

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

In the Matter of Application by)
)
XM Radio LLC) File No. SAT-MOD-_____
) Call Sign S2616
For Renewal of the XM-4 License)

APPLICATION OF XM RADIO LLC

XM Radio LLC (“XM Radio”), a satellite digital audio radio service (“SDARS”) licensee, hereby applies to renew its license for the XM-4 spacecraft, call sign S2616, for an additional eight-year term through December 15, 2022. A completed FCC Form 312 is attached, and XM Radio incorporates by reference the technical information previously provided regarding operations of XM-4.¹ Granting the requested authority will serve the public interest by permitting continued operation of the XM-4 satellite in XM Radio’s SDARS network.

XM-4 commenced operations at the nominal 115° W.L. orbital location on December 15, 2006, with an initial eight-year license term.² At that location, XM-4 replaced XM-2 as a primary operational satellite in the XM Radio SDARS fleet. XM-4 is currently assigned to the 115.25° W.L. orbital location, where it is being flown with an east-west stationkeeping tolerance of +/- 0.1 degrees in formation with the XM-1 in-orbit spare spacecraft.³

¹ The most recent technical information submitted relating to XM-4 is found in File No. SAT-MOD-20100722-00165, grant-stamped on Oct. 14, 2010 (the “XM-4 License”).

² See *XM Radio Inc.*, File No. SAT-RPL-20040212-00018, Order and Authorization, 20 FCC Rcd 1620 (Sat. Div. 2005).

³ See XM-4 License, Attachment to Grant at 1. Until earlier this year, XM-4 was being flown in formation with both XM-1 and XM-2, but the process of retiring these two spacecraft has begun. Specifically, pursuant to Commission authority XM-2 is currently being drifted eastward

XM-4 serves as one of XM Radio's two primary operational spacecraft for delivering SDARS programming. The spacecraft remains capable of fulfilling that function throughout the term requested in this license renewal application. Specifically, XM Radio has calculated that there is ample fuel onboard the XM-4 spacecraft for the spacecraft to continue providing reliable service through December 2022. In making these calculations, XM Radio has assumed that XM-4 will remain at the nominal 115° W.L. orbital location⁴ and that standard stationkeeping maneuvers will be performed to maintain the spacecraft within its existing east-west and north-south stationkeeping tolerances.⁵

The XM-4 satellite's overall health is good, and there are no material issues with the spacecraft. There is no single point of failure in the satellite's design; all satellite subsystems are functioning nominally, including the power system and solar panels; and there is no problem with the satellite's telemetry, tracking and command ("TT&C") links, including the back-up TT&C links.

XM Radio proposes no change in XM-4's operations, which will continue to conform to the technical parameters on file with the Commission. Nor does the proposed extension require any alteration in the orbital debris mitigation plans regarding the spacecraft.

in preparation for orbit-raising maneuvers. *See* File No. SAT-STA-20140204-00018, grant-stamped March 28, 2014. Once XM-2 has been removed to a disposal orbit, XM Radio will drift XM-1 eastward away from 115.25° W.L. in preparation for orbit-raising maneuvers. *See* File No. SAT-STA-20140321-00033, grant-stamped Apr. 30, 2014.

⁴ Because XM Radio does not currently contemplate relocating XM-4 to another orbital location, XM Radio has not made an allowance for the additional fuel that would be expended during a relocation. In the event a future change in plans involves relocating XM-4 to another orbital location, the impact of such relocation on the end-of-life fuel for the spacecraft will depend on the parameters of the relocation, including the distance and speed of the move.

⁵ The calculations do not assume that the spacecraft will be placed into inclined orbit during the requested renewal period.

XM Radio has confirmed that at the conclusion of the requested renewal period, the spacecraft will have sufficient fuel to be placed into disposal orbit at the altitude previously submitted, which complies with the IADC standard.

Renewing the license for XM-4 will serve the public interest by allowing the spacecraft to continue to provide primary satellite radio service. In addition, granting the license renewal will promote the efficient use of orbital resources.

For the foregoing reasons, XM Radio hereby respectfully requests that the Commission renew the license for XM-4 through December 15, 2022.

Respectfully submitted,

XM Radio LLC

/s/ James S. Blitz

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Dated: May 15, 2014

Technical Certification

I, Bridget Neville, Vice President and General Manager for Satellite Engineering and Operations of Sirius XM Radio Inc., hereby certify under penalty of perjury that:

I am the technically qualified person with overall responsibility for preparation of the technical information contained in the foregoing application. I am familiar with the technical requirements of Part 25 of the Commission's rules, and the information contained in the application is complete and accurate to the best of my knowledge, information and belief.

_____/s/_____
Bridget Neville

Dated: May 15, 2014