

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

In the Matter of)	
)	
Amendment of Section 74.1231(i) of the Commission's Rules on FM Broadcast Booster Stations)	MB Docket No. 20-401
)	
Modernization of Media Regulation Initiative)	MB Docket No. 17-105
)	
Amendment of Section 74.1231(i) of the Commission's Rules on FM Broadcast Booster Stations)	RM-11854
)	

**REPLY COMMENTS OF
THE NATIONAL ASSOCIATION OF BROADCASTERS**

1 M Street SE
Washington, DC 20003
(202) 429-5430

Rick Kaplan
Larry Walke
David Layer

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I. INTRODUCTION AND SUMMARY

America's radio broadcasters face increasing challenges to providing the free, over-the-air radio service that hundreds of millions of listeners rely on each week. Competition for listeners and advertising from a growing array of digital platforms persists, as broadcasters continue efforts to recover from the negative economic impact of the COVID-19 pandemic. Thus, broadcasters generally favor technical and policy innovations intended to bolster their ability to serve listeners.¹ For this reason, the National Association of Broadcasters (NAB)² supported further consideration of a proposal by GeoBroadcast Solutions LLC's (GBS) to amend the Commission's rules to allow booster stations to originate programming,

¹ Comments of National Association of Broadcasters (NAB), MB Docket Nos. 20-401 and 17-105, and RM-11854, at 2 (Feb. 10, 2021); Joint Comments of Beasley Media Group, LLC, Cumulus Media New Holdings Inc., Entercom Communications Corp., iHeart Communications, Inc., New York Public Radio, and Salem Media Group, Inc. (Beasley et al.), MB Docket Nos. 20-401 and 17-105, and RM-11854, at 2 (Feb. 10, 2021).

² NAB is a nonprofit trade association that advocates on behalf of local radio and television stations and also broadcast networks before Congress, the Federal Communications Commission and other federal agencies, and the courts.

independent of a broadcaster's primary signal.³ The resulting Notice was a welcome vehicle for thoroughly vetting this issue,⁴ and the technology that GBS has developed to leverage such a rule change (ZoneCasting).

However, after a thorough review of the Notice, an overwhelming majority of NAB members agree that GBS's proposal would pose significant risks to radio stations that far outweigh the speculative benefits proffered by GBS. Most of the substantive, original comments in the record concur. Although comments from approximately 57 mostly smaller broadcasters support amending the booster rule, about 55 of these (including eight from stations owned by one company) are largely identical and submitted through GBS's attorney in previous requests to modify the rule.⁵ None of these parties addresses the financial, competitive or technical risks of allowing geo-targeting set forth in the record.

On the other hand, NAB, which represents many thousands of FM broadcasters, is joined by separate coalitions of large, mid-sized, small and minority- and women-owned radio companies covering hundreds more stations that detail their own concerns or outright opposition to revising the booster rule.⁶ In fact, several stakeholders, including the leading

³ Comments of NAB, RM-11854, at 6 (May 4, 2020); Petition for Rulemaking of GBS, RM-11854 (Mar. 13, 2020) (Petition).

⁴ *Amendment of Section 74.1231(i) of the Commission's Rules on FM Broadcast Booster Stations*, MB Docket Nos. 20-401, 17-105, Notice of Proposed Rulemaking (rel. Dec. 1, 2020) (Notice); 47 C.F.R. 1231(i).

⁵ [Petition for Rulemaking of GBS](#), RM-11659 (Apr. 4, 2012); Comments of GBS, MB Docket No. 17-105 (Aug. 3, 2017).

⁶ NAB Comments at 2-5; Comments of Small Radio Broadcaster Coalition (Small Broadcasters), MB Docket Nos. 20-401 and 17-105, and RM-11854, at 2 (Feb. 10, 2021); Comments of Connoisseur Media and Neuhoff Communications (Connoisseur/Neuhoff), MB Docket Nos. 20-401 and 17-105, RM-11854, at 1 (Feb. 10, 2020); Beasley et al. Comments at 1-4; Letter from Bayard H. Walters, President, The Cromwell Group, Inc., to Marlene H. Dortch, Secretary, FCC, MB Docket Nos. 20-401 and 17-105, RM-11854, at 1-3 (Feb. 10, 2021).

minority-owned radio group in the nation⁷ and the former Administrator of the Federal Emergency Management Agency (FEMA)⁸ tapered or even reversed their earlier support for GBS's proposal after further review. We also note the grave concerns of FEMA's IPAWS Program Management Office about the effect of amending the booster rule on the Emergency Alert System (EAS).⁹ This alone should be enough to table the matter.

