

MINOR CHANGE APPLICATION
NEW AUXILIARY FM ANTENNA
SUSQUEHANNA RADIO CORP.
WWWQ (FM) RADIO STATION
CH 259C0 - 99.7 MHZ - 15.0 KW
ATLANTA, GEORGIA

August 2009

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 proposed WWWQ¹ and WNNX auxiliary antenna systems, WUPA (DT), WHSG-TV and WIRE-CA, and utilizes the appropriate formulas contained in the OET Bulletin.²

The proposed WWWQ auxiliary antenna system will be mounted with its center of radiation 237.8 meters (780.2 feet) above the ground at the existing tower location and will operate with an effective radiated power of 15.0 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 WWWQ auxiliary antenna system will contribute 0.0108 mw/cm².³ Based on exposure limitations for a controlled environment, 1.1% of the allowable ANSI limit is

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- 1) SRC is also submitting applications for a second new auxiliary antenna system for WWWQ and for a new auxiliary antenna system for WNNX to be co-located on this same tower.
 - 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 64.0 meters out from the base of the tower and is considered worst case.

reached at 2.0 meters above the ground at the base of the tower. For uncontrolled environments, 5.4% of the ANSI limit is reached at 2.0 meters above the ground at the base of the tower.

The second proposed WWWQ auxiliary antenna system will be mounted with its center of radiation 302.5 meters (992.4 feet) above the ground at the existing tower location and will operate with an effective radiated power of 48.0 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 WWWQ auxiliary antenna system will contribute 0.0214 mw/cm^2 .⁴ 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, 10.7% of the ANSI limit is reached at 2.0 meters above the ground at the base of the tower.

The proposed WNNX auxiliary antenna system will be mounted with its center of radiation 323.1 meters (1060.0 feet) above the ground at the existing tower location and will operate with an effective radiated power of 5.9 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 WNNX auxiliary antenna system will contribute 0.0023 mw/cm^2 .⁵ Based on exposure limitations for a controlled environment, 0.2% of the allowable ANSI limit is reached at 2.0 meters above the ground at the base of the tower. For uncontrolled environments, 1.2% of the ANSI limit is reached at 2.0 meters above the ground at the base of the tower.

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- 4) This level of field occurs at 81.0 meters out from the base of the tower and is considered worst case.
 - 5) This level of field occurs at 86.0 meters out from the base of the tower and is considered worst case.

The WUPA Channel 43 antenna system is mounted with its center of radiation 320.1 meters (1,050.2 feet) above the ground and operates with an effective radiated power of 1000 kilowatts in the horizontal plane. As denoted in OET Bulletin #65, Supplement A, Page 31, the typical UHF antenna system has a downward radiated field of 0.1. As such, the calculations of the WUPA antenna are based on a power of 10.0 kilowatts. At 2.0 meters above the ground at the base of the tower, the height of an average person, the WUPA antenna system contributes 0.0013 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, 0.3% of the ANSI limit is reached at 2.0 meters above the ground at the base of the tower.

The WHSG-TV Channel 44 antenna system is mounted with its center of radiation 287 meters (941.6 feet) above the ground and operates with an effective radiated power of 700 kilowatts in the horizontal plane. As denoted in OET Bulletin #65, Supplement A, Page 31, the typical UHF antenna system has a downward radiated field of 0.1. As such, the calculations of the WHSG-TV antenna are based on a power of 7.0 kilowatts. At 2.0 meters above the ground at the base of the tower, the height of an average person, the WHSG-TV antenna system contributes 0.0012 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, 0.3% of the ANSI limit is reached at 2.0 meters above the ground at the base of the tower.

The WIRE-CA Channel 40+ antenna system is mounted with its center of radiation 243.8 meters (799.9 feet) above the ground and operates with an effective radiated power of 55 kilowatts in the horizontal plane. As denoted in OET Bulletin #65, Supplement A, Page 31, the typical UHF antenna system has a downward radiated field of 0.1. As such, the calculations of the WIRE-CA antenna are based on a power of 0.55 kilowatt (550 watts). At 2.0 meters above the ground at the base of the tower, the height of an average person, the WIRE-CA antenna system contributes 0.0002 mw/cm^2 . Based on exposure limitations for a controlled environment, less than 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, less than 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 the two proposed WWWQ auxiliary antennas, the proposed WNNX auxiliary antenna, WUPA, WHSG-TV and WIRE-CA, a total of 18.0% of the uncontrolled limit is reached 2.0 meters above the ground at the base of the tower. Since this level for uncontrolled environments is less than the 100% limit defined by the Commission, the proposed WWWQ auxiliary antenna system facility is believed to be in compliance with the radio frequency radiation exposure limits, as required by the Federal Communications Commission. Further, SRC will post warning signs in the vicinity of the tower warning of potential radio frequency radiation hazards at the site. In addition, SRC 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