

SAT-STA-20110128-00018

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Sirius XM Radio Inc.

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File # SAT-STA-20110128-00018

Call Sign (or other identifier) Grant Date 03/23/11

Term Dates see attached conditions
From 03/23/11 To:

Approved: Stephen J. Deall

Stephen J. Deall
Chief, Satellite Policy Branch

Approved by OMB
3060-0678

FEDERAL COMMUNICATIONS COMMISSION
APPLICATION FOR SPACE STATION SPECIAL TEMPORARY AUTHORITY

FOR OFFICIAL USE ONLY

APPLICANT INFORMATION

Enter a description of this application to identify it on the main menu:
Request for Blanket Special Temporary Authority to Operate Terrestrial Repeaters for 180 Days

1. Applicant

Name:	Sirius XM Radio Inc.	Phone Number:	212-584-5100
DBA Name:		Fax Number:	212-584-5353
Street:	1221 Avenue of the Americas 36th Floor	E-Mail:	
City:	New York	State:	NY
Country:	USA	Zipcode:	10020 -
Attention:	Patrick L. Donnelly		


Attachment to Grant
Sirius XM Radio Inc.
IBFS File No. SAT-STA-20110128-00018

Special temporary authority (STA) is granted to Sirius XM Radio Inc. (Sirius XM), for a period of 180 days, to operate up to 1000 Satellite Digital Audio Radio Service (SDARS) terrestrial repeaters on each of the Sirius XM and XM networks in the 2320-2345 MHz frequency band. Each repeater is authorized to operate with an average effective isotropically radiated power (EIRP) of between 2 watts and 12 kilowatts at various locations throughout the United States. This authorization is granted according to the technical parameters specified in Sirius XM's application and is subject to the conditions below.

1. Any actions taken as a result of this STA are solely at the applicant's own risk. This STA shall not prejudice the outcome of the final rules adopted by the Commission in IB Docket No. 95-91.
2. SDARS terrestrial repeaters shall operate at a power level less than or equal to 12 kW EIRP (average), with a maximum peak-to-average power ratio of 13 dB.
3. Any SDARS terrestrial repeater operating at a power level greater than 2-watt average EIRP is required to attenuate its out-of-band emissions below the transmitter power P by a factor of not less than $90 + 10 \log (P)$ dB in a 1-megahertz bandwidth outside the 2320-2345 MHz band, where P is average transmitter output power in watts.
4. Sirius XM shall, before deploying any new, or modifying any existing, terrestrial repeater, notify potentially affected WCS licensees pursuant to the procedure set forth in Section 25.263, as adopted in *Amendment of Part 27 of the Commission's Rules to Govern the Operation of Wireless Communications Services in the 2.3 GHz Band; Establishment of Rules and Polices for the Digital Audio Radio Satellite Service in the 2310-2360 MHz Frequency Band*, Report and Order and Second Report and Order, WT Docket No. 07-293; IB Docket No. 95-91, 25 FCC Rcd 11710 (2010), *petitions for recon. pending*.
5. SDARS terrestrial repeaters are restricted to the simultaneous retransmission of the complete programming, and only that programming, transmitted by the SDARS licensee's satellite(s) directly to the SDARS licensee's subscribers' receivers, and may not be used to distribute any information not also transmitted to all subscribers' receivers.
6. Operators of SDARS terrestrial repeaters are prohibited from using repeaters to retransmit different transmissions from a satellite to different regions within that satellite's coverage area.
7. The SDARS terrestrial repeaters must meet all applicable requirements in part 1, subpart I, and part 17 of the Commission's rules. Operators of SDARS terrestrial repeaters must maintain demonstrations of compliance with part 1, subpart I, of this chapter and make such demonstrations available to the Commission upon request within three business days.
8. The SDARS terrestrial repeaters must comply with all requirements of all applicable international agreements.
9. This STA expires after 180 days, or on the date that permanent authority to operate the covered repeater operations becomes effective, whichever occurs first.

**Attachment to Grant
Sirius XM Radio Inc.
IBFS File No. SAT-STA-20110128-00018**

10. Sirius XM is granted 30 days from the date of the release of this authorization to decline the authorization as conditioned. Failure to respond within that period will constitute formal acceptance of the authorization as conditioned.
11. This action is taken on delegated authority pursuant to 47 C.F.R. § 0.261 and is effective upon release. Petitions for reconsideration under 47 C.F.R. § 1.106 or applications for review under 47 C.F.R. § 1.115 may be filed within 30 days of the date of the Public Notice announcing this action.

