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

In the Matter of)
)
Sirius Satellite Radio Inc.)
Application for Special Temporary Authority) File No. SAT-STA-20061107-00131
to Operate Four Satellite DARS Terrestrial)
Repeaters in Alaska and Hawaii)

To: Chief, International Bureau

**Petition to Deny of the
National Association of Broadcasters**

The National Association of Broadcasters (“NAB”)¹ submits this Petition to Deny the above-captioned request of Sirius Satellite Radio Inc. for Special Temporary Authority (“STA”) to deploy four terrestrial repeaters in Alaska and Hawaii, pursuant to Section 25.154 of the Commission’s rules, 47 C.F.R. § 25.154.²

I. Satellite Radio Terrestrial Repeaters Must Be Complementary “Gap-Fillers”

Although NAB fully supports making every technology and medium for news and entertainment available to all, we have genuine concerns that Sirius’ proposed scheme to deliver service into Alaska and Hawaii violates the Commission’s policies governing satellite radio terrestrial repeaters. In the Commission’s 1997 order establishing Satellite Digital Audio Radio Service (“SDARS”), the Commission recognized that SDARS licensees might face obstacles to delivering service in certain locales due to natural and man-made obstructions. The Commission

¹ NAB is a nonprofit trade association that advocates on behalf of more than 8,300 free, local radio and television stations and also broadcast networks, before Congress, the Federal Communications Commission and other federal agencies, and the Courts. NAB is a “party in interest” to this matter under Section 25.154 of the Commission’s rules because our members include radio stations located in both Alaska and Hawaii that will be directly impacted by approval of Sirius’ request and subsequent entrance into those markets.

² Sirius Satellite Radio Inc. Application for Space Station Special Temporary Authority, File No. SAT-STA-20061107-00131, filed Nov. 7, 2006 (“Sirius STA Request”).

proposed to allow SDARS licensees to operate “terrestrial repeaters, or ‘gap-fillers,’ into urban canyons and other areas where it may be difficult to receive DARS signals transmitted by a satellite.”³ The Commission intended for repeaters to “re-transmit the information from the satellite to overcome the effects of signal blockage and multipath interference.” SDARS Order/Notice, 12 FCC Rcd at 5810. The primary concern was that SDARS repeaters only be used in conjunction with a satellite system “to ensure its complementary nature” and to prevent a satellite radio system from transforming “into an independent terrestrial DARS network.” *Id.* at 5811. Even Sirius supported this approach, maintaining that repeaters will be complementary to the satellite DARS system and only be used to improve SDARS service in difficult propagation environments.⁴

The Commission echoed these constraints in its decision granting Sirius authorization to operate terrestrial repeaters.⁵ There, the Commission held that Sirius’ use of repeaters must be “complementary” to the service transmitted directly from Sirius’ satellites to subscribers’ radios. Sirius Repeaters Order, 16 FCC Rcd at 16777. The Commission also reaffirmed the utility of terrestrial repeaters where the signal is “blocked or will be subject to multipath interference.” *Id.* at 16773.

Thus, the Commission specifically allowed satellite radio licensees to employ terrestrial repeaters as a means to *improve* SDARS reception, but not as a vehicle to “*extend* a SDARS licensee’s satellite coverage area.” SDARS Order/Notice, 12 FCC Rcd at 5811 (emphasis added).

³ Establishment of Rules and Policies for the Digital Audio Radio Satellite Service in the 2310-2360 MHz Frequency Band, *Report and Order, Memorandum Opinion and Order and Further Notice of Proposed Rulemaking*, 12 FCC Rcd 5754, 5810 (1997) (“SDARS Order/Notice”).

⁴ Reply Comments of CD Radio in IB Docket No. 95-91, filed Oct. 13, 1995, at 54-56.

⁵ In the Matter of Sirius Satellite Radio, Inc., *Order and Authorization*, 16 FCC Rcd 16773 (2001) (“Sirius Repeaters Order”).

