixon at 10.

<sup>294</sup> Comments of Gary L. Nixon at 10.

<sup>295</sup> Comments of UCC, et al. at 4, n.1.

<sup>296</sup> *See* ¶ 144 (mutually exclusive applicants that pledge to provide at least eight hours of locally originated programming will receive one point).

significant avenue for obtaining non-locally originated programming.

### 3. Political Programming Rules

173. Background. In the *Notice*, we sought comment on the applicability of political programming rules to each class of low power radio service that we might adopt. We explained that sections 312(a)(7) and 315 of the Communications Act, as amended, underlie some of these rules, and each is explicitly applicable to “broadcast stations.” Thus, we lack the discretion not to apply these provisions to any class of LPFM station, regardless of size. We specifically sought comment on how each of these political broadcasting rules should be applied to low-power stations, taking into consideration our statutory mandate.

174. Comments. The few comments that we received on this issue support our tentative conclusion to adopt political programming rules for LPFM stations. UCC, et al. asserts that application of Title III duties to low-power broadcasters is non-discretionary, contending that the Commission must require all low-power broadcasters to comply with specified duties required by Sections 312 and 315 of the Communications Act, as amended.<sup>297</sup> REC Networks and John D. Bowker agree that political programming rules should be applied to LPFM services.<sup>298</sup>

175. Decision. We conclude that we are required by statute to apply the same political programming rules to low-power stations that we apply to full-power stations. There is ample precedent for how the political programming rules apply to noncommercial stations and thus how the rules will apply to LPFM. For example, Section 312(a)(7) of the Communications Act, as amended, requires broadcasters to allow legally qualified candidates for federal office reasonable access to their facilities,<sup>299</sup> but because LPFM stations are noncommercial educational facilities, they must provide such access on a free basis.<sup>300</sup> Section 315(a) of the Communications Act, as amended, requiring equal opportunities for candidates, will also apply.<sup>301</sup>

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<sup>297</sup> Comments of UCC, et al. at 19-21; see also Comments of NLG at 36.

<sup>298</sup> Comments of REC Networks at 15; Comments of John D. Bowker at 15.

<sup>299</sup> Specifically, section 312(a)(7) provides that “[t]he Commission may revoke any station license or construction permit for willful or repeated failure to allow reasonable access to or permit purchase of reasonable amounts of time for the use of a broadcasting station by a legally qualified candidate for Federal elective office on behalf of his candidacy.” 47 U.S.C. § 312(a)(7); see 47 C.F.R. § 73.1944. This right of access does not apply to candidates for non-federal state or local offices.

<sup>300</sup> See 47 C.F.R. § 73.1942(d). While noncommercial broadcasters are prohibited from charging legally qualified candidates for time, they may charge for out-of-pocket expenses.

<sup>301</sup> Section 315(a) of the Communications Act, as amended, provides that “if any licensee shall permit any person who is a legally qualified candidate for any public office to use a broadcasting station, he shall afford equal opportunities to all other such candidates for that office in the use of such broadcasting station.” 47 U.S.C. § 315(a); see 47 C.F.R. § 73.1941. Section 73.1940 of the Commission’s rules defines “legally qualified candidate” as any person who has publicly announced his or her intention to run for nomination or office, is qualified under the applicable local, state, or federal law to hold office for which he or she is a candidate, and has qualified for ballot (continued....)

176. In conformance with the statutory mandate, we will apply the reasonable access and equal opportunities provisions of the statute and the Commission's rules, as well as related policies delineated in prior Commission orders, to LPFM licensees. With respect to reasonable access, the Commission's policy has generally been to defer to the reasonable, good faith judgment of licensees as to what constitutes "reasonable access" under all the circumstances present in a particular case. Noncommercial educational stations, including LPFM stations, however, may not support or oppose any candidate for political office.<sup>302</sup> LPFM licensees cannot charge legally qualified candidates for the time used on their stations<sup>303</sup> and no LPFM licensee may discriminate among candidates "in practices, regulations, facilities, or services" or "make or give any preference to any candidate for public office."<sup>304</sup> In addition, we will require LPFM licensees to maintain a political file, if needed, to record the requisite particulars. The political file shall be maintained for public inspection at an accessible place in the station's community. Finally, we will resolve any issues involving LPFM licensees on a case-by-case basis to determine whether the licensee is acting within the spirit of the statute and Commission rules and policies on political programming.

