

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of Application by)
))
XM RADIO LLC) Call Sign S2786
))
For Modification of the XM-5 License)

APPLICATION OF XM RADIO LLC

XM Radio LLC (“XM Radio”) hereby applies to modify the license for its XM-5 spacecraft, Call Sign S2786, to remove the license conditions that restrict XM Radio’s ability to activate the XM-5 communications payloads. No changes to the space station’s orbital location or other operating parameters are proposed. Granting the requested modification will facilitate future testing of XM-5’s ability to perform its backup functions, and will serve the public interest by permitting XM Radio to better prepare for and respond to possible future circumstances that would require use of XM-5.

A completed FCC Form 312 is attached, and XM Radio incorporates by reference the technical information previously provided in support of XM-5.¹

BACKGROUND

The Commission previously authorized XM-5 to serve as an in-orbit spare for XM Radio’s fleet of satellite digital audio radio service (“SDARS”) spacecraft that provide a high-quality, continuous, multi-channel audio service throughout the United States.² XM-5 is

¹ See Call Sign S2786, File Nos. SAT-LOA-20090217-00025 & SAT-MOD-20101216-00264.

² See Call Sign S2786, File Nos. SAT-LOA-20090217-00025, grant-stamped Aug. 31, 2009, & SAT-MOD-20101216-00264, grant-stamped Mar. 8, 2011 (“XM-5 License”).

also equipped with frequencies allowing it to serve as back-up capacity for the SDARS services of XM Radio's affiliate, Satellite CD Radio LLC ("Satellite CD Radio").³

The terms of the XM-5 License limit the circumstances in which the satellite's communications payloads can be activated. Specifically, the license provides that XM Radio can operate XM-5 as a "non-transmitting" in-orbit spare satellite.⁴ XM Radio is authorized to perform telemetry and command transmissions to maintain the satellite at its assigned orbit location.⁵ XM Radio is permitted to activate the XM-5 communications payloads only "in the event of a service outage of the XM-3 (Call Sign: S2617), XM-4 (Call Sign: S2616), FM-1, FM-2, FM-3 (Call Sign: S2105), or FM-5 (Call Sign: S2710) space stations."⁶ If XM Radio does activate XM-5 in response to such an outage, the company is required to notify the Commission, in writing, within three business days.⁷

Since XM-5 was launched, no issues affecting the primary spacecraft in the XM Radio or Satellite CD Radio fleets have required activating XM-5's communications payloads, nor does the company have any reason to expect that any such issues may arise. However, XM Radio has performed a number of tests using XM-5 to verify the satellite's ability to provide substitute capacity in the event of such an anomaly.⁸ In each case, XM Radio has requested, and

³ *See id.*

⁴ XM-5 License, Attachment at ¶ 2.

⁵ *Id.*

⁶ *Id.*, Attachment at ¶ 3.

⁷ *Id.*, Attachment at ¶ 4.

⁸ *See, e.g.*, File Nos. SAT-STA-20110103-00001, grant-stamped Jan. 13, 2011 & SAT-STA-20110624-00121, grant-stamped July 14, 2011 (testing XM-5 as a substitute for XM-3); File

the Commission's International Bureau has granted special temporary authority ("STA") to permit such testing given the conditions included in the XM-5 License.

XM Radio anticipates the need to perform similar tests on a regular basis in the future to ensure that XM-5 can be promptly activated in response to an anomaly, should one arise. In order to facilitate such testing, XM Radio seeks modification of the XM-5 License to remove the conditions restricting XM Radio's ability to activate the XM-5 communications payloads.

MODIFICATION

XM Radio requests that the Commission modify the XM-5 License by deleting paragraphs 2, 3, and 4 of the conditions of grant. As discussed above, these paragraphs authorize XM-5 to operate as a non-transmitting spare satellite whose communications payloads can be activated only in the event of a service outage and with subsequent written notification to the Commission.