 GRANTED* International Bureau *with conditions	File # SAT-STA-20110128-00018
	Call Sign _____ Grant Date 03/23/11 (or other identifier)
	From 03/23/11 Term Dates see conditions To: conditions
	Approved: <i>Stephen J. Duall</i> Stephen J. Duall Chief, Satellite Policy Branch

2. Contact	
Name: James S. Blitz	Phone Number: 202-380-4000
Company: Sirius XM Radio Inc.	Fax Number: 202-380-4981
Street: 1500 Eckington Place NE	E-Mail: james.blitz@siriusxm.com
City: Washington	State: DC
Country: USA	Zipcode: 20002 -
Attention:	Relationship: Same
(If your application is related to an application filed with the Commission, enter either the file number or the IB Submission ID of the related application. Please enter only one.)	
3. Reference File Number or Submission ID	
4a. Is a fee submitted with this application?	
<input checked="" type="radio"/> If Yes, complete and attach FCC Form 159. If No, indicate reason for fee exemption (see 47 C.F.R. Section 1.1114).	
<input type="radio"/> Governmental Entity <input type="radio"/> Noncommercial educational licensee	
<input type="radio"/> Other (please explain):	
4b. Fee Classification CXW - Space Station (Non-Geostationary)	
5. Type Request	
<input type="radio"/> Change Station Location	<input type="radio"/> Extend Expiration Date
	<input checked="" type="radio"/> Other
6. Temporary Orbit Location	
	7. Requested Extended Expiration Date

<p>8. Description (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)</p> <div style="border: 1px solid black; padding: 5px;"> <p>Sirius XM Radio Inc. requests blanket Special Temporary Authority to operate Sirius and XM terrestrial repeaters for a period of 180 days.</p> </div>	
<p>9. By checking Yes, the undersigned certifies that neither applicant nor any other party to the application is subject to a denial of Federal benefits that includes FCC benefits pursuant to Section 5301 of the Anti-Drug Act of 1988, 21 U.S.C. Section 862, because of a conviction for possession or distribution of a controlled substance. See 47 CFR 1.2002(b) for the meaning of "party to the application"; for these purposes.</p> <p style="text-align: right;"> <input checked="" type="radio"/> Yes <input type="radio"/> No </p>	
<p>10. Name of Person Signing James S. Blitz</p>	
<p>11. Title of Person Signing Vice President, Regulatory Counsel</p>	
<p>12. Please supply any need attachments.</p>	
Attachment 1: STA Request	Attachment 3:
Attachment 2:	
<p style="text-align: center;"> WILLFUL FALSE STATEMENTS MADE ON THIS FORM ARE PUNISHABLE BY FINE AND / OR IMPRISONMENT (U.S. Code, Title 18, Section 1001), AND/OR REVOCATION OF ANY STATION AUTHORIZATION (U.S. Code, Title 47, Section 312(a)(1)), AND/OR FORFEITURE (U.S. Code, Title 47, Section 503). </p>	

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THE FOREGOING NOTICE IS REQUIRED BY THE PAPERWORK REDUCTION ACT OF 1995, PUBLIC LAW 104-13, OCTOBER 1, 1995, 44 U.S.C. SECTION 3507.

SIRIUS XM

RADIO INC.

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Washington, D.C. 20002
Tel: 202-380-4000
Fax: 202-380-4500
www.sirius.com www.xmradio.com

January 28, 2011

Via IBFS

Ms. Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

**Re: Sirius XM Radio Inc.
Request for Blanket Special Temporary Authority to Operate
Terrestrial Repeaters for 180 Days**

Dear Ms. Dortch:

Pursuant to Section 25.120(b)(2) of the Commission's rules, 47 C.F.R. § 25.120(b)(2), Sirius XM Radio Inc. ("Sirius XM"), a satellite radio licensee in the Satellite Digital Audio Radio Service ("SDARS"), hereby requests grant of Special Temporary Authority ("STA") to operate terrestrial repeaters in the Sirius XM frequency band (2320-2332.5 MHz) and the XM Radio Inc. ("XM") frequency band (2332.5-2345 MHz) at various locations across the United States, for a period of 180 days or until the Commission issues a blanket license for these repeaters pursuant to 47 C.F.R. § 25.144(e), whichever occurs first.¹