#### 4. Station Identification

177. Background. In the Notice, we sought comment on whether to adopt a call sign system that would identify a low power radio station as such. We noted in the *Notice* that a nonstandard (five letter) identifying call sign system was used for the first several years of licensing low power television (LPTV) stations, but that the Commission later allowed LPTV stations to adopt call signs that were like those of full power stations, but were appended with the suffix "-LP."

178. Comments. Commenters are divided over whether it would be in the public interest to employ special call signs that would help identify LPFM stations as low power. Some commenters argue that the use of call signs would help to identify legitimate from illegal stations, or help with the identification of malfunctioning or interfering stations.<sup>305</sup> Other commenters feel that a new system of

placement or has otherwise met all the qualifications set forth in the Commission's rules. 47 C.F.R. § 73.1940. In addition, both the statute and the rules narrowly define the term "use" and exclude from the definition candidates' appearances in *bona fide* newscasts, interviews, documentaries, and the on-the-spot coverage of news events. 47 U.S.C. § 315(a)(1)-(4); see 47 C.F.R. § 73.1941(a)(1)-(4). Section 73.1941(b) further provides that "[a]s used in this section and § 73.1942, the term 'use' means a candidate appearance (including by voice or picture) that is not exempt under paragraphs 73.1941(a)(1) through (a)(4) of this section." 47 C.F.R. § 73.1941(b). Licensees have no power of censorship over the material broadcast under the equal opportunity provisions of section 315(a). 47 U.S.C. § 315(a); see 47 C.F.R. § 73.1941.

<sup>302</sup> 47 U.S.C. § 399; 47 C.F.R. § 73.1930(b); see *FCC v. League of Women Voters of Calif.*, 468 U.S. 364 (1984).

<sup>303</sup> See 47 C.F.R. § 73.1942(d).

<sup>304</sup> 47 C.F.R. § 73.1941(e).

<sup>305</sup> See, e.g., Comments of William Croghan Jr. at 10; Comments of the Oklahoma Department of Transportation at 4. Some commenters suggest that FM translator call signs or amateur radio operator call signs should be adopted to identify LPFM stations. See, e.g., Comments of Harry W. Pardue at 2; Comments of Douglas E. Smith at 5. See also Comments of John Bowker at 17 (suggesting that a new pattern of call signs is needed, such as the station's FM numerical channel followed by three letters); Comments of Gene Kirby at 2 (suggesting that for (continued...))

call signs for LPFM would be confusing to the public, with little or no compensating public benefit, and suggest that ordinary FM call signs be issued to new LPFM stations.<sup>306</sup> Some commenters also argue that the use of call signs for low power broadcasters would not be burdensome to these broadcasters.<sup>307</sup>

179. Decision. The question raised by the *Notice* was not whether to have call signs for LPFM stations, as apparently misunderstood by some commenters, but whether to include a special designation in the call signs identifying LPFM stations as low power stations. It is imperative for a variety of reasons, including enforcement, convenience to the public, and conformance with international agreements, that all broadcasters, including low power broadcasters, use unique identifiers on the air. We also conclude that it will be extremely beneficial for LPFM operators to build an “identity” and do so in a radio-familiar manner. We were guided on this issue by our experience with low power television. In that service, we require stations’ call signs to indicate that they are low power stations, by appending the suffix “-LP” to their four-letter call signs. We thus will require low power stations to positively identify themselves. To avoid confusion for the public and to inform the public of the reasonable expectations they may have for service, the suffix “-LP” will be appended to LPFM station call signs

Such identification will inform the public that a station is a low power station. An LPFM four-letter call sign cannot exactly duplicate the call sign of any other broadcast station and cannot contain the same first four letters as another station’s call sign without that station’s written consent.<sup>308</sup> The Commission’s current call sign system will be modified to accommodate low power stations in the manner four letter call signs are provided to low power TV stations.<sup>309</sup>

## 5. Operating Hours

180. Background. In the *Notice*, we said we were not inclined to adopt minimum operating hours for LP100 or LP10 stations. However we expressed our concern that spectrum might be underutilized if low power stations were licensed but unused or underused, and asked for comments on this issue.

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LP100 and LP10 stations, the only identification needed might be the station’s location and ownership, perhaps given at sign on and sign off of the station’s programming).

