

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

In the Matter of)	
)	
XM RADIO INC.)	File No. SAT-STA-20031112-00371
)	
Request for Special Temporary Authority to)	
Operate Additional Satellite Digital Audio Radio)	
Service Terrestrial Repeaters)	
)	
SIRIUS SATELLITE RADIO INC.)	File No. SAT-STA-20031106-00370
)	
Request to Modify Special Temporary Authority)	
To Operate Satellite DARS Terrestrial Repeaters)	
)	

ORDER AND AUTHORIZATION

Adopted: September 15, 2004

Released: September 15, 2004

By the Deputy Chief, Satellite Division, International Bureau:

I. INTRODUCTION

1. By this Order, we grant the applications of XM Radio Inc. (XM Radio)¹ and Sirius Satellite Radio Inc. (Sirius)² for special temporary authority (STA) to operate Satellite Digital Audio Radio Service (SDARS) terrestrial repeaters in their exclusively licensed satellite frequency bands (2320-2345 MHz) as set forth in their STA applications and subject to the conditions specified herein.

II. BACKGROUND

2. XM Radio requests special temporary authority to operate 49 terrestrial repeaters in addition to those already operating pursuant to grants of special temporary authority.³ XM Radio argues that operation of these repeaters will serve the public interest by providing adequate satellite radio service

¹ XM Radio Inc., Request for Special Temporary Authority to Operate Additional Satellite Digital Audio Radio Service Terrestrial Repeaters, File No. SAT-STA-20031112-00371 (filed Nov. 25, 2003) (*XM Radio STA Request*).

² Sirius Satellite Radio Inc., Request to Modify Special Temporary Authority to Operate Satellite DARS Terrestrial Repeaters, File No. SAT-STA-20031106-00370 (filed Nov. 5, 2003) (*Sirius STA Request*).

³ Currently, XM Radio has special temporary authority to operate SDARS complementary terrestrial repeaters in its exclusively licensed satellite frequency band, 2332.5-2345 MHz. See *XM Radio, Inc.*, Order and Authorization, 16 FCC Rcd 16781 (Int'l Bur. 2001), *pet. for recon. pending, as modified by* 16 FCC Rcd 18484 (*XM Radio 2001 STA Order*). Subsequent to the *XM Radio 2001 STA Order*, the Satellite Division granted special temporary authority to XM Radio to operate additional terrestrial repeaters. See File No. SAT-STA-20020815-00153 (granted Sept. 30, 2002); SAT-STA-20030409-00076 (granted June 26, 2003). XM Radio has filed applications to renew its grants of special temporary authority, and these renewal applications are pending before the Commission.

in areas currently suffering gaps in satellite coverage.⁴

3. In a separate application, Sirius seeks an STA to change the technical parameters of 16 terrestrial repeaters that are already operating pursuant to grants of special temporary authority.⁵ Sirius states that these changes are needed to improve the quality of its service to the public and to implement transmit diversity.⁶

4. Both STA applications were placed on public notice.⁷ A consolidated opposition to both applications was filed by the WCS Coalition. The WCS Coalition represents the interests of licensees in the Wireless Communication Service (WCS) that operate in frequency bands adjacent to the 2320-2345 frequency bands used by XM Radio and Sirius.⁸ The WCS Coalition argues that the Commission should deny both STA requests on the grounds that operation of additional or modified SDARS terrestrial repeaters will cause an increased potential for interference to licensees in the adjacent WCS spectrum⁹ and that neither XM Radio nor Sirius demonstrated extraordinary circumstances that would warrant the grant of their respective requests.¹⁰ The WCS Coalition also argues that grant of the STAs at this time would detrimentally alter the dynamic of the on-going discussions between the SDARS licensees and the WCS licensees regarding the technical rules that should govern the operation of SDARS terrestrial repeaters for purposes of reducing or eliminating such interference.¹¹ XM Radio and Sirius filed separate pleadings in response to the WCS Consolidated Opposition.¹²

III. DISCUSSION

5. The Communications Act of 1934, as amended, gives the Commission authority to grant temporary authority in extraordinary circumstances where such temporary operations are in the public interest and where delay in operation would prejudice the public interest.¹³ Similarly, the Commission's rules governing satellite facilities permit grants of special temporary authority, for a period not to exceed

⁴ *XM Radio STA Request* at 3.

⁵ Currently, Sirius has special temporary authority to operate SDARS complementary terrestrial repeaters in its exclusively licensed satellite frequency band, 2320-2332.5 MHz. See *Sirius Satellite Radio Inc.*, Order and Authorization, 16 FCC Rcd 16773 (Int'l Bur. 2001), *pet. for recon. pending, as modified by* 16 FCC Rcd 18481 (*Sirius 2001 STA Order*). Subsequent to the *Sirius 2001 STA Order*, the Satellite Division has granted special temporary authority to Sirius to operate additional terrestrial repeaters or to modify the technical parameters of existing repeaters. See File No. SAT-STA-20020312-00028 (granted Mar. 12, 2002); SAT-STA-20020312-00029 (granted March 12, 2002); SAT-STA-20020827-00162 (granted Oct. 15, 2002); SAT-STA-20030411-00075 (granted June 26, 2003); SAT-STA-20020827-00248 (granted Dec. 29, 2003); SAT-STA-20030827-00299 (granted Dec. 29, 2003). Sirius has filed applications to renew its grants of special temporary authority, and these renewal applications are pending before the Commission.

