

**MINOR CHANGE APPLICATION/
ONE-STEP UPGRADE
COMMONWEALTH BROADCASTING, LLC
WNRJ (FM) RADIO STATION
CH 291B1 - 106.1 MHZ - 11.0 KW
POQUOSON, VIRGINIA
January 2007**

EXHIBIT B

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. This study considers all nearby contributing stations, specifically the co-located WNIS, and utilizes the appropriate formulas contained in the OET Bulletin.¹

The proposed WNRJ antenna system will be mounted with its center of radiation 147.8 meters (485.0 feet) above the ground at the tower location and operates with an effective radiated power of 11.0 kilowatts in the horizontal and vertical planes (circularly polarized). At 2.0 meters above the ground at the base of the tower, the height of an average person, the WNRJ antenna system will contribute 0.0208 mw/cm².² Based on exposure limitations for a controlled environment, 2.1% of the allowable ANSI limit is reached at 2.0 meters above the ground at the base of the tower. For uncontrolled environments, 10.4% of the ANSI limit is reached at 2.0 meters above the ground at the base of the tower.

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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.
 - 2) This field occurs at a distance of 39.0 meters out from the base of the tower and is considered worst case.

The WNIS AM radiator operates with a nominal power of 5.0 kilowatts on 790 kHz with an electrical height of 142.3°. ³ The tower is fenced, not allowing access any closer than 3.35 meters (11.0 feet) out from the base of the tower. At this distance, the WNIS AM facilities contribute an electrical field of 141.4 V/m and a magnetic field of 0.294 A/m. For controlled and uncontrolled environments, this results in an electrical field contribution of 23.0% and a magnetic field contribution of 18.0%. Since the contribution of the electric field is the highest, it is considered worst case.

Combining the contributions of the WNRJ and WNIS, a total of less than 33.4% of the limit is reached 2.0 meters above the ground at the base of the tower at the fence perimeter. Since the contribution level for the tower site is below the 100% limit defined by the Commission, the WNRJ antenna system is believed to be in compliance with the radio frequency radiation exposure limits, as required by the Federal Communications Commission. Further, CBL has posted warning signs in the vicinity of the tower warning of potential radio frequency radiation hazards at the site. In addition, CBL 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.

3) The WNIS array consists of four towers, all the same electrical height. Each tower is fenced the same distance and, therefore, would contribute the same level of RF energy at the fence perimeter. Therefore, the calculation of compliance is based on the tower on which the WNRJ system is to be installed, but can be applied to each tower.