The record highlights three major flaws in GBS's proposal. First, allowing boosters to originate content will undermine the business model of FM radio by depressing advertising rates and reducing revenues as advertisers replace market-wide ads with less expensive, zoned ads on boosters. Second, revising the booster rule will, if anything, advantage larger, well-funded broadcasters because the substantial investment needed to effectively implement ZoneCasting would be out of reach for most stations. Also, larger stations located in the urban center of a market will be better able to absorb lower ad revenues and capture local advertising business that is critical to smaller stations near the edges of a market. Third, allowing radio stations to geo-target content may harm listeners by facilitating the advertising "redlining" of certain segments of a market, and disrupting radio service where the boundaries of a station's primary signal meet a booster airing different content. The record lacks sufficient real-world study of such interference on signal quality, EAS and HD Radio, any of which would reflect poorly on FM service and potentially spur listeners to change to a competing source for audio.

⁷ Comments of Urban One, Inc., Davis Broadcasting, Inc., Ohana Media Group, LLC, and Riverfront Broadcasting LLC, MB Docket Nos. 20-401 and 17-105, and RM-11854, at 2 (Feb. 10, 2021). We also find significant the absence of comments from a coalition of mostly non-broadcast public interest groups led by the Multicultural Media, Telecom & Internet Council (MMTC), which had strongly supported GBS's Petition for Rulemaking in repeated filings.

⁸ Letter from W. Craig Fugate to Hon. Jessica Rosenworcel, Acting Chairwoman, FCC, MB Docket Nos. 20-401 and 17-105, and RM-11854 (Feb. 5, 2021).

⁹ Comments of FEMA Integrated Public Alert and Warning System Program Management Office (FEMA IPAWS), MB Docket Nos. 20-401 and 17-105, and RM-11854 (Feb. 8, 2021).

Given these concerns and the ongoing financial challenges that broadcasters face, the “proposal is the wrong idea at the wrong time.”¹⁰ NAB respectfully requests that the FCC retain the current booster rule, terminate this proceeding and dismiss GBS’s Petition.

II. REVISING THE BOOSTER RULE COULD UNDERMINE THE BUSINESS MODEL OF RADIO

GBS claims that radio’s inability to geo-target content puts it at a disadvantage in serving communities compared to other outlets.¹¹ GBS states that allowing boosters to originate programming would promote localism and improve broadcasters’ position by creating new advertising opportunities for small and local businesses and allowing national advertisers to broadcast more geographically relevant ads.¹²

Broadcasters characterize these assumptions as “fantastical,”¹³ and fault GBS for glossing over the unintended consequences of empowering advertisers to cherry-pick ads carried on boosters instead of market-wide ads.¹⁴ Rather than help broadcasters survive and compete, GBS’s approach is likely to undermine the fundamental advertising-based business model of radio.¹⁵ If permitted, ad buyers will have strong incentives to purchase zoned ads on boosters that target their most desired customers in one part of a market instead of market-wide ads.¹⁶ Moreover, advertisers will demand lower prices because such spots will cover only part of a market.¹⁷

¹⁰ Connoisseur/Neuhoff Comments at 1.

¹¹ Comments of GBS, MB Docket Nos. 20-401 and 17-105, RM-11854, at 1 (Feb. 10, 2020)

¹² *Id.* at 13. See also Comments of BIA Advisory Services, MB Docket Nos. 20-401 and 17-105, RM-11854, at 1-2 (Feb. 10, 2020); Comments of Q Media Group, LLC, MB Docket Nos. 20-401 and 17-105, RM-11854, at 2 (Feb. 1, 2020).

