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**BEFORE THE
U.S. HOUSE COMMITTEE ON ENERGY AND COMMERCE,
SUBCOMMITTEE ON COMMUNICATIONS,
TECHNOLOGY, AND THE INTERNET**

**LEGISLATIVE HEARING ON H.R. 1084, THE COMMERCIAL
ADVERTISEMENT LOUDNESS MITIGATION ACT (CALM), H.R. 1147, THE
LOCAL COMMUNITY RADIO ACT OF 2009 AND H.R. 1133, THE FAMILY
TELEPHONE CONNECTION PROTECTION ACT OF 2009**

JUNE 11, 2009

Good morning Chairman Boucher, Ranking Member Stearns and Members of the Subcommittee. I am Peter Doyle, and I appear today before you to present testimony on behalf of the Federal Communications Commission. I am Chief of the Media Bureau's Audio Division. My staff and I are responsible for all terrestrial radio station licensing. I am pleased to provide a brief update on the development of the low power FM radio service and to discuss more fully the technical issues which relate to the Commission's 2004 Report to the Congress on the Low Power FM Interference Testing Program, the so-called Mitre Report.

I. Creation of the LPFM Service

The Commission authorized the low power FM ("LPFM") radio service in January 2000.¹ In establishing the first new radio service in more than 30 years, the Commission sought to respond to a broad and deep interest in creating outlets for highly local radio stations grounded in their communities. Both the LPFM service and technical

¹ See *Creation of a Low Power FM Service*, Report and Order, 15 FCC Rcd 2205 (2000) (subsequent history omitted).

rules were crafted to leverage the limited remaining FM spectrum to promote diversity and localism – new voices reaching underserved communities. An LPFM licensee must be a local non-profit or public safety entity. An LPFM licensee may not hold an interest in any other broadcast station. The licensing criteria favor an applicant which has an established community presence, pledges to originate significant amounts of local programming, and agrees to enter into voluntary time sharing agreements with competing applicants. The modest maximum technical facilities – 100 watts effective radiated power with an antenna height of 30 meters above average terrain – create licensing opportunities not available to full power stations. LPFM stations, which have a typical service range of 3.5 miles, can be constructed for less than fifty thousand dollars. Some organizations, relying extensively on volunteers and “barn-raising”-type community events, have constructed stations for far less. Technical and programming volunteers are the operational mainstays of many LPFM stations.

II. LPFM Third-Adjacent Channel Spacing Requirements

The 2000 Report & Order imposed LPFM distance separation requirements to protect full-power FM stations operating on co-, first- and second-adjacent channels and on intermediate frequency (“IF”) channels. The Report and Order concluded, however, that imposition of third-adjacent channel separation requirements would restrict unnecessarily the number of LPFM stations. Based on its finding that LPFM stations would not cause unacceptable levels of interference to full-power stations operating on third-adjacent channels, the Commission declined to impose this additional requirement on the service.

In a subsequent September 2000 reconsideration order, the Commission adopted complaint and license modification procedures to address unexpected LPFM interference to full-power stations operating on third-adjacent channels and imposed modified spacing requirements to protect radio reading services. It declined, again, to impose general third-adjacent channel protection requirements. In December 2000, Congress directed the Commission to do so in the 2001 District of Columbia Appropriations Act (“2001 DC Appropriations Act” or “Act”). The statute also directed the FCC to evaluate the likelihood of interference to full-power stations if LPFM stations were not subject to third adjacent channel spacing requirements.

The 2001 DC Appropriations Act had both immediate and longer-term impact on the roll-out and development of the LPFM service. The Commission, moving rapidly to initiate the new community-based radio service, had opened the first two of the four-stage LPFM national filing windows prior to enactment of the Act. As a result of the new spacing requirements, the LPFM stations proposed in a number of previously-filed applications became short-spaced to existing full-power and FM translator stations. The Media Bureau dismissed 462 applications which could not be amended to comply with the Act’s third-adjacent channel spacing requirements.

