

Approved by OMB  
3060-0678

Date & Time Filed: Jun 28 2007 4:21:34:476PM  
File Number: SAT-STA-20070628-00093  
Call sign:

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 Special Temporary Authority to Operate a Modified Substitute Low Power Terrestrial Repeater for 180 Days in Las Vegas, Nevada

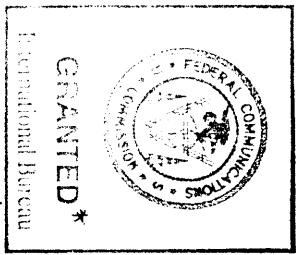
1. Applicant			
Name:	XM Radio Inc.	Phone Number:	202-380-4000
DBA Name:		Fax Number:	202-380-4500
Street:	1500 Eckington Place, NE	E-Mail:	james.blitz@xmradio.com
City:	Washington	State:	DC
Country:	USA	Zipcode:	20002
Attention:	James S. Blitz		

File # SPT- STA- 20070628-00093

Call Sign \_\_\_\_\_ Grant Date 09/14/07  
(or other identifier)

Term Dates  
From \_\_\_\_\_ for a period of 180 days

Approved: [Signature]  
Policy Research Chief

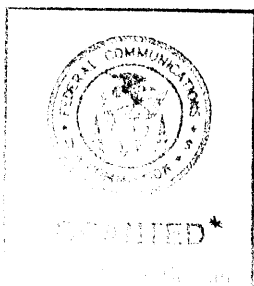


\* subject to conditions

**Application of XM Radio Inc. for Special Temporary Authority  
IBFS File No. SAT-STA-20070628-00093**

Special temporary authority (STA) IS GRANTED to XM Radio Inc. (XM) to operate one terrestrial repeater with a power level of 1068 watts EIRP in Las Vegas, NV, for a period of 180 days pursuant to the technical parameters specified in Exhibit A to its application and subject to the following conditions:

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. The issue concerning EIRP raised by the WCS Coalition will be addressed in that proceeding. Operations prior to such action will be subject to condition 2 below.
2. 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 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).
3. SDARS repeaters are restricted to the simultaneous retransmission of the complete programming, and only that programming, transmitted by the satellite directly to SDARS subscriber's receivers.
4. 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.
5. SDARS repeaters shall comply with Part 17 of the Commission's rules – Construction, Marking, and Lighting of Antenna Structures.
6. 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.
7. SDARS repeater out-of-band emissions shall be limited to  $75 + \log(\text{EIRP})$  dB less than the transmitter EIRP.
8. This STA will expire in 180 days, or on the date on which permanent rules governing repeater operations become effective, whichever occurs first.



File # SAT-STA-20070628-00093

Call Sign \_\_\_\_\_ Grant Date 09/14/07  
(or other identifier)

Term Dates  
From \_\_\_\_\_ for a period of 180 days  
To: \_\_\_\_\_

Approved: [Signature]  
Policy Brewen Christ

\* subject to conditions

2. Contact

<b>Name:</b>	James S. Blitz	<b>Phone Number:</b>	202-380-4000
<b>Company:</b>	XM Satellite Radio Inc.	<b>Fax Number:</b>	202-380-4500
<b>Street:</b>	1500 Eckington Place NE	<b>E-Mail:</b>	james.blitz@xmradio.com
<b>City:</b>	Washington	<b>State:</b>	DC
<b>Country:</b>	USA	<b>Zipcode:</b>	20002 -
<b>Attention:</b>		<b>Relationship:</b>	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?

- If Yes, complete and attach FCC Form 159. If No, indicate reason for fee exemption (see 47 C.F.R. Section 1.1114).
- Governmental Entity     Noncommercial educational licensee
- Other (please explain):

4b. Fee Classification    CRY – Space Station (Geostationary)

5. Type Request

- Change Station Location                       Extend Expiration Date                       Other

6. Temporary Orbit Location

7. Requested Extended Expiration Date

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.)

XM Radio Inc. (XM) requests special temporary authority (STA) to operate a modified substitute low power terrestrial repeater (less than 2 kW EIRP) for one hundred eighty (180) days in Las Vegas, Nevada pursuant to the technical parameters listed in Exhibit A.