The Commission's May 20, 2010 decision adopting rules for satellite radio terrestrial repeaters established mechanisms to facilitate the continued operation of repeaters under STA until the new rules were fully in effect.² One of those procedures authorizes the Bureau "to continue to

¹ XM is a wholly owned subsidiary of Sirius XM. See Applications for Consent to the Transfer of Control of Licenses, XM Satellite Radio Holdings Inc., Transferor, to Sirius Satellite Radio Inc., Transferee, Memorandum Opinion and Order and Report and Order, 23 FCC Rcd 12348 (2008).

² Amendment of Part 27 of the Commission's Rules to Govern the Operation of Wireless Communications Services in the 2.3 GHz Band; Establishment of Rules and Policies for the Digital Audio Radio Satellite Service in the 2310-2360 MHz Frequency Band, Report and Order and Second Report and Order, 25 FCC Rcd 11710, at Para. 264 (2010)(the "May 20 Order").

grant STAs for new or modified repeaters ... [until] any permanent authorization to operate SDARS repeaters becomes effective.” *See id.*, Para. 264.

Since the Commission issued the *May 20 Order*, the Bureau has continued to grant new STAs authorizing Sirius XM to construct and operate its terrestrial repeater network. Those STAs include grants allowing collocation of Sirius XM and XM network terrestrial repeaters,³ grants of STA applications that have been pending for years,⁴ and even grants of blanket renewal STA authorizations which reduce administrative burden and facilitate the process of renewing individual repeater STAs.⁵ Each of these STAs was needed because the Commission may not fully implement the permanent licensing authority for terrestrial repeaters authorized in the *May 20 Order* until after those rules have been approved by the Office of Management and Budget and that approval has not yet occurred.⁶

The instant application will further reduce administrative burdens and facilitate the construction and use of terrestrial repeaters by authorizing the operation of all Sirius XM network repeaters not covered by an existing STA, until such time as the Commission grants a blanket license for Sirius XM repeaters pursuant to Section 25.144 of the Rules, 47 C.F.R. § 25.144. Each repeater authorized under this STA will comply with the repeater rules as adopted in the *May 20 Order*, including the requirements of new Sections 25.202, 25.214, and 25.263 of the Rules, 47 C.F.R. §§ 25.202, 25.214, and 25.263. This STA will not authorize operation of any repeaters that would require “site-by-site” licensing under Section 25.144(e)(9), 47 C.F.R. § 25.144(e)(9). For the limited purposes of the instant STA, Sirius XM will provide notice of new construction under this STA to any “potentially affected WCS licensees” as currently defined in 47 C.F.R. § 25.263(b), without reference to the compromise definition of that term as recently proposed in reconsideration pleadings.⁷ Nothing in this STA application or in any STA the Commission may

³ See FCC File No. SAT-STA-20101118-00240, granted January 13, 2011.

⁴ See FCC File Nos. SAT-STA-20020311-00049, SAT-STA-20020312-00048, SAT-STA-20030325-00056, SAT-STA 20031219-00373, SAT-STA-2003121900369 et al., granted September 15, 2010.

⁵ See FCC File Nos. SAT-STA-20101008-00211 and SAT-STA-20101008-00212, granted December 15, 2010.

⁶ See 75 Fed. Reg. 45058, 45058 (Aug. 2, 2010). The Commission recently requested public comment on the new information collection requirements pursuant to the Paperwork Reduction Act. 76 Fed. Reg. 3892 (Jan. 21, 2011).

