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**Before the**
# FEDERAL COMMUNICATIONS COMMISSION
**Washington, D.C. 20554**

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| Reply Comments | ) | |
| In the Matter of | ) | RM No. 9208 |
| | ) | |
| | ) | RM No. 9242 |
| Amendment of the AM and FM | ) | |
| Service Rules to authorize a | ) | RM No. 9246 |
| Low Power FM Broadcasting Service | ) | |

To: The Commission

## REPLY COMMENTS OF THOMAS DESMOND

In reply to:

Comments of the National Association of Broadcasters ("NAB")

Consolidated Comments of USA Digital Radio, L.P. ("USADR")

Joint Statement of the Named State Broadcasters Associations ("State Associations")
(43 state broadcast associations are named on the petition)

I hereby respectfully submit the following reply comments in the above-captioned Notice of Proposed Rulemakings ("NPRMs") relating to the creation of a low powered broadcasting service on the FM broadcast bands.

## I. BACKGROUND

The FCC has solicited comments on these NPRMs, which elicited the comments listed above, all of which oppose the establishment of a micropower or low powered broadcast service on either the AM or FM bands. Since I support the establishment of an FM only low powered service, I will address the interference issues pertaining to the FM broadcast band only. Various



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other issues raised by the comments of these groups will also be addressed within these reply comments.

As a degreed Electrical Engineer (graduated cum laude from Washington State University in 1984), I am qualified to discuss the issues related to interference. As an individual who has previously filed an application for a full powered station with the FCC, and who currently has several rulemaking petitions before the FCC, I feel that I am also qualified to address several of the other issues raised in the comments, as well.

## II. THE ENVIRONMENT HAS CHANGED SINCE PREVIOUS FCC DECISIONS OF LPFM

The National Association of Broadcasters ("NAB") argues against the establishment of a low powered or micro powered broadcast service, by observing that the FCC has previously rejected the establishment of a low powered FM service, and should therefore do so again. These arguments center primarily on the FCC's elimination of the class D non-commercial service in 1978, and secondarily, on the FCC's rejection of local program origination for FM translators in 1990. The FCC should reject these arguments out of hand, for it is certainly appropriate for the FCC to revisit it's rules from time to time and determine if circumstances warrant a change in policy. In fact, the FCC has modified existing policy on several occasions with the full support of the NAB. One example of this was when the FCC opted to allow duopoly operation (two AM or FM stations under common ownership) in the early 1990s. By the reasoning of the NAB in their comments, this decision was inappropriate as it reversed a decision by the FCC in the 1930s to force the divestiture of the duopoly operations of the National Broadcasting Corporation.

The FCC is wisely reconsidering this issue in recognition of the fact that circumstances have changed dramatically in the broadcast radio industry since the FCC eliminated the class D service. In 1978, one entity was limited to a total of 14 stations (seven each in the AM and FM broadcast bands), with no more than two (one AM and one FM) in any given locality. Open full powered allotments were available in much of the country. The cost of purchasing an existing facility was a fraction of today's prices, even when adjusted for inflation. Even since 1990, circumstances have altered significantly, with the "stick value" of a class C FM station in the Dallas-Fort Worth metropolitan area having increased approximately three fold in the intervening

time. Also in the intervening time, local ownership rules have been loosened considerably (from a total of two stations-one AM and one FM-to as many as eight in a market), and national ownership rules have been eliminated. Barriers to entry for small businesses and minority entrepreneurs have increased dramatically.

In the current market, LPFM would provide an opportunity for individuals, community groups, and business people who are priced out of the current marketplace for full powered stations. LPFM would also provide new voices in markets where 80% or more of the audience and advertising revenue is controlled by three or fewer companies, something which is now the case in several markets across the country. It would provide an opportunity for locally owned stations in an environment where local ownership has virtually disappeared in most major (and many medium) markets.

