

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

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

To: The Commission

<b>COMMENTS OF GULF COAST BROADCASTING COMPANY, INC.</b>
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## *SUMMARY*

Gulf Coast Broadcasting Company, Inc. (“Gulf Coast”) urges the Commission to initiate In-Band, On-channel Digital Audio Broadcasting as rapidly as possible. The Commission has a substantial role to play in ensuring that the public interest benefits promised by digital broadcasting come to fruition.

If spectrum efficiency is an important public interest objective, it is clear that IBOC DAB, if it can meet other equally important goals of improved audio quality, greater resistance to interference, improved signal coverage, should be the system adopted. As a practical matter, the Commission has indicated that there is no other spectrum space available to accommodate terrestrial DAB, and that if it is to be implemented at all, the existing spectrum allocated to AM and FM analog broadcasting must be utilized now or later. “Later” can well mean sometime after 2010 if hybrid IBOC is not adopted. This is too long to wait.

The lessons of the past indicate that the Commission must not shirk its responsibility in setting technical standards of transmission. Because the Commission refused to do so in the AM Stereo proceeding, the improved signal quality that was supposed to be the salvation of AM broadcasters never came to fruition. If the Commission deemed it necessary to establish standards in the DTV proceeding, the same rationale applies to DAB.

Gulf Coast also laments the fact that a majority of the Commission felt it necessary to preempt full consideration of IBOC DAB by voting to adopt, prior to receiving comments in the instant proceeding, its proposal to create a new Low Power FM Service. Despite the Commission’s assertions to the contrary, it is far from clear that this precipitous action has not doomed IBOC DAB to failure even before it is considered.

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BROADCASTING COMPANY, INC.**

GULF COAST BROADCASTING COMPANY, INC. ("Gulf Coast"), by Counsel, and pursuant to Section 1.415(a) of the Rules and Paragraph 115 of the above-captioned proceeding, hereby respectfully submits the following Comments to the Commission in response to the *Notice of Proposed Rule Making* released November 1, 1999.<sup>1</sup> In support whereof, the following is shown:

***PRELIMINARY STATEMENT***

1. On November 1, 1999 the Commission released a *NPRM* in this proceeding, seeking Comments from the public on the establishment of a Terrestrial-based Digital Audio Broadcasting ("DAB") Service. The *NPRM* was issued in response to a petition for rule making filed by USA Digital Radio, Inc.<sup>2</sup>

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<sup>1</sup> FCC 99-327, released November 1, 1999 (hereafter, "*NPRM*").

<sup>2</sup> The petition of USA Digital Radio ("USADR") was placed on public notice on November 6, 1998.

2. Gulf Coast is the Licensee of WABF (AM), Fairhope, WCSN (FM), Orange Beach, WIJK (AM) and WPGG (FM), Evergreen, and WDXZ (AM), Robertsdale, (all Alabama). As the licensee of small market commercial AM and FM radio stations, Gulf Coast has a direct and immediate interest in the proposals to establish some form of Digital Audio Broadcasting for Terrestrial Radio Stations, either in-band, on channel (“IBOC”) or on alternate spectrum.

## **DISCUSSION**

### **I. PURPOSE OF DAB SERVICE.**

#### **A. The Commission Should Give Priority for Terrestrial DAB Service to Existing Broadcast Licensees.**

3. In its *NPRM*, the Commission acknowledged the importance of the current terrestrial aural broadcast service to the public interest. Unlike other subscription services (including satellite-delivered DAB), terrestrial broadcasting is free, universally accessible, and uniquely able to provide local news, information and public service programming. At the same time, free terrestrial audio broadcasting has faced continuing and greater challenges, as new mass media services have come into existence to compete for listeners and/or advertising revenues.

4. Broadcasters have stood by and watched the Commission create a new digital DBS service to compete with existing terrestrial-based service; have seen the Commission act, with uncharacteristic urgency, to create a new digital audio service (“DARS”) (also delivered by satellite), to compete with existing broadcast service, and have seen proposed improvements for existing audio and video services languish for years in “advisory committees,” or in FCC or private laboratories, instead of being made a priority.

