NARRATIVE STATEMENT

Pursuant to Section 5.51 of the Commission's rules, 47 C.F.R. § 5.51, Sirius XM Radio Inc. ("Sirius XM") respectfully requests authority to modify its current experimental license to operate transmitting equipment in the Wireless Communications Services ("WCS") bands (2305-2320 MHz and 2345-2360 MHz), call sign WE2XSS. The only changes requested in this application are to modify the authorized service area of this station's transmitter in Deerfield Beach, Florida from a 5 km radius to a 15 km radius, and to include LTE as an additional transmission format. The larger service radius will improve Sirius XM's ability to conduct this testing by including areas having minimal repeater coverage, while including the LTE transmission format will allow testing the LTE technology that could be deployed in the WCS bands.

I. PURPOSE OF EXPERIMENTATION

Sirius XM is the only SDARS provider in the United States. Sirius XM provides high-quality satellite radio service to millions of subscribers nationwide. Sirius XM currently delivers its service primarily through the use of three non-geostationary satellites and six geostationary satellites. In addition to these satellites, and as contemplated by the international and domestic table of frequencies,[1] Sirius XM also uses a network of terrestrial repeaters to ensure consistent service throughout the United States. These repeaters are operated under blanket authority granted by the International Bureau on February 15, 2012[2] pursuant to rules adopted in an Order released in May 2010.[3]

The equipment that Sirius XM plans to operate pursuant to modification will emulate the operation of a 20 W WiMax or LTE uplink device in the WCS bands. Sirius XM will test the impact of overload and intermodulation interference and out-of-band emissions from such devices on Sirius and XM satellite radio receivers. Sirius XM will continue to undertake these experiments in a number of different geographic areas to emulate "real world" scenarios in which a satellite radio receiver might come into proximity with WCS uplink devices. Undertaking these tests will allow Sirius XM to collect additional data and to determine how different variables, such as WCS subscriber station power, spectral proximity, and separation distance, affect the reception of satellite radio signals by subscribers of both SDARS systems.

As requested in the original application for WE2XSS, the FCC authorized this station to operate using multiple sites in order to better understand the potential for interference to SDARS

---

[1] *See* 47 C.F.R. §2.106n. 5.396, n. US327.

[2] *See* File No. SES-LIC-20111121-01384.

[3] Amendment of Part 27 of the Commission's Rules to Govern the Operation of Wireless Communications Services in the 2.3 GHz Band; Establishment of Rules and Polices for the Digital Audio Radio Satellite Service in the 2310-2360 MHz Frequency Band, Report and Order and Second Report and Order, 25 FCC Rcd 11710 (2010) (the "*Order*").

reception.[4] In order to collect comprehensive data regarding the potential for WCS interference, it is necessary to ensure that the tests cover a mixture of signal delivery conditions involving multiple satellite and repeater signal combinations. Accordingly, the application identified a number of locations with different anticipated signal conditions to allow for the performance of interference tests under a broad range of real world conditions. This application will expand the service radius at one such location to allow for a broader range of testing.

The public interest, necessity and convenience are served by grant of this modification by allowing Sirius XM the flexibility to expand its testing of system variables in order to study interference to Sirius XM subscribers.

II. TECHNICAL SPECIFICATIONS

Frequency Bands: 2305-2320 MHz
2345-2360 MHz

Test will be conducted in 5 MHz channels of the WCS A, B, C and D blocks

Each test channel is 5 MHz wide. Specifically the channelization is:

A: 2305-2310 MHz, 2350-2355 MHz
B: 2310-2315 MHz, 2355-2360 MHz
C: 2315-2320 MHz
D: 2345-2350 MHz

Frequency stability will be compliant with Section 27.54 of the Commission's rules.

Emissions: The equipment will be used to transmit two signal formats.

Signal format #1: CW

Emission Designator: 10K0N0N

Signal Format #2: WiMAX 802.16e, or 3GPP / LTE

Transmitter 99% power bandwidth 5 MHz
Type of modulation: BPSK, 4QAM, 16QAM, 64QAM
Type of multiplexing: OFDM
Maximum transmitter duty cycle in normal use, 65%, 100% in test

Emission designator: 5M00W7W

[4] See FCC File No. 0139-EX-PL-2008, granted July 17, 2008.

Equipment Data:

Locations:

1. Sirius XM Radio Facility, 989 Lenox Drive, Lawrenceville, NJ 08648
   - 40-17-17.0 N, 74-42-33.5 W (10 km radius)
2. Prospertown Lake, Rt. 537, Ocean County, NJ
   - 40-8-6.7 N, 74-27-30.0 W
3. Manasquan Reservoir, Windeler Road, Howell, NJ
   - 40-10-16.6 N, 74-12-10.2 W
4. **Sirius XM Radio Facility, 3161 SW 10th St, Deerfield Beach, FL 33442**
   - **26-18-15.2 N, 80-8-47.6 W (15 km radius)**
5. 24 Vernon Crossing Road, Vernon, NJ
   - 41-12-46.7N, 74-29-37.2W
6. Highway US441, Palm Beach County, FL
   - 26-42-36.0 N, 80-25-12.0 W (10 km radius)

The tests will be run from temporary fixed and mobile locations. For all sites except Site 1 (Lawrenceville, NJ), Site 4 (Deerfield Beach, FL), and Site 6 (Highway US441), the locations will be centered at and within a 1 km radius of the sites. For Site 1 and Site 6, the locations will be centered at and within a 10 km radius of the site. For Site 4, the locations will be centered at and within a 15 km radius of the site. Exhibit A provides topographic and aerial views of the sites.