¹³ Small Broadcasters Comments at 4.

¹⁴ Urban One et al. Comments at 3.

¹⁵ Connoisseur/Neuhoff Comments at 3.

¹⁶ GBS itself makes this case. Petition for Rulemaking of GBS, RM-11854 (Mar. 13, 2020) (Petition), at Exhibit D, BIA Advisory Services, *Opportunity Assessment for Local Radio Stations with Zoned Broadcast Coverage*, at 9 (Nov. 20, 2018) (BIA Report).

¹⁷ Urban One et al. Comments at 3.

GBS presumes that the revenues lost from reduced ad rates would be offset by sales of additional, geo-targeted spots to small and local businesses that could not previously afford radio ads,¹⁸ or others seeking to reach certain parts of a market. However, this is speculative at best. It is uncertain that such untapped business even exists, as some broadcasters already have excess ad inventory despite efforts to enroll every potential customer in their local market.¹⁹ Also, it would be extremely challenging for radio stations to sell more radio ads in today's intensely competitive marketplace. Urban One et al. explains that radio stations do not operate in a vacuum. They must compete against digital and other outlets that are better able to target advertisers' desired customers with "much more surgical precision" than the geographic location enabled by ZoneCasting.²⁰

Instead of broadcasters, ad agencies and GBS will reap the financial rewards of amending the booster rule,²¹ because it is unlikely that radio stations would be able to sell enough lower-priced zoned ads to justify the cost and effort needed to adopt GBS's proposal.²² Commenters further note that effectively implementing ZoneCasting will require an expensive investment in technology and personnel.²³

Cromwell underscores these conclusions. Cromwell explains that local businesses choose to advertise on a particular station based on the station's community ties and the relevance of its programming to that community.²⁴ However, GBS's proposal will fragment a

¹⁸ Petition at 3 and 18; BIA Report at 2 and 13.

¹⁹ Radio ad prices are no bar, given that many categories of ads are inexpensive compared to other outlets. Small Broadcasters Comments at 4 n.7.

²⁰ Urban One et al. Comments at 4; Small Broadcasters Comments at 4; Connoisseur/Neuhoff Comments at 4.

²¹ Comments of MAGNA Global, RM-11854 (May 4, 2020); Comments of Dentsu Aegis, RM-11854 (May 4, 2020). No advertising agencies filed comments on the Notice.

²² Small Broadcasters Comments at 4.

²³ Beasley et al. Comments at 24.

²⁴ Cromwell Letter at 2-3.

station's local coverage and reduce signal quality, thereby eroding listeners' trust in their local station and local ad buyers' confidence that a station will reach the desired listeners.²⁵

Revising the booster rule could also weaken radio's most unique feature – its ability to reach a broad, loyal audience within a particular market.²⁶ And broadcasters could be affected regardless of whether they opt to implement ZoneCasting. GBS asserts that broadcasters will use its technology only if they are convinced it is good for business,²⁷ and that may be so as an initial matter. However, GBS ignores the powerful leverage that adoption of zoned advertising will transfer to ad buyers. Connoisseur/Neuhoff explains that “adoption of geo-targeting technology by any radio station will give advertisers a cudgel to beat other stations into adoption and to drive down advertising rates more broadly.”²⁸ Advertisers will expect the option of buying ads that reach certain parts of a market at lower prices, essentially forcing other stations that opted out of geo-targeting to reconsider or reduce their rates to unsustainable levels in order to survive.²⁹ Thus, broadcasters reject GBS's depiction of its proposal as purely voluntary.

III. AMENDING THE BOOSTER RULE WILL DISADVANTAGE SMALLER RADIO STATIONS, INCLUDING MINORITY- AND WOMEN-OWNED STATIONS

The record demonstrates that authorizing zoned advertising would almost certainly enhance the competitive position of larger radio stations and groups at the expense of smaller stations, including those owned by persons of color and women. As Beasley et al. describe, broadcasters will have to undertake an expensive, complex refactoring of nearly all

²⁵ *Id.* Cromwell adds that national advertisers usually prefer to buy ads on the highest-powered stations in a market. If they wanted to reach narrower subsets of an audience, they would already do so by buying time on less-powerful stations or those that serve niche audiences. *Id.*

²⁶ *Id.* at 3; Small Broadcasters Comments at 4.