II. Sirius' Proposed Repeaters are Not Complementary

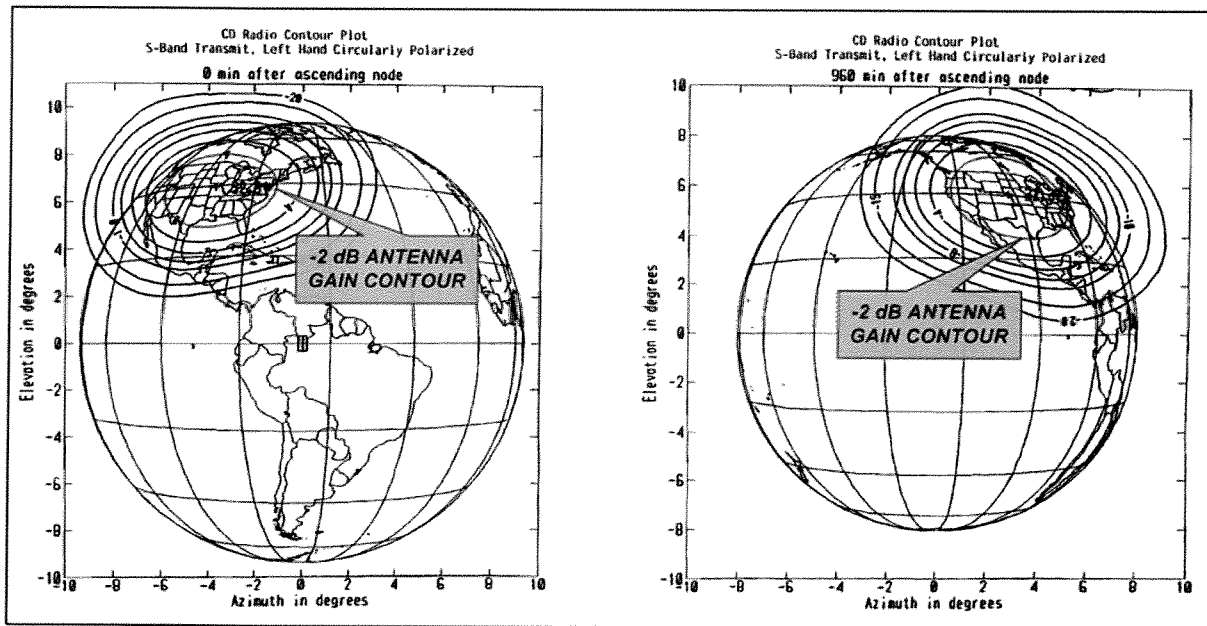
Nevertheless, Sirius now requests authority to operate four terrestrial repeaters in Alaska and Hawaii, apparently to extend their coverage area. Specifically, Sirius seeks permission to deploy three repeaters in Alaska, one each in Anchorage, Fairbanks and Juneau, and one repeater in Honolulu. In the application, Sirius artfully describes the proposed repeaters in the same jargon as the SDARS Order/Notice and the Sirius Repeaters Order: "These complementary terrestrial repeaters will also be used to overcome the effects of satellite signal blockage and multipath interference within those states." Sirius STA Request, Attachment at 1. However, Sirius offers no engineering or technical information to show satellite service in either state that the repeaters would complement. Nor do they provide evidence of signal blockage or interference, presumably because no such evidence exists.

NAB submits that Sirius' obligation to use repeaters to deliver "complementary" service means that, at the very least, the repeaters in question must be located within the coverage area of the satellite system as authorized by the Commission.⁶ As described below, however, prior to Sirius' latest STA request, neither Sirius nor the Commission considered Alaska and Hawaii to be within Sirius' coverage area.

First, it is clear from Sirius' 1998 application for approval of its satellite constellation that Sirius viewed the coverage area of its satellite DARS system as the co-terminus United States, and nothing more. Sirius specified that the border of its system's coverage area is "herein

⁶ This view is entirely consistent with the usage of repeaters in other contexts. For example, FM broadcasters are allowed to use boosters (on-channel repeaters) only within their protected contour. 47 CFR § 74.1231(h).

assumed as the -2 dB antenna gain contour”⁷ Sirius also provided maps to illustrate this concept (shown here, augmented to highlight the -2 dB contour).



