

**MINOR CHANGE APPLICATION**  
**CUMULUS LICENSING LLC**  
**WQQK (FM) RADIO STATION**  
**CH 221A - 92.1 MHZ - 3.1 KW**  
**GOODLETTSVILLE, TENNESSEE**  
**August 2007**

**EXHIBIT B**

**Radio Frequency Assessment**

Since WQQK is located on a relatively short tower, and is co-located with another FM facility, use of the worksheets to demonstrate compliance with the radio frequency radiation rules is not possible. Therefore, 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 August 1997 ("Bulletin"), regarding human exposure to radio frequency radiation in the vicinity of broadcast towers. This study considers all nearby stations, specifically the co-located WRQQ, and utilizes the appropriate formulas contained in the Bulletin.<sup>1</sup>

The WQQK antenna system is mounted with its center of radiation 53.1 meters (174.1 feet) above the ground at the existing tower location and operates with an effective radiated power of 3.1 kilowatts in the horizontal and vertical planes (circularly polarized). The WQQK is an Electronics Research, Inc., two bay rototiller style full wavelength system (FCC/EPA Type #3). At 2.0 meters, the height of an average person above the ground at the base of the tower, the

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1) The FM Model program was used to calculate the FM stations' contributions. The EPA single bay dipole was used unless otherwise noted. Any broadcast facilities within 315.0 meters of the proposed site are considered a contributor, and further, will be considered co-located for the purposes of this instant review.

WQQK antenna system will contribute  $0.0114 \text{ mw/cm}^2$ .<sup>2</sup> Based on exposure limitations for a controlled environment, 1.1% of the allowable ANSI limit is reached at 2.0 meters above the ground at the base of the tower. For uncontrolled environments, 5.7% of the ANSI limit is reached at 2.0 meters above the ground at the base of the tower.

The WRQQ antenna system is mounted with its center of radiation 70.1 meters (230.0 feet) above the ground at the existing tower location and operates with an effective radiated power of 45.0 kilowatts in the horizontal and vertical planes (circularly polarized). The WRQQ is a Dielectric DCRM six bay 0.83 wavelength spaced antenna system (FCC/EPA Type #7). At 2.0 meters, the height of an average person above the ground at the base of the tower, the WRQQ antenna system will contribute  $0.0063 \text{ mw/cm}^2$ .<sup>3</sup> Based on exposure limitations for a controlled environment, 0.6% of the allowable ANSI limit is reached at 2.0 meters above the ground at the base of the tower. For uncontrolled environments, 3.2% of the ANSI limit is reached at 2.0 meters above the ground at the base of the tower.

Combining the contributions of WQQK and WRQQ, a total of 8.9% of the uncontrolled environment limit is reached at 2.0 meters above ground at the base of the tower. Since this level for uncontrolled environments is well below the 100% limit defined by the Commission, the WQQK facility is believed to be in compliance with the radio frequency radiation exposure limits as is required by the Federal Communications Commission. Further, Cumulus will posted

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- 2) This level of field occurs at 34.0 meters out from the base of the tower and is considered worst case.
  - 3) This level of field occurs at 33.0 meters out from the base of the tower and is considered worst case.

warning signs in the vicinity of the tower warning of potential radio frequency radiation hazards at the site. In addition, Cumulus 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.