

**ORIGINAL**

**Before the  
Federal Communications Commission  
Washington, DC 20554**

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**JUN 13 1997**

Federal Communications Commission  
Office of Secretary

In the Matter of	)
	) IB Docket No. 95-91
Establishment of the Rules and Policies	) GEN Docket No. 90-357
for the Digital Audio Radio Satellite	) RM No. 8610
Service in the 2310-2360 MHz	) PP-24
Frequency Band	) PP-86
	) PP-87

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**Comments of the  
National Association of Broadcasters**

The FCC has issued a Further Notice of Proposed Rulemaking<sup>1</sup> proposing to authorize the use of terrestrial repeaters for the recently authorized satellite digital audio radio service ("SDARS"). The National Association of Broadcasters ("NAB")<sup>2</sup> hereby files comments in opposition to that proposal, and here argues that the FCC can not yet even consider authorization of SDARS terrestrial repeaters.

NAB has long been an ardent opponent of SDARS in general and has opposed as well the use of terrestrial repeaters or "gap fillers" in conjunction with a satellite radio service. We have argued against the use of terrestrial repeaters for policy as well as technical reasons, but cannot here make sound judgments about the use of or rules for gap fillers for lack of an adequate record on this "novel" proposal.

<sup>1</sup> Report and Order Memorandum Opinion and Order and Further Notice of Proposed Rulemaking, IB Docket No. 95-91, FCC 97-70, (released March 3, 1997) ("Report and Order"; "FNPRM").

<sup>2</sup> NAB is a nonprofit incorporated association of broadcast stations and networks. NAB serves and represents the American broadcasting industry.

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We believe the instant proposal to present a “novel” issue in that NAB is unaware of any U.S. satellite system relying upon a terrestrial repeater component. Clearly, a sound technical basis is needed, for commenters and the FCC alike, before any rules governing terrestrial repeaters are considered and adopted.

In its 1995 NPRM on the authorization of SDARS, the FCC explicitly recognized the need for technical information on the use of terrestrial repeaters by SDARS systems before technical rules for such use could be considered.<sup>3</sup> In that NPRM, the FCC declined to even propose those rules “. . . because we do not have sufficient information.”<sup>4</sup> It was there noted by the Commission that

[n]one of the satellite DARS applicants . . . provide the necessary technical information in their applications to demonstrate how these complementary terrestrial repeater networks would be implemented.<sup>5</sup>

Continuing, the Commission added that

[u]ntil such information is available and applicants demonstrate how these complementary terrestrial networks would be implemented in the overall satellite system design, we cannot determine if terrestrial gap-fillers should be permitted and what rules should govern their use.<sup>6</sup>

This position was recently re-affirmed by the Commission in its Order, released April 30, 1997, in response to an NAB request to extend the deadline for filing of these comments. NAB, in a letter to the Commission dated April 28, 1997, pointed out, as is reflected in the Order, that

... the two DARS applicants... are required to submit amended technical proposals on or before May 16... [and] it is impossible to comment on the issue of terrestrial repeaters until the amended technical information is available.<sup>7</sup>

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<sup>3</sup> Notice of Proposed Rulemaking, IB Docket No. 95-91, 11 FCC Rcd 1 (1995) (“1995 NPRM”) at 18, released June 15, 1995.

<sup>4</sup> Id. at ¶ 56.

<sup>5</sup> Id. at ¶ 55.

<sup>6</sup> Id. at ¶ 56.

<sup>7</sup> See FCC Order, DA-97-908, released April 30, 1997, at ¶ 2.

The Commission, in issuing its Order, indicated that “an extension is warranted in this instance,”<sup>8</sup> and the extension was granted on the grounds that there was insufficient information to proceed.

Since that Order was issued, each of the SDARS applicants proceeded to file their amended applications in a timely manner. However, NAB cannot anywhere in the amended applications identify information, technical or otherwise, which would even come close to satisfying the Commission’s requirements (quoted above) pertaining to the information needed for establishing rules on terrestrial repeater use with SDARS, nor that would make it possible for NAB to evaluate the use of such repeaters and offer its comments on the same.

