

**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)

To: The Commission

Reply Comments of National Public Radio, Inc.

Introduction and Summary

Pursuant to Section 1.415 of the Commission’s Rules, 47 C.F.R. § 1.415, National Public Radio, Inc. (“NPR”) hereby replies to the comments on the Commission's Public Notice regarding a joint request for an FM digital power increase.¹

NPR is committed to HD Radio. NPR is also committed to increasing IBOC transmission power to improve HD Radio signal coverage, an essential component of a successful HD Radio transition. Such a power increase, however, must not undermine analog service. NPR therefore supports a collaborative industry effort to conduct additional testing with the aim of developing a more managed approach to increasing IBOC power. Indeed, NPR, iBiquity, and others are already engaged in planning such testing. Accordingly, we urge the Commission to defer action on increasing IBOC power until it considers a refined proposal in the next few months.

¹ Public Notice: Comment Sought on Joint Parties Request for FM Digital Power Increase and Associated Technical Studies, MM Docket 99-325, rel. Oct. 23, 2008 [hereinafter "Public Notice"]. Unless otherwise indicated, all citations to comments are to comments filed in this proceeding in response to the Public Notice.

I. The Record Overwhelmingly Supports In-Band, On-Channel HD Radio

The initial comments recognize the importance of HD Radio and the need to promote a successful HD Radio transition. Whether supporting or opposing the Joint Parties' specific power increase, the commenters differ on the means of improving HD Radio coverage, but not the basic decision to use the In-band, On-channel ("IBOC") HD Radio technology to transition terrestrial broadcasting to digital audio broadcasting ("DAB"). The joint comments of certain low power FM proponents are an exception, but those comments appear aimed at IBOC itself as a means of promoting low power FM broadcasting.

Like NPR, the commenters overwhelmingly support HD Radio because it enables unprecedented opportunities for stations to use their existing spectrum to offer a variety of new services.² Among public radio stations, Minnesota Public Radio has committed substantial capital and technical resources over the past two and a half years converting 28 of its 38 stations to HD Radio and has used the technology to offer new family- and child-oriented programming services.³ The Joint Parties describe an impressive array of new audio programming services now being offered to serve a diversity of audiences.⁴ Consumer electronics manufacturers have

² See Comments of National Public Radio, Inc. at 3 [hereinafter "NPR Comments"]. See also iBiquity Digital Corporation at 4 ("Multicasting, program associated data and iTunes Tagging are popular features that have helped interest broadcasters and consumers in the digital transition.") [hereinafter iBiquity Comments].

³ Comments of Minnesota Public Radio at 3-4 [hereinafter "MPR Comments"].

⁴ Comments of Backyard Broadcasting, LLC, Beasley Broadcast Group, Inc., Black Crow Media Group, L.L.C., Bonneville International Corp., Broadcast Electronics, Inc., CBS Radio Inc., Clear Channel Communications, Inc., Commonwealth Broadcasting Corporation, Commonwealth Public Broadcasting Corporation, Continental Electronics Corp., Cox Radio, Inc., Emmis Communications Corp., Greater Media, Inc., Harris Corporation, Journal Broadcast Corporation, Lincoln Financial Media Company, Nassau Broadcasting Partners, L.P., Nautel Maine Inc., NRG Media, LLC, Sacred Heart University, Inc. at 3-4 [hereinafter "Joint Parties

launched or are in the process of developing a variety of HD Radio receivers to receive multicast services as well as permit new categories of services, including iTunes tagging, traffic and navigation services, and subscription and other conditional access services.⁵

Only the joint comments of the Prometheus Radio Project, the National Federation of Community Broadcasters, and the New America Foundation sound a dissenting note. These joint commenters oppose "any request for a power increase" and, in fact, advocate the termination of the HD Radio transition itself.⁶ There is no merit to such a radical proposal, which stands contrary to a record of overwhelming support for HD Radio. Accordingly, the Commission should disregard these joint comments and focus on the issue at hand: how best to enable increased power to maximize HD Radio coverage without sacrificing analog service.