III. The Mitre Study

As also required by the 2001 DC Appropriations Act, the Commission selected an independent entity, the Mitre Corporation, to conduct field tests. Due to budgetary constraints, the planned field tests and listener test program were divided into two phases. Mitre delivered its Phase I Report to the Commission on June 2, 2003. The Report is long, but I believe it is fair to state that Mitre substantially agreed with the Commission’s

initial findings and conclusions regarding the potential for third-adjacent channel interference. Mitre found that no signal degradation to the reception of full-power stations occurred at distances greater than 333 meters from the various transmission test sites, and that signal degradation became significant within 250 meters, particularly at distances less than 100 meters, from the test sites. It concluded that, with the imposition of adequate emission standards, third-adjacent channel LPFM transmissions would have little impact on incumbent full-power stations. For this reason, Mitre recommended that the FCC not undertake Phase II of the study - the costly formal listener test program and economic analyses.

The Commission sought public comment on the Mitre Report findings. In February 2004, the Commission submitted its Report to Congress. The Report summarized the Mitre Report conclusions and recommendations, provided a brief analysis of the public comments received, and made two specific recommendations to Congress:

- **Existing third-adjacent channel minimum distance separation requirements between LPFM stations and existing full-service FM stations and FM translator and booster stations should be eliminated.**
- **Congress should re-evaluate the necessity of completing Phase II testing.**

IV. Additional Commission Actions to Strengthen and Promote the LPFM Service

The Commission proposed in 2005 and adopted in 2007 a series of wide-ranging rule changes to strengthen and promote the long term viability of the LPFM service, and the localism and diversity goals that this service is intended to advance.² In the 2007 action, the Commission proposed additional rule changes to preserve operating LPFM

² See *Creation of a Low Power FM Service*, Second Order on Reconsideration and Further Notice of Proposed Rulemaking, 20 FCC Rcd 6763 (2005), Third Report and Order and Second Further Notice of Proposed Rulemaking, 22 FCC Rcd 21912 (2007).

stations. It also sought comment on whether to adopt more flexible LPFM technical licensing standards to expand LPFM licensing opportunities in large and medium-sized communities. Finally, the Commission again recommended that Congress remove the requirement that LPFM stations protect full-power stations operating on third- adjacent channels.

V. Commission Comments on The Local Community Radio Act (H.R. 1147)

- **The Commission’s FM translator licensing experience since the delivery of the 2004 Report further confirms the agency’s initial determination that LPFM stations would not cause unacceptable levels of interference to third-adjacent channel full-power stations.**

Although the technical licensing standards for the various FM services are derived from common principles, they differ in certain respects. By far, the FM translator service has the most flexible rules to “engineer in” a low power FM station in a mature radio market. Translators operate on a secondary, non-interfering basis. That is, they have no rights *vis-a-vis* subsequently authorized full-power stations and must cease operations if they cause actual interference to those stations. The rules require that translators protect other stations operating on third-adjacent channels, as demonstrated by a lack of overlap of the proposed translator station’s “interfering” contour and the other station’s “protected” contour. However, where there is prohibited overlap, a translator application will be granted if the applicant can show “lack of actual interference.” The applicant first identifies the area of “predicted interference” by comparing the ratio of the signal strengths of the two stations, using an undesired/desired (“UD”) signal strength methodology. The applicant then shows, for example, that no one resides within this area, typically that in the immediate vicinity of the proposed transmitter site. A translator

station that makes such a showing must nevertheless cease operations if interference occurs and cannot be resolved.

In 2003, the Audio Division opened a filing window for applications for new FM translator stations. More than 13,000 applications were filed and approximately 4,400 licenses have been issued to date. My staff has confirmed that approximately 1,800 of these licensed stations have relied on U/D signal strength ratio showings to meet the “no actual interference” processing standard with regard to nearby second or third-adjacent channel stations – a perfect real world test of the Commission FM interference prediction methodology.

The result of this massive translator licensing initiative? No discernible increase in interference complaints. This operational record strongly supports the Commission’s determination that any third-adjacent channel interference from LPFM stations – which generally operate at lower power levels than translator stations – would be extremely modest. The Commission fully concurs with the finding in Section 2 of H.R. 1147: “The actual interference record of these translators is far more useful than any results that further testing could yield.” Equally important, this licensing initiative demonstrates the confidence of translator licensees, who risk their time and capital to construct these secondary stations, in the Commission’s interference prediction methodology and their ability to remedy incidents of third-adjacent channel interference caused by translator operations.