In demonstration of this fact, we here reproduce, in entirety, the information provided by CD radio in their amended application on the matter of terrestrial repeaters:

Terrestrial repeaters will also be placed in the cores of large urban cities, and CD Radio plans to apply for appropriate licenses after completion of the further Notice of Proposed Rulemaking on that subject.<sup>9</sup>

It is still necessary in core urban areas and tunnels to provide service by terrestrial repeaters as noted in the previous paragraph ( c)(4).<sup>10</sup>

Interference situations with adjacent Administrations will be coordinated including border situations with mobile receivers and with terrestrial repeaters.<sup>11</sup>

and similarly, by AMRC:

The fundamental components of AMRC’s system are: ... (iv) terrestrial repeaters to boost otherwise blocked satellite signals;<sup>12</sup>

The satellites and terrestrial repeaters will operate in the S-band at 2332.5-2345 MHz; consistent with the Commission’s proposed rules, the repeaters will not originate any local programming.<sup>13</sup>

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<sup>8</sup> Id. at ¶ 3.

<sup>9</sup> Submission and Amendment to Application of Satellite CD Radio, Inc., 71- SAT-AMEND-97 May 16, 1997, at 9.

<sup>10</sup> Id. at 24.

<sup>11</sup> Id. at 25.

<sup>12</sup> Amendment In re Application of American Mobile Radio Corporation For a System Authorization in the 2.3 GHz Satellite Digital Audio Radio Service, File Nos. 26/27- DSS-LA-93; 10/11-DSS-P-93, May 16, 1997, at 2.

<sup>13</sup> Id.

Terrestrial repeaters will be deployed in selected urban locations.<sup>14</sup>  
In particular, combinations of diversity in space and terrestrial repeaters are proposed to be utilized.<sup>15</sup>

Finally, it is recognized that in certain urban areas, it will be necessary to repeat the satellite transmissions through terrestrial repeaters. These repeaters are expected to operate in one of the five 2.5 MHz frequency slots, separate from the four slots used on the satellites.<sup>16</sup>

The terrestrial repeaters will operate in the remaining nominal 2.5 MHz, passively repeating roughly half of the programming that is carrier by the two satellites.<sup>17</sup>

This information does absolutely nothing to increase the knowledge of the Commission (or any other party) regarding the use of terrestrial repeaters by the SDARS applicants, over that which was available when the Commission addressed this matter in its June 1995 NPRM, with one exception. That exception is the information provided by AMRC regarding the exclusive use of 2.5 MHz of their spectrum by repeaters, and this disclosure does not provide clarity or insight into the operation of AMRC's repeaters, but to the contrary raises a host of new questions about that aspect of their service.

Consequently, NAB does not see how the Commission can proceed with rulemaking on this matter at this time and urges the Commission either to deny the applicants permission to operate terrestrial repeaters or to continue this proceeding until such time as the applicants provide sufficient information upon which to base and comment on terrestrial repeater rules.

It is imperative that the applicants provide pertinent, specific technical information regarding their use of repeaters, including such parameters as expected effective radiated power, expected antenna gain and pattern, specific technical criteria used to establish the need for

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<sup>14</sup> Id. at A-1.

<sup>15</sup> Id.

<sup>16</sup> Id. at A-2.

<sup>17</sup> Id. at A-3.

repeaters at any given location, repeater interference characteristics both with the satellites and with other repeaters, required spacing between repeaters and other installation requirements, impact on receiver performance of co-incident illumination by both satellite and repeater signals, and the like, before any rules are considered or established.

NAB does take this opportunity to make preliminary and brief comments on policy matters that are affected by the unavailable technical information but capable of general comment at this time.

First and foremost NAB supports as critical to any authorization of SDARS gap fillers the prohibition the Commission and the applicants endorse that the repeaters shall not originate local programming. As the Commission tentatively concluded in the Report and Order, SDARS terrestrial repeaters must be limited to only retransmitting the satellite signal.<sup>18</sup> NAB emphasizes the basic and critical nature of this requirement, which the Commission has presupposed in every discussion of the use of gap fillers.<sup>19</sup> Not only is this requirement necessary to ensure the complementary nature of such repeaters, as required by the SDARS allocation,<sup>20</sup> but to avoid the creation of a terrestrial radio service. This, NAB submits, must be treated as a given.