²⁷ GBS Comments at 6.

²⁸ Connoisseur/Neuhoff Comments at 4.

²⁹ Small Broadcasters Comments at 5.

their technology systems related to advertising.³⁰ This overhaul would involve everything from the proposal stage to the scheduling and placement of ads to billing and collection. Some stations would also have to hire more sales staff and retrain existing staff to sell advertising in a completely new way. Moreover, the Smaller Broadcasters coalition notes that smaller stations already have fewer resources and smaller advertising bases, and face daunting challenges earning enough ad revenues to cover their fixed costs, let alone to invest in improved content or upgrade technical facilities.³¹ Thus, the costs of effectively deploying ZoneCasting alone may put it out of reach for all but the largest, most sophisticated broadcast companies. Urban One et al. views this as a particular problem issue for most minority-owned stations.³²

Second, larger stations in the urban center of markets could use boosters to better reach smaller communities on the edges of a market and offer geotargeted ads in those areas. This would cut into the ad revenues of such smaller stations that do not cover the urban center and therefore rely on the ad revenues from local businesses in their local communities.³³ Connoisseur describes its stations in embedded markets in the New York Metro market as examples of stations that would lose vital ad revenues from businesses in their local markets to stations in New York City that use boosters to geotarget Connoisseur's communities. Once the larger stations start to "siphon off" these ad dollars, Connoisseur

³⁰ Beasley et al. Comments at 24.

³¹ Smaller Broadcasters Comments at 13-14.

³² Urban One et al. Comments at 5. These broadcasters also question GBS's offer to provide vendor financing. The FCC cannot enforce a requirement for non-discriminatory financing on terms that do not pose risks for smaller stations. They are particularly concerned by the risks of financing on terms offered by a single vendor that has exclusive and proprietary technology. Such terms can quickly become onerous if stations are pushed into deploying ZoneCasting due to market-wide pressure on ad rates. The FCC may be setting up a market failure that it will have to later unwind. *Id.* at 6.

³³ Smaller Broadcasters Comments at 9-10.

either will have to forego these vital revenues or reduce rates to artificially low levels.³⁴

Minority-owned stations are at particular risk, given MMTC's explanation that many minority-owned stations are located in such market "edge" communities because persons of color often entered broadcasting later than others.³⁵

Thus, although some minority broadcasters initially supported GBS's proposal, Urban One et al. express concerns that the proposal could have unintended consequences that would impede their ability to serve listeners, and in turn, reduce broadcast diversity.³⁶

IV. REVISING THE BOOSTER RULE COULD NEGATIVELY IMPACT LISTENERS AND BROADCAST SERVICE

A. ZoneCasting May Lead to Advertising "Redlining" of Certain Parts of a Radio Market

Authorizing zoned programming may harm listeners in several respects.³⁷ Some commenters share the FCC's concern that the ability to geo-target advertisements will facilitate the bypassing of certain parts of a market in favor of population centers that advertisers consider more valuable.³⁸ MMTC has stated that "geographics often line up closely with demographics,"³⁹ thereby opening the door to so-called "advertising redlining" based on where listeners live, or do not live.⁴⁰ Beasley et al. notes that ZoneCasting may spur

³⁴ Connoisseur/Neuhoff Comments at 5-6.

³⁵ Letter from David Honig, MMTC, to Marlene H. Dortch, Secretary, FCC, RM-11854 (Aug. 17, 2020).

³⁶ Urban One et al. Comments at 2; Comments of REC Networks, MB Docket Nos. 20-401 and 17-105, RM-11854, at 14 (Feb. 10, 2020); Notice at ¶ 29.

³⁷ Notice at ¶ 27.

³⁸ *Id.* at ¶ 31; NAB Comments at 15-17; Beasley et al. Comment at 24-25; Connoisseur/Neuhoff Comments at 8-9.