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.  Yes  No

10. Name of Person Signing  
James S. Blitz

11. Title of Person Signing  
Vice President, Regulatory Counsel

12. Please supply any need attachments.

Attachment 1: STA Request

Attachment 2:

Attachment 3:

**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).**

**FCC NOTICE REQUIRED BY THE PAPERWORK REDUCTION ACT**

The public reporting for this collection of information is estimated to average 2 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the required data, and completing and reviewing the collection of information. If you have any comments on this burden estimate, or how we can improve the collection and reduce the burden it causes you, please write to the Federal Communications Commission, AMD-PERM, Paperwork Reduction Project (3060-0678), Washington, DC 20554. We will also accept your comments regarding the Paperwork Reduction Act aspects of this collection via the Internet if you send them to [jboley@fcc.gov](mailto:jboley@fcc.gov). PLEASE DO NOT SEND COMPLETED FORMS TO THIS ADDRESS.

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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.**

June 28, 2007

**Via IBFS**

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

**Re: XM Radio Inc.  
Request for 180-Day Special Temporary Authority to Operate  
A Modified Substitute Low Power Repeater in Las Vegas, Nevada**

Dear Ms. Dortch:

Pursuant to Section 25.120(b)(2) of the Commission's rules,<sup>1</sup> XM Radio Inc. ("XM"), a Satellite Digital Audio Radio Service ("SDARS") licensee, hereby requests 180-Day Special Temporary Authority ("STA") to operate in its licensed frequency band (2332.5-2345 MHz) a modified substitute low-power repeater (1068 watts average EIRP) in Las Vegas, Nevada, pursuant to the technical parameters listed in Exhibit A.<sup>2</sup>

On May 25, 2007, the International Bureau granted XM's request for a 180-Day STA to operate a substitute low-power repeater in Las Vegas that was identical to this request in all respects but one.<sup>3</sup> When the repeater site was being constructed, it became clear that it would operate more effectively if the antenna were mounted 18 feet lower than in the application the Bureau had authorized. Thus the only aspect of this request different than the existing STA is the antenna height above ground level ("AGL") – which is 338 feet in this request rather than the 356 feet previously authorized. Other than this decrease in the antenna height, all other technical parameters remain the same as the existing STA.

As before, XM will operate this substitute low-power repeater in place of another repeater (LVX002A) that XM was required to remove from atop the Stardust Hotel, which was razed on March 13, 2007. Grant of the STA will serve the public interest by restoring repeater service to

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<sup>1</sup> 47 C.F.R. § 25.120(b)(2).

<sup>2</sup> At the same time it is filing this request, XM is also filing a request to operate the same repeater under a 30-Day Special Temporary Authority pursuant to Section 25.120(b)(4) of the Commission's rules.

<sup>3</sup> See XM Radio Inc., File No. SAT-STA-20070330-00059 (filed March 30, 2007; granted May 25, 2007); *Public Notice*, 2007 FCC Lexis 4126 (rel. June 1, 2007).

Ms. Marlene H. Dortch  
June 28, 2007  
Page 2

residents of Las Vegas, thereby ensuring that they continue to receive high quality satellite radio service.<sup>4</sup>

This request is distinct from the 30-Day STA the Bureau granted to XM on December 28, 2006.<sup>5</sup> That authorization allowed XM to operate a very low power repeater in place of the repeater formerly atop the Stardust Hotel, for the limited purpose of providing signal coverage for the 2007 Consumer Electronics Show. XM discontinued operations on that low power repeater on January 12, 2007 following the conclusion of the CES convention.

The Commission has recognized that SDARS operators require terrestrial repeaters to provide high-quality service nationwide.<sup>6</sup> Consistent with this policy, in September 2001, the Bureau granted XM an STA to operate a nationwide network of terrestrial repeaters, including the Las Vegas repeater that XM was forced to remove (LVX002A).<sup>7</sup> In the years since, the Bureau has granted XM additional STAs to operate its terrestrial repeaters, pending issuance of final rules governing the deployment and use of repeaters.<sup>8</sup>

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<sup>4</sup> The Bureau previously granted Sirius Satellite Radio Inc. a 30-Day STA to operate a substitute medium power repeater in place of a repeater that was located atop the Stardust Hotel. See Sirius Satellite Radio Inc., File No. SAT-STA-20061107-00133 (filed November 7, 2006; granted November 15, 2006); *Public Notice*, Report No. SAT-00403, DA 06-2322 (November 17, 2006).

<sup>5</sup> See XM Radio Inc., File No. SAT-STA-20061218-00153 (filed December 18, 2006; granted December 28, 2006); *Public Notice*, Report No. SAT-00410, DA 07-19 (January 5, 2007).

