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

In the Matter of Application by	)	
	)	
XM RADIO INC.	)	Call Signs S2786, E000158, & E040204
	)	
For Special Temporary Authority to Activate XM-5 for Performance Testing	)	

REQUEST FOR SPECIAL TEMPORARY AUTHORITY

By this application, XM Radio Inc. ("XM Radio"),[1] respectfully requests special temporary authority ("STA") for a period of up to 30 days, commencing May 9, 2011, to permit XM Radio to activate the communications payload of its XM-5 satellite[2] and transmit to the satellite using XM Radio's Washington, D.C. and Ellenwood, GA feeder link earth stations. XM-5 is an in-orbit spare spacecraft that was launched in October 2010. XM Radio proposes to activate XM-5 for a limited period to conduct additional performance tests on the XM-5 payload. Grant of the requested authority will permit XM Radio to make more detailed assessment of the performance characteristics of XM-5 and evaluate its ability to provide replacement capacity in the event XM-5 is needed for primary service in response to an anomaly with an operating satellite. The call signs of the space station and earth stations for which STA is requested are listed in the caption above.

XM-5 is authorized 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-

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[1] XM Radio is a wholly-owned subsidiary of Sirius XM Radio Inc. ("Sirius XM").

[2] The Commission recently authorized XM Radio to relocate XM-5 to 85.15º W.L. and operate it there with +/- 0.1 degree east-west stationkeeping. *See* File No. SAT-MOD-20101216-00264 (Call Sign S2786), grant-stamped Mar. 8, 2011.

channel audio service throughout the United States.[3] XM-5 is also equipped with frequencies allowing it to serve as back-up capacity for the SDARS services of XM Radio's affiliate, Satellite CD Radio.[4] The XM-5 license authorizes activation of the satellite's 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."[5]

Immediately following launch, XM Radio performed a series of in-orbit payload tests of XM-5 while the satellite was temporarily located at 80º W.L. to assess the spacecraft's performance characteristics.[6] XM Radio requests authority to conduct additional tests of XM-5's performance now at its operating orbital position in order to be better prepared if a future anomaly in an operating satellite requires activation of the XM-5 satellite.

During the testing period, XM Radio's existing feeder link earth stations in Washington, D.C. (Call Sign: E000158) and Ellenwood, GA (Call Sign: E040204) will transmit to XM-5.[7] Testing will use the frequencies for which the earth stations and XM-5 are authorized, with uplinks in the X-band, 7056.8450-7074.8690 MHz, and downlinks in the S-band, 2332.5-

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[3] *See* File No. SAT-LOA-20090217-00025 (Call Sign S2786), grant-stamped Aug. 31, 2009.

[4] *See id.*

[5] *Id.*, Attachment at ¶ 2.

[6] *See* File No. SAT-STA-20100917-00194, grant-stamped Oct. 22, 2010 (authorizing positioning of XM-5 at 80º W.L., testing at that location, and drift to 85.2º W.L. following completion of testing).

[7] These earth stations are authorized to communicate with XM-5. *See* File Nos. SES-MOD-20101022-01323 (E000158) & SES-MOD-20101022-01324 (E040204), both granted Jan. 4, 2011.

2345.0 MHz.[8] The testing transmissions from the feeder link earth stations will include the authorized modulated carrier or an unmodulated carrier operating at or below the earth stations' maximum authorized EIRP of 78 dBW. In all other respects, the transmissions for purposes of testing will conform to the technical specifications of the earth stations' licenses.

The temporary testing is expected to have no impact on listeners of XM Radio's satellite radio network. Furthermore, the proposed testing will not cause harmful interference to the operations of any other spacecraft. There are no satellites using either S-band or X-band frequencies within two degrees of 85.2° W.L. other than satellites licensed to XM Radio. 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.

The proposed testing will also not result in harmful interference to regularly authorized terrestrial operations. The feeder link earth stations that will be communicating with XM-5 have been coordinated with terrestrial licensees for the frequencies and EIRP levels proposed for use here, and the coordination arc includes the XM-5 orbital location.[9] XM Radio will not exceed the previously-coordinated parameters during the proposed testing.

For the foregoing reasons, XM Radio respectfully requests special temporary authority for a period of up to 30 days commencing May 9, 2011 to activate the XM-5 communications payload and transmit to the satellite using XM Radio's feeder link earth stations. Grant of the requested authority will serve the public interest by facilitating XM

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[8] As noted above, XM-5 is also capable of operating in the S-band frequencies authorized to Satellite CD Radio, 2320-2332.5 MHz, but no testing of this portion of the XM-5 payload is planned during the period of the requested STA.

[9] *See* Exhibit B to File Nos. SES-MOD-20101022-01323 (E000158) (eastern limit of the coordination arc is 85.0º W.L.) & SES-MOD-20101022-01324 (E040204) (eastern limit of the coordination arc is 80.0º W.L.).

Radio's ability to better evaluate the performance of the XM-5 space station and will not result in harmful interference to any other regularly authorized operations.

Respectfully submitted,

XM Radio Inc.

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