Modified Application at A-20 and 21. Sirius bolstered this view at various places in the

Modified Application:

“Two satellites will be in active service, transmitting to the 48 contiguous United States coverage area at any time.” *Id.* at A-2;

“A broad range of broadcast services will be provided to fixed and mobile users throughout the 48 contiguous United States.” *Id.* at A-22; and

“The combination of the above techniques and facilities will result in high quality service continuity throughout the 48 continuous United States for outdoor locations;” *Id.* at A-23.

Second, the Commission recognized that the coverage area of Sirius’ satellite DARS system was CONUS, and nothing more, when authorizing construction of Sirius’ satellite

⁷ Application of Satellite CD Radio, Inc. to Modify Authorization to Launch and Operate a Digital Audio Radio Satellite Service, File No. SAT-MOD-1998 1211-00099 (filed Dec. 11, 1998) (“Modified Application”), at A-27. In this application, Sirius sought approval to modify its satellite system from a two satellite, geostationary orbit system to a three satellite, geosynchronous, highly inclined elliptical orbit (HEO) system.

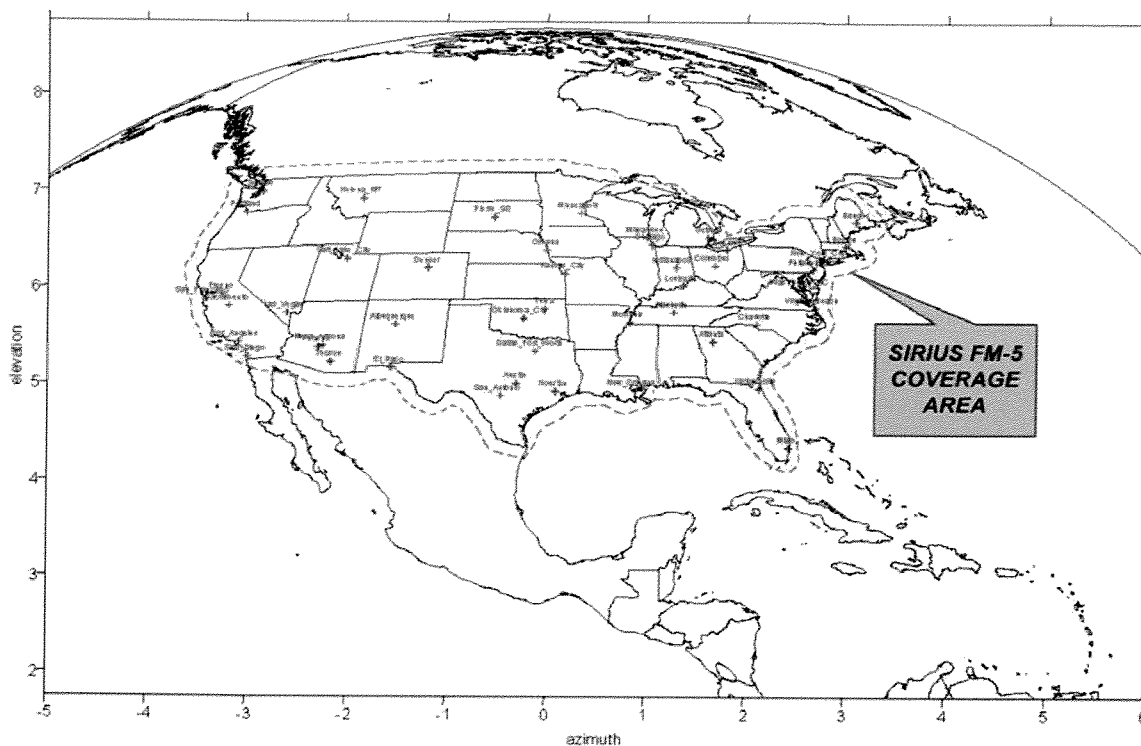
system.⁸ There, the Commission stated that “Sirius will operate a satellite system providing coverage to the contiguous 48 United States (CONUS).” Sirius Repeater STA at ¶ 2. The Commission also acknowledged that “the transmitting antennas on [Sirius’] NGSO satellites used to provide SDARS service will be continuously pointed and tracked to remain focused on the continental United States.” *Id.* at ¶ 7. The Commission specifically authorized Sirius to provide “satellite digital audio radio service (DARS) in the United States...to the extent indicated herein. . . .” *Id.* at ¶ 30. It is apparent that the Commission accepted Sirius’ representations that its satellites cover CONUS, and nothing more.

