

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

In the Matter of	)	
	)	
Digital Audio Broadcasting Systems	)	MM Docket No. 99-325
And Their Impact on the Terrestrial	)	
Radio Broadcast Service	)	
	)	

**COMMENTS OF PROMETHEUS RADIO PROJECT,  
NATIONAL FEDERATION OF COMMUNITY BROADCASTERS,  
AND NEW AMERICA FOUNDATION**

Media Access Project submits these comments on behalf of Prometheus Radio Project, National Federation of Community Broadcasters, and New America Foundation (“Prometheus, *et al.*”) in response to the Commission’s Public Notice seeking comment on the Joint Parties’ technical studies and request for a digital power increase. *See* Comment Sought on Joint Parties Request for FM Digital Power Increase and Associated Technical Studies, MM Docket No. 99-325 (Nov. 24, 2008). The Public Notice also seeks comment on National Public Radio’s (“NPR”) research on digital radio coverage and interference. *Id.*

Prometheus, *et al.* urge the Commission to deny any request for a power increase. The Joint Parties have asked the Commission to increase the maximum permissible digital operating power using the IBOC system from the current level of one percent to ten percent of a station’s authorized analog power. Such an increase would essentially allow current radio broadcasters to broadcast up to 5000 watts of digital power immediately adjacent to their main carrier.

Ironically, for many years, the National Association of Broadcasters (“NAB”), one of the members of the Joint Parties, has consistently complained to the Commission about alleged interference from 100 watt low power radio (“LPFM”) stations on third adjacent channels.

Nonetheless, in this proceeding, the NAB supports a proposal to allow stations to use thousands of watts of digital power on a broadcaster's adjacent band in closely analogous circumstances.

However, it is evident from the submissions of both the Joint Parties and NPR that an increase in power from one percent to ten percent of a station's authorized analog power is not in the public interest. Such an increase will not only cause unacceptable interference to full-power analog channels, but also to existing LPFM channels, harming the Commission's goals of diversity and localism. Moreover, the Commission should not move forward on any power increase without first resolving the pending Petition for Reconsideration, which asks the Commission to consider a key question of whether the spectrum should be used for alternative purposes, such as LPFM or unlicensed uses, or auctioned pursuant to statute. Additionally, it would not be prudent for the Commission to allow an increase in power levels without reconsidering appropriate public interest obligations for broadcasters who would operate at the increased level of -10 dB.

## **I. A POWER INCREASE IS NOT JUSTIFIED**

Prometheus, *et al.* are deeply concerned over the recent proposals to increase the power for digital radio broadcasting using the IBOC system. This increase in power level is not justified for several reasons, as discussed below.

### **A. The Test Results Were Mixed and Key Questions Have Yet to Be Answered.**

First, iBiquity's tests are flawed. The tests administered by iBiquity should have included a baseline analog listening test with no digital signal. Earlier analog versus digital compatibility tests evaluated by the National Radio Systems Committee ("NRSC") indicated that the first adjacent digital signal caused a small amount of interference to the analog signal, affecting an average of 0.6% of the population inside the protected contours. At an IBOC power level of -23dB per sideband, "[t]he study

found that, on average, 99.36% of an FM station's listeners will not be impacted by the introduction of IBOC, even in the event all first adjacent radio stations implement IBOC." National Radio Systems Committee, *Evaluation of iBiquity AM and FM IBOC "Gen 3" Hardware*, App. M, p. 2 (June 30, 2004), at <http://www.nrscstandards.org/Reports/NRSC-R204%20Part%20II.pdf>. This level of interference was deemed acceptable at that time. National Radio Systems Committee, *Evaluation of the iBiquity Digital Corporation IBOC System - Part 2 - AM IBOC*, page 58 (April 6, 2002), at <http://www.nrscstandards.org/Reports/NRSC-R204%2520Part%2520I.pdf> ("*NRSC Report*"). However, the recent round of iBiquity's tests failed to identify the quality of the original FM analog signal and the degradation caused by the digital signal's current power level of 1%. Consequently, the absence of an analog baseline test without any digital signal undermines the Commission's and the public's ability to determine the true level of impact that the increase will cause.