³⁹ Comments of the Multicultural Media, Telecom and Internet Council (MMTC) et al., RM-11854, at 2 (May 1, 2020) (MMTC Comments).

⁴⁰ Such a practice may be even more troublesome than the "no urban/no Spanish" dictates the FCC dealt with a decade ago because the latter turned on listeners' format preference, which is arguably less indicative of income, race or ethnicity than where listeners live. NAB Comments at 15-17.

advertisers to flock to “Gold Coast” neighborhoods, but leave other areas seen as less desirable ignored and unsold.⁴¹ Advertisers would not need to be explicit. They could merely request ads on boosters that happen to reach a disproportionately white population, leaving broadcasters in the dark as to their intention.⁴² Even GBS seems to concede the point, stating “that if there is less localized advertiser interest in a certain zone of a station, that zone may not receive localized advertisements.”⁴³ Clearly, such a potential outcome would not be in the public interest.

B. The Current Technical Record Does Not Support Further Consideration of GBS’s Proposal

Revising the booster rule also may harm listeners by increasing the risk of interference that degrades sound quality. Stakeholders are concerned about the disruption listeners may experience when travelling through the “transition zone” where the boundaries of a broadcaster’s primary station meets that of a booster airing different programming.⁴⁴ GBS repeats claims that its technology can be calibrated and inserted at an appropriate time to avoid interruptions, and that broadcasters will have incentives to self-manage any disruptions.⁴⁵ GBS’s consulting engineer repeats that GBS’s testing has demonstrated that ZoneCasting can be designed to reduce interference.⁴⁶

⁴¹ Beasley et al. Comments at 24-25.

⁴² Connoisseur/Neuhoff Comments at 8-9.

⁴³ GBS Comments at 14. GBS states that no listeners will receive less programming under its proposal, and that nothing about its approach would allow stations to ignore parts of their market. *Id.* at 15. These points seem irrelevant to the FCC’s inquiry about advertising redlining. No one claims that ZoneCasting will cause any listeners to lose radio service, only that some geo-targeted ads may skip certain parts of a market.

⁴⁴ See, e.g., Beasley et al. Comments at 15-20.

⁴⁵ GBS Comments at 8.

⁴⁶ Comments of Bert Goldman, Goldman Engineering Management, Inc., MB Docket Nos. 20-401 and 17-105, and RM-11854, at 9 (Feb. 10, 2021).

However, engineers and other commenters state that the record does not justify GBS's claims and leaves open a series of important questions about ZoneCasting. Specifically, the majority of the test history offered by GBS is either irrelevant or inconclusive on the issue of self-interference because that history is based on earlier "technologies, simulations or environments" that are different from ZoneCasting.⁴⁷ Moreover, the only test of ZoneCasting referenced by GBS that has any relevance to the current system, conducted in 2016 at WIIL (FM) in Milwaukee, revealed interference along three driving routes through the areas where the contours of the station's main signal and booster met that lasted from 12 to 30 seconds.⁴⁸ We further note that ZoneCasting has only been tested under controlled conditions to date. There is no real-world data on the impact of geotargeting on a listener's experience when traveling through an interference zone between a station's main signal and booster.⁴⁹

Moreover, as Cromwell fears, such interference could spur listeners to switch to another channel, or worse, to a digital or other competing audio platform: "If geotargeting grows, radio listeners may begin to perceive radio as a service that is garbed and unreliable. That perception is unlikely to be limited to only the stations that are using GBS technology and could affect audience perception of radio generally, negatively impacting the entire

⁴⁷ Beasley et al. Comments at 4-11 Small Broadcasters Comments at 6 (testing cannot form a rational conclusion about the reliability of GBS's technology).