II. The Record Demonstrates Substantial Support for a Managed Power Increase

There is a clear need to improve HD Radio coverage.⁷ For stations that have completed the IBOC conversion, many have experienced inadequate service to the full extent of their existing analog coverage area.⁸ Indoor reception is particularly challenging given the limited

Comments"].

⁵ Comments of the Consumer Electronics Association at 2-3 [hereinafter "CEA Comments"].

⁶ Comments of Prometheus Radio Project, National Federation of Community Broadcasters, and New America Foundation at 1-2.

⁷ See, e.g., CEA Comments at 3 ("For CEA and its members, concerns about service reliability present marketing challenges.").

⁸ For instance, Radio Training Network has found that the second and third multicast channels broadcast by its station, WLFJ-FM, Greenville, South Carolina "reliably reach listeners in the station's 70 dBu contour" but that "[t]he digital signal outside the 70 dBu contour is not on par with its analog signal." See Comments of Radio Training Network, Inc. at 2 (filed Nov. 26, 2008) [hereinafter "RTN Comments"].

power currently authorized for IBOC transmissions, and we expect portable reception to be similarly challenged at current power levels.⁹ Indeed, no commenter opposes the proposed power increase on the grounds that it is unnecessary. The principal disagreement is not whether, but how, IBOC power should be increased to improve HD Radio coverage.

Many of the commenters agree with NPR that an across-the-board 10 percent power increase will cause unacceptable interference to the analog service of a number of stations. For instance, after noting that both the iBiquity and DRCIA studies present persuasive cases for a power increase to improve HD Radio coverage, the Association of Public Radio Engineers finds "that an across-the-board 10 dB power increase could cause substantial interference to the analog service of a number of vulnerable 1st-adjacent stations."¹⁰ Among broadcast engineers and station licensees, many share this view.¹¹

Many of these commenters also fear the deleterious effects of analog interference to NCE stations because such stations are so dependent on the financial support of listeners.

- Listener support is critical to sustaining public radio station operations, and our stations are found throughout the reserved and non-reserved FM spectrum. Degraded signal quality is likely to result in the loss of listeners in a modern competitive audio environment where digital sound from satellite radio, CD's and mp3 players and iPodsTM are the norm.¹²

⁹ See MPR Comments at 3 ("Our experience has demonstrated that the HD signal at its current level of the host analog power is not enough to reliably penetrate into buildings, nor enough to provide reception comparable to that of the analog signal.").

¹⁰ Comments of the Association of Public Radio Engineers, Inc. at 3 [hereinafter "APRE Comments"].

¹¹ See Comments of Barry McLarnon, P.E., at 7 [hereinafter "McLarnon Comments"]; Comments of Talley Broadcasting at 3; Comments of Wolf Radio at 3; Comments of Brown Broadcasting Service at 3; Comments of Simmons Media Group at 2.

¹² APRE Comments at 6.

- "[Minnesota Public Radio] relies heavily on the community and foundations to provide support to us. . . . We believe that support from these many individuals and organizations will not be sustainable if the audio that they receive on their radios is not clean, clear and free of the scratchy, annoying noise that a close-by HD signal could impose over the analog."¹³
- "We are additionally concerned because [WNYC Radio is] a public radio station who is dependent upon individual listeners and station members as important sources of revenue. Additionally, it should be noted that the foundations and businesses that currently support us - critical sources of revenue - are less likely to do so if reception of our signal is substantially degraded."¹⁴
- "Interference to a substantial amount of [Educational Media Foundation]'s donors would pose significant financial challenge to the financial base of EMF and would disenfranchise listeners who have come to depend on EMF's unique programming."¹⁵

The white noise-like nature of the adjacent channel interference makes its source virtually anonymous to listeners, particularly compared to the audible clues of most analog-to-analog interference.¹⁶ For that and other reasons, listeners are far more likely to stop listening to a degraded station than register complaints with the Commission or their local radio stations. That the increased interference would occur at the outer portions of a station's protected service contour means that NCE radio stations would be particularly hard hit because they are utterly dependent upon the voluntary financial support of listeners, many of whom are located at the outer reaches of a station's protected service contour.¹⁷

¹³ MPR Comments at 6.