## III. LPFM IS A SPECTRALLY EFFICIENT WAY OF PROVIDING SERVICE

The NAB argues that an LPFM service would be spectrally inefficient; on pages 9 and 10 of their comments, they present an example and a figure illustrating their view on this. The figure compares the coverage of a 6 kw/100 meter HAAT class A FM station with the coverage of a large number of 1 watt/30 meter HAAT "micro powered" stations, and claims that 81% less area would be served by the 1 watt stations. What the NAB comparison ignores is the effect of the white area between cochannel class A stations. In essence, the NAB takes into account the required separations between the 1 watt stations, but ignores these separations for the 6 kw station.

When the required separations are taken into account, the spectrum efficiency issue virtually disappears. The 1 watt stations place a 1 mv/m contour 1.8 km from the transmitter, and must be separated (cochannel) by 7.5 km. The ratio between these two numbers (1.8/7.5) is 0.24. In comparison, the 6 kw class A station places a 1 mv/m contour 28.5 km from the transmitter site, but must be separated by 115 km from its class A cochannel neighbor(s). The ratio between these two numbers (28.5/115) is 0.248, which is virtually identical to that for the 1 watt "micro" stations, showing no increase in spectral efficiency by the higher powered stations.

It should be noted that the spectral inefficiency only occurs when stations with disparate power levels are brought into the comparison. However, these comparisons are a double edged

sword, since they can be used as easily to argue for elimination of higher powered stations as they can be used to argue against low powered stations.

Furthermore, an LPFM service could actually increase spectral efficiency by allowing new stations on the air in locations where spacing does not allow for the establishment of full powered stations. For example, a site that is located equidistant between two cochannel class A FM stations that are 200 km apart could not be utilized for a new broadcast station under current FM rules, since the 115 km cochannel spacing requirement could not be met for the new station, which would only be 100 km from each of the two existing stations. However, an LPFM station broadcasting with 250 watts/100 meters HAAT (or any equivalent ERP/HAAT combination providing equal coverage) could be authorized without interference if a low powered service were authorized.

## IV. AN LPFM SERVICE NEED NOT BE LIMITED TO 100 WATTS

In a footnote on page 5 of their comments, the NAB states "...that any proposal to operate above the FCC's power minimum is no longer a low power station, thus an individual should be required to apply for a full-power license under existing FCC procedures." I would like to note that the FCC currently licenses translators at up to 250 watts ERP, which is well in excess of the 100 watt minimum for full powered stations. Under the NAB's reasoning, these translators should be forced to apply for full powered licenses.

I believe that the FCC should look at the establishment of a low powered service on its own merits, and set the power limits based on the levels the FCC determines are appropriate for this service. The existing minimum power level for full powered stations is, and should be, irrelevant to this discussion.

## V. AN LPFM SERVICE DOESN'T CONFLICT WITH IBOC DIGITAL

The NAB is apparently unable to find any justification to their previous claims that LPFM stations would interfere with existing analog service, so they instead choose to focus their interference claims on an in-band, on-channel ("IBOC") digital radio system being developed by USADR. Similar (speculative) interference claims are presented in the USADR comments. While it may be true that such interference would occur (after all, who can prove that it wouldn't,

since the system doesn't yet exist), it would only occur as a result of the USADR system effectively being a spectrum grab, since the digital signal would be placed, in full, on two adjacent FM channels. Contrary to the claims in these comments, this is not IBOC, but rather IBAOP (in-band, all over the place) digital.

The appropriate response by the FCC is to mandate the IBOC digital signal be kept closer to the main channel in any case where interference results to other stations, including from LPFM stations. This could be done by prohibiting LPFM stations from using their 67 kHz and 92 kHz subcarriers, which would allow LPFM stations to move their digital signals closer to the center of the main channel, eliminating any possible second adjacent interference. Such a system might also be utilized (on an optional basis) by some full powered stations who desire to minimize second adjacent interference to their signals at the edge of their coverage areas. This option would require that the USADR system (or whichever system is eventually approved by the FCC) be implemented in a manner that allows the digital radio receiver to respond to digital signals at the optional locations closer to the main carrier. This option would also eliminate even the possibility of the potential interference by the IBOC digital signal of LPFM stations to the analog signal of a third channel adjacent station that is so unconvincingly raised by the NAB on pages 23 and 24 of its comments.

