

**SIRIUS SATELLITE RADIO INC.
XM RADIO INC.**

April 8, 2002

Via Electronic Filing

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

**Re: *Ex Parte* Presentation
 ET Docket No. 98-42: 1998 Biennial Regulatory Review—Amendment
 of Part 18 of the Commission’s Rules to Update Regulations for RF
 Lighting Devices;
 ET Docket No. 01-278: Review of Part 15 and other Parts of the
 Commission’s Rules;
 IB Docket No. 95-91; SDARS Terrestrial Repeaters**

Dear Mr. Caton:

On April 5, 2002, Lon Levin and Phil Barsky of XM Radio Inc. (“XM”), Bruce Jacobs and David Konczal of Shaw Pittman LLP, counsel for XM, Robert Briskman of Sirius Satellite Radio Inc. (“Sirius”), and Carl Frank of Wiley, Rein and Fielding LLP, counsel for Sirius, met with Paul Margie, legal advisor to Commissioner Michael J. Copps, to discuss issues relating to the above-captioned proceedings in which the Commission is considering rules for SDARS terrestrial repeaters in the 2320-2345 MHz band and RF lighting and other unlicensed devices in the 2.4 GHz band. Sirius and XM advocate that out-of-band emissions from RF lighting into the SDARS band be limited to no more than 8.6 $\mu\text{V}/\text{m}@3$ meters, which is slightly less restrictive than the standard the Commission previously adopted to protect SDARS receivers. We oppose the FCC’s proposal to permit RF lighting in the 2400-2483 MHz band to emit as much as 500 $\mu\text{V}/\text{m}$ outside the ISM band.

If RF lights are deployed at the emissions levels into the SDARS band Fusion has proposed (159 $\mu\text{V}/\text{m}$ @3 meters), these lights would create a 50 meter “kill zone” in which reception of SDARS would be impossible. At the level proposed in the NPRM (500 $\mu\text{V}/\text{m}$), the

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kill zone would be even bigger. Fusion plans to deploy RF lights on streets and highways, as the FCC has discussed in close proximity to one another (and pointed directly at DARS consumer receivers) (*see* NPRM, ¶13). Should the Commission fail properly to restrict the out-of-band emissions of RF lights, such lights will prevent reception of DARS on entire highways and streets. This would prevent huge sections of the public from receiving DARS.

XM and Sirius are skeptical of Fusion's purported testing of SDARS receivers in proximity to an RF light. XM and Sirius were not present at the test and have no way of knowing how the testing was conducted. Moreover, XM has a repeater located near Fusion's test location, which would demonstrate nothing about the potential for a Fusion light to interfere with SDARS reception when only a satellite signal is present. Given that 99% of the U.S. land mass is served by the satellite only, testing of an SDARS receiver with only a satellite signal present would be a more appropriate testing environment. Also, Fusion has informed the SDARS licensees that they do not have any new production lamps that can be tested at the present time. Thus, any testing undertaken now, before Fusion has new production model lamps, would be pointless.

In order to ensure that SDARS receivers do not suffer harmful interference from RF lights, the emissions from these lights into the SDARS band must be limited to $8.6 \mu\text{V/m}$ @ 3 meters (measured in a 1 MHz interval). This limit is actually less stringent than the one the Commission imposed in 1997 on WCS mobile and portable devices to protect SDARS (47 C.F.R. § 27.53(a)(2)). There is no reason to depart from this approach. Neither Fusion nor any other entity has explained how the agency could choose the proper standard five years ago, yet adopt a more relaxed limit at this time.

There are numerous ways for Fusion to meet this out-of-band emissions limit, such as through use of inexpensive filters or screens or by using a cleaner power source. In addition, certain deployments of RF lights would be less problematic than others. For example, RF lights inside of parking garages are not of concern to XM and Sirius because SDARS reception is usually not available in such environments. If RF lights are located at a sufficient height above the ground, they would likely not be close enough to SDARS receivers to cause interference.

XM and Sirius discussed Fusion's proposal to upend the Commission's well-settled concepts of unlicensed Part 18 operations by creating a "safe harbor," in which Fusion's lights could operate without regard to whether they interfere with licensed services. This proposal is unlawful because (i) the Commission's rules provide that out-of-band emissions from Part 18 devices are secondary to licensed services and operators of such devices must eliminate any harmful interference they cause to licensed services such as SDARS; and (ii) establishing a "safe harbor" for Part 18 operations is well beyond the scope of the April 1998 Notice of Proposed Rulemaking ("NPRM") that initiated the RF lighting proceeding and would require a further NPRM.

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Finally, XM and Sirius explained how our position concerning RF lighting is consistent with our position in the proceeding examining terrestrial repeaters. That explanation is contained in Attachment A.

Please refer any questions to the undersigned.

Very truly yours,

/s/Patrick L. Donnelly

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Attachment A

In the repeater proceeding, our position is that the operation of satellite radio repeaters as deployed will not cause harmful interference to properly designed WCS receivers, while in the RF lighting and unlicensed device proceeding we are asking the Commission to limit the operation of unlicensed RF lights and other devices so that these devices do not cause interference to satellite radio receivers.

There is no inconsistency in these positions because in the repeater proceeding, the energy at issue is out-of-band to the potential victim WCS receiver, while in the RF lighting and unlicensed device proceedings the energy is in the band in which the SDARS receiver is licensed to operate. As a consequence, it is practical in the first case for the receiver to be built with filters or automatic gain control to prevent overload or intermodulation. In the second case, however, there is no way to use filtering or other techniques at the SDARS receiver because those techniques would also reduce the desired signal. The only conceivable way for the satellite radio licensees to solve the interference from RF lights and other unlicensed devices would be to increase the power of their satellites, which is impossible and would waste billions already spent on satellites and consumer receivers. Thus, even apart from being secondary (and thus legally responsible for out of band emissions that interfere with licensed services), RF lighting manufacturers such as Fusion are the cheapest cost avoiders here because they have yet to complete their design of (much yet deploy) second-generation RF lighting devices.

Instead, the sensible way to solve the problem is to require manufacturers of RF lights and unlicensed devices to reduce the energy that their products transmit outside their authorized bands. This **can** be done with very inexpensive filters. Several manufacturers of telematics devices, along with AMIC, the standard-setting body for the automotive telematics industry, support this approach and have no objection to the out-of-band emission standard XM and Sirius have proposed.

Other key differences between the two cases include the following:

- by their nature, the energy emitted by RF lights and other unlicensed devices will often be very close to satellite radio receivers intended signal (RF lights in some cases will be on street poles directly over and pointed at satellite radio receivers and Bluetooth devices in a car will be only a few feet from the satellite radio receiver; in contrast, WCS receivers will almost never be so close to a SDARS repeater)
- because they propose to operate as a fixed service, it should be easier for WCS licensees to use techniques such as antenna pointing to prevent any interference; these techniques are not available with respect to the other sources of interference
- WCS licensees know where SDARS repeaters are located and can plan accordingly; this is not the case with respect to unlicensed devices, which can be deployed without notice or an opportunity for coordination

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- there will be millions of unlicensed devices operating at 2.4 GHz and no more than several hundred repeaters
- SDARS is a primary service and is entitled to protection against a secondary service such as unlicensed devices; studies by XM over the past two years have demonstrated that the SDARS band is “clean”—the licensees are entitled to have it stay that way.