

**AMEND BPH-20070705ADV**  
**MINOR CHANGE APPLICATION/**  
**CHANGE COMMUNITY OF LICENSE**  
**MILLER COMMUNICATIONS, INC.**  
**WWBD (FM) RADIO STATION**  
**CH 240C2 -95.9 MHZ - 50.0 KW**  
**ISLE OF PALMS, SOUTH CAROLINA**  
**January 2008**

**EXHIBIT C**

**Radio Frequency Assessment**

A 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 August 1997 ("Bulletin"), regarding human exposure to radio frequency radiation in the vicinity of broadcast towers. As the proposed WWBD antenna is being mounted on a relatively short tower, it was not possible to use the worksheets to verify that the proposed WWBD facility is in compliance with the Commission's radio frequency exposure limits. This study considers all nearby stations, specifically the co-located WXTC (AM), and utilizes the appropriate formulas contained in the OET Bulletin.<sup>1</sup>

The proposed WWBD antenna system is to be mounted with its center of radiation 104.2 meters (341.8 feet) above the ground at the tower location and will operate with an effective radiated power of 50.0 kilowatts in the horizontal and vertical planes (circularly polarized). The WWBD antenna is to be an Electronics Research, Inc., rototiller style four bay full wavelength antenna system (FCC/EPA Type #3). At 2.0 meters above the ground at the base

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1) The contributions of the FM facilities were calculated using the FMModel program. A single bay EPA dipole antenna was used for calculation purposes. In cases where the number of bays of the antenna was known, this data was used in the FMModel program.

of the tower, the height of an average person, the WWBD antenna system will contribute 0.0277 mw/cm<sup>2</sup>.<sup>2</sup> Based on exposure limitations for a controlled environment, 2.8% of the allowable limit is reached at 2.0 meters above the ground at the base of the tower. For uncontrolled environments, 13.9% of the ANSI limit is reached at 2.0 meters above the ground at the base of the tower.

The WXTC AM daytime radiator (on which the WWBD antenna is to be installed) is, electrically, 180.1° in height at 1390 kHz and operates with a power of 5.0 kilowatts.<sup>3</sup> No one can get closer than 2.0 meters from the tower.<sup>4</sup> By reference to Figure 2 of OET 65-A, the WXTC tower will deliver 391.5 V/m (Electric Field) or 0.0.208 A/m (Magnetic Field). Since WXTC operates on a frequency above 1340 kHz, the contribution levels for controlled and uncontrolled environments are different. For the controlled environments, the electrical field contribution is 63.8% and the magnetic field contribution is 12.8%. For the uncontrolled environments, the electrical field contribution is 66.0% and the magnetic field contribution is 13.2%. Since the electrical field contribution, in the uncontrolled environment is greatest, it will be used as a worst case contribution.

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- 2) This level of field occurs at 42.0 meters out from the base of the tower and is considered worst case.
  - 3) WXTC operates at night with a three tower directional antenna system; the tower reviewed is one of the three and the one on which the WWBD antenna will be installed. The WXTC array is located on the edge of a marsh. Access to any of the towers is based on a walkway which goes from the land to the closest structure, and then on to the remaining towers. No one can get closer than 100 feet to the tower closest to land. As the tall tower is the only one which will have another contributing RF source, it was the only tower reviewed for RF compliance. A copy of a portion of a map from Google Earth is attached as Exhibit C1 to show the three tower array and access walkways.
  - 4) Access to the site is via a locked walkway. The public and station staff are more than 100 feet from the closest AM radiating element when the system is energized.

Combining the contributions of WWBD and WXTC, a total of 79.9% of the limit for uncontrolled environments is reached at two meters from the base of the tower. Since the contribution level is less than the limit for uncontrolled environments, it is believed the WWBD facility is in compliance with the radio frequency radiation exposure limits, as required by the Federal Communications Commission. MCI will also insure that warning signs have been posted in the vicinity of the tower warning of potential radio frequency radiation hazards at the site. In addition, MCI 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.





EXHIBIT #C1  
AMEND BPH-20070705ADV  
MILLER COMMUNICATIONS, INC  
WWBD (FM) RADIO STATION  
CH 240C2 - 50.0 KW  
ISLE OF PALMS, SC  
January 2008

**GRAHAM BROCK, INC.**

BROADCAST TECHNICAL CONSULTANTS