Such an option is far preferable to refusing to authorize a new service to the public (LPFM) on the basis of speculative claims about interference to an un-proven, un-finished, and un-approved IBOC digital radio service as requested by the NAB, or delaying this new service indefinitely, as requested by USADR.

## VI. THERE IS A NEED FOR AN LPFM SERVICE

On pages 25 and 26 of its comments, the NAB argues that a low or micro powered radio service is not needed, since "[c]urrent radio broadcast services serve virtually every need." Similar comments are made by the State Associations, which further claim that "...there is abundant evidence that broadcasters are doing a superlative job in meeting the needs of their communities..." My response is to suggest that we ask classical music listeners in Philadelphia and Detroit (both of which recently lost their only commercial classical service) if they agree with this statement. As this example with classical music illustrates, there are groups who are

not served by existing full powered stations due to economics. As reported in the trade press, both of these stations were profitable, but were not profitable enough to justify continuing the existing format when compared to the potential value of these full powered frequencies for other (potentially more profitable) formats. LPFM might provide an opportunity to serve such groups, since the opportunity costs associated with a 100 watt or 250 watt station will reasonably be quite a bit lower than those associated with a 50 kw or 100 kw station.

The NAB asserts that "...the top five corporate radio groups own only around eight percent (8%) of the radio stations in the nation." While this is probably true, it is not the whole truth, since these stations are concentrated in the most populous markets. As a result, the degree of market control by these large groups is much higher than the NAB's statistics indicate.

The NAB also claims that format diversity has not suffered as a result of concentration of ownership: "The average number of formats per station for the top owner...is about 0.8, implying that an owner with five stations would generally have stations with four different formats." However, the number of formats in a market doesn't necessarily indicate how diverse the programming is in a given market. For example, one market might be served by stations with CHR, Rock, Oldies, Mainstream AC, Country, and Urban formatted stations, providing six choices. Another market might be served by stations carrying Hot AC, Modern AC, Mainstream AC, Modern Rock, Rock, and Classic Rock stations, again providing six choices. Few would argue that the format diversity in the two markets would be equal, since the latter example merely reflects different "flavors" of two basic formats. I would assert that the latter example is representative of the "format diversity" that exists in many markets in the post-consolidation environment. In this sort of environment, an LPFM service could bring new choices to the listening public thereby increasing service and serving the public interest.

The State Associations claim that "[g]roup ownership provides substantial economies of scale, ...which inure to the public's benefit by permitting group owners to improve the quality of their programming and facilities." This claim is totally unsubstantiated, and reminds me of the claims of a couple years ago that allowing ownership of large numbers of stations within a single market would encourage experimentation and programming diversity. Again, I suggest that we ask classical music listeners in Detroit and Philadelphia if they feel this has happened. Establishment of an LPFM service could only benefit listeners by increasing their choices.

On pages 27 and 28 of their comments, the NAB argues that the FCC should consider economic injury to existing stations in approving an LPFM service. The State Associations also raise this issue, arguing that LPFM stations would "...splinter audiences and compete for local advertising dollars with existing broadcasters." Since the FCC does not look at such injury when approving new allotments for full-powered stations, I fail to see why it should do so when considering an LPFM service. I strongly disagree with the assertion that the FCC has any obligation to protect the economic investments of existing broadcasters against potential new entrants. I would instead suggest that the FCC should approve the new service and let the marketplace decide.