Antenna Height: The antenna will be operated at a height not to exceed 19.685 feet (6 meters).

Equipment: The equipment used in this experiment is prototypical, and is designed specifically to generate representative signals in the WCS band for the purpose of testing potential interference to SDARS receivers. The transmitter equipment will comply with Section 27.53 of the Commission's rules governing out-of-band emission limits on WCS equipment.

The specific equipment to be used includes:

Signal Generator: Agilent Signal Generator, Model E4438C
Transmit Antenna: The transmit antenna will have an omni-directional gain pattern with an associated nominal gain of 0dBi.

Antenna Beamwidth: Omni-Directional

Output Power: 80 watts Peak Maximum (TPO)

ERP: 12.2 Watts Peak maximum
(20 Watts EiRP peak power, consistent with Section 27.50(a)(2).

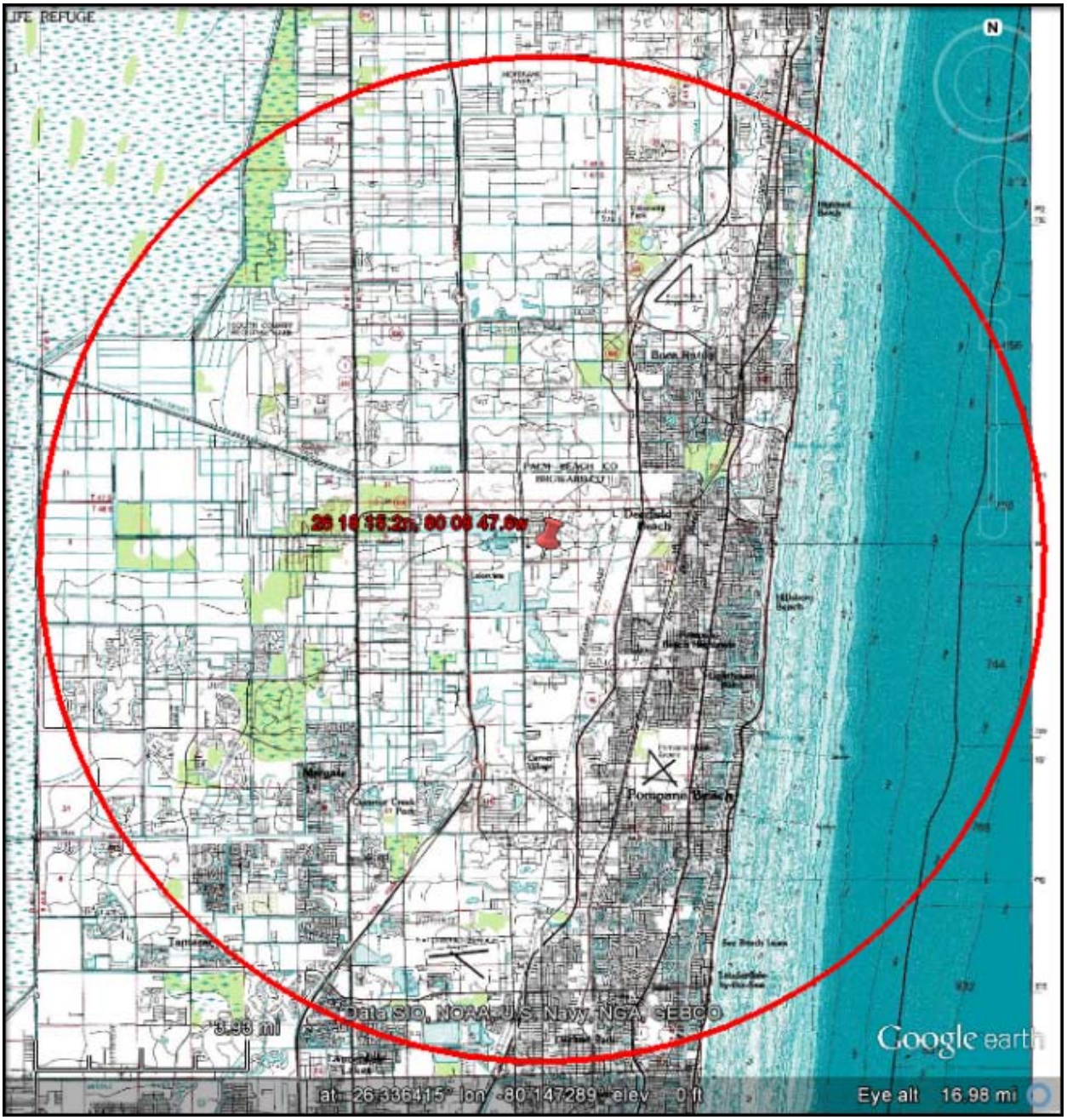
III. INTERFERENCE SAFEGUARDS

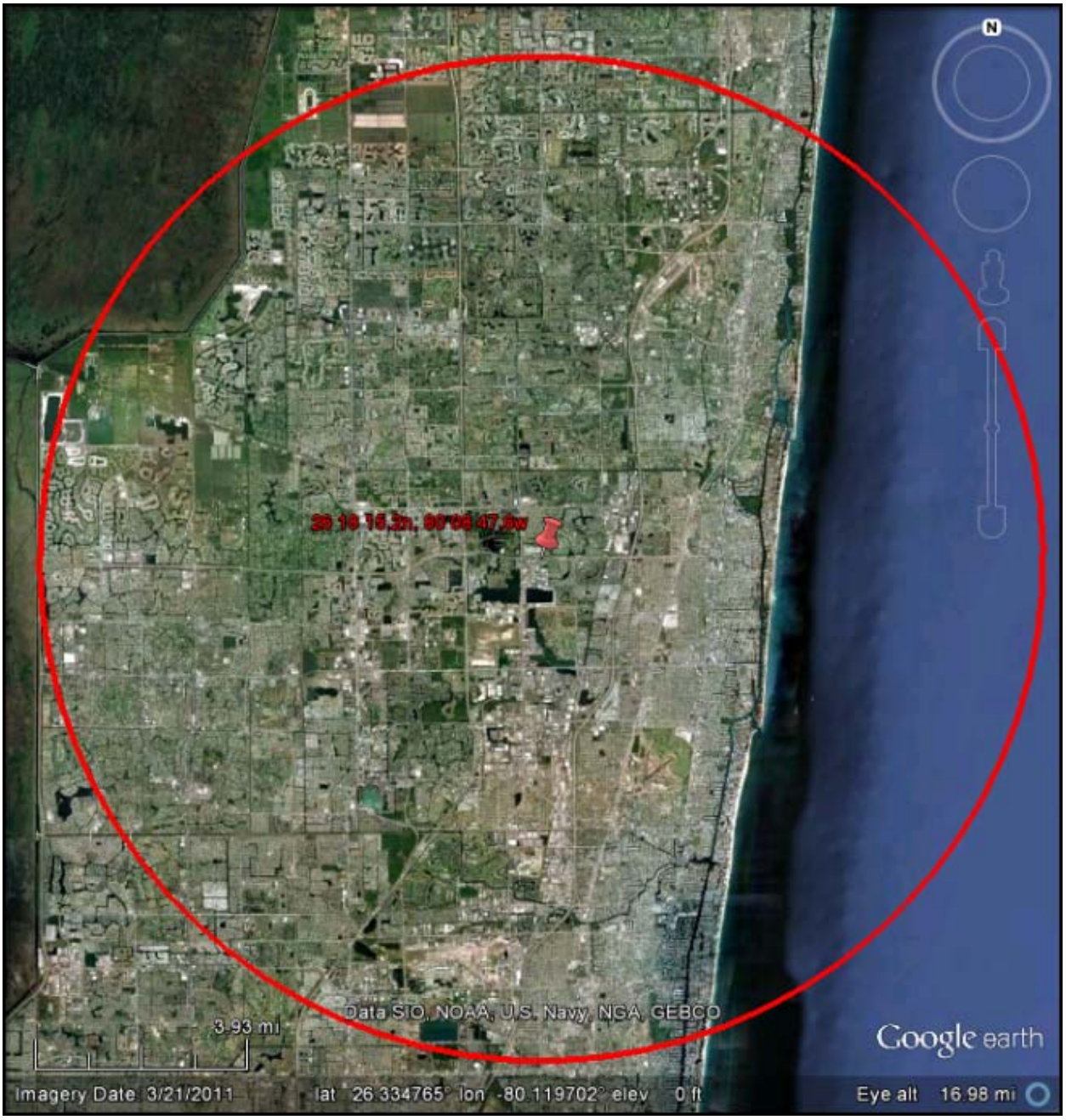
Sirius XM recognizes that the operation of this equipment must not cause harmful interference to authorized facilities. Sirius XM is not aware of any WCS operations in the expanded Deerfield Beach area where it plans to undertake testing pursuant to this application. In addition, Sirius XM will operate its equipment at very low power, for limited periods of time, and only at the locations listed above. Therefore, Sirius XM does not anticipate any interference with authorized facilities. Should interference occur, however, Sirius XM will resolve the interference, including, if necessary, discontinuing operation. Any party that believes they are experiencing interference from these operations should contact Sirius XM's National Repeater Control Center (202-380-4725).

IV. CONCLUSION

This modification would serve the public interest, convenience, and necessity by allowing Sirius XM to collect data that is essential for its continued coordination with WCS services and to study possible interference to Sirius XM subscribers.

Exhibit A: Maps Topographical map and aerial view of expanded Deerfield site




N
26 19 15.3n, 80 06 47.9w
3.93 mi
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Google earth
Imagery Date: 3/21/2011
lat 26.334765° lon -80.119702° elev 0 ft
Eye alt 16.98 mi