⁴⁸ *Id.*

⁴⁹ *Id.* at 6. The FCC has approved an additional experimental test of ZoneCasting at Station KSJO-FM in San Jose, CA. GBS states that the trial is designed demonstrate KSJO's ability to add localized weather and traffic, news, advertising and EAS tests during short parts of a broadcast hour, and "how seamlessly unrecognizable" it will be to the average listener. This would be the second test of a relevant configuration of GBS's proposed system. Adam Jacobson, [FCC OK's a Bay Area ZoneCasting Field Test](#), RBR.com (Feb. 9, 2021).

industry.”⁵⁰ Thus, it is important for the FCC to take a cautious approach,⁵¹ especially when the potential disruption will most affect listeners in cars, where most listening occurs.⁵² Xperi explains that automotive manufactures are sensitive to warranty returns and negative feedback from consumers about their infotainment systems. Listeners who experience impaired radio service will complain to the dealer or manufacturer which, over time, could precipitate a transition away from broadcast products in cars.⁵³ Radio stations can ill-afford such a risk. If anything, broadcasters desperately need the FCC to work to keep radio in cars, not create an avenue for its removal.

More study of GBS’s proposal is needed before the FCC even considers revising the booster rule.⁵⁴ Commenters list myriad concerns and circumstances that remain untested under real-world conditions, including field tests of ZoneCasting’s impact on signal quality in areas with varying terrain, when a booster is located at different locations within a market and

⁵⁰ Cromwell Comments at 3; see also Connoisseur/Neuhoff Comments at 7 (listeners in cars who regularly experience interference on their regular commute may begin to associate FM radio with unreliability and change more often to alternative audio sources).

⁵¹ Smaller Broadcasters Comments at 3 and 7. GBS’s attempts to voluntarily constrain the negative impacts of geo-targeting fall short. GBS’s borrows its proposed limit that booster content must be “substantially similar” to that on the main station from the FCC’s approach to the Next Gen TV transition. However, the situations are completely inapposite, as use of this limit in the latter context was merely a temporary device intended to ensure that viewers did not lose access to broadcast programming during the Next Gen TV transition. Also, the ATSC 3.0 transition was a voluntary effort led by broadcaster after years of coordination with the consumer equipment industry, as opposed to ZoneCasting which is a request from the only entity that stands to benefit from the proposal. GBS’s proposed cap of three minutes per hour on the amount of original programming that may be aired on a booster is similarly irrelevant to its original source in Nielsen’s “total line reporting” rules. NAB Comments at 22-23.

⁵² *Id.* at 7 (radio presence on dashboards is vital to the long-term viability of radio service).

⁵³ Comments of Xperi Holding Corp., MB Docket Nos. 20-401 and 17-105, and RM-11854, at 5 (Feb. 10, 2021).

⁵⁴ LPFM parties state that revising the booster rule may lead to an influx of boosters to enable the geo-targeting of content instead of their primary purpose to improve service in areas affected by terrain and similar factors. Such an outcome could potentially lead to overcrowding on the FM band, hindering the ability to introduce or modify other secondary services. REC Networks Comments at 1-6; Comments of Steve L. White, MB Docket Nos. 20-401 and 17-105, RM-11854, at 2 (Feb. 10, 2020).

when a listener travelling in an automobile moves from a booster zone back to the primary station zone. In particular, the FCC must gather significantly more data on ZoneCasting in a mobile environment before moving forward.⁵⁵

Even more important, there is no information on the integration of ZoneCasting with EAS.⁵⁶ FEMA's IPAWS Program Management Office explains: "While . . . proponents endeavor to address technical questions and concerns, FEMA finds that there is little assurance in the record that EAS performance in and around booster zones will not be negatively affected."⁵⁷ FEMA is concerned that listeners who are not rapidly traveling through an interference zone will "miss a significant portion, if not all, of an EAS message."⁵⁸ There is no information on how to prevent disruption to an EAS message if a booster originates programming for three minutes intersects with a two minute EAS message. FEMA is also concerned about the impact of implementing ZoneCasting at designated Local Primary Entry point and other stations that are monitored for EAS messages.⁵⁹

Broadcasters, engineers and others have similar concerns.⁶⁰ Craig Fugate, former Administrator of FEMA, supports testing of GBS's proposal "to ensure a seamless integration" with the EAS system, and cautions the FCC against revising the booster rule before the proposed system is thoroughly tested and shown to work reliably with the EAS system.⁶¹ Mr. Fugate adds that ZoneCasting should also be tested to ensure coordination with solutions

⁵⁵ Small Broadcasters Comments at 8.