5. While Congressional intervention, in the form of the Telecommunications Act of

1996,<sup>3</sup> rescued the radio broadcast industry from financial disaster, FM stations were primarily the beneficiaries of the new policies. Technical problems continue to plague AM radio. “With regard to the AM band, we have recognized that ‘many stations currently experience significant interference and degraded reception[.]’”<sup>4</sup> Previous measures taken by the Commission have been too little too late, or, in the case of the AM Expanded Band, offered false hope to AM broadcasters of improved service and coverage.

6. Perhaps most irritating has been the Commission’s proclivity to create new services, rather than addressing the existing problems of the industry: Low Powered Television Service (“LPTV”), Direct Broadcast Satellite (“DBS”) television service, Multi-Channel Multiple Distribution Service (“MMDS”), satellite-delivered Digital Audio Radio Service (“DARS”), and most recently, Low Power FM (“LPFM”), where the Commission proposed once again to pass over existing broadcast services in favor of politically popular proposals for low power FM stations to satisfy largely personal agendas and gratify private egos, but which are poorly conceived, impractical and technically unsound.<sup>5</sup>

7. The Commission must use the instant proceeding to address the competitive imbalances it has created by initiating new services (some of which are exempt from the public service obligations imposed on broadcasters) all to compete with broadcasters. There should be no consideration in this proceeding of any proposal to create a new terrestrial broadcast service with digital technology to be auctioned off to anyone who wishes to bid, and giving preference, in the form of bidding credits to new entrants. It is time to address the problems facing *existing*

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<sup>3</sup> PUB. L. No. 104-104, 110 Stat. 56 (1996). By *Order*, FCC 96-90, released March 8, 1996, effective March 15, 1996 (61 FED. REG 10689), the Commission amended §73.3555(a) of the Rules to conform to the requirements of the new statute.

<sup>4</sup> *NPRM*, ¶4.

<sup>5</sup> *See, Notice of Proposed Rule Making* (MM Docket No. 99-25), FCC 99-6, released

broadcast services, admittedly less politically appealing than creating yet another new, but unneeded service.

8. Accordingly, Gulf Coast urges the Commission to limit participation in DAB to existing AM and FM broadcast licensees and permittees. DAB would apply prospectively to new licensees where additional allotments are available.

**B. The Commission Should Institute DAB Service As Soon as Practically Possible.**

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February 3, 1999.

9. Digital broadcasting was proposed ten years ago. At that time, the Commission chose to create a new service with new spectrum, with delivery of the signal *via* satellite. Terrestrial broadcasters, although uniformly expressing an interest in DAB, were told that other demands on available spectrum precluded use of it for terrestrial digital broadcasting. Now, ten years later, technical reports from USADR and Lucent Technologies indicate that, due to advances in digital compression technology, DAB using the available bandwidth in the existing broadcast bands is not only possible, but it can be broadcast simultaneously with existing analog transmissions without loss of quality or the protection standards presently afforded analog channels.<sup>6</sup>

10. During the ten years that radio broadcasters have waited for the Commission to address their needs, competition for audio listenership has increased dramatically. Satellite-delivered digital service has been initiated, and will soon be available in all parts of the country. Additionally, digital compression technology such as MP3 has made possible “streaming audio” over the Internet with as good or better quality than the audio from compact disks. Accordingly, Gulf Coast submits that the Commission should not defer or delay any longer establishing rules and standards for DAB.<sup>7</sup>

**C. The Commission Should Defer Implementation of Any New LPFM Service Until Establishment of IBOC-DAB Service.**

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<sup>6</sup> *NPRM*, ¶7.

<sup>7</sup> Gulf Coast agrees that the system should not be launched until IBOC DAB has been demonstrated to be clearly viable in field tests; however, one of the Commission’s own criteria is that any approved system be open-ended • so that further technical advances will not be foreclosed.