Third, Sirius recently submitted an application to augment its existing HEO satellite constellation with a single, geosynchronous satellite, creating what it calls a “hybrid” constellation.⁹ Sirius describes the coverage area as including “Sirius and Sirius Canada’s subscribers in the co-terminous United States (CONUS - including its offshore waters) and Canada” Sirius FM-5 Application, Attachment A at 1. Also included in this new application is a map (shown here) illustrating the DARS broadcast coverage “with a minimum edge of coverage EIRP of 63.0 dBW across CONUS.”

⁸ Order and Authorization, File No. SAT-MOD-199881211-00099 (March 9, 2001) (“Sirius Repeater STA”).

⁹ Application for Satellite Space Stations Authorizations, File No. SAT-LOA—20060901-00096, filed Sep. 1, 2006 (“Sirius FM-5 Application”).

Figure A.5-1 – DARS CONUS Service Area



Id. at 5-6. As shown by the dotted line above, the coverage area of Sirius’ SDARS system, even if expanded as proposed in Sirius’ FM-5 Application, will not encompass Alaska or Hawaii.

Finally, Sirius has described its coverage area in other contexts as well. In filings with the Security and Exchange Commission, Sirius routinely characterizes itself as a “provider of satellite radio . . . to subscribers throughout the continental United States.”¹⁰ Similarly, Crutchfield Corporation, one of Sirius’ major retailer partners advertises Sirius on its website: “It’s ON. Music is streaming down from three satellites in constant orbit over the lower 48 states.”¹¹

¹⁰ See, e.g., Sirius Satellite Radio Inc. Form 10-K (Annual Report) for period ending December 31, 2004 (filed March 16, 2005), at 2.

¹¹ See Crutchfield’s webpage regarding Sirius offers, available at: <<http://www.crutchfieldadvisor.com>>.

Given all this evidence, it is readily apparent that Alaska and Hawaii are simply not within Sirius' SDARS coverage area, despite Sirius' assertions in the STA application and opposition to Mt. Wilson's petition. Both states are outside the footprint of Sirius' SDARS system, Sirius provides no appreciable service in either state, has no subscribers to speak of, and does not market service in either state. It is therefore impossible for Sirius to provide service via terrestrial repeaters in Alaska or Hawaii that is "complementary" because there is no service directly from its satellite system to complement, as required under the Commission's policy.

NAB notes that this point was made in a previous Petition to Deny Sirius' STA Request filed by Mt. Wilson FM Broadcasters, Inc.¹² In that petition, Mt. Wilson notes that Sirius "does not and cannot" provide satellite service in Alaska or Hawaii because both states are "primarily or wholly" outside the footprint of Sirius' satellite system. Mt. Wilson Petition at 2-3. In response, Sirius sidestepped this invitation to prove its case by declining to provide any evidence of subscribers in Alaska or Hawaii, or even a technical rendering of its satellite system to demonstrate satellite coverage of either state.¹³

The nature of Sirius' response to Mt. Wilson is particularly telling. Sirius asserts that the Commission in the SDARS Order/Notice required SDARS licensees to provide service throughout the contiguous United States (CONUS), and encouraged service to other areas where practical.¹⁴ Then, in a carefully worded footnote, Sirius admits that its satellites "are not focused over Alaska or Hawaii, [and] satellite beam patterns do not conform to state boundaries," but nonetheless implies that there are subscribers in Alaska and Hawaii, stating that "Sirius

¹² Petition to Deny of Mt. Wilson FM Broadcasters, Inc., File No. SAT-STA-20061107-00131, filed Jan. 5, 2007 ("Mt. Wilson Petition").

¹³ Opposition to Petition to Deny of Sirius Satellite Radio Inc., File No. SAT-STA-20061107-00131, filed Jan. 18, 2007 ("Sirius Opposition"), at 2-3 and 4.