⁷ See Opposition of the WCS Coalition to Petition of Sirius XM for Partial Reconsideration and Clarification, WT Docket No. 07-293 at 24 (filed Oct. 18, 2010) (proposing to define “potentially affected WCS licensees” to mean as “25 km geographic distance from a Sirius XM terrestrial repeater”); see also Sirius XM Radio Inc. Reply to Oppositions of the WCS Coalition and AT&T Inc. at 9 (filed Nov. 2, 2010) (“Sirius XM Reply”).

grant in response to this application, affects Sirius XM's positions in its Petition for Reconsideration of the *May 20 Order* and related pleadings.⁸

The Commission has recognized that SDARS operations require terrestrial repeaters to provide high-quality service nationwide.⁹ Consistent with this policy, in September 2001, the Bureau granted STAs to authorize operation of a nationwide network of terrestrial repeaters.¹⁰ In the years since, the Bureau has granted Sirius XM additional STAs to operate terrestrial repeaters, pending issuance of final rules governing the deployment and use of repeaters.¹¹

⁸ See Petition for Partial Reconsideration and Clarification of Sirius XM Radio Inc., WT Docket No. 07-293, (filed Sept. 1, 2010); Sirius XM Opposition to Petitions for Reconsideration, WT Docket No. 07-293 (filed Oct. 18, 2010); Sirius XM Reply.

⁹ 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, 5770 ¶ 37 (1997).

¹⁰ See *Sirius Satellite Radio, Inc., Application for Special Temporary Authority to Operate Satellite Digital Audio Radio Service Complimentary Terrestrial Repeaters, Order and Authorization*, 16 FCC Rcd. 16773 ¶ 18 (2001) ("Sirius STA Order"). *XM Radio, Inc., Application for Special Temporary Authority to Operate Satellite Digital Audio Radio Service Complimentary Terrestrial Repeaters, Order and Authorization*, 16 FCC Rcd. 16781 ¶ 18 (2001) ("XM STA Order").

¹¹ See, e.g., *Sirius Satellite Radio Inc.; Request to Modify Special Temporary Authority to Operate Additional Satellite Digital Audio Radio Service Terrestrial Repeaters, Order and Authorization*, 19 FCC Rcd. 18140 (2004) (granting File No. SAT-STA-20031106-00370, effective Sept. 15, 2004). Since that time, the Commission has extended the STA several times, pending the issuance of final rules governing the use of satellite DARS terrestrial repeaters. In September 2004, the Commission granted Sirius a new STA to operate for 180 days or until the Commission issues final rules governing the use of satellite DARS terrestrial repeaters. See *Sirius Satellite Radio Inc. Request to Modify Special Temporary Authority to Operate Satellite DARS Terrestrial Repeaters, Order and Authorization*, 19 FCC Rcd 18149 (2004). See also, *XM Radio, Inc.; Request for Special Temporary Authority to Operate Additional Satellite Digital Audio Radio Service Terrestrial Repeaters, Order and Authorization*, 19 FCC Rcd. 18140 (2004) (granting File No. SAT-STA-20031112-00371, effective Sept. 15, 2004); *Public Notice*, 2002 FCC Lexis 5670 (rel. Oct. 30, 2002) (granting XM an STA, File No. SAT-STA-20020815-00153, effective Sept. 30, 2002); *Public Notice*, 2003 FCC Lexis 4803 (rel. Aug. 29, 2002) (granting File No. SAT-STA-20030409-00076, effective June 26, 2003). The Commission has since renewed all of these STA authorizations. See Report No: SAT-00722, DA No. 10-1756 (rel. Sept. 17, 2010).

Public Interest Considerations. Sirius XM seeks authority to collocate repeaters operating on the Sirius XM and XM networks as well as operate terrestrial repeaters at other locations, all of which will allow for efficiencies in constructing and operating Sirius XM's repeater network while also allowing the company to continue providing the level of service the Commission has recognized is necessary in connection with the provision of quality satellite radio service.

Technical Information for the Terrestrial Repeaters. Under this STA, Sirius XM will deploy up to 1000 terrestrial repeaters, on each of the Sirius XM and the XM networks, at a power level between 2-watts and 12-kW average EIRP. Given the continued existence of other Sirius XM STAs that authorize blanket operation of very low power repeaters, this STA does not request authority to operate any repeaters at a power level equal to or less than 2-watts average EIRP. The repeaters will all comply with the technical requirements for space stations and terrestrial repeaters established in new Section 25.202 and 25.214 of the Rules, 47 C.F.R. §§ 25.214, 25.202 as well as all other rules the Commission adopted in the *May 20 Order*.