<sup>6</sup> 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) (“DARS Order and FNPRM”).

<sup>7</sup> See *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”).

<sup>8</sup> See, e.g., *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 XM an STA in File No. SAT-STA-20031112-00371, effective Sept. 15, 2004); *Public Notice*, 2002 FCC Lexis 5670 (rel. Oct. 30, 2002) (granting XM an STA in File No. SAT-STA-20020815-00153, effective Sept. 30, 2002); *Public Notice*, 2003 FCC Lexis 4803 (rel. Aug. 29, 2002) (granting XM an STA in File No. SAT-STA-20030409-00076, effective June 26, 2003). XM has filed applications to renew its STAs, and those renewal applications are pending before the Commission.

Extraordinary circumstances – in particular the need to reduce the height of this repeater’s antenna, which replaces a repeater removed from the Stardust hotel prior to the hotel’s demolition – justify this STA request.<sup>9</sup> As the Bureau recognized when it granted the original XM STA in 2001, XM’s terrestrial repeater network enables it to provide “high quality radio signals to listeners in areas that have limited radio service,” continuous high-quality radio coverage for individuals on long-distance trips, and “[d]iverse program formats, including educational, ethnic and religious programming.”<sup>10</sup> In this case, grant of the STA will serve the public interest by restoring seamless service to residents of Las Vegas, thereby ensuring that they continue to receive the diverse, high-quality service they have come to expect.

*Technical Information for Substitute Low Power Repeater.* Attached as Exhibit A is the following technical information pertaining to the substitute low-power repeater: (1) antenna type; (2) antenna orientation; (3) average EIRP; (4) height AGL; (5) antenna downtilt; and (6) antenna specification sheets. The specification sheet for the antenna is attached as Exhibit B.

*Interference Considerations.* The substitute low power repeater will operate at only 1068 watts average EIRP. Because XM did not receive any complaints of interference pertaining to its operation of the repeater being replaced, it is unlikely that this lower power repeater will create interference to other licensees. While XM’s original 2001 STA requires it to coordinate with affected Wireless Communications Services (“WCS”) licensees prior to operating any repeater,<sup>11</sup> XM is not aware of any operational WCS facilities in the Las Vegas area.<sup>12</sup> Moreover, as the Bureau acknowledged in granting XM’s original repeater STA request, the WCS licensees have confirmed that operation of terrestrial repeaters at an EIRP of 2 kW or less is not an interference

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<sup>9</sup> See 47 U.S.C. § 309(f); 47 C.F.R. § 25.120(b)(1).

<sup>10</sup> *XM STA Order*, 16 FCC Rcd at 16784 ¶ 9.

<sup>11</sup> See *XM Radio STA Order* ¶ 14.

<sup>12</sup> In the *XM STA Order*, the Bureau stated that it expects “WCS licensees to provide a schedule or as much advance notice as possible of when their stations are to be placed in operation.” *XM STA Order* ¶ 14. XM has not received information directly from any WCS licensee regarding their plans for WCS deployment. While one WCS licensee (Horizon Wi-Com, LLC) has notified the Commission that it is operating WCS base stations in certain locations, these locations do not include Las Vegas. Moreover, it is not clear from the Horizon Wi-Com notification filed whether its base stations are receiving transmissions from CPE or whether they are engaged in transmit-only operations. If only the latter, potential interference to the Horizon Wi-Com base stations is not an issue.



concern.<sup>13</sup> However, if prohibited interference does occur, XM will cease operation of the substitute repeater until such interference can be eliminated.

To the extent the Commission finds it necessary, however, XM requests a waiver of the coordination requirement on the grounds that (i) it has received no interference complaints about the recently deconstructed repeater; (ii) the substitute repeater will operate at low-power, meaning that it does not have significant interference potential; and (iii) a waiver allows for continuous service.

*Ownership and Control of Repeaters.* XM will own the substitute low-power repeater, and it will be responsible for its installation and operation.

*Certifications.* XM certifies that it will operate this substitute low-power repeater subject to the conditions and certifications set forth in the *XM Radio STA Order* granting XM's September 2001 request for STA to operate terrestrial repeaters. Granting this request will not alter XM's obligation to protect authorized radiocommunications facilities from interference, and it will not prejudice the outcome of the Commission's ongoing rulemaking pertaining to the deployment and operation of terrestrial repeaters.

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).