- **The failure to repeal current third-adjacent channel requirements may significantly restrict the future growth of the LPFM service.**

LPFM Station Displacement. LPFM stations are not protected from subsequently authorized new full-power FM stations or modifications to licensed full-

power stations. If an LPFM station cannot resolve actual interference to a co- or first-adjacent channel full-power station within the full-power station's 70 dBu contour, the LPFM station must cease operation. Although, to date, only one LPFM station has been "displaced" – forced off the air permanently - by a full-power FM station "move-in," the Media Bureau has identified approximately 40 LPFM stations that could be forced to cease operations for this reason. Stations faced with displacement often seek alternate channels to remain on the air. However, fully-spaced channels are not always available.

In 2007, the Commission announced a processing policy to consider second-adjacent channel spacing waivers from LPFM stations at risk of displacement. (The 2001 DC Appropriations Act prohibits waivers of third-adjacent channel spacing requirements.) Under this policy, the Commission weighs the potential loss of service by the LPFM station against the potential for new interference to the short-spaced full-power station. Currently, 14 stations remain on the air with second-adjacent channel waivers. In eight of these cases, the affected full-power station consented to the short spacing. Another nine displacement applications seeking second-adjacent spacing waivers are currently pending.

The National Association of Broadcasters appealed this processing policy – based on the theory that it conflicts with 2001 DC Appropriations Act requirements – to the U.S. Court of Appeals for the D.C. Circuit. Last Friday, the Court held that the Act does not limit the Commission's authority to set standards for second-adjacent channel waivers and upheld the processing policy. Enactment of H.R. 1147 would permit the Commission to expand this processing policy to permit third-adjacent channel waivers to avoid LPFM station displacement on a going forward basis.

Meeting the Demand for Radio Broadcast Spectrum. Over the past nine years, the Audio Division has opened application filing windows for new radio broadcast stations in the AM, commercial FM, full-power noncommercial educational FM, low power FM, and FM translator services. The number of applications filed during these windows has uniformly demonstrated a strong and increasing demand for limited radio broadcast spectrum. More than 16,000 stations now operate in the FM band. We have essentially completed our initial round of LPFM station licensing. More than 3,300 applications were filed and over 1,200 construction permits were issued. Local organizations that apply for new LPFM stations often face serious obstacles, including limited technical expertise, reliance on volunteer staff, and modest service areas. As a result, hundreds of these authorized stations were never constructed. 859 LPFM stations are currently licensed and operating.

The Audio Division currently anticipates enormous applicant interest in the next LPFM window. It is difficult to develop definitive projections regarding the preclusive impact of the statutory third-adjacent channel spacing requirements. We will learn about the demand for new LPFM stations only when a filing window is opened. Moreover, projections are mere snapshots made against the background of a dynamic and constantly changing database of broadcast applications and authorizations. Finally, the licensing process is, to some extent, serendipitous. It comes down to the availability of one radio channel at one location from which a local community group is prepared to construct and operate an LPFM station.

Nevertheless, the Audio Division has done some research and has reached a few general conclusions. Beginning with cities of approximately 500,000 or less, our analysis

shows that the current requirements materially limit channels for new LPFM stations, sometimes foreclosing the use of the only channel (or channels) otherwise available for LPFM use. Channel availability would expand significantly for communities of less than 200,000 and channels would be widely available for communities of less than 50,000 if third-adjacent channel spacing requirements were eliminated.

As reflected in a currently pending LPFM Notice of Proposed Rule Making, the Commission is considering creative but responsible ways to expand LPFM licensing opportunities. This includes the use of translator-type technical rules that would permit LPFM stations to operate on a non-interfering basis. The 2001 D.C. Appropriations Act may limit the Commission's policy options, including the adoption of protection standards that are not based on distance separation requirements, to meet the great demand for community-based radio stations.

The Commission's extensive experience in FM licensing refutes the claim that elimination of third-adjacent channel protection requirements would result in pervasive interference. In fact, the potential for interference would be limited to areas immediately adjacent to LPFM transmitter sites. Thus, the Commission continues to believe that the public interest benefits of expanding a low power FM community-based radio service operated by local organizations that can address the needs of underserved communities warrant more relaxed LPFM technical licensing standards.³ The Commission has twice unanimously requested that Congress lift LPFM third-adjacent channel spacing requirements. As Chief of the Audio Division and on behalf the Division's expert

³ See *Creation of a Low Power Radio Service*, Second Further Notice of Proposed Rulemaking, 22 FCC Rcd at 21942.

engineers who prudently safeguard the technical integrity of the radio spectrum daily, I wholeheartedly support that request.

Thank you for the opportunity to testify today. I would be happy to answer any questions you may have.