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***By Electronic Filing***

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

**Re: XM Radio LLC, File No. SAT-STA-20140204-00018, Call Sign S2119**

Dear Ms. Dortch:

XM Radio LLC ("XM Radio"), by its attorney, hereby updates the record with regard to the above-referenced request for special temporary authority, which was grant-stamped on March 28, 2014 (the "XM-2 STA"), by advising the Commission of a brief and very minor stationkeeping excursion that occurred as the XM-2 spacecraft was being prepared for retirement.

As authorized by the XM-2 STA, within the past several months XM Radio relocated XM-2 to 27° W.L. with an east-west stationkeeping tolerance of +/- 0.1 degrees in preparation for orbit-raising maneuvers and has been venting the excess propellant onboard the spacecraft. XM-2 has both a traditional liquid bi-propellant system that was used for initial orbit raising and an electric xenon ion propulsion system ("XIPS") that is used for in-orbit stationkeeping and will also be used to boost the satellite into a disposal orbit.

XM Radio has been discharging the excess bi-propellant fuel by simultaneously firing the satellite's east and west bi-propellant thrusters. That process is designed to keep the satellite within its east-west stationkeeping volume, because the eastward and westward forces are roughly equal and cancel each other out. However, as the bi-propellant levels decline, the mixture of liquid and gas in the fuel lines can vary, leading to momentary "sputtering" of the thruster. If the thruster on one side is getting a richer fuel mixture than the other, the two opposing forces will be unequal, briefly changing the east-west position of the spacecraft to a very small extent.

This occurred with XM-2 in early September. Specifically, the bi-propellant depletion process triggered an unexpectedly large western drift on September 5. The XIPS thrusters were activated to counteract the drift, but because the XIPS thrusters are less powerful than the bi-propellant thrusters, it took some time to overcome the satellite's westward momentum. As a result, XM-2 was very slightly outside its authorized stationkeeping parameters for a six-hour

period on September 7. The peak longitude during this brief excursion was 27.113° W.L., or 0.013 degrees beyond the western edge of the assigned XM-2 stationkeeping box.

This inadvertent, short-term, and very minor excursion posed no risk to other satellites. Intelsat, which operates the closest satellite to the west of 27° W.L., also provides telemetry, tracking and command ("TT&C") support for XM-2, simplifying its ability to ensure that safe stationkeeping distances were maintained. Furthermore, there was no possibility of harmful interference to the operations of other satellites, since no satellite within two degrees of 27° W.L. other than XM-2 is authorized to operate in the S-band or X-band frequencies used for XM-2 TT&C. Venting of the bi-propellant on XM-2 is expected to continue for a few more weeks, but because the liquid fuel has already been expended, a recurrence of this type of issue is extremely unlikely.

Please let me know if you have any questions regarding this matter.

Respectfully submitted,

*/s/ Karis A. Hastings*

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