XM Radio seeks removal of these conditions because they unnecessarily impede the company's ability to activate the XM-5 communications payloads. To be clear, XM Radio has no current plans to use XM-5 as anything other than an in-orbit spare. However, to help prepare to operate XM-5 in that role if the need arises, XM Radio requires the flexibility to perform periodic testing using the satellite's communications capacity. As a result of the restrictions in the XM-5 License, such testing has been possible only pursuant to STA, imposing an administrative burden on both XM Radio and Commission staff.

Nos. SAT-STA-20110919-00184, grant-stamped Oct. 6, 2011, & SAT-STA-20111104-00212, grant-stamped Nov. 9, 2011 (testing XM-5 as a substitute for FM-5 or the Sirius XM HEO constellation and evaluating performance of XM-5 in the satellite frequency bands used for the legacy XM Radio terrestrial repeaters).

XM Radio proposes no change in the technical parameters for operating XM-5 that are on file with the Commission. Instead, XM Radio simply seeks the ability to activate XM-5's communications payloads consistent with those technical parameters at the company's discretion, without the need for further enabling authority from the Commission.

Removing the conditions to permit such activation will not result in harmful interference to the operations of any other spacecraft. XM Radio operates the only satellites authorized to use either S-band or X-band frequencies located within two degrees of XM-5's assigned orbital location of 85.15° W.L. XM Radio does not share S-band spectrum with other satellite systems (except its affiliate, Satellite CD Radio), and the SDARS downlink frequencies are not subject to two degree spacing rules. XM Radio and its affiliate will internally coordinate frequency use among the satellites in their fleets.

Similarly, the operations of XM-5 permitted under the requested modification will not result in harmful interference to regularly authorized terrestrial operations. XM Radio will use earth stations to communicate with XM-5 that have been authorized to do so and have been coordinated with terrestrial licensees. In the event using an earth station in a manner that varies from the terms of its license is proposed, the company will request an appropriate earth station STA.

The Commission has generally afforded satellite operators the flexibility to design and modify their networks in response to customer requirements, absent compelling countervailing public interest considerations.⁹ In addition, the Commission has consistently

⁹ See, e.g. *AMSC Subsidiary Corporation*, 13 FCC Rcd 12316 at ¶ 8 (IB 1998) (the Commission generally leaves space station design decisions to the licensee "because the licensee is in a better position to determine how to tailor its system to meet the particular needs of its customers.") (footnote omitted).

recognized that ensuring continuity of service is an important public interest objective.¹⁰ The requested modification will facilitate XM Radio’s ability to perform routine testing and other performance checks to help ensure that it is prepared to activate XM-5 as needed if an anomaly occurs affecting another SDARS spacecraft. Accordingly, the requested modification will serve the public interest by permitting XM Radio to optimize use of its satellite assets to help ensure service reliability.

For the foregoing reasons, XM Radio respectfully requests that the Commission modify the XM-5 License by removing paragraphs 2, 3, and 4 of the conditions of grant.

Respectfully submitted,

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¹⁰ See, e.g., *DIRECTV Enterprises, LLC, Request for Special Temporary Authority to Conduct Telemetry, Tracking and Control During the Relocation of DIRECTV 1 to the 72.5° W.L. Orbital Location*, Order and Authorization, DA 05-1890 (Sat. Div. rel. July 14, 2005) at ¶ 18 (granting STA to relocate spacecraft to a location where it will replace a satellite with failing solar panels “will enable DIRECTV to maintain continuity of DBS service to its customers”); *DIRECTV Enterprises, LLC, Application for Authorization to Operate DIRECTV 5, a Direct Broadcast Satellite, at the 109.8° W.L. Orbital Location*, Order and Authorization, DA 05-2654 (Sat. Div. rel. Oct. 5, 2005) at ¶ 8 (“DIRECTV’s proposal to provide DBS service from this location will serve the public interest, convenience and necessity in that it will ensure continuity of service to DIRECTV subscribers”).