

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

In the Matter of Application by	)	
	)	
XM Radio LLC	)	File No. SAT-MOD-_____
	)	Call Sign S2786
For Renewal of the XM-5 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-5 spacecraft, call sign S2786, for an additional eight-year term through December 2, 2026. A completed FCC Form 312 is attached, and XM Radio incorporates by reference the technical information previously provided regarding operations of XM-5.<sup>1</sup> Granting the requested authority will serve the public interest by permitting continued operation of the XM-5 satellite as part of the SDARS network operated by XM Radio and its affiliates (“Sirius XM”).

XM-5 commenced operations on December 2, 2010, with an initial eight-year license term.<sup>2</sup> XM-5 is positioned at 85.15° W.L. with an east-west stationkeeping tolerance of +/- 0.1 degrees, where it is being flown in formation with the XM-3 satellite and serves as an in-orbit spare for other SDARS spacecraft in the Sirius XM fleet.

The XM-5 spacecraft remains capable of fulfilling that function throughout the term requested in this license renewal application. Specifically, XM Radio has calculated that

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<sup>1</sup> The most recent technical information submitted relating to XM-5 is found in File No. SAT-MOD-20101216-00264, grant-stamped on March 11, 2011. The Commission granted a later modification of the satellite’s license that did not involve any technical changes in File No. SAT-MOD-20130114-00007, grant-stamped on March 14, 2013 (the “XM-5 License”).

<sup>2</sup> See *XM Radio Inc.*, File No. SAT-LOA-20090217-00025, grant-stamped on Aug. 31, 2009.

there is ample fuel onboard the XM-5 spacecraft for the spacecraft to continue providing reliable service through December 2026. In making these calculations, XM Radio has assumed that standard stationkeeping maneuvers will be performed to maintain the spacecraft within its existing east-west and north-south stationkeeping tolerances.<sup>3</sup> In addition, XM Radio has made allowance in its fuel life calculations for the possibility that, given its role as an in-orbit spare, the satellite could be relocated during the term of the requested extension.<sup>4</sup>

The XM-5 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-5'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. 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-5 will serve the public interest by allowing the spacecraft to continue to serve as a back-up for the primary satellites providing SDARS to

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<sup>3</sup> The calculations do not assume that the spacecraft will be placed into inclined orbit during the requested renewal period.

<sup>4</sup> In the event of such a relocation, the specific impact on the fuel life for the spacecraft will depend on the parameters of the relocation, including the speed of the move.

Sirius XM's tens of millions of subscribers. 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-5 through December 2, 2026.

Respectfully submitted,

XM Radio LLC

/s/ James S. Blitz

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Dated: August 31, 2018

### **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: August 31, 2018