11. The Commission has also expressed concern over whether its proposal to implement a new Low Power FM Broadcast Service as an overlay on existing FM broadcast spectrum would be compatible with the development of IBOC DAB.<sup>8</sup> They cited to comments by USADR and Lucent to suggest that IBOC DAB was not susceptible to adjacent channel interference.<sup>9</sup> However, others have disagreed and continue to disagree with that conclusion.

12. In a recent issue of RADIO BUSINESS REPORT, Ralph Justus, Vice President of Standards and Technology of Consumer Electronics Association (“CEA”, formerly “CEMA”) was interviewed on DAB, DARS, IBOC and LPFM. Specifically, Mr. Justus<sup>10</sup> was questioned on the practicality of LPFM and the relationship to industry efforts to bring DAB to fruition.

*“The past test results showed that the FCC’s LPFM proposal would cause extensive interference to existing FM reception. Moreover, LPFM cannot coexist with IBOC DAR because the analog interference would drastically limit the DAR coverage. Whatever spectrum is used by LPFM would preclude a successful IBOC deployment. They are mutually exclusive.”<sup>11</sup>*

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<sup>8</sup> *NPRM*, ¶25.

<sup>9</sup> *Id.*

<sup>10</sup> Mr. Justus was formerly an engineer at the FCC in the Mass Media Bureau and later joined the NAB as Director of Engineering, Regulatory and International Affairs. He joined CEA in 1991. His group has had a major hand in evaluating proposed IBOC DAB systems and reporting on them to the FCC. *See, NPRM*, ¶¶9-11, 57.

<sup>11</sup> “Ushering the Future of Electronics: CEA’s Ralph Justus,” 17 RBR pp. 8-11 (January 17, 2000).

13. Despite its own expressed doubts, and warnings by such groups as CEA and NAB that eliminating current protection standards was unwise and could jeopardize the viability of IBOC DAB, and without waiting to review and evaluate Comments in the instant proceeding, the Commission has gone ahead and created a new Low Power FM Service overlaid on the existing FM Band that includes the elimination of third adjacency protection standards.<sup>12</sup> Gulf Coast can only hope that final implementation of such a service will not occur until it has been demonstrated that LPFM operation will not create interference to full service FM stations using IBOC DAB, nor restrict or limit the coverage of such stations.<sup>13</sup>

## **II. SPECTRUM EFFICIENCY.**

### **A. In-Band, On-Channel Digital Broadcasting is the Most Efficient Use of the Radio Spectrum.**

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<sup>12</sup> FCC New Release, 1/20/00: "FCC Approves New Non-Commercial Low Power FM Radio Service."

<sup>13</sup> It appears that a majority of the Commission were rushing to judgment despite dire warnings of likely interference and adverse economic impact on existing broadcasters. Such political grandstanding does not serve the public interest.

14. The Commission has stated one of its criteria for a DAB system is spectrum efficiency.<sup>14</sup> It is clear that utilization of the existing AM and FM bands for digital broadcasting is the most spectrum efficient, since no additional spectrum will be involved. On the assumption that the two major proponents of IBOC DAB are able to demonstrate superior audio quality and robust resistance to interference, IBOC DAB should have everyone's vote. As noted by the Commission, the other system being utilized elsewhere in the world, Eureka-147,<sup>15</sup> would require a separate allocation of spectrum that presently is not available.<sup>16</sup> The Commission would have to dedicate new spectrum to DAB, which, in the long run, could doom the project to failure, due to the long delay before implementation, piecemeal implementation, and higher capital costs on the industry and the public.

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<sup>14</sup> "Our preference is for DAB systems that use the least spectrum. It is the Commission's obligation to ensure that the value derived from the superior transmission capabilities of DAB technology is allocated in a manner consistent with the public interest."

*NPRM*, ¶17

<sup>15</sup> The Commission has, itself noted that the Eureka-147 system is *not* spectrum efficient. Rather, it is a spectrum-hog, requiring broadband transmission.