Interference Considerations. The repeaters proposed in this application will operate at or below the power limits adopted in the new rules. The Commission recognized in the *May 20 Order* "that SDARS terrestrial repeaters can operate at an average EIRP of 12 kW with maximum PAPR of 13 dB without causing harmful interference to WCS base station receivers."¹² Moreover, because Sirius XM has exclusive use of its licensed band, it is highly unlikely that these repeaters will create interference to other licensees. The WCS licensees have confirmed that operating terrestrial repeaters at an EIRP of even 2 kW or less is not an interference concern¹³ and the Commission said in the *May 20 Order* that "repeaters operating at average 12-kW EIRP and a maximum PAPR of 13 dB will not cause substantially more interference to actual WCS operations than repeaters operating at 2-kw EIRP."¹⁴ Any chance of causing interference will be further reduced through the new notice requirements to WCS licensees in Section 25.263, 47 C.F.R. § 25.263. However, if prohibited interference does occur under this STA, Sirius XM will cease operation of the repeaters until such interference can be eliminated.¹⁵

¹² *WCS/SDARS Order* at Para. 243.

¹³ *XM STA Order* ¶ 12 ("The comments from WCS licensees express concern about blanketing interference from DARS repeaters that operate with an Equivalent Isotropically Radiated Power (EIRP) above 2 kW").

¹⁴ See *WCS/SDARS Order*, Para. 241 and 47 C.F.R. § 25.214(d)(1).

¹⁵ The design of these repeaters includes several automated shutdown mechanisms that are triggered in the event of equipment major malfunctions. The transmit chain also includes a transmit output coupler which feeds a self-monitoring system detecting any transmission anomalies. Any such anomalies are automatically reported back to Sirius XM's National Repeater Control Center (202-380-4725), which is available on a continuous basis to receive any reports of any suspected interference and take immediate corrective action.

Ownership and Control of Repeaters. Sirius XM will own the repeaters and it will be responsible for the repeaters' installation and operation. As noted above, XM is a wholly-owned subsidiary of Sirius XM.

Certifications. Sirius XM certifies that it will operate the repeaters subject to the conditions and certifications set forth in the *Sirius STA Order* and *XM STA Order* granting Sirius XM's September 2001 requests for STAs to operate terrestrial repeaters, as well as pursuant to the new repeater rules adopted in the *May 20 Order*. Specifically, we certify the following:

- (1) Sirius XM will operate these repeaters at its own risk, and such operation shall not prejudice the outcome of the final rules adopted by the Commission in GEN Docket 95-91;
- (2) Sirius XM will operate these facilities on a non-interference basis with respect to all permanently authorized radiocommunication facilities;
- (3) The facilities will be restricted to the simultaneous retransmission of the complete programming, and only that programming, transmitted by satellite directly to SDARS receivers on the Sirius XM network or the XM network, respectively;
- (4) Where applicable, coordination of the facilities will be completed with all affected Administrations prior to operation, in accordance with all applicable international agreements including those with Canada and Mexico;
- (5) The facilities will comply with Part 17 of the Commission's rules – Construction, Marking, and Lighting of Antenna Structures;
- (6) The facilities will 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;
- (7) The out-of-band emissions of the facility will be limited as specified in 47 C.F.R. § 25.202(h);
- (8) Sirius XM will operate these repeaters according to the technical parameters provided in 47 C.F.R. §§ 25.202, 25.214;
- (9) Sirius XM will maintain full ownership and operational control of these repeaters; and
- (10) Sirius XM will immediately shut down this repeater upon a complaint of interference, upon direction from the Commission, or upon finding that a facility has not been properly installed.

Granting this request will not alter Sirius XM's obligation to protect authorized radio-communications facilities from interference, nor will it prejudice the reconsideration of the Commission's ongoing rulemaking pertaining to the deployment and operation of terrestrial repeaters.


Sirius XM hereby certifies that no party to this application is subject to a denial of Federal benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. § 853(a).

Ms. Marlene H. Dortch
January 28, 2011
Page 6

Sirius XM is submitting payment to the Federal Communications Commission in the amount of Two Thousand Eight Hundred Sixty Dollars (\$2860.00) -- the filing fee applicable to requests for STAs for non-geostationary ("NGSO") satellites.¹⁶

Please direct any questions regarding this matter to the undersigned.

Very truly yours,



James S. Blitz
Vice President, Regulatory Counsel

cc: Stephen Duall, FCC International Bureau
Jay Whaley, FCC International Bureau
Sankar Persaud, FCC International Bureau

¹⁶ See International and Satellite Services Fee Filing Guide (February 2009).