

SIRIUS SATELLITE RADIO INC. XM RADIO INC.

February 21, 2002

By Electronic Filing

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

**RE: Written Ex Parte Presentation
IB Docket No. 95-91**

Dear Mr. Caton:

Sirius Satellite Radio Inc. (“Sirius”) and XM Radio Inc. (“XM”) hereby reply to the February 19th submission of the WCS Coalition. *See* Letter from AT&T Wireless, BeamReach, BellSouth, Verizon Wireless, WCA, and WorldCom to Mr. William F. Caton, FCC (Feb. 19, 2002). The WCS Coalition purports to propose a compromise for sharing of the S-band by DARS repeaters and WCS licensees based on the Commission’s recent decision in the Lower 700 MHz proceeding. *Report and Order*, GN Docket No. 01-74 (Jan. 18, 2002) (“*Lower 700 MHz Decision*”). (The Lower 700 MHz decision is particularly relevant for this proceeding as 700 MHz licensees, just like WCS licensees, are authorized under Part 27 of the Commission’s rules to make flexible use of their authorized spectrum for both fixed and mobile services.) Sirius and XM welcome this approach as long as it is based firmly on the principles and standards established in the Lower 700 MHz proceeding. Unfortunately, the WCS Coalition’s concoction is a twisted distortion of the Commission’s recent decision.

The Lower 700 MHz decision is a watershed in the development of the Commission’s flexible spectrum management policies. Among other things, it firmly rejects the notion that “parity” in power levels is required between broadcast and non-broadcast operations. Instead, the Commission decided that high-power broadcast operations are appropriate and will not prevent lower power Part 27 operations, including use of consumer equipment. *Id.* at paras. 104-105. (The Lower 700 MHz decision authorizes broadcast operations at more than twice the power levels--82 kW EIRP (50 kW ERP)--sought by the DARS licensees.) In the decision, the Commission established the fundamental principle that a power flux density (“pfd”) of 3000 microwatts per square meter anywhere at ground level within 1 km of an adjacent-channel broadcast transmitter is a “reasonable standard for non-interference” for the protection of all Part 27 licensees in the Lower 700 MHz band. *Id.* at para. 103.

Sirius and XM urge the Commission to apply this same standard to the resolution of the above-referenced rulemaking, using it to protect Part 27 licensees in the S-band that have

expressed concern with the potential for DARS repeaters to desensitize their receivers. Having established in the Lower 700 MHz proceeding a standard for non-interference between adjacent-band broadcast and Part 27 operations, there is no reason for the Commission to deviate from that standard with regard to Part 27 licensees adjacent to DARS repeaters. The Sirius and XM systems, as designed and built, readily comply with this standard.

The WCS Coalition shamelessly attempts to rewrite the Lower 700 MHz decision in the following ways:

- In the Lower 700 MHz decision, the Commission adopted a pfd limit of 3000 uW/m^2 as a “reasonable” standard for non-interference between adjacent-band broadcast and non-broadcast operations. *Lower 700 MHz Decision* at para. 104. The WCS Coalition, however, proposes a pfd limit of $7.9 \text{ uW/m}^2/\text{MHz}$. WCS Coalition at 5.
- In the Lower 700 MHz decision, the Commission adopted a pfd limit based on signal levels received on the ground. *Lower 700 MHz Decision* at para. 104, Appendix D. The WCS Coalition, however, proposes to calculate the pfd at 30 meters above ground level. WCS Coalition at 2. The WCS Coalition claims that this is needed to protect fixed services, but this ignores the fact that the standard adopted in the Lower 700 MHz proceeding applies to all Part 27 services, including fixed services. Moreover, there is no rational reason to establish a more protective standard for fixed services. Part 27 fixed operations should find sharing even easier than mobile operations, by using such techniques as antenna orientation or selecting a different type of antenna. *Lower 700 MHz Decision* at para. 106. In addition, filters are easier to employ in fixed receivers than in mobile receivers.
- In the Lower 700 MHz proceeding, the Commission provides that compliance with the pfd limit should be calculated based on the Hata propagation model. *Lower 700 MHz Decision* at Appendix D. The WCS Coalition proposes that the calculations should be made using a free space loss propagation model. WCS Coalition at 2.

The need for the appropriate propagation model to assess potential interference is readily demonstrated in XM’s report on coordination in Houston. *See* Comments of XM Radio Inc., IB Docket No. 95-91, at Exhibit A (Dec. 14, 2001). While WCS licensees, using a free space propagation model and no antenna pattern discrimination, predicted blanketing interference for a WCS CPE operating within a distance of 11.4 miles from an XM higher power repeater, actual field test results demonstrated the WCS CPE could operate as close as across the street and in line-of-sight of the repeater with no degradation in performance.

- In the Lower 700 MHz decision, the Commission provides for the calculations of pfd to include signal attenuation provided by antenna discrimination and antenna patterns. The WCS Coalition excludes these factors.

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The effect of the WCS Coalition's revamping of the Lower 700 MHz decision is readily apparent. As the WCS Coalition boldly admits, all but one of Sirius' higher power repeaters in Atlanta would have to be redesigned to comply with the WCS Coalition's proposed pfd limit. WCS Coalition at 6. This is hardly a "compromise." Rather, it would require a massive redesign of existing repeater networks for no good reason other than to satisfy concerns of WCS licensees, which concerns the Commission has just recently determined to be misguided.

In addition to the above deviations from the Commission's decision in the Lower 700 MHz proceeding, the WCS Coalition's technical analysis is flawed in many other respects. While Sirius and XM have not addressed those flaws here, it reserves the right to raise them later.

Please direct any questions regarding this matter to the undersigned.

Very truly yours,

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