

**NEW FM BOOSTER APPLICATION**  
**CARIBBEAN BROADCASTING CORPORATION**  
**NEW FM BOOSTER STATION**  
**CH 297D - 107.3 MHZ - 0.250 KW (DA)**  
**PONCE, PUERTO RICO**  
**November 2004**

**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. This study considers all nearby contributing stations, specifically the proposed WRIO (FM) facility and the authorized co-located AM stations WDEP, WLEO and WPRP (the AM stations each have an outstanding permit) and utilizes the appropriate formulas contained in the OET Bulletin.<sup>2</sup>

The proposed WCMN-FM booster antenna system will be mounted with its center of radiation 71.6 meters (235.0 feet) above the ground at the existing tower location and operate with an effective radiated power of 0.250 kilowatts in the horizontal and vertical planes (circularly polarized). At two meters, the height of an average person, above the ground at the base of the tower, the WCMN-FM booster antenna system will contribute 0.0021 mw.<sup>3</sup> Based

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- 2) The FMModel Program was used for all calculations for the FM station contributions. The EPA single bay dipole antenna was used, unless otherwise noted.
- 3) This level of field occurs at 19 meters out from the base of the tower and is considered worst case.

n exposure limitations for a controlled environment, 0.2% of the allowable ANSI limit is reached at two meters above the ground at the base of the tower. For uncontrolled environments, 1.1% of the ANSI limit is reached at two meters above the ground at the base of the tower.

The proposed WRIO six bay antenna system will be mounted with its center of radiation 90.5 meters (296.9 feet) above the ground at the existing tower location and operate with an effective radiated power of 50.0 kilowatts in the horizontal and vertical planes (circularly polarized). The WRIO antenna is an ERI rototiller series antenna (FCC/EPA Type #3).<sup>4</sup> At two meters, the height of an average person, above the ground at the base of the tower, the WRIO antenna system will contribute 0.0294 mw.<sup>5</sup> Based on exposure limitations for a controlled environment, 2.9% of the allowable ANSI limit is reached at two meters above the ground at the base of the tower. For uncontrolled environments, 14.7% of the ANSI limit is reached at two meters above the ground at the base of the tower.

The WDEP AM radiator will operate with a nominal power of 3.6 kilowatts on 1490 kHz with an electrical height of 173.97°. The tower will be fenced, not allowing access any closer than 3.0 meters (9.8 feet) out from the base of the tower. At this distance, the WDEP AM facility will contribute an electrical field of 188.7 V/m and a magnetic field of 0.139 A/m. Since the station operates on a frequency above 1340 kHz, the contributions for controlled and

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4) As reported in BPH-20040623AAC.

5) This level of field occurs at 28 meters out from the base of the tower and is considered worst case.

ncontrolled environments are different. For controlled environments, this results in an electrical field contribution of 30.7% and a magnetic field contribution of 8.5%. For uncontrolled environments, this level of fields results in an electrical field contribution of 34.1% and a magnetic field contribution of 9.5% contribution. Since the contribution of the electric field in the uncontrolled environment is the highest, it is considered worst case.

The WLEO AM radiator will operate with a nominal power of 0.2 kilowatt on 1170 kHz with an electrical height of 136.61°. The tower will be fenced, not allowing access any closer than 3.0 meters (9.8 feet) out from the base of the tower. At this distance, the WLEO AM facility will contribute an electrical field of 29.1 V/m and a magnetic field of 0.070 A/m. For controlled/uncontrolled environments, this results in an electrical field contribution of 4.7% and a magnetic field contribution of 4.3%. Since the contribution of the electric field is the highest, it is considered worst case.

The WPRP AM radiator will operate with a nominal power of 4.2 kilowatts on 910 kHz with an electrical height of 106.25°. The tower will be fenced, not allowing access any closer than 3.0 meters (9.8 feet) out from the base of the tower. At this distance, the WPRP AM facility will contribute an electrical field of 75.8 V/m and a magnetic field of 0.459 A/m. For controlled/uncontrolled environments, this results in an electrical field contribution of 12.3% and a magnetic field contribution of 28.1%. Since the contribution of the magnetic field is the highest, it is considered worst case.

Combining the contributions of WRIO, WDEP, WLEO and WPRP, a total of 82.3% of the limit is reached at two meters above the ground at the fenced limit at the base of the tower. Since this level for uncontrolled environments is below the 100% limit defined by the Commission, the WCMN-FM facility is believed to be in compliance with the radio frequency radiation exposure limits as required by the Federal Communications Commission. Further, CBC will insure that warning signs in the vicinity of the tower warning of potential radio frequency radiation hazards at the site. In addition, CBC will reduce the power of the proposed 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. Based on the above factors, this proposal is categorically excluded from environmental processing pursuant to §1.1306 of the Commission's rules.