⁶ *Sirius STA Request* at 1.

⁷ Public Notice, *Policy Branch Information: Satellite Space Applications Accepted for Filing*, Report No. SAT-00211 (Apr. 23, 2004).

⁸ WCS Coalition, Consolidated Opposition to Request for Special Temporary Authority (filed May 24, 2004) (WCS Consolidated Opposition).

⁹ *Id.* at 2.

¹⁰ *Id.* at 5.

¹¹ *Id.* at 4.

¹² *Sirius Satellite Radio Inc.*, Opposition to Consolidated Opposition to Request for Special Temporary Authorization (filed June 8, 2004); *XM Radio Inc.*, Response (filed June 8, 2004).

¹³ 47 U.S.C. § 309(f).

180 days, under extraordinary circumstances.¹⁴ A request for special temporary authority must contain the full particulars of the proposed operation, including all facts sufficient to justify the temporary authority sought and the public interest therein.¹⁵ When determining whether to grant an STA, “convenience to the applicant, such as marketing considerations or meeting scheduled customer in-service dates, will not be deemed sufficient for this purpose.”¹⁶

6. We find that the public interest supports the grant of both STA applications. The Commission has previously identified many public interest benefits that SDARS can provide.¹⁷ The need for complementary terrestrial repeaters to overcome the effects of satellite signal blockage and multipath interference was anticipated by the Commission when it adopted service rules for SDARS and in its *SDARS Order and FNPRM* for SDARS repeaters.¹⁸ We find that grant of these STA applications, subject to certain conditions discussed below, will allow XM Radio and Sirius to operate without causing interference to adjacent WCS licensees and will allow these SDARS operators to continue to overcome satellite signal blockage and to provide a high-quality satellite radio service to the public.

7. We disagree with the WCS Coalition that neither XM Radio nor Sirius has demonstrated extraordinary circumstances to warrant grant of their STA applications. In 1997, when the Commission adopted service rules for SDARS and requested comment on complementary terrestrial repeaters, it clearly contemplated that repeaters were to be part of the proposed satellite systems.¹⁹ In the service rules and in individual licenses, XM Radio and Sirius were given specific milestone requirements, including dates by which their systems must be constructed and put into operation.²⁰ XM Radio and Sirius have complied with their milestone requirements and need to employ terrestrial repeaters to provide adequate service.²¹ While XM Radio and Sirius were building their systems, the Commission has been working to resolve the complex technical issues involved in adopting final rules to authorize SDARS repeaters, but this rulemaking is not yet completed. It would be unfair to penalize XM Radio and Sirius for complying with our required milestone schedule on the one hand, but on the other hand effectively force it to seriously delay initiation of service because there are no final repeater rules.

8. We observe that the SDARS and WCS licensees are engaged in negotiations to reach a solution to potential interference problems that could occur to the WCS facilities from operation of the SDARS terrestrial repeaters.²² The WCS Coalition expresses concern that grant of these STA applications could jeopardize these ongoing negotiations by altering the interference environment that forms the basis of their discussions.²³ We note, however, that neither XM Radio nor Sirius propose in

¹⁴ 47 C.F.R. § 25.120.

¹⁵ *Id.*

¹⁶ *Id.*

¹⁷ For example, SDARS will offer high-quality radio signals to listeners in areas that have limited radio service, and can provide diverse program formats, including educational, ethnic and religious programming. See 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 5754,5759-5761 (paras. 10-14) (1997) (*SDARS Order and FNPRM*).

¹⁸ *SDARS Order and FNPRM*, 12 FCC Rcd at 5812 (para. 142).

¹⁹ *Id.* at 5810 (para. 138).

²⁰ 47 C.F.R. § 25.144(b); American Mobile Radio Corporation, *Order and Authorization*, 13 FCC Rcd 8829 (1997).

²¹ Both XM Radio and Sirius are currently in commercial operation and assert that approval of their respective STA requests is necessary to provide adequate service. See Sirius Opposition at 3; XM Radio Response at 6-7.

²² WCS Consolidated Opposition at 4.

