APPLICATION FOR STATION LICENSE
AND PROGRAM TEST AUTHORITY
EAST CAROLINA RADIO, INC.
WOBX-FM RADIO STATION
CH 251C2 - 98.1 MHZ - 50.0 kW
MANTEO, NORTH CAROLINA
December 2014

EXHIBIT B

Radio Frequency Assessment

WOBX-FM will utilize an antenna other than the one originally proposed in the construction permit (BPH-20140328ABQ). Condition #3 of the construction permit requires a revised radio frequency exposure analysis. This study has been made to determine whether this proposal is in compliance with 47 C.F.R. §1.1307 of the Commission's rules and with OET Bulletin #65, dated October 1997 ("Bulletin"), regarding human exposure to radio frequency radiation in the vicinity of broadcast towers. This study considers all nearby stations and utilizes the appropriate formulas contained in the OET Bulletin.

The proposed WOBX-FM antenna will be mounted with its center of radiation 135.9 meters (446 feet) above the ground and will operate with an effective radiated power of 50.0 kilowatts in the horizontal and vertical planes (circularly polarized). WOBX-FM will utilize a Dielectric DCRC6EP series six bay, full wavelength antenna (EPA Type 9). At 2.0 meters above the ground at the base of the tower, the height of an average person, the WOBX-FM antenna system will contribute 0.0120 mw/cm^2.[1] Based on exposure limitations for a controlled environment of 1.0 mw/cm^2, 1.2% of the allowable limit is reached at 2.0 meters above the

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1) This level of field occurs at 43.0 meters out from the base of the tower and is considered worst case.

ground at the base of the tower. Based on exposure limitations for a controlled environment of 0.2 mw/cm^2, 6.1% of the allowable limit of 1.0 mw/cm^2 is reached at ground level.

The proposed WOBR-FM antenna will be co-located with WOBX-FM. The WOBR-FM antenna will be mounted with its center of radiation 120.7 meters (396 feet) above the ground and will operate with an effective radiated power of 14.5 kilowatts in the horizontal and vertical planes (circularly polarized). WOBR-FM will utilize a Dielectric DCRC4EP series four bay full wavelength spaced antenna (EPA Type 9). At 2.0 meters above the base of the tower, the height of an average person, the WOBR-FM antenna system will contribute 0.0057 mw/cm^2.[1] Based on exposure limitations for a controlled environment of 1.0 mw/cm^2, less than 1.0% of the allowable limit is reached at 2.0 meters above the ground at the base of the tower. Based on exposure limitations for a controlled environment of 0.2 mw/cm^2, 2.9% of the allowable limit of 1.0 mw/cm^2 is reached at ground level.

All analog and digital LPTV's at this location combine to produce an effective radiated power that is less than or equal to 90 kilowatts (15.0 kilowatts maximum effective radiated power for six stations). Each station will use the same circularly-polarized Dielectric TUM-LP-C1-9/9M-1-K transmit antenna, with the bottom antenna bay at a height that is greater than or equal to 148.0 meters above ground level ("AGL"). The relative field for this antenna is less than 10% at all angles below 10 degrees downward from the horizontal plane.

Assuming a maximum effective radiated power of 90.0 kilowatts and circular polarization (for 180.0 kilowatts total), a relative field of less than 0.1 in the critical downward angles, and a distance of

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1) This level of field occurs at 49.5 meters out from the base of the tower and is considered worst case.

at least 146.0 meters from the lowest antenna element to 2.0 meters above ground level, the maximum power density is calculated as follows:

S = 33.4 (F)(F)(ERP) / [(R)(R)]

Where, S equals power density in uW/cm2
F equals the relative field factor
ERP equals the effective radiate power in watts
R equals the distance in meters

= 33.4 (0.1)(0.1)(180,000) / [(146)(146)]

= 2.8 uW/cm^2 (combined worst-case for all LPTVs at this site)

This site supports LPTV's located within the UHF TV spectrum. 2.8 uW/cm^2 represents less than 1% of the uncontrolled power density limit (315.3 uW/cm^2 for channel 14, the lowest UHF channel). The electromagnetic radiation from this proposed operation will not produce a value in excess of the radiation standard. The electromagnetic radiation from the proposed operation will not combine with other facilities on or near the structure to produce a significant change in value.

Combining the contributions of WOBX-FM, WOBR-FM, and television stations less than 15% of the radio frequency exposure limit, as defined by the FCC, is reached at the base of the tower. Since this level for controlled and uncontrolled environments is less than the limit defined by the Commission, the proposed WOBR-FM antenna system is believed to be in compliance with the radio frequency radiation exposure limits, as required by the Federal Communications Commission. Further, East Carolina will verify that warning signs have been posted in the vicinity of the tower warning of potential radio frequency radiation hazards at the site. In addition, East Carolina will reduce the power of the facility or cease operation, in

cooperation and coordination with other tower users, as necessary, to protect persons having access to the site, tower or antenna from radio frequency radiation in excess of FCC guidelines.