¹⁴ *Id.* at 3 *citing* SDARS Order/Notice, 12 FCC Rcd at 5794.

customers today receive satellite radio service in each state.” Sirius Opposition at 4 n.13. But nowhere does Sirius point to any actual subscribers in Alaska or Hawaii. Also, to the extent there may be some limited amount of incidental reception in Alaska, this does not suggest that Alaska is within the coverage area of Sirius’ satellite system. This would be akin to suggesting that out-of-boundary listeners who sometimes can receive an FM station’s signal beyond the station’s protected contour are entitled to protected reception of that signal (or reception via a booster or translator), which of course they are not under the Commission’s rules.

Sirius’ opposition to Mt. Wilson’s petition does little more than beg the question: How would Sirius service in Alaska or Hawaii via terrestrial repeaters be complementary to service directly from its satellites if no one can receive SDARS service in Alaska or Hawaii? Indeed, Hawaiian residents themselves would like to know.¹⁵

Indeed, to the extent that Sirius happens to have customers in Alaska or (even less likely) Hawaii because of incidental reception of service directed to Canada and the continental United States, Sirius’ approach would turn the Commission’s concept of “complementary” on its head. That is, Sirius’ service from its satellites could be characterized as complementary (at best) to the service delivered via the new terrestrial repeaters. Of course, this was the Commission’s exact concern when it prohibited when it required that repeaters be used only in conjunction with a satellite system in order to prevent an SDARS system from transforming into an “independent terrestrial DARS network.” SDARS Order/Notice, 12 FCC Rcd at 5811. Accordingly, Sirius’ request to use repeaters to launch satellite radio service in Alaska and Hawaii must be rejected.

¹⁵ See, e.g., Erika Engle, *Satcaster Sirius Gets Serious About Serving Isles*, Honolulu Star-Bulletin (Nov. 12, 2006), stating: “Short of traveling to the mainland, the only way Hawaii residents can hear Sirius’ programming is via free, three-day trial online.”

III. Sirius' Alleged Need for Repeaters is Inconsistent with Commission Intent

Sirius' proposed use of terrestrial repeaters in Alaska and Hawaii also varies from the Commission's intended technical justification for repeaters. In the SDARS Order/Notice and elsewhere, the Commission has repeatedly specified that the purpose of repeaters is to "transmit the information from the satellite to overcome the effects of signal blockage and multipath interference." *Id.* at 5810. These affects typically occur in urban canyons because of buildings, or other locations such as in cars due to mountains, foliage, telephone polls, billboards, bridges, tunnels, and adjacent trucks, among others. Sirius itself acknowledged these kinds of obstacles in its application for approval of its satellite system, stating that although the satellite will deliver direct service in most circumstances, "it is still necessary in core urban areas and tunnels to provide service by terrestrial repeaters."¹⁶ However, in this situation, Sirius wants to deploy repeaters because Alaska and Hawaii are thousands of miles outside the coverage area of its satellite system, resulting in an extremely low "look angle" and greatly diminished signal strength into both states. In other words, Sirius is interested in using repeaters not to overcome interference caused by buildings, mountains and the like, but to overcome the affect of the curvature of the earth and the antenna patterns of their satellites. This is not what the Commission had in mind when it authorized satellite radio providers to use terrestrial repeaters as a means to improve reception. Sirius' purpose is to use repeaters to extend its coverage area. The Commission should not accept Sirius' bootstrap request to expand Commission policy.

IV. The Commission Should Closely Examine the Justification and Veracity of Sirius' Application Given Sirius' Record of FCC Rules Violations

The Commission should be suspicious of Sirius' representations in this STA request. In only a few years of operation, Sirius has generated a long track record of violating the

¹⁶ Modified Application at A-23.