Additionally, as NPR has reported, tests found high levels of interference to analog channels with 10% IBOC transmission power. National Public Radio, *Report to the Corporation for Public Broadcasting, Digital Radio Coverage & Interference Analysis (DRCIA) Research Project*, (May 19, 2008) ("*NPR Report*"). The *NPR Report* noted that an increase in 10% of IBOC transmission power would cause severe interference with some stations. *Id.* at 5. Thus, the *NPR Report* concluded that a "10% IBOC transmission power is predicted to cause substantial interference to analog reception of a significant number of first- and second- adjacent channel stations." *Id.* at 6.

While iBiquity and NPR have submitted technical studies, both iBiquity's and NPR's testing have left some questions unanswered. For instance, none of the parties' testing has considered the impact of digital signals on low power stations. In other words, it is likely that a 100 watt LPFM station (or translator) will be located on one of the adjacent channels to a large Class C station which

is broadcasting with as much as 100,000 watts analog. This would result in a digital signal of 500 watts on the adjacent sidebands under the current power levels or 5000 watts on the adjacent sidebands under the proposed increased levels. Based on iBiquity's test results from short spaced and super power B stations, there will likely be many circumstances where the relative field strengths of LPFMs (and translators) within their small coverage areas will be overwhelmed by the digital signal. As an important local service, communities should not have to fear losing the ability to hear their LPFM station, and the Commission should not compromise its goals of diversity and localism.

Another question that remains unanswered is the issue of self-interference; that is, whether the station's digital signal will cause interference to the analog host signal.<sup>1</sup> Although the testing of NPR and the Joint Parties does not consider this issue, renowned engineer Doug Vernier details several cases of this phenomenon, especially when the IBOC system uses separate signals at various power levels, including the current power -20dB power level. Doug Vernier, *What are we doing to ourselves, exactly?*, Radio World Engineering Extra, Cover Story (Dec. 12, 2007). In addition, the NRSC conducted extensive testing regarding digital interference with the analog main carrier in the original report, and found some problems did exist, but those problems were deemed acceptable at the time. *NRSC Report* at 58. However, the Commission should not allow any increase without a new round of testing regarding digital interference to the analog host signal. Thus, there remains the serious issue of whether the analog signal itself will be severely compromised.

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<sup>1</sup>In fact, one of the key attributes in the development of HD radio was that it did not compromise the reception of existing analog signals. "The system is designed to allow indefinitely, analog and digital broadcasts to co-exist." Comments of iBiquity Digital Corporation, *In the Matter of Digital Audio Broadcasting Systems And Their Impact on the Terrestrial Radio Broadcast Service*, MM Docket No. 99-325, at 5 (June 16, 2004).

**B. Analog FM Radio Should Not Be Compromised for a Technology That Has Not Been Widely Adopted.**

The Commission should also reject the Joint Parties' current proposal because the overwhelming majority of the listening public continues to rely on analog signals for radio reception. Indeed, very few listeners have HD radio receivers or listen to HD radio. *See, e.g.*, Bridge Ratings 2007 Competitive Media Usage Overview Update (May 23, 2007), <http://www.bridgeratings.com/press.05.23.07.CompMediaUse.htm> ("93.5% of Americans still listen [to analog radio] in an average week.... Terrestrial radio actually performed better this period than in the December study with nearly 94% of those interviewed indicating they listened to an AM or FM radio station in the previous week for at least 5 minutes"). The report also found that "HD radio, while showing improvement, penetrates less than 1% of the U.S. population. Bridge Ratings is projecting that HD radio may have 450,000 national listeners." *Id.*

It is also unlikely that HD radio will become more prevalent in the near future since there appears to be very little benefit to the public at the moment. For instance, Prometheus and others have encouraged sharing the benefits of digitization by encouraging the sharing of the new spectrum capacity with new entrants.<sup>2</sup> However, even though many stations do not know what to do with their extra capacity, broadcasters have been resistant to public interest obligations that would allow new entrants access to the extra spectrum capacity and would further promote the Commission's goals of localism and diversity.<sup>3</sup> There is no reason to suggest that the transition to digital will occur in the

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<sup>2</sup>The Commission has yet to act on the Further Notice of Propose Rulemaking regarding public interest obligations for digital broadcasters.