Another assertion by the NAB is that "...micro- or low power radio service would essentially be unavailable to mobile listeners." Obviously, this claim is highly dependent on the power levels at which a low powered station operates. If an LPFM service is authorized at power levels sufficient to achieve coverage comparable to the existing FM translator service (as I have advocated in comments to RM-9242), this would not be the case. In addition, it disregards the driving habits of most people in their daily lives; much of which occurs quite close to home. A station with quite modest power could be clearly receivable on a five mile drive from someone's home to the local shopping mall, for example. It also assumes that worthwhile services can only be developed if they appeal to in-car listeners, which is a dubious assertion.

The State Associations make the argument that LPFM stations would not serve the public interest since low power proponents "...do not talk about public trustee responsibilities, only of the right to broadcast for themselves." This general theme is repeated several times in the State Associations' comments, which further claim that "...the true (and improper) motivation [of the petitioners]...is to provide amateur radio operators with their own personal AM and FM band stations." I believe that it is worth noting that at least one low power proposal, from the Community Radio Coalition, talks quite explicitly about requiring LPFM stations to provide public service programming. In fact, this proposal goes so far as to propose an explicit requirement for ten hours weekly of such programming on LPFM stations, which is a much stricter public service requirement than exists for full powered stations. I have previously commented this petition into RM-9242.

While I recognize that some commenters do indeed support the concept of a "hobby" type of LPFM service, with appropriate rules put in place by the FCC for an LPFM service, few such stations need ever actually hit the air.

## VII. USE OF TYPE ACCEPTED EQUIPMENT FOR LPFM

The NAB attacks the use of homebuilt equipment proposed by the Leggett petition: "...a microradio station could merely consist of a homemade transmitter, an antenna, and a microphone under this scheme." In previous comments and filings I have supported a requirement that type accepted equipment be required for LPFM stations, and reiterate that stand here. Since type accepted equipment is widely available at reasonable prices (as any perusal of trade publications such as *Radio World* or *Radio Shopper* will quickly confirm), such a requirement is not incompatible with authorization of an LPFM service. A requirement for type accepted equipment would also minimize the concerns expressed by the NAB about interference from LPFM stations.

## VIII. SUPPORT FOR MINIMUM OPERATING SCHEDULES

The NAB argues against the LPFM/micro-power proposals based on concerns over fear that some stations might be on the air only for brief periods on an infrequent basis. I would contend that this could be easily resolved through the implementation of minimum programming schedule requirements for LPFM stations. Through the use of volunteers and/or automation, I would believe that any group of individual who is serious about providing a new broadcast service to his community could find a way of meeting such requirements.

## IX. OTHER OUTLETS ARE NOT AVAILABLE FOR ESTABLISHING NEW SERVICE

On pages 30 and 31 of their comments, the NAB asserts that "...it may be possible...to have an outlet on established full-power stations." As an example, they cite "pirate" broadcaster Alan Fried's arrangement to have Beat Radio programming placed on the Children's Broadcasting Corporation ("CBC") stations. Not mentioned in their comments is that this is a temporary arrangement pending the sale of these stations by CBC; and that this arrangement only came about as a temporary arrangement due to the failure by CBC to consummate a previously

agreed sale of these stations. As such, this example should hardly be considered typical. They also cite Mr. Fried's placement of some of his programming on a non-commercial outlet in Minneapolis. Again, they fail to give all the facts, which would include noting that this programming runs from 2 AM to 5 AM on Monday morning.

Similarly, the NAB's suggestion that non-commercial frequencies be utilized by new entrants is unrealistic, since these frequencies have long been filled in most major and medium markets. Furthermore, some LPFM operators may be interested in providing an avenue of affordable advertising for local merchants, a service which would is severely limited by the restrictions placed on stations operating on non-commercial frequencies. Thus, even if non-commercial frequencies are available, they are not a substitute for a legal licensed low powered broadcast service.