<sup>306</sup> See, e.g., Comments of Andrew Morris at 14; Comments of Jeffrey S. Richman at 5.

<sup>307</sup> See Comments of Timothy Cramer at 2. See also Comments of Harry W. Pardue at 2 (arguing that using an existing call sign system will reduce administrative burdens).

<sup>308</sup> Thus, an LPFM station could not have the call sign WXYZ if a low power television station also had that four letter call sign because both would be identified as WXYZ-LP. If, on the other hand, WXYZ were the call sign of a full-power FM station and was not used by any LPTV station, the LPFM station could, with the consent of the full power station, use the call sign WXYZ. In this case, the two stations would be distinguished because one would be WXYZ-FM and the other would be WXYZ-LP.

<sup>309</sup> 47 C.F.R. § 73.3550. LPFM stations shall also be subject to the station identification requirements of 47 C.F.R. § 73.1201. A party cannot request a call sign until a construction permit is issued. As with full power stations, the call letters of stations located east of the Mississippi River will begin with a “W” and west of the

181. Comments. For LP100 and LP10 services, commenters either argue for: (1) low or no minimum operating hours, because of the cost burden involved in requiring extended hours of operations, or (2) a time sharing arrangement among local broadcasters.<sup>310</sup> This latter group of commenters argue that time sharing arrangements would reduce the part-time warehousing of spectrum that would occur by a single non full-time licensee, and would permit the entry of additional new voices into the local radio market.<sup>311</sup>

182. Decision. In order to ensure an effective utilization of channels, we will impose the same minimum operating hour requirements on LP100 and LP10 FM stations that we currently apply to full-power noncommercial educational FM stations. Under our rules, “[a]ll noncommercial educational FM stations are required to operate at least 36 hours per week, consisting of at least 5 hours of operation per day on at least 6 days of the week; however, stations licensed to educational institutions are not required to operate on Saturday or Sunday . . . .”<sup>312</sup> These requirements are not extensive and should not impose an inordinate burden on LPFM licensees. In cases where individual parties are interested in applying for LP100 and LP10 stations but do not have sufficient programming to meet the minimum operating hour requirements, we encourage those parties to find other applicants with whom they could share the license. To accommodate those situations in which the demand for airtime does not exceed the spectrum availability, however, we will not automatically delete a station that is operating at less than the minimum hours. When another applicant comes forward that wants to utilize the underused channel, that applicant can notify the Commission of the incumbent’s failure to meet minimum hours and demand that the incumbent return its license or agree to a time-sharing arrangement that will accommodate both parties.

## 6. Main Studio Rule, Public File Rule and Ownership Reporting Requirements

183. Background. In the *Notice*, we invited comment on whether LPFM stations of each class should be subject to the variety of other rules in Part 73 with which full power stations must comply, including, for example, the main studio rule (47 C.F.R. § 73.1125(a)), public file rule (47 C.F.R.

73.3526, 73.3527), and the periodic ownership reporting requirements (47 C.F.R. § 73.3615). Given the purposes and power levels of LP1000 stations, we tentatively concluded that LP1000 licensees should generally meet the Part 73 rules applicable to full power FM stations. However, the *Notice* sought comment on whether sufficient useful purpose would be served in applying each rule to these licensees. We were disinclined to apply these service rules to LP10 stations, and sought comment with regard to the rules appropriate for LP100 stations.

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<sup>310</sup> Comments of Andrew Morris at 12 (suggesting that the Commission could reduce its administrative burdens by imposing no minimum operating hours, and relying instead on the “silent station” statute); Comments of Warren Michelsen at 4 (believing that minimum operating hours discourage greater diversity by compelling stations to fill up broadcast time with canned programming, and by potentially precluding more creative broadcast startups, which may not have sufficient programming or capital to afford the longer required broadcast hours).

<sup>311</sup> See, e.g., Comments of William T. Croghan Jr. at 9; Comments of Mid-America Broadcasting Company, Inc. at 8; Comments of Morris Broadcasting Company of New Jersey, Inc. at 9; Comments of Positive Alternative Radio, Inc. et al. at 14; Comments of University of Dayton at 9.

<sup>312</sup> See 47 C.F.R. § 73.561.