<sup>16</sup> The "L" Band, and "Band III," utilized in Canada and Europe for DAB *a lá* Eureka-146, are assigned to other conflicting uses in the United States. *NPRM*, ¶11. Moreover, utilization of VHF TV Channel 6 as an alternative spectrum, is impractical. Only six MegaHertz of spectrum space is available from Channel 6 (82 - 88 MHZ) • obviously insufficient to accommodate all of the existing broadcast stations on the air.

**B. The Extra Bandwidth for IBOC DAB required During Transition Should Not be Reclaimed at the End of Any Sunset Period.**

15. Moreover, the currently available technical evidence indicates that, after complete conversion of the broadcast bands to IBOC digital mode, greater spectrum efficiency will result, resulting in new service opportunities,<sup>17</sup> such as interactive radio, and on-demand programming . The Commission cites this as a public policy objective in paragraph 17 of the *NPRM*, yet later asks whether after complete conversion to digital, broadcasters should be required to surrender the extra bandwidth instead of utilizing it for new services, as suggested above.<sup>18</sup>

16. Gulf Coast submits that the Commission’s concern about permanent retention of the extra bandwidth by broadcasters being “a fundamental change in spectrum assignment principles”<sup>19</sup> is disingenuous. Both AM and FM broadcasters presently use sideband technology now to provide for specialized services such as paging, switching, and subscription music services. In principal, the utilization of the additional bandwidth by broadcasters after total DAB conversion is no different.

17. If continued operation poses no interference or audio quality issues upon 100% conversion, the Commission should not require surrender of the bandwidth. As noted by the Commission, the USADR system being proposed would continue to need the spectrum after full

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<sup>17</sup> *NPRM*, ¶17. During the dual, or “hybrid” operation period, the Commission recognized that spectrum utilization for each channel will need to be doubled, in FM from 200 kHz to 400 kHz, and in AM, from 10 kHz to 20 kHz.

<sup>18</sup> *Id.*, at ¶38.

<sup>19</sup> *Id.*

DAB conversion. Moreover, requiring the surrender of the spectrum would likely mean additional capital costs on broadcasters and the listening public, unless transmitters and receivers are able to be constructed to accommodate such “before” and “after” operation • an additional cost in itself.

**C. A Sunset Provision Should be Established for IBOC DAB.**

18. It goes without saying that dual, or “hybrid transmission” for a certain period of time, should be encouraged and permitted. The hybrid transmission period will permit the FCC, the public, and the industry to evaluate the effectiveness of IBOC DAB during its actual utilization. AM and FM analog receivers will not all have to be thrown away at once, and broadcasters will be given time to raise sufficient capital to invest in DAB transmission technology.<sup>20</sup>

19. At the same time, a reasonable sunset date for full conversion to digital mode and the discontinuance of analog transmissions is consistent with public interest objectives of improved audio quality, reception, and spectrum efficiency. USADR has recommended a twelve-year period for the complete phasing-in of DAB.<sup>21</sup> While the period seems long, the Commission should

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<sup>20</sup> As a practical matter, small market broadcasters will likely wait until radio receivers capable of dual reception are manufactured and marketed in sufficient numbers to make economic sense. The Commission needs to remember that there still are a number of small market broadcasters who face substantial economic barriers to entry into the digital age, and that not all of them possess the technical and financial resources to convert to digitalization overnight.

<sup>21</sup> *NPRM*, ¶8. It should be acknowledged that a sunset date for analog transmission is

understand that, even if the Lucent system were adopted as the single standard, a sunset date needs to be established to achieve the public interest benefits expected from DAB.<sup>22</sup>

### **III. THE COMMISSION SHOULD ESTABLISH A SINGLE TRANSMISSION STANDARD.**

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necessary if USADR's proposed IBOC DAB system is adopted as the standard, since the all-digital operation would increase power by ten-fold and cause interference to analog transmissions if they were to continue.