<sup>3</sup>Prometheus is aware of one case where a broadcaster has programmed its extra capacity to carry a local LPFM station (WRFN Free Radio Nashville). This example is commendable, but it is the exception, not the rule.

near future.<sup>4</sup> Thus, the Commission should not adopt an increase since it would compromise analog FM radio and would not further localism and diversity.

## **II. THE COMMISSION SHOULD FIRST DECIDE THE PENDING PETITION FOR RECONSIDERATION BEFORE PROVIDING FURTHER BENEFITS TO THE JOINT PARTIES**

The Commission still has pending before it a Petition for Reconsideration in this proceeding and should not grant any additional privileges to current broadcasters until it has issued a decision. *New America Foundation, et. al, Petition for Reconsideration in the Matter of Digital Audio Broadcasting Systems and Their Impact on the Terrestrial Radio Broadcast Service*, (Sept. 14, 2007) (“Petition”). The Petition seeks reconsideration of the Commission’s decision to grant the white spaces in the radio band to the incumbent broadcasters. According to the Petition, the Commission did so without considering any other uses for the whites spaces. The Petition asks the Commission to reverse its decision and consider unlicensed uses or noncommercial broadcast uses. As the Petition discusses, the Commission is obligated to do so because it assigned new spectrum to commercial broadcasting, and by statute, assignments to commercial broadcasting require an auction. Alternatively, the Petition notes the Commission could avoid an auction by allocating some of the spectrum to noncommercial broadcasting. The Commission must decide these issues before granting any further power increase.

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<sup>4</sup>Indeed there are many websites within the engineering community devoted to following the problems that have come about in the digital radio transition. *See, e.g.,* Going Digital - The End of Radio As We Know It, diymedia.net (Jan. 3, 2002), *at* <http://www.diymedia.net/feature/fdigital2.htm>; HD Radio - Billion Dollar Boondoggle, Worldsupercaster (Nov. 11, 2006), *at* <http://worldsupercaster.blogspot.com/2006/11/hd-radio-billion-dollar-boondoggle.html#links>; John Gorman, *Why HD Radio is NOT the Future*, John Gorman’s Media Blog (March 17, 2008), *at* <http://gormanmediablog.blogspot.com/2008/03/why-hd-radio-is-not-future.html>.

### **III. A POWER INCREASE WOULD REQUIRE FURTHER COMMENT ON PUBLIC INTEREST OBLIGATIONS**

The Commission is already considering public interest obligations to ensure that with the additional programming capacity, broadcasters, in return for the exclusive use of the public airwaves, provide meaningful service to the public. *Second Further Notice of Proposed Rulemaking*, 22 FCCRcd 10344, 10361 (2007). Any increase in power should come with it further comments on public interest obligations. Further comment would be necessary since any increase in power would be disruptive to the current scheme, and the public should have an opportunity to consider whether other or different public interest obligations are warranted.

### **IV. CONCLUSION**

The Commission should reject any request for an increase in power levels. Such an increase will not only cause unacceptable interference to full-power analog channels, but also to existing LPFM channels. Moreover, the Commission should not move forward on any power increase without first resolving the pending Petition for Reconsideration. Finally, it would not be prudent for the Commission to allow an increase in power levels without reconsidering appropriate public interest obligations for broadcasters who would operate at an increased level.

Respectfully submitted,

/s/

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