184. Comments. Comments were divided on this issue. Most broadcasters who commented on this issue agree that LPFM stations should generally follow existing regulations for full-power stations,<sup>313</sup> but some note that they should only have minimal day-to-day regulatory requirements because of the difficulty of survival if such stations had to follow the exact rules that full-power stations are required to follow.<sup>314</sup> Many other commenters state that the Commission should not require LPFM stations to comply with a main studio, public file or ownership reporting requirement, because of the burdens they would impose.<sup>315</sup>

185. Decision. We conclude that we should not impose the main studio, public file,<sup>316</sup> or ownership reporting requirements on LPFM stations. We believe these requirements would place an undue burden on such small noncommercial educational stations. In addition, we believe that the nature of this service will ensure that LPFM stations are responsive to their communities. This approach is consistent with our treatment of low power television stations.<sup>317</sup>

186. As to equal employment opportunity (EEO) rules, we conclude that all LPFM licensees must comply with the Commission's long-standing prohibition against employment discrimination.<sup>318</sup> We believe that a finding that any broadcaster has engaged in employment discrimination raises a serious question as to its character qualifications to be a Commission licensee.<sup>319</sup> In addition to the prohibition against discrimination, the broadcast EEO Rule also includes EEO program requirements.<sup>320</sup> These

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<sup>313</sup> See, e.g. Comments of NAB at 76; Comments of Buckley Broadcasting, Inc., at 16; Comments of Big City Radio, Inc. at 17; Comments of Barry Broadcasting Company at 4; Comments of Delmarva Broadcasting at 9-10.

<sup>314</sup> See Comments of Creative Educational Media Corporation, Inc. at 3; Comments of Mid-America Broadcasting Company at 3; Comments of Morris Broadcasting at 3; Comments of Nassau Broadcasting at 3. These commenters propose that all LPFM stations should be required to submit periodic program summary reports so that the FCC as well as the general public can verify the localized performance of all LPFM stations. REC Networks believes that all LPFM stations should maintain a public file which, for LP100 watts or less, could be placed on the internet in lieu of having a public inspection location, since many of these stations may be operated from private residences. Comments of REC Networks at 7.

<sup>315</sup> See, e.g., Comments of Texas Department of Transportation at 3; Comments of Oklahoma Department of Transportation at 5 (Both believe that the micropower station licensees should be exempted from the main studio rule, the public file rule and periodic ownership reporting requirements). Ronnie Miller argues that we should impose the absolute minimum amount of regulation for smaller stations to allow for experimentation, and Gene Kirby states that LP10 should be as free of unnecessary rules, paperwork, logs, etc., as is practical. Comments of Ronnie Miller at 23; Comments of Gene Kirby at 1.

<sup>316</sup> As noted above, however, LPFM licensees must maintain a political file. See ¶ 175.

<sup>317</sup> Report and Order in BC Docket No. 78-253, 51 RR 2d 476 (1982) (“*Low Power Television R&O*”).

<sup>318</sup> See 47 C.F.R § 73.2080(a).

<sup>319</sup> *Bilingual Bicultural Coalition on Mass Media, Inc. v. FCC*, 595 U.S. 621, 628-29 (D.C. Cir. 1978).

<sup>320</sup> See 47 C.F.R. § 73.2080(b) and (c).

requirements are not currently in force.<sup>321</sup> In any event, we did not enforce compliance with the EEO program requirements by broadcast stations with fewer than five full-time employees. Because we anticipate that the vast majority of this class of licensees will employ very few (if any) full-time, paid employees, we do not intend to require LPFM licensees to comply with any EEO program requirements we adopt in our pending rulemaking proceeding.

## 7. Construction Permits

187. **Background.** In the *Notice*, the Commission proposed an 18-month construction period for LP100 stations and a twelve-month limit for LP10 stations. The shorter construction time limits for LP100 and LP10 stations (relative to the three-year construction period that is allowed to full-power FM stations<sup>322</sup>) were meant to reflect the simpler construction requirements for these facilities. The 18- and 12-month periods also assumed that difficulties with obtaining the requisite construction permits would be minimal.