## X. THE ARGUMENTS AGAINST LPFM ARE INCONSISTENT

The NAB's arguments against a low powered service are generally inconsistent, and therefore, unpersuasive. For example, on page 31 of their comments, the NAB argues that a low powered service should be rejected, since "...even if a very low power service could be established...[without] interference to full-power stations, the...low power broadcasters would always seek more [power]." The NAB then argues that "[i]ncreased power only increases the likelihood of interference and further congestion..." This sounds like an arguments in favor of LPFM or other low powered broadcast services, and an argument against the existing system of high powered stations. After all, if the NAB is correct in arguing that 50 or 100 watt stations would result in interference or congestion, this interference would be minuscule in comparison to that caused by stations broadcasting with as much as 50 to 100 kw. So, if the NAB really believes this argument, I look forward to seeing their petition to the FCC to abolish class B, C, C1, and C2 FM stations.

Interestingly, the NAB earlier (pages 4 through 11) argues based on the exact opposite premise-that LPFM should be rejected since it uses too little power, and that results in more interference (versus the coverage area of the stations). So apparently, the NAB would have us simultaneously believe that LPFM will cause interference both because it is too low powered and too high powered.

Another interesting argument utilized by the NAB is that LPFM should not be legalized because all pirates will not choose to operate legally if given the opportunity. While this is likely true, it is not a compelling argument against the existence of an LPFM service. After all, when the government first licensed broadcast stations in 1927 (under the FRC), there were stations that violated the law by continuing to broadcast without a license. Using the NAB's logic, the FRC shouldn't have bothered to license any broadcast stations, since some would continue to operate illegally.

Next, the NAB argues that a low powered service would place an excessive administrative burden on the FCC. The NAB spends a significant amount of text arguing this point based on the original Leggett proposal of allocating one AM and one FM channel nationally, a proposal that the NAB acknowledges that even the Leggetts have admitted is impossible. The NAB also disregards the fact that alternate allocation proposals have been made (by Rodger Skinner and the Community Radio Coalition) for an LPFM service, and that a model already exists for allocating relatively low powered FM broadcast channels, and is successfully used by translator applicants without placing an undue administrative burden on the FCC. The administrative burden should not be increased by the fact that LPFM stations would originate programming. Similarly, the NAB argues that policing the new service would be a problem for the FCC; I fail to see that policing a LPFM service would be significantly different from policing FM translators, or the LPTV service. Neither of these services seems to especially burden the FCC (although it should be noted that based on the FCC's initial experience with LPTV applications, it would probably be desirable for the FCC to limit the number of LPFM applications that can be filed by a single group or individual). The State Associations make claims in this regard similar to the NAB, and are equally unconvincing.

Lastly, the NAB argues that stations placed on the air for "...a mere $1,000 or less..." (the State Associations claim an even lower $300 figure) would have no incentive to follow the rules, since their "...total capital investment that could be lost due a revocation...pales in comparison to what a full-power station has to lose." The NAB, being a group of professional broadcasters, surely understands that no one is going to be placing a licensed station on the air, low powered or otherwise, for that sort of money. The cost of type accepted transmitting equipment, while quite reasonable at low power levels, will exceed this figure substantially (even for a ten watt station),

and that doesn't include the cost of studio equipment. Realistically, an LPFM station will represent an investment in the tens of thousands of dollars; a large enough sum to provide a strong incentive for obeying the rules considering the limited financial resources of many of the potential LPFM entrants.

## XI. CONCLUSION

I agree with the NAB that the Commission must consider all of the practical and technical aspects of a LPFM radio service before deciding on the fate of these petitions. Unlike the NAB, I believe that this consideration will lead to the conclusion that a low powered FM broadcast band service is practical, technically feasible, and would serve the public interest if appropriately regulated. I disagree with the contention of USADR that consideration of an LPFM service should be deferred pending the introduction of digital AM and FM radio. Thus, some version of the petitions (see my previous comments on RM-9208 and RM-9242 for my views on practical micropower and LPFM services) should be approved in a timely manner.

Respectfully submitted,

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## CERTIFICATE OF SERVICE

I, Thomas Desmond, do hereby certify that a true and correct copy of the foregoing "Reply comments on RM-9208, RM-9242, and RM-9246" was sent via first class mail, this 16th day of May, 1998, to the following parties:

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