²³ *Id.*

their STA requests to operate terrestrial repeaters at a power level higher than 10 kilowatt (kW) equivalent isotropically radiated power (EIRP).²⁴ We believe that the relatively small number of repeaters affected by the applications, and the relatively low power levels proposed, should have limited impact on the on-going negotiations between WCS and SDARS licensees. We caution, however, that our grant in this Order is not indicative of the Commission's ongoing deliberations in the terrestrial rulemaking proceeding, and that operation of the terrestrial repeaters under this Order is solely at the risk of XM Radio and Sirius. Further, we understand the sensitivity of the negotiation process and encourage the parties to continue to work together in the "spirit of cooperation" that has been developed during these negotiations to reach a mutually acceptable resolution to potential interference problems.

9. Finally, in order to reduce the potential for interference to WCS licensees and to avoid prejudice to the outcome of the terrestrial repeater rulemaking proceeding, we grant these STA applications subject to all the conditions set forth in the original grants of special temporary authority to XM Radio and Sirius in 2001.²⁵ The WCS Coalition has expressed support for such conditional grant.²⁶ These conditions include the requirement that operation of all SDARS repeaters authorized pursuant to special temporary authority is on a non-interference basis with respect to all permanently authorized radiocommunication facilities, and that XM Radio and Sirius follow the procedures set forth in paragraphs 14 and 17 of the *XM Radio 2001 STA Order* and the *Sirius 2001 STA Order* to protect operational WCS stations.²⁷ In addition, SDARS repeater out-of-band emissions shall be limited to $75 + \log(\text{EIRP})$ dB less than the transmitter EIRP. Furthermore, any actions taken as a result of this STA are solely at XM Radio's and Sirius' own risk, and this STA shall not prejudice the outcome of the final rules adopted by the Commission in the terrestrial repeater rulemaking proceeding (IB Docket No. 95-91).

IV. ORDERING CLAUSES

10. XM Radio Inc. and Sirius Satellite Radio Inc. ARE GRANTED authority to operate SDARS terrestrial repeaters to provide commercial SDARS to consumers pursuant to the terms of their applications in SAT-STA-2003112-00371 and SAT-STA-20031106-00370, and subject to the following conditions:

- (a) Any actions taken as a result of this STA are solely at the applicants' own risk. This STA shall not prejudice the outcome of the final rules adopted by the Commission in IB Docket No. 95-91;
- (b) Operation of all SDARS repeaters authorized pursuant to this STA is on a non-interference basis with respect to all permanently authorized radiocommunication facilities. XM Radio and Sirius shall provide the information and follow the process set forth in paragraphs 14 and 17 in 16 FCC Rcd 16773 (Int'l Bur. 2001) and 16 FCC Rcd 16781 (Int'l Bur. 2001), as modified by 16 FCC Rcd 18481 (Int'l Bur. 2001) and 16 FCC Rcd 18484 (Int'l Bur. 2001);
- (c) SDARS repeaters are restricted to the simultaneous retransmission of the complete

²⁴ According to XM Radio, 35 of the requested 49 additional repeaters will operate with a power level of 2 kW or less and the remaining 14 repeaters, which exceed 2 kW, will operate at power levels of 10 kW EIRP or less. See XM Radio STA Application at Exhibit A. The requested change in the technical parameters on 12 of 16 of Sirius' repeaters will replace a one-sector antenna with power greater than 5 kW EIRP with a two-sector antenna with 5 kW EIRP per sector; in the remaining 4 cases, Sirius will replace a two-sector antenna with power greater than 5 kW EIRP with a two-sector antenna with 5 kW EIRP per sector. See Sirius STA Application at Attachment A.

²⁵ See *XM Radio 2001 STA Order* and *Sirius 2001 STA Order*, *supra* notes 3 and 5.

²⁶ WCS Consolidated Opposition at 5.

²⁷ See *XM Radio 2001 STA Order*, 16 FCC Rcd 16786-87 and *Sirius 2001 STA Order*, 16 FCC Rcd 16778-79.

programming, and only that programming, transmitted by the satellite directly to SDARS subscriber's receivers;

- (d) Coordination of SDARS repeater operations shall be completed with all affected Administrations prior to operation, in accordance with all applicable international agreements including those with Canada and Mexico;
- (e) SDARS repeaters shall comply with Part 17 of the Commission's rules – Construction, Marking, and Lighting of Antenna Structures;
- (f) SDARS repeaters shall comply with Part 1 of the Commission's rules, Subpart I – Procedures Implementing the National Environmental Policy Act of 1969, including the guidelines for human exposure to radio frequency electromagnetic fields as defined in Sections 1.1307(b) and 1.1310 of the Commission's rules;
- (g) SDARS repeater out-of-band emissions shall be limited to $75 + \log(\text{EIRP})$ dB less than the transmitter EIRP;
- (h) This STA will expire after 180 days, or on the date on which permanent rules governing repeater operations become effective, whichever occurs first.

11. XM Radio and Sirius are afforded fifteen days from the date of release of this STA to decline this authorization as conditioned. Failure to respond within that period will constitute formal acceptance of the authorization as conditioned.

12. This Order is effective upon release.

FEDERAL COMMUNICATIONS COMMISSION



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