188. **Comments.** Many commenters state that the proposed construction periods for LP100 and LP10 stations are reasonable, given the relatively smaller facilities and simpler construction involved with these stations.<sup>323</sup> Other commenters argue for even shorter construction periods for LP100 and micro-radio services.<sup>324</sup> Some commenters thought that imposing strict construction time limits would help to prevent spectrum hoarding and help encourage the rapid deployment of the spectrum resources.<sup>325</sup>

189. **Decision.** We will adopt an 18-month construction period for both LP10 and LP100 services, and it will be strictly enforced. While we believe that most permittees will be able to and will have ample incentive to construct their low power stations in far less than 18 months, given the relative

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<sup>321</sup> The United States Court of Appeals for the District of Columbia Circuit held that the EEO program requirements of the broadcast EEO Rule are unconstitutional. *Lutheran Church - Missouri Synod v. FCC*, 141 F.3d 344, *pet. for reh'g denied*, 154 F.3d 487, *pet. for reh'g en banc denied*, 154 F.3d 494 (D.C. Cir. 1998) ("*Lutheran Church*"). The Commission has proposed and requested comment concerning a new broadcast EEO Rule and policies consistent with the D.C. Circuit's decision in *Lutheran Church*. See *Review of the Commission's Broadcast and Cable Equal Employment Opportunity Rules and Policies and Termination of the EEO Streamlining Proceeding*, 13 FCC Rcd 23004 (1998).

<sup>322</sup> See Report and Order in MM Dockets Nos. 98-43 and 94-149, FCC 98-281 (released November 25, 1998) ("*Non-Technical Broadcasting Streamlining R&O*"), providing a three year construction period for new radio stations.

<sup>323</sup> See, e.g., Comments of the Texas Department of Transportation at 5; Comments of the Oklahoma Department of Transportation at 4 (supporting the proposed construction limit).

<sup>324</sup> Comments of REC Networks at 7 (arguing for a 12-month construction period); Comments of the Lawyers Guild at 37 (arguing for construction periods of 10 months and 9 months for LP100 and LP10, respectively, reasoning that "these stations should be fairly inexpensive and relatively easy to put on the air.").

<sup>325</sup> See, e.g., Comments of Andrew Morris at 12 (arguing that a designated construction period helps to guarantee use of the spectrum by a set date.); Comments of Joshua Weiss at 1 (arguing that licensees should be precluded from hoarding construction permits).

technical simplicity of LP100 and LP10 stations, we do not wish to burden applicants who may encounter unforeseen difficulties with a shorter construction period. We recognize that while the facilities themselves will be relatively easy to construct, zoning and permitting processes may, in some cases, delay construction. However, we expect that applicants will have well-considered proposals in this regard and we do not intend to grant extensions to the construction permits.<sup>326</sup> Therefore, to avoid the complications and delays of extension rulings, as well as to encourage well-planned and executed proposals, we have allowed what we consider to be more than ample time for permittees to complete construction and begin operation, and we expect to see many stations in operation long before the allowed 18 months.

## 8. Emergency Alert System

190. Background. In the *Notice*, we proposed to treat LP1000 facilities like full-power FM stations for the purposes of the Emergency Alert System (EAS). We explained that, in this way, we would expect to avoid having significant numbers of people deprived of this critical information resource. By contrast, because of their extremely small coverage areas and correspondingly sized audiences, as well as their limited resources, we proposed that LP10 stations, if authorized, not be required to participate in the EAS. We sought comment on these proposals and also on how LP100 stations, with their intermediate size and audience reach, should fit into the EAS structure.

191. Comments. Some commenters argue that compliance should not be required for LP100 or LP10 stations because small operations and coverage areas make compliance unnecessary and too expensive;<sup>327</sup> stations other than LP100 and LP10 stations can take on the role of alerting the community to emergencies;<sup>328</sup> the short range and secondary status of LP100 stations make them unsuitable for emergency message propagation;<sup>329</sup> and removing LP100 stations from the air during national emergencies would help prevent interference during such crisis times.<sup>330</sup> Other commenters suggest that EAS be required only under certain circumstances.<sup>331</sup> A few commenters provide suggestions on how to

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<sup>326</sup> LPFM permittees will be eligible for tolling of the construction period pursuant to our rules and consistent with Section 319(b) of the statute. *See* 47 U.S.C. §319.

<sup>327</sup> *See* Comments of Gene Kirby at 1; Comments of Morris Broadcasting Co. at 9; Comments of Gary L. Nixon at 2, Comments of Stanley L. Sarch at 1; Comments of Creative Educational Media Corp. at 10; Comments of John R. Benjamin and Charles Coplien at 5; Comments of Spencer Graddy Clark at 5.