¹⁴ Comments of WNYC Radio, New York NY at 1.

¹⁵ Comments of Educational Media Foundation at 5.

¹⁶ "[T]he noiselike nature of digital interference to analog reception discourages its recognition and interpretation as interference." McLarnon Comments at 7.

¹⁷ See NPR Comments at 10-12.

While NCE radio stations would be adversely affected by the increased interference, the Commission must not attempt to develop two sets of IBOC technical rules for NCE and commercial stations. The vulnerability of NCE stations to adjacent channel IBOC interference is primarily due to their financial reliance on listeners rather than technical differences between NCE and commercial stations. Indeed, notwithstanding the use of a table of allotments for the non-reserved FM spectrum and a contour protection methodology for the reserved NCE FM spectrum, the siting of all FM stations derives from the same D/U ratios.¹⁸ In fact, although the FM band is divided between reserved and non-reserved channels, NCE stations operate throughout the FM band.¹⁹ Just among NPR affiliates, there are 71 full power stations operating on non-reserved FM spectrum.

Several commenters fault the DRCIA study because it assumes a system wide power increase, which may take some time to occur.²⁰ While the *cumulative* interference harms associated with a 10 percent IBOC transmission power increase do assume a system-wide power increase,²¹ significant interference harm is predicted to occur with a single first-adjacent neighbor.²² As we pointed out in our initial comments, the Commission cannot justify

¹⁸ See In the Matter of 1998 Biennial Regulatory Review -- Streamlining of Radio Technical Rules in Parts 73 and 74 of the Commission's Rules, Second Report and Order, 15 FCC Rcd. 21649, 21,669 & n.84 (2000).

¹⁹ APRE Comments at 6.

²⁰ Joint Parties Comments at 12-13; iBiquity Comments at 7-8.

²¹ See NPR Comments at 8-9.

²² For a station such as WBUR-FM, Boston, MA, its listeners could receive significant adjacent interference regardless of whether stations in other areas of the country increase power. See NPR Comments at 9. The 515,976 population figure cited in NPR's Comments represents the cumulative interference total assuming all stations in the area converted to 10 % IBOC transmission power. Of that number, 434,344 would receive interference from a single first

authorizing a blanket power increase that is predicted to cause significant interference both cumulatively and on a station-by-station basis by assuming that stations will not act on the blanket authority.

Finally, while certain commenters question the merits of the DRCIA study because it was a lab study,²³ or seek to buttress the technical basis for the proposed power increase,²⁴ we are confident of the DRCIA study's technical superiority.²⁵ That said, we also believe everyone's time and resources are better spent moving forward in a collaborative fashion to develop a revised power increase proposal. NPR is committed to HD Radio and to seeking a path to increasing power that will better assure the overall success of the HD Radio transition without sacrificing existing analog service. NPR looks forward to working with all parties supporting a power increase to ensure that both of these outcomes are achieved.

III. The Commission Should Defer Authorizing An IBOC Power Increase Pending The Outcome of Additional Testing

The commenting parties with the most at stake in the HD Radio transition all agree that a power increase is necessary, but that additional testing is also necessary to determine the precise amount of IBOC transmission power that can be authorized in particular circumstances without causing harmful analog interference.²⁶ The difference between the approach favored by the proponents of the proposed across-the-board 10 percent power increase and those, like NPR,

adjacent station, WTKL-FM, North Dartmouth, MA.

²³ See iBiquity Comments at 7; Joint Parties Comments at 12.

²⁴ See NAB Comments at 4-8 & Appendix A.

²⁵ See McLarnon Comments at 2-6; APRE Comments at 3-4.