XM is submitting payment to the Federal Communications Commission in the amount of Seven Hundred Ninety Dollars (\$790.00) -- the filing fee applicable to requests for STAs for geostationary ("GSO") satellites.<sup>14</sup>

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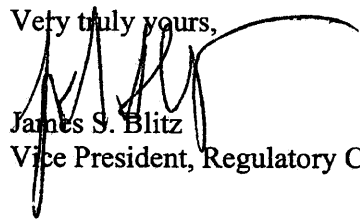
<sup>13</sup> *XM STA Order* ¶ 12 ("The comments from WCS licensees express concern about blanketing interference from DARS repeaters that operate with an Equivalent Isotropically Radiated Power (EIRP) above 2 kW."). The WCS Coalition has said that it will defer from objecting to STA requests that propose operations of no more than 2,000 watts EIRP, even if they do not specify peak or average EIRP, provided that grant of the STA (i) is conditioned on operation on a non-interference basis; and (ii) is subject to the condition that the issue of peak versus average EIRP will be addressed in the pending DARS rulemaking (IB Docket No. 95-91). See Letter from Paul J. Sinderbrand, Counsel to the WCS Coalition, to Ms. Helen Domenici, FCC, File No. SAT-STA-20061207-00145 (filed March 19, 2007). XM agrees to these conditions.

<sup>14</sup> See International and Satellite Services Fee Filing Guide (October 2006).

Ms. Marlene H. Dortch  
June 28, 2007  
Page 5

Please direct any questions regarding this matter to the undersigned.

Very truly yours,



James S. Blitz  
Vice President, Regulatory Counsel

cc: Stephen Duall, FCC

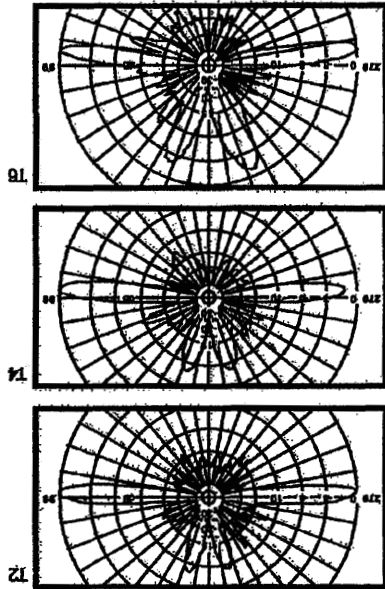
**Exhibit A**

CITY	CITY ABBR.	SITE NO.	ANTENNA NUMBER	SITE LATITUDE (N)	SITE LONGITUDE (W)	ANTENNA TYPE	ANTENNA ORIENTATION (DEG AZ)	ANT HEIGHT (FEET AGL)	ANTENNA DOWNTILT (DEG)	TOTAL AVERAGE EIRP (W)
Las Vegas	LVX	002B	Tx1	36-07-10	115-10-14	TA-2350-DAB	0	338	0	1068

**Antenna Specification Sheet**

**Exhibit B**

Specifications subject to change without notice



E-Plane

**Mechanical Specifications**

Length: 70 in. (1778 mm)  
 Diameter: 2.25 in. (57 mm)  
 Weight (incl. Clamps): 15 lb. (6.8 kg)  
 Rated Wind Velocity: 125 mph (200 km/h)  
 Hor. Thrust at rated wind: 31 lb. (14 kg)  
 Mounting Pips: 1.75 - 4.0 in. (44.5 - 102 mm)

**Materials**

Radiating Elements: Nickel plated copper array  
 Radome: Gray UV stabilized fiberglass  
 Clamps: HDG steel

**Electrical Specifications**

Frequency Range: 2330-2345 MHz  
 Gain: 10 dB  
 VSWR: 1.4:1 max.  
 Polarization: Vertical  
 Power Rating: 200 W avg., 800 W peak  
 H-Plane Beamwidth: 360 degrees  
 E-Plane Beamwidth: 5 degrees  
 Electrical Down tilt: 2, 4, 6 degrees  
 Cross Pol. Discrimination: 20 dB min.  
 Null Fill: -20 dB (1st Null)  
 Impedance: 50 ohms nominal  
 Termination: 7/16 DIN female

The TA-2350-DAB is a medium power vertically polarized omnidirectional antenna specifically designed for Digital Audio Broadcast transmission. The antenna consists of a phased coplanar fed broadband dipole array which is configured to provide electrical beam down tilt and null fill. The antenna elements are at DC ground to aid in lightning protection.



**TA-2350-DAB**  
**Medium Power Omnidirectional**  
**2330-2345 MHz**