<sup>328</sup> Comments of the Oklahoma Department of Transportation at 5; Comments of the Texas Department of Transportation at 5.

<sup>329</sup> Comments of Andrew Morris at 13.

<sup>330</sup> Comments of Andrew Morris at 13; Comments of REC Networks at 7.

<sup>331</sup> *See, e.g.*, Comments of Ronnie V. Miller at 22 (not opposed to voluntary compliance for LP100 stations); Comments of REC Network at 17 (supports voluntary compliance for LP100 stations); Comments of Robert J. Wertime at 2 (believes EAS should include automatic deference to local FM stations, if not fully implementable at an LPFM station); Comments of Roger P. Doering at 1 (believes that LPFM should shut down in an alert, unless a full power station is disabled); Comments of John A. Crutti, Jr. at 1 (believes that LP100 stations should be exempt from EAS compliance, except where full-power stations are not present in local areas to provide EAS); Comments of (continued....)

overcome the expense involved in EAS participation.<sup>332</sup> Finally, Andrew Morris and William T. Croghan, Jr. assert that LP100 stations should not be required to use EAS encoders because these stations only broadcast to listeners, not to EAS participants that would use encoded information.<sup>333</sup>

192. Other commenters, however, stress the importance of participation in EAS by all broadcast stations.<sup>334</sup> NAB and John D. Bowker argue that LP100 stations should not be excluded from EAS system requirements because listeners will be unaware that they will not receive the emergency warnings from LPFM stations that they have come to expect from radio stations.<sup>335</sup> West End Radio asserts that LPFM stations should be required to participate in EAS because Americans who live in remote areas would be put in jeopardy if they cannot receive any kind of emergency alert.<sup>336</sup> Aaron Read argues that the costs of EAS are not too heavy a financial burden (average \$1600), and for an EAS system in general to work, all broadcast services must participate. Read further argues that Congress has mandated participation in EAS for all broadcast services, which would include LPFM stations.<sup>337</sup> Noting that the minimum facility Class A FM station operating at 100 watts must participate in the EAS, Wright Broadcasting argues that exempting LP100 stations from participation is discriminatory.<sup>338</sup>

193. Decision. We conclude that LPFM stations should be required to participate in the EAS structure, but in a modified way. Our requirements will balance the cost of compliance, the ability of stations to meet that cost, and the needs of the listening public to be alerted in emergency situations. LPFM licensees will be able to satisfy our EAS requirements if they install and operate Commission-certified decoding equipment, which will alert station personnel to emergency alerts. Once that decoding equipment is installed, station personnel must pass any national emergency audio message on to listeners as prescribed in our rules. As is the case for full service broadcasters, LPFM participation at the state and local levels will be on a voluntary basis.

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Andrew Morris at 13 (same as John A. Crutti, Jr.).

<sup>332</sup> See Comments of Douglas E. Smith at 4-5 (suggests that LPFM could use equipment, which is available at a modest cost (less than \$100), to detect EAS codes originated by the National Weather Service and that it would not be excessively burdensome to require LPFMs to monitor their area's local primary station for EAN, and to go off the air if it is received, returning only after EAT is issued); Comments of Robert Zukowski at 2 (suggests that an economical way for LPFM stations to participate in EAS is to rebroadcast a full power station's EAS messages).

<sup>333</sup> Comments of Andrew Morris at 13; Comments of William T. Croghan, Jr. at 10.

<sup>334</sup> See Comments of Barry Broadcasting Co. at 4; Comments of Buckley Broadcasting Corp. at 16; Comments of Crawford Broadcasting Co. at 7; Comments of Delmarva at 10; Comments of Sunbury Broadcasting Corp. at 2.

<sup>335</sup> Comments of NAB at 77; Comments of John D. Bowker at 16.

<sup>336</sup> Comments of West End Radio at 1.

<sup>337</sup> Comments of Aaron Read at 15.

<sup>338</sup> Comments of Wright Broadcasting at 10-11.