In this regard, any rules for terrestrial repeaters ultimately adopted must explicitly state that these repeaters are to receive their input signals solely from the SDARS satellite. No other input, backup or otherwise, should be allowed, in order to insure the complementary nature of the terrestrial component. Thus the rules should not allow repeater transmissions when the SDARS satellites are not in operation. And thus if, in the future, the SDARS satellites were to fail, or the

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<sup>18</sup> Report and Order, supra, at ¶ 142.

<sup>19</sup> See id.; 1995 NPRM, supra.

<sup>20</sup> Report and Order, supra, at 142.

SDARS service ceases operation, the terrestrial repeaters could not be transformed into a terrestrial radio service, which of course would fly in the face of the SDARS allocation itself.

On the issue of licensing of repeaters, NAB submits that such repeaters indeed must be individually licensed so as to (1) verify that they are being used in a complementary role, (2) verify that no local insertion is being done (without licensing this verification will be difficult to accomplish since the repeater locations will not be known), (3) prevent/monitor potential interference to the WCS band, (4) allow for effective monitoring and coordination of interference to Canada and Mexico, and (5) monitor the number of such repeaters.

The Commission has suggested that it would be burdensome to require licensing but it would seem that if the SDARS terrestrial component is truly complementary to the satellite component, then there will be a sufficiently small number of terrestrial transmitters to license-- which will not be burdensome.

To suggest that it would be burdensome to individually license terrestrial repeaters is to suggest that there would be a great number of repeaters, which if true would mean that SDARS is not a satellite-based system, but a satellite-fed terrestrial system.<sup>21</sup> Therefore, NAB also submits that the Commission must not allow unlimited gap fillers, for this very reason, but establish a reasonable cap of the number of such repeaters. This of course can not be proposed until the applicants submit the technical parameters of their proposed repeaters.

If, after submission of adequate technical information, the Commission decides to authorize the use of SDARS terrestrial repeaters, NAB suggests that the Commission adopt a

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<sup>21</sup> The Commission's suggestion in the FNPRM (at ¶ 142) that the blanket licenses provided to mobile earth stations of other satellite services serve as a model for the regulatory structure here is flawed. Mobile earth stations, which are part of a satellite service, are transmitting and receiving from the satellite. They are more analagous to the receiver component of the SDARS system than to the repeater component.

waiting period (after initiation of service) before gap fillers can be utilized, as CD Radio initially proposed. As there have been no field tests of the SDARS systems submitted to the Commission for licensing, it makes sense to delay the use of repeaters while these systems are fully characterized and optimized. It will not be immediately clear where repeaters are truly needed, and this waiting period will provide the applicants with an incentive to try and resolve signal reception problems by other means than simply putting up repeaters. For example, different receiver designs and antenna configurations may be effective in improving performance in areas which are not fully blocked from view, but where a repeater might be installed as a “quick and dirty” solution if allowed.

One final matter which the NAB would like to bring to the Commission’s attention, as a footnote, involves the definition of the term Satellite Digital Audio Radio Service, in the rules adopted under the Report and Order of March 3, 1997.<sup>22</sup> This definition is provided in Appendix A to that Report and Order, under §25.201, and reads as follows:

*Satellite Digital Audio Radio Service (“DARS”). A radiocommunication service in which audio programming...*<sup>23</sup>

This same definition is also provided in Appendix C to the Report and Order/NPRM and begins thusly:

*Satellite Digital Audio Radio Service (“satellite DARS”). A radiocommunication service in which audio programming...*<sup>24</sup>

The version of this definition as shown in Appendix A is incorrect, since the word “satellite” has been omitted from the quotation marks, and NAB would ask that the rules be edited to correct this apparent oversight.

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<sup>22</sup> Report and Order, *supra*.

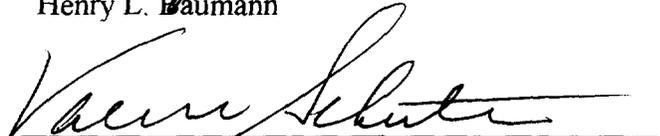
<sup>23</sup> Id. at Appendix A, ¶ 4.

<sup>24</sup> Id. at Appendix C, ¶ 2.

NAB respectfully suggests that the Commission, in order to solicit informed comments and proceed with consideration of the authorization of terrestrial repeaters for use with SDARS systems, must demand of the applicants the lacking technical information. To proceed otherwise, we submit, would be without sound basis.

Respectfully submitted,

  
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