²⁶ See Joint Parties Comments at 13; iBiquity Comments at 8.

who believe such an approach will produce harmful analog interference concerns the timing of that testing. Those supporting the proposed power increase would have the Commission authorize the increase and then seek to address the ensuing interference. iBiquity articulates the point as follows:

iBiquity, a number of the commercial broadcasters and NPR have all indicated to the Bureau that they intend to conduct a broader range of field tests over the next several months to better define the impact of a power increase. iBiquity anticipates those tests and test reports will help the Bureau to fully define the parameters of the power increase and any protections that need to be put in place to protect existing analog broadcasts. iBiquity encourages the Bureau to move forward with its consideration of the power increase request and to use the results of these additional tests to shape the final rules.²⁷

NPR agrees with the foregoing statement, except that the Commission should await the results of the additional testing to better ascertain, and avoid, analog interference before approving a IBOC transmission power increase.²⁸

For the same reason, we oppose various proposals to permit an immediate, but smaller power increase absent guidelines derived from the planned interference testing,²⁹ incremental increases subject to interference complaints,³⁰ or increases subject to negotiated interference agreements.³¹ It may well be that a smaller across-the-board increase could be authorized, with

²⁷ iBiquity Comments at 8.

²⁸ The testing is expected to take place within the next few months. See NPR Comments at 14-16.

²⁹ See RTN Comments at 2 (proposing an initial 5% digital power increase); Comments of Brian J. Kirby at 4 (suggesting an across-the-board 7% increase as a "temporary measure.")

³⁰ See Comments of Seton Hall University at 1 (proposing allowing stations to increase power by an additional 1% power every 90 days until the 10% power increase is achieved or field experience shows that interference is being caused).

³¹ See Comments of Moody Bible Institute at 4; Comments of Houston Christian Broadcasters, Inc. at 4; Comments of the Augusta Radio Fellowship Institute, Inc. at 5.

stations being able to implement larger increases based on their particular circumstances, but additional testing is necessary to determine the specifics of such an approach.³²

Allowing power increases subject to listener complaints or the agreement of individual stations licensees is not an appropriate spectrum policy. Given the indeterminate, noise-like quality of the IBOC interference, listeners will have difficulty identifying the cause of the interference and are, therefore, unlikely to complain. The Commission has also disfavored negotiated interference agreements because, while they may reflect the interests of the individual station licensees, they do not necessarily respect the public's supervening interest in the radio-frequency spectrum.³³

In sum, the record demonstrates a need to improve HD Radio coverage and support for increased IBOC transmission power to achieve that end. The only question is how best to manage a power increase so that stations can maximize their HD Radio coverage areas without causing undue analog interference to their adjacent neighbors. The answer to that question will be determined in the next few months based on a limited amount of additional testing that we expect to be as revealing as it is necessary. That testing is intended to result in straightforward separation distances or contour protection values, as appropriate, for stations seeking to increase IBOC transmission power. We urge the Commission to defer authorizing an IBOC transmission power increase until that testing is completed and industry stakeholders have developed a revised, consensus approach.

³² The Association of Public Radio Engineers suggests just such an approach based on further testing to identify the initial power increase baseline and mileage or contour based showings required to safely exceed the baseline. See APRE Comments at 3-4.

³³ See In the Matter of 1998 Biennial Regulatory Review -- Streamlining of Radio Technical Rules in Parts 73 and 74 of the Commission's Rules, Notice of Proposed Rulemaking,

Conclusion

For the foregoing reasons, and as stated more fully above and in NPR's initial comments, NPR is committed to the successful implementation of HD Radio, we support a managed power increase, and we urge the Commission to await further testing and a revised power increase proposal before proceeding.

Respectfully submitted,

NATIONAL PUBLIC RADIO, INC.



Joyce Slocum

Vice President for Legal Affairs
General Counsel and Secretary

Michael Riksen

Vice President, Policy & Representation

Michael Starling

Chief Technology Officer and
Executive Director, NPR Labs

John Kean

Senior Technologist

Julie M. Kearney

Director of Public Policy and Legislation

Gregory A. Lewis

Associate General Counsel

635 Massachusetts Avenue, N.W.
Washington, DC 20001
202/513-2040

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