

MINOR CHANGE APPLICATION
WDAS LICENSE LIMITED PARTNERSHIP
WRDW-FM RADIO STATION
CH 243B - 96.5 MHZ - 9.6 KW
PHILADELPHIA, PENNSYLVANIA
March 2005

EXHIBIT B

Radio Frequency Assessment

At the proposed WRDW-FM tower there are numerous other FM and TV transmission facilities. As such, the use of the worksheets to demonstrate compliance with the radio frequency radiation rules is not possible. Therefore, this 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 co-located FM station WOGL (CP and auxiliary)⁶ and TV stations WCAU, WCAU-DT, WPSG-DT, WYBE, WYBE-DT, and WPHL-DT, and utilizes the appropriate formulas contained in the Bulletin.⁷

The proposed WRDW-FM antenna system will be mounted with its center of radiation 314.0 meters (1,030.2 feet) above the ground at the proposed tower location and will operate with an effective radiated power of 9.6 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

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- 6) While it is unlikely the WOGL CP and auxiliary systems would be on at the same time, we assumed they could be for a worst case analysis of the site.
- 7) The FM Model program was used to calculate the FM stations' contributions. The EPA single bay dipole was used unless otherwise stated.

tower, the WRDW-FM antenna system contribute 0.0039 mw.⁸ Based on exposure limitations for a controlled environment, 0.4% of the allowable ANSI limit is reached at two meters above the ground at the base of the proposed tower. For uncontrolled environments, 2.0% of the ANSI limit is reached at two meters above the ground at the base of the tower.

The authorized WOGL antenna system will be mounted with its center of radiation 314.0 meters (1,030.2 feet) above the ground at the tower location and will operate with an effective radiated power of 9.6 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 WOGL antenna system contribute 0.0039 mw.⁹ Based on exposure limitations for a controlled environment, 0.4% of the allowable ANSI limit is reached at two meters above the ground at the base of the tower. For uncontrolled environments, 2.0% of the ANSI limit is reached at two meters above the ground at the base of the tower.

The authorized WOGL auxiliary antenna system will be mounted with its center of radiation 235.5 meters (772.6 feet) above the ground at the tower location and will operate with an effective radiated power of 10.0 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 WOGL auxiliary antenna system contribute 0.0074 mw.¹⁰ Based on exposure limitations for a controlled environment, 0.7% of the allowable ANSI limit is reached at two

8) This level of field occurs at 84.0 meters out from the base of the tower and is considered worst case.

9) This level of field occurs at 84.0 meters out from the base of the tower and is considered worst case.

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

meters above the ground at the base of the tower. For uncontrolled environments, 3.7% of the ANSI limit is reached at two meters above the ground at the base of the tower.

The WCAU authorized Channel 10 antenna system is mounted with its center of radiation 367.2 meters (1,205.0 feet) above the ground at the tower location and operates with an effective radiated power of 137.0 kilowatts in the horizontal plane. At two meters, the height of an average person, above the ground at the base of the tower, the WCAU antenna system contributes 0.0206 mw. Based on exposure limitations for a controlled environment, 2.1% of the allowable ANSI limit is reached at two meters above the ground at the base of the proposed tower. For uncontrolled environments, 10.3% of the ANSI limit is reached at two meters above the ground at the base of the tower.

The WCAU-DT Channel 67 antenna system is mounted with its center of radiation 352.1 meters (1,155.0 feet) above the ground at the tower location and operates with an effective radiated power of 560 kilowatts in the horizontal plane. At two meters, the height of an average person, above the ground at the base of the tower, the WCAU-DT antenna system contributes 0.0611 mw. Based on exposure limitations for a controlled environment, 2.3% of the allowable ANSI limit is reached at two meters above the ground at the base of the tower. For uncontrolled environments, 11.6% of the ANSI limit is reached at two meters above the ground at the base of the tower.

The WPSG-DT Channel 32 antenna system is mounted with its center of radiation 376.0 meters (1,234.0 feet) above the ground at the tower location and will operate with an effective radiated power of 250.0 kilowatts in the horizontal plane. At two meters, the height of an average person, above the ground at the base of the tower, the WPSG-DT antenna system contributes 0.0239 mw. Based on exposure limitations for a controlled environment, 1.2% of the allowable ANSI limit is reached at two meters above the ground at the base of the tower. For uncontrolled environments, 6.2% of the ANSI limit is reached at two meters above the ground at the base of the tower.

The WYBE Channel 35 antenna system is mounted with its center of radiation 319.0 meters (1,047.0 feet) above the ground at the tower location and operates with an effective radiated power of 1,000 kilowatts in the horizontal plane. As denoted on Page 31, OET Bulletin Number 65, Supplement A, typical UHF antenna systems have a relative field value of 0.1 for downward radiation. As such, a field value of 0.1 or 10.0 kilowatts is used for WYBE's contribution to the radio frequency environment. At two meters, the height of an average person, above the ground at the base of the tower, the WYBE antenna system contributes 0.0021 mw. Based on exposure limitations for a controlled environment, 0.1% of the allowable ANSI limit is reached at two meters above the ground at the base of the tower. For uncontrolled environments, 0.5% of the ANSI limit is reached at two meters above the ground at the base of the tower.

The WYBE-DT Channel 34 antenna system is mounted with its center of radiation 319.0 meters (1,047.0 feet) above the ground at the tower location and operates with an effective

radiated power of 500.0 kilowatts in the horizontal plane. At two meters, the height of an average person, above the ground at the base of the tower, the WYBE-DT antenna system contributes 0.0665 mw. Based on exposure limitations for a controlled environment, 3.4% of the allowable ANSI limit is reached at two meters above the ground at the base of the tower. For uncontrolled environments, 16.9% of the ANSI limit is reached at two meters above the ground at the base of the tower.

The WPHL-DT Channel 54 antenna system is mounted with its center of radiation 330.4 meters (1,084.0 feet) above the ground at the tower location and operates with an effective radiated power of 500 kilowatts in the horizontal plane. At two meters, the height of an average person, above the ground at the base of the tower, the WPHL-DT antenna system contributes 0.0620 mw. Based on exposure limitations for a controlled environment, 2.6% of the allowable ANSI limit is reached at two meters above the ground at the base of the tower. For uncontrolled environments, 13.1% of the ANSI limit is reached at two meters above the ground at the base of the tower.

Combining the contributions of WRDW-FM, WOGL (CP and auxiliary), WCAU, WCAU-DT, WPSG-DT, WYBE, WYBE-DT, and WPHL-DT, a total of 66.3% of the uncontrolled environment limit is reached at two meters above ground at the base of the tower. Since this level for uncontrolled environments is well below the 100% limit defined by the Commission, the proposed WRDW-FM facility is believed to be in compliance with the radio

frequency radiation exposure limits as is required by the Federal Communications Commission. Further, WLLP will post warning signs in the vicinity of the tower warning of potential radio frequency radiation hazards at the site. In addition, WLLP 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.