

MODIFY BMPFTB-20061010AAN
CARIBBEAN BROADCASTING CORPORATION
WCMN-FM3 BOOSTER STATION
CH 297D - 107.3 MHZ - 10.0 KW
PONCE, PUERTO RICO
February 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. This study considers all nearby contributing stations, specifically WRIO (FM) auxiliary facility, construction permits for WDEP¹ and low power television stations W51EH² and W30CQ, and utilizes the appropriate formulas contained in the OET Bulletin.³

The proposed WCMN-FM3 booster four bay full wavelength 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 10.0 kilowatts in the horizontal and vertical planes (circularly polarized). The proposed WCMN-FM3 antenna is an ERI rototiller series antenna 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 WCMN-FM booster antenna system will

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- 1) WDEP has a pending application to relocate. However, the outstanding construction permit is considered herein as worst case.
 - 2) W51EH has an outstanding construction permit at this site on Channel 34. However, it also has a permit on Channel 51 at another location. W51EH on Channel 34 is only considered herein as worst case.
 - 3) The FMModel Program was used for all calculations for the FM station contributions. The EPA single bay dipole antenna was used, unless otherwise noted.

contribute 0.0119 mw/cm^2 .⁴ Based on exposure limitations for a controlled environment, 1.2% of the allowable ANSI limit is reached at 2.0 meters above the ground at the base of the tower. For uncontrolled environments, 6.0% of the ANSI limit is reached at 2.0 meters above the ground at the base of the tower.

The WRIO auxiliary antenna system is mounted with its center of radiation 56.4 meters (185.0) above the ground at the existing tower location and operates with an effective radiated power of 17.0 kilowatts in the horizontal and vertical planes (circularly polarized). The WRIO antenna is an ERI four bay full wavelength 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 WRIO antenna system contributes 0.0332 mw .⁵ Based on exposure limitations for a controlled environment, 3.3% of the allowable ANSI limit is reached at 2.0 meters above the ground at the base of the tower. For uncontrolled environments, 16.6% of the ANSI limit is reached at 2.0 meters above the ground at the base of the tower.

The WDEP AM radiator operates with a nominal power of 5.0 kilowatts on 1490 kHz with an electrical height of 107.1° . 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 76.2 V/m and a magnetic field of 0.429 A/m. Since the station operates on a frequency above 1340 kHz, the contributions for controlled and

4) This level of field occurs at 22 meters out from the base of the tower and is considered worst case.

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

uncontrolled environments are different. For controlled environments, this results in an electrical field contribution of 12.4% and a magnetic field contribution of 26.3%. For uncontrolled environments, this level of fields results in an electrical field contribution of 13.8% and a magnetic field contribution of 29.2% contribution. Since the contribution of the magnetic electric field in the uncontrolled environment is the highest, it is considered worst case.

The authorized W30CQ-DT, Channel 30, antenna system will be mounted with its center of radiation 57 meters (187 feet) above the ground at the existing tower location and will operate with an effective radiated power of 0.030 kilowatt in the horizontal plane. At 2.0 meters above the ground at the base of the tower, the height of an average person, the W30CQ-DT antenna system contributes 0.0001 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.

The authorized W51EH, Channel 34N, antenna system will be mounted with its center of radiation 60 meters (196.9 feet) above the ground at the existing tower location and will operate with an effective radiated power of 0.001 kilowatt in the horizontal plane. At 2.0 meters above the ground at the base of the tower, the height of an average person, the W51EH antenna system contributes $<0.0001 \text{ mw/cm}^2$. 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, W51EH and W30CQ-DT, a total of <52.0% of the uncontrolled 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.