194. The EAS is composed of several entities, including FM broadcast stations, LPTV stations, and cable systems operating on an organized basis at the national, state, and local levels.<sup>339</sup> The EAS alert is designed to make viewers and listeners aware of emergencies that may affect them so that they may take appropriate protective action or seek additional information.<sup>340</sup> Though the arguments of financial hardship for LPFM licensees to implement the EAS are well taken, alert messages are potentially important to all listeners and viewers, and commenters do not persuade us that the LPFM stations should, as a class, be exempted from this important public safety function. We will, however, minimize the cost of effective participation for LPFM licensees. Accordingly, we amend section 11.11(a) to include LPFM stations in the list of the EAS entities. We also amend the Broadcast Station Timetable of section 11.11(a) to set out the requirements for LPFM.

195. While we will require EAS participation, we will exempt LPFM stations from purchasing some of the EAS equipment required for other participants under our rules. In general, EAS equipment must be able to perform the functions described in all of our rules regulating EAS.<sup>341</sup> However, we relaxed some of these requirements for Class D noncommercial educational FM and LPTV stations.<sup>342</sup> Because LPFM stations will also provide service to small audiences, we exempt LPFM stations from the requirement to install and operate encoders. We believe that the cost to LPFM licensees of installing and operating both encoding and decoding equipment outweighs the benefits that these small stations could provide to the public.<sup>343</sup>

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<sup>339</sup> 47 C.F.R. § 11.11(a).

<sup>340</sup> EAS relies on equipment that provides emergency alerts via a digital signaling process. Amendment of Part 73, Subpart G, of the Commission's Rules Regarding the Emergency Broadcast System, FO Docket Nos. 91-171 and 91-301, *Third Report and Order*, 14 FCC Rcd 1273, 1274, ¶ 2 (1998); see Amendment of Part 73, Subpart G, of the Commission's Rules Regarding the Emergency Broadcast System, FO Docket Nos. 91-171 and 91-301, *Report and Order and Further Notice of Proposed Rulemaking*, 10 FCC Rcd 1786 (1994) (*EAS First Report and Order*). EAS equipment transmits a message that is generally no longer than two minutes in length and at a minimum, provides the viewer with the reason or event posing a threat, the location that the event may be affecting, the approximate time period that a threat to safety will last, and the originator of the alert message. *Id.* at ¶ 2, n. 4. National level EAS messages and EAS tests must be forwarded to the public upon receipt. EAS participants transmit state and local messages on a voluntary basis. *Id.* at ¶ 2.

<sup>341</sup> Specifically, EAS equipment must be able to perform the functions described in sections 11.31, 11.32, 11.33, 11.51, 11.52, and 11.61 of our rules.

<sup>342</sup> Class D noncommercial educational FM and LPTV stations are not required to install or operate encoders as defined in section 11.32,<sup>342</sup> to have equipment capable of generating the EAS codes and Attention Signal specified in section 11.31, or to perform certain parts of EAS tests.

<sup>343</sup> Accordingly, we amend section 11.11(b) to provide that LPFM stations, as defined herein, are not required to comply with section 11.32. Because LPFM stations are not required to install or operate encoders, we amend section 11.51(e) to provide that LPFM stations are not required to have equipment capable of generating the EAS codes and Attention Signal specified in section 11.31. Because we are not requiring LPFM stations to install equipment capable of generating the EAS codes and Attention Signal, we amend the last sentence of section 11.61(a)(1)(v) to require Class D noncommercial educational FM, LPTV, and LPFM stations to transmit only the test script of this monthly test. Monthly tests are required of the EAS header codes, Attention Signal, Test Script and EOM code, but Class D noncommercial educational FM and LPTV stations are only required to transmit the Test Script. In addition, we amend section 11.61(a)(2)(ii)(E)(2)(iii) to provide that Class D noncommercial educational (continued....)

196. While we are not requiring LPFM stations to install encoding equipment, all LPFM stations are required to use decoding equipment that notifies the station in case of any emergency. We recognize that there will be costs associated with EAS decoders, but believe the costs are justified. Current Commission-certified integrated encoder/decoder equipment costs \$1,500 or more depending on the options a station wants to install. We note that today's manufacturers only produce certified encoders and decoders as integrated units, as that is the only demand that exists. Noncertified decoding equipment, however, is currently available and is advertised in some places for as little as \$650.<sup>344</sup> Thus, it appears that Commission-certified decoding equipment should be available for well under \$1000 and should be able to reach the market in the near future. Accordingly, we will require the use of Commission-certified EAS decoders or decoder/encoders by all LPFM stations when they commence operations. It will be several months before the first LPFM stations are on the air. Given that decoders are already on the market, this should be ample time to obtain Commission certification and make certified units available for purchase. If certified decoder equipment is not available at that time, we can grant a temporary exemption for LPFM stations until such time as it is reasonably available. Once the licensee has installed decoding equipment, if the station is on the air at the time it receives a national emergency alert message, station personnel must pass the information along to listeners.<sup>345</sup>