<sup>22</sup> Thus, while, technically, no sunset date is required for the Lucent system, it is necessary for other, public policy reasons.

20. The adage about those who refuse to learn the lessons of history are doomed to repeat it apply here. There can be no question that the FCC's refusal to set a single transmission standard for AM Stereo doomed that proposal to failure. Many of the AM stations that took a risk and invested in AM stereo transmission equipment, chose one<sup>23</sup> that did not survive the market competition amongst manufacturers. They ended up with a technological white elephant, or at best, a system of sideband operation that helped with co-channel AM interference, albeit in monaural mode.<sup>24</sup> With such confusion and conflicting promotions, public demand for AM stereo receivers never took off. The delay of the marketplace to develop a single AM stereo transmission standard for more than ten years effectively destroyed the potential of AM Stereo to improve AM signal quality and listenership.

21. The Commission has stated that it will intervene in the marketplace and set a single standard where two conditions are met:

“[F]irst, there would be a substantial public benefit from a standard; second, private industry either will not, or cannot, achieve a standard because the private costs of participating in the standard-setting process outweigh the private benefits, or a number of different standards have been developed and private industry cannot reach consensus on a single standard.”<sup>25</sup>

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<sup>23</sup> *E.g.*, the Harris system and the Kahn systems.

<sup>24</sup> The Kahn system was later marketed for this purpose.

<sup>25</sup> *NPRM*, at ¶51

It seems clear, from the lessons learned from AM Stereo, that the first test would easily be met by bringing broadcasting into the twenty-first century, making it competitive with other newer services, and enabling broadcasters, especially AM broadcasters, to provide substantially improved signal quality.<sup>26</sup> The Commission has recognized that there is substantial public demand for digital modes of operation, and has committed to establishing a single transmission standard for DTV. The public interest justifications for doing so in the instant proceeding are no different.

22. With respect to the second criteria, the Commission has been presented with at least two systems of IBOC, and an out-of-band DAB system as well. The systems are incompatible, and without government intervention, manufacturers are precluded by anti-trust legislation from colluding to develop a single standard on their own. The Commission has seemed to recognize this dilemma, and Gulf Coast can only add its support to those commenters who have previously urged the Commission to adopt a single transmission standard for DAB.

### *CONCLUSION*

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<sup>26</sup> It is recognized that IBOC DAB for AM will not result in “CD Quality Audio;” however, most existing AM broadcasters would benefit substantially by having sound quality equal to present FM signals, and the elimination of substantial amounts of man-made noise interfering with the signal. Accordingly, it should be understood that “single standard” implies two different standards for the two separate broadcast bands.

23. Broadcasters have been waiting for their turn. The industry that was responsible for the creation of the FCC itself, the development of numerous technological advancements in radio, and establishing a record of service to the public of more than sixty years, has been passed over numerous times in the Commission's rush to adopt "hot" new services that capture headlines and appeal to certain political groups. Faced with a number of public service and operating restrictions not imposed on other newer services, while at the same time being confronted with more and more competition, the broadcast industry has managed to survive because it provides something that newer, more exotic services do not • *local* service. While the Commission has limited its perception of local service to news and public affairs programming, service to the local community by broadcast licensees is much broader: the involvement of broadcasters in community projects, and helping local merchants get their message to the public is often ignored by the Commission as, at best, irrelevant to the public interest, and tainted by crass commercial interest. It is not irrelevant or crass. It is, in the end, what drives the national economy and creates the incentive for new and innovative ideas to satisfy public expectations and demands • including digital broadcasting. It is time for the Commission to recognize the true value of the broadcast industry and provide the kind of support and direction that can only come from, and should be provided by, a government agency.

**WHEREFOR**, the above premises considered, Gulf Coast respectfully urges that the Commission establish standards for the implementation of in-band, on-channel digital audio broadcasting at the soonest possible date, and take all regulatory steps necessary to encourage and assure rapid conversion of broadcast service, both AM and FM, to a digital mode of operation.

Respectfully submitted,

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