

MINOR CHANGE APPLICATION
RADIO POWER, INC.
W284BQ FM TRANSLATOR STATION
CH 230D - 93.9 MHZ - 0.25 KW
DETROIT, MICHIGAN
March 2011

EXHIBIT D

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 stations, specifically WWJ-TV, WTVS, WUDT-LD, and WMYD, and utilizes the appropriate formulas contained in the OET Bulletin.¹

The proposed W284BQ antenna system will be mounted with its center of radiation 6.1 meters (20 feet) above the ground at the tower location and will operate with an effective radiated power of 0.25 kilowatt (250 watts) in the vertical plane. The tower will be protected from casual trespass at a distance of at least 7.0 meters (23 feet). At 2.0 meters above the ground at the fence perimeter, the height of an average person, the proposed W284BQ antenna system will contribute 0.1561 mw/cm².² Based on exposure limitations for a controlled environment, 15.6% of the allowable ANSI limit is reached at 2.0 meters above the ground at the base of the tower. For uncontrolled environments, 78.1% of the ANSI limit is reached at 2.0 meters above the ground and 7.0 meters from 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 level occurs at 7.0 meters out from the base of the tower and is considered worst case.

The authorized W230BI will operate with its center of radiation 274.0 meters above ground and will operate with an effective radiated power of 0.099 kilowatt in the vertical plane. At 2.0 meters above the ground at the base of the tower, the height of an average person, the W230BI antenna system will contribute 0.00004 mw/cm^2 .³ Based on exposure limitations for a controlled environment, <0.1% of the allowable ANSI limit is reached at 2 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 WWJ-TV digital Channel 44 antenna system is mounted with its center of radiation 321.2 meters (1,053 feet) above the ground at the existing tower location and operates with an effective radiated power of 425.0 kilowatts in the horizontal plane. As denoted in OET Bulletin #65, Supplement A, Page 31, the typical UHF antenna system has a downward radiation field of 0.1. As such, the WWJ-TV antenna system radio frequency radiation calculations were made based on an effective radiated power of 4.25 kilowatts. At 2.0 meters above the ground at the base of the tower, the height of an average person, the WWJ-TV antenna system contributes 0.0006 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 WTVS digital Channel 43 antenna system is mounted with its center of radiation 315.2 meters (1,033 feet) above the ground at the existing tower location and operates with an

3) This level occurs at 63.0 meters out from the base of the tower and is considered worst case.

effective radiated power of 600.0 kilowatts in the horizontal plane. As denoted in OET Bulletin #65, Supplement A, Page 31, the typical UHF antenna system has a downward radiation field of 0.1. As such, the WTVS antenna system radio frequency radiation calculations were made based on an effective radiated power of 6.0 kilowatts. At 2.0 meters above the ground at the base of the tower, the height of an average person, the WTVS antenna system contributes 0.0008 mw/cm². 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, 0.2% of the ANSI limit is reached at 2.0 meters above the ground at the base of the tower.

The WUDT-LD digital Channel 8 antenna system is mounted with its center of radiation 217.2 meters (712 feet) above the ground at the existing tower location and operates with an effective radiated power of 0.3 kilowatts in the horizontal plane. At 2.0 meters above the ground at the base of the tower, the height of an average person, the WUDT antenna system contributes 0.0001 mw/cm². 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 WMYD digital Channel 21 antenna system is mounted with its center of radiation 321.2 meters (1,054 feet) above the ground at the existing tower location and operates with an effective radiated power of 500.0 kilowatts in the horizontal plane. As denoted in OET Bulletin #65, Supplement A, Page 31, the typical UHF antenna system has a downward radiation field of

0.1. As such, the WMYD antenna system radio frequency radiation calculations were made based on an effective radiated power of 5.0 kilowatts. At 2.0 meters above the ground at the base of the tower, the height of an average person, the WMYD antenna system contributes 0.0007 mw/cm². 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, 0.2% of the ANSI limit is reached at 2.0 meters above the ground at the base of the tower.

Combining the contributions of W284BQ, W230BI on Channel 232, WWJ-TV, WTVS, WUDT-LD, and WMYD, less than 78.8% of the ANSI limit is reached at the fence perimeter. Since this level for controlled and uncontrolled environments is less than the 100% limit defined by the Commission, the proposed W284BQ is believed to be in compliance with the radio frequency radiation exposure limits, as required by the Federal Communications Commission. Further, RPI will post warning signs in the vicinity of the tower warning of potential radio frequency radiation hazards at the site. In addition, RPI 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.