⁵⁶ Notice at ¶ 31.

⁵⁷ FEMA IPAWS Comments at 1.

⁵⁸ *Id.* at 2.

⁵⁹ *Id.*

⁶⁰ Letter from C. Patrick Roberts, President & CEO, Florida Assn of Broadcasters, to the Commission, MB Docket Nos. 20-401 and 17-105, RM-11854, at 1 (Feb. 10, 2020) (wide-scale implementation of ZoneCasting may undermine the integrity of EAS); Comments of Alan D. Kirschner, MB Docket Nos. 20-401 and 17-105, RM-11854, at 3 (Feb. 10, 2020) (ZoneCasting may render EAS less effective); White Comments at 2 (same).

⁶¹ Fugate Letter at 1.

under consideration by the FCC's CSRIC Council for addressing duplicate National Weather Service alerts issued over the EAS system.⁶² Beasley et al. note that if ZoneCasting works as GBS promises, some disruption of an EAS message broadcast by a primary station would be inevitable if a booster is airing different programming. In such cases, an EAS warning could be "misdirected, missed, or if partially received, misunderstood."⁶³ These concerns alone should give the FCC substantial pause about GBS's proposal.

Commenters also question how ZoneCasting will function with HD Radio.⁶⁴ The FCC itself notes the lack of "any testing data on the operation of geo-targeted programming by HD Radio broadcast stations."⁶⁵ Xperi, the developer of HD Radio, states that interference from ZoneCasting is a genuine concern. First, because geo-targeting will result in different analog and digital signals in parts of a transition area, it could disrupt the carefully designed audio blending between the analog and digital portions of the HD Radio signal. Seamless audio blending is critical to Xperi's automotive partners and listeners. Second, digital receivers respond differently to an interfering signal; thus, ZoneCasting could create extensive digital dead zones in areas where the main and booster signals effectively cancel each other out. Finally, given the different configuration options for hybrid HD Radio signals, listeners may not receive a consistent experience among HD Radio stations.⁶⁶ ZoneCasting may also impact reception of multicast programs and metadata.⁶⁷ Xperi states that it is coordinating with GBS to develop a test plan and program for addressing these and other issues, and urges the FCC

⁶² *Id.*

⁶³ Beasley et al. Comments at 14.

⁶⁴ NAB Comments at 5.

⁶⁵ Notice at ¶ 23.

⁶⁶ Xperi Comments at 6-10; see *also* Comments of Ron Zlotnick, Mobis Technical Center of North America, LLC, MB Docket No. 20-401, at 3. (Jan. 27, 2021).

⁶⁷ *Id.* at 10-11.

to proceed with caution until more is known about how ZoneCasting will operate in the hybrid ecosystem.⁶⁸

Finally, there is no information about how geo-targeting may affect Nielsen's Portable People Meter (PPM) audience measurement system for radio. Beasley et al. set forth the relevant concerns. PPMs are used in 48 of the largest markets in the nation, in which PPM panelists carry their meters throughout the day. PPMs detect watermarks broadcast along with the audio to identify the station being heard and produce local ratings that can impact the financial health of radio stations. However, the record presented by GBS does not address the integration of PPMs with ZoneCasting, leaving several important questions unanswered, including: (1) whether the booster uses the same PPM watermark encoding as the main station when different content is broadcast or is a separate PPM watermark required; (2) how Nielsen will treat audience listening that occurs on both a booster and the main station; (3) the impact of PPM watermark detection during a transition/interference period; and (4) the likelihood of lost listening reports.⁶⁹

⁶⁸ *Id.* at 2-3.

⁶⁹ Beasley et al. Comments at 18-19.

V. CONCLUSION

For the reasons stated above, NAB requests that the Commission retain the current booster rule, terminate this proceeding and dismiss GBS's Petition for Rulemaking.

Respectfully submitted,

NATIONAL ASSOCIATION OF BROADCASTERS
1 M Street SE
Washington, DC 20003
(202) 429-5430



Rick Kaplan
Larry Walke
David Layer

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