

MODIFY BMPFTB-20050808AAZ
CARIBBEAN BROADCASTING CORPORATION
WCMN-FM3 BOOSTER STATION
CH 297D - 107.3 MHZ - 9.0 KW
PONCE, PUERTO RICO
October 2006

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 applied for WRIO (FM) facility and the co-located authorized AM stations WDEP, WLEO and WPRP (the AM stations each have an outstanding permit), and a proposed digital TV station ("Channel 30"), and utilizes the appropriate formulas contained in the OET Bulletin.¹

The proposed WCMN-FM3 booster 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 9.0 kilowatts in the horizontal and vertical planes (circularly polarized). The proposed WCMN-FM3 antenna is an ERI rototiller series antenna (FCC/EPA Type #3). At 2.0 meters, the height of an average person, above the ground at the base of the tower, the WCMN-FM booster antenna system will contribute 0.0052 mw/cm^2 .²

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- 1) The FMModel Program was used for all calculations for the FM station contributions. The EPA single bay dipole antenna was used unless otherwise noted.
 - 2) This level of field occurs at 28.0 meters out from the base of the tower and is considered worst case.

Based on exposure limitations for a controlled environment, 0.5% of the allowable ANSI limit is reached at 2.0 meters above the ground at the base of the tower. For uncontrolled environments, 2.6% of the ANSI limit is reached at 2.0 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).³ At 2.0 meters, the height of an average person, above the ground at the base of the tower, the WRIO antenna system will contribute 0.0291 mw/cm².⁴ Based on exposure limitations for a controlled environment, 2.9% of the allowable ANSI limit is reached at 2.0 meters above the ground at the base of the tower. For uncontrolled environments, 14.6% of the ANSI limit is reached at 2.0 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 3.5 meters (11.5 feet) out from the base of the tower. At this distance, the WDEP AM facility will contribute an electrical field of 161.7 V/m and a magnetic field of 0.120 A/m. Since the station operates on a frequency above 1340 kHz, the contributions for controlled and uncontrolled environments are different. For controlled environments, this results in an electrical field contribution of 26.3% and a magnetic field contribution of 7.3%. For uncontrolled

3) As reported in BPH-20040623AAC.

4) This level of field occurs at 28.0 meters out from the base of the tower and is considered worst case.

environments, this level of fields results in an electrical field contribution of 29.2% and a magnetic field contribution of 8.1% 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 3.5 meters (11.5 feet) out from the base of the tower. At this distance, the WLEO AM facility will contribute an electrical field of 24.9 V/m and a magnetic field of 0.061 A/m. For controlled/uncontrolled environments, this results in an electrical field contribution of 4.1% and a magnetic field contribution of 3.8%. 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 3.5 meters (11.5 feet) out from the base of the tower. At this distance, the WPRP AM facility will contribute an electrical field of 65.2 V/m and a magnetic field of 0.405 A/m. For controlled/uncontrolled environments, this results in an electrical field contribution of 10.6% and a magnetic field contribution of 24.9%. Since the contribution of the magnetic field is the highest, it is considered worst case.

The proposed Channel 30 digital TV antenna system is to be mounted with its center of radiation 56.8 meters (186.4 feet) above the ground at the existing tower location and will operate with an effective radiated power of 0.1 kilowatt in the horizontal plane. At 2.0 meters,

the height of an average person, above the ground at the base of the tower, the Channel 30 antenna system will contribute 0.0004 mw/cm^2 . Based on exposure limitations for a controlled environment, $<0.1\%$ of the allowable ANSI limit is reached at 2.0 meters above the ground at the base of the tower. For uncontrolled environments, 0.1% of the ANSI limit is reached at 2.0 meters above the ground at the base of the tower.

Combining the contributions of WCMN-FM3, WRIO, WDEP, WLEO, WPRP, and Channel 30, a total of 75.5% of the limit is reached at 2.0 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-FM3 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.