Commission's rules, particularly with respect to its terrestrial repeater network. Specifically, in October 2006, Sirius filed an application for STA approval of its "as-built" terrestrial repeater network.¹⁷ In this application, Sirius confessed to a host of problems with its repeater network, including constructing at least 11 of its repeaters at sites that differed from those authorized by the Commission. In eight cases, the repeaters were deployed at least one mile away from the authorized location, and one repeater authorized for Lansing, Michigan was actually installed 67 miles away in Detroit. Sirius also deployed more transmission antennas, and at excessive heights, than authorized by the Commission. Sirius 2006 STA Request, Exhibit. Despite Sirius' artful attempts to downplay the significance of its breaches, it is inevitable that Sirius' unlawful repeaters pose an unreasonable risk of interference to neighboring operations of Wireless Communications Services ("WCS").¹⁸ However, rather than correcting its mistakes, Sirius has asked the Commission to legitimize its illegal construction and operation of these repeaters. Even more galling, only days after seeking a pardon for these transgressions, Sirius submitted a Petition for Rulemaking that proposes final service rules for satellite radio repeaters and would conveniently grandfather all 11 unlawful repeaters from any final rules the Commission may ultimately adopt.¹⁹ Sirius' Petition also would excuse Sirius from any obligation under its existing STAs to protect WCS operations from interference. WCS Letter at 3.

Sirius has also been under investigation for violating Commission rules governing the production and distribution of their receiver equipment,²⁰ which are designed to ensure that these

¹⁷ Application for Space Station Special Temporary Authority, Sirius Satellite Radio Inc., File No. SAT-STA-20061013-00121 (Oct. 13, 2006) ("Sirius 2006 STA Request").

¹⁸ Letter from Paul J. Sinderbrand, Counsel to the WCS Coalition, to Marlene Dortch in File No. SAT-STA-20061013-00122, filed Nov. 28, 2006 ("WCS Letter"), at 3

¹⁹ Petition for Rulemaking for Rulemaking, and Comments, of Sirius Satellite Radio Inc., IB Docket No. 95-91 (filed Oct. 17, 2006) at 6.

²⁰ 47 C.F.R. Part 15.

types of devices do not interfere with broadcast radio stations or other licensed spectrum users. As a result of Sirius producing and distributing receiver equipment that violates – and in a number of cases very greatly exceeds – Commission limits on the power levels for such equipment, many listeners to terrestrial radio stations experience “bleedthrough” and receive the Sirius signal without warning through their radios. As has been widely reported, the Commission has received many complaints from both commercial and non-commercial listeners who suddenly hear uncensored and unwelcome satellite radio programming on their car radios.²¹

Sirius’ proposed scheme for introducing service in Alaska and Hawaii is yet another attempt at stretching the Commission’s technical rules and policies well beyond the reasonable limits of Commission intent. Accordingly, Sirius’ asserted justification for operating repeaters in Alaska and Hawaii must be carefully reviewed.

V. Conclusion

Sirius has not demonstrated that service from the proposed repeaters in Alaska and Hawaii will be complementary to any service directly from its satellites into either state. Both Alaska and Hawaii are unmistakably outside the footprint of Sirius’ SDARS satellite system, and Sirius has not documented any actual subscribers in either state. Any incidental reception in these locations is not sufficient evidence of service. Since Alaska and Hawaii are outside of the Sirius coverage area, there is nothing for the proposed repeaters to complement. Sirius has also failed to illustrate the exact obstacles, whether natural or man-made, that are obstructing its satellite service into Alaska and Hawaii. If in fact there are no such obstacles other than the thousands of miles between the states and Sirius’ satellite coverage area, then Sirius’ request to

²¹ See, e.g., *A Mystery Heard on Radio: It’s Stern’s Show, No Charge*, New York Times, January 26, 2007 at A17.

install repeaters is unwarranted and Sirius should only be allowed to introduce service in Alaska and Hawaii in a manner consistent with the Commission's rules, such as deploying another satellite engineered to cover those locations. Finally, in light of Sirius' record of violating the Commission's rules, and especially its STA authorizations for terrestrial repeaters, its motives and plans for launching service in Alaska and Hawaii should be closely scrutinized.

Accordingly, Sirius' application for an STA to install and operate terrestrial repeaters in Alaska and Hawaii should be rejected.

Respectfully submitted,

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March 19, 2007

Certificate of Service

I, Patricia Jones, hereby certify that I have caused copies of the foregoing Petition to Deny to be served via U.S. Mail on this 19th day of March 2007, on the party listed below:

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