197. Finally, we will continue to grant waivers of EAS requirements to broadcasters, including LPFM licensees, on a case-by-case basis in appropriate circumstances upon a sufficient showing of need. As we outlined in the *EAS First Report and Order*, the waiver request must contain at least the following: (1) justification for waiver, with reference to the particular rule sections for which a waiver is sought; (2) information about the financial status of the entity, such as a balance sheet and income statement for up to the previous two years (audited, if possible); (3) the number of other entities that serve the requesting entity's coverage area and that have or are expected to install EAS equipment; and (4) the likelihood (such as proximity or frequency) of hazardous risks to the requesting entity's audience.<sup>346</sup>

### III. CONCLUSION

198. In this *Report and Order*, we set the stage for a new dimension in radio broadcasting, creating additional, affordable outlets for the expression of views and the provision of information and entertainment to local communities. By limiting participants in this service to noncommercial, educational organizations, we hope to ensure that this service will meet needs unmet by the commercial radio service. Through eligibility requirements, selection preference factors, and the relatively small range of LPFM stations, we hope to create a service that will serve the distinct needs of small local communities. Mindful of the need to protect the technical integrity of the existing radio service and to

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FM, LPTV, and LPFM stations are not required to transmit this digital test, but must log receipt. Class D noncommercial educational FM and LPTV stations are not required to transmit weekly tests of the EAS header and EOM codes.

<sup>344</sup> Such equipment is used, for instance, by police or fire departments to monitor the Emergency Alert System.

<sup>345</sup> Accordingly, we amend section 11.53(a)(3) of our rules to require LPFM stations to disseminate the national audio message to all subscribers if it is received via wire services.

<sup>346</sup> *EAS First Report and Order*, 10 FCC Rcd at 1830, ¶ 123.

preserve its potential transition to digital service, however, we are proceeding cautiously. Accordingly, we are limiting radio stations in the LPFM service to a maximum of 100 watts. We are also maintaining 2<sup>nd</sup>-adjacent channel protection. Based on our engineers' careful review of the technical data submitted to the Commission, as well as their own studies, we are confident that any risk of interference is small and, on balance, outweighed by the benefits this new service will bring.

**ADMINISTRATIVE MATTERS**

199. Paperwork Reduction Act Analysis. This *Report and Order* has been analyzed with respect to the Paperwork Reduction Act of 1995, and found to impose new or modified reporting and recordkeeping requirements or burdens on the public. Implementation of these new or modified reporting and recordkeeping requirements will be subject to approval by the Office of Management and Budget as prescribed by the Act.

200. Regulatory Flexibility Analysis. Pursuant to the Regulatory Flexibility Act of 1980, as amended, 5 U.S.C. § 601, the Commission's Final Regulatory Flexibility Analysis for this *Report and Order* is attached as Appendix C.

201. Additional Information. For additional information on this proceeding, please contact Julie Barrie, Policy and Rules Division, Mass Media Bureau, (202) 418-2130.

**ORDERING CLAUSES**

202. Accordingly, IT IS ORDERED that, pursuant to authority contained in sections 1, 4(i), 303 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 154(i), 303, Part 73 of the Commission's rules, 47 C.F.R. Part 73, IS AMENDED as set forth in Appendix A below.

203. IT IS FURTHER ORDERED that, the amendments set forth in Appendix A shall be effective 60 days after publication in the Federal Register.

204. IT IS FURTHER ORDERED that the Commission's Consumer Information Bureau, Reference Information Center, shall send a copy of this *Report and Order*, including the Final Regulatory Flexibility Act Analysis, to the Chief Counsel for the Small Business Administration.

205. IT IS FURTHER ORDERED that this proceeding IS TERMINATED.

FEDERAL COMMUNICATIONS COMMISSION

Magalie Roman Salas  
Secretary