

**AMEND BPH-20040303ABJ**  
**WXTU LICENSE LIMITED PARTNERSHIP**  
**WXTU (FM) RADIO STATION**  
**CH 223B - 92.5 MHZ - 15.0 KW**  
**PHILADELPHIA, PENNSYLVANIA**  
**July 2004**

**EXHIBIT C**

**Radio Frequency Assessment**

At the present/proposed WXTU 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 stations WRTI, WEJM, WWDB-FM, WBEB, WMGK and TV stations WXTV-LP, WPSG-DT and WPSG, and utilizes the appropriate formulas contained in the Bulletin.<sup>5</sup>

The present/proposed WXTU antenna system is mounted with its center of radiation 266.7 meters (875.0 feet) above the ground at the proposed tower location and operates with an effective radiated power of 15.0 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 WXTU antenna system contribute 0.0085 mw.<sup>6</sup> Based on exposure limitations for a

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5) The FM Model program was used to calculate the FM stations' contributions. The EPA single bay dipole was used unless otherwise stated.

6) This level of field occurs at 71 meters out from the base of the tower and is considered worst case.

controlled environment, 0.9% of the allowable ANSI limit is reached at two meters above the ground at the base of the proposed tower. For uncontrolled environments, 4.3% of the ANSI limit is reached at two meters above the ground at the base of the tower.

The WRTI antenna system is mounted with its center of radiation 300.2 meters (985.2 feet) above the ground at the tower location and operates with an effective radiated power of 12.5 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 WRTI antenna system contributes 0.0056 mw.<sup>7</sup> Based on exposure limitations for a controlled environment, 0.6% of the allowable ANSI limit is reached at two meters above the ground at the base of the proposed tower. For uncontrolled environments, 2.8% of the ANSI limit is reached at two meters above the ground at the base of the tower.

The WEJM authorized antenna system is mounted with its center of radiation 342.3 meters (1,123.0 feet) above the ground at the tower location and operates with an effective radiated power of 8.9 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 WEJM antenna system contributes 0.0030 mw.<sup>8</sup> Based on exposure limitations for a controlled environment, 0.3% of the allowable ANSI limit is reached at two meters above the ground at the base of the proposed tower. For uncontrolled environments, 1.5% of the ANSI limit is reached at two meters above the ground at the base of the tower.

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7) This level of field occurs at 80 meters out from the base of the tower and is considered worst case.

8) This level of field occurs at 92 meters out from the base of the tower and is considered worst case.

The WWDB-FM antenna system is mounted with its center of radiation 256.3 meters (840.8 feet) above the ground at the tower location and operates with an effective radiated power of 17.0 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 WWDB-FM antenna system contributes 0.0105 mw.<sup>9</sup> Based on exposure limitations for a controlled environment, 1.1% of the allowable ANSI limit is reached at two meters above the ground at the base of the proposed tower. For uncontrolled environments, 5.3% of the ANSI limit is reached at two meters above the ground at the base of the tower.

The WBEB antenna system is mounted with its center of radiation 280.3 meters (919.6 feet) above the ground at the tower location and operates with an effective radiated power of 14.0 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 WBEB antenna system contributes 0.0072 mw.<sup>10</sup> Based on exposure limitations for a controlled environment, 0.7% of the allowable ANSI limit is reached at two meters above the ground at the base of the proposed tower. For uncontrolled environments, 3.6% of the ANSI limit is reached at two meters above the ground at the base of the tower.

The WMGK main antenna system is mounted with its center of radiation 342.3 meters (1,123.0 feet) above the ground at the tower location and operates with an effective radiated power of 8.9 kilowatts in the horizontal and vertical planes (circularly polarized). At two

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9) This level of field occurs at 68 meters out from the base of the tower and is considered worst case.

10) This level of field occurs at 75 meters out from the base of the tower and is considered worst case.

meters, the height of an average person, above the ground at the base of the tower, the WMGK antenna system contributes 0.0031 mw.<sup>11</sup> Based on exposure limitations for a controlled environment, 0.3% of the allowable ANSI limit is reached at two meters above the ground at the base of the proposed tower. For uncontrolled environments, 1.6% of the ANSI limit is reached at two meters above the ground at the base of the tower.

The WXTV-LP TV antenna system is mounted with its center of radiation 152.3 meters (499.7 feet) above the ground at the tower location and operates with an effective radiated power of 10.9 kilowatts in the horizontal plane. At two meters, the height of an average person, above the ground at the base of the tower, the WXTV-LP antenna system contributes 0.0100 mw. Based on exposure limitations for a controlled environment, 0.5% of the allowable ANSI limit is reached at two meters above the ground at the base of the proposed tower. For uncontrolled environments, 2.7% of the ANSI limit is reached at two meters above the ground at the base of the tower.

The WPSG-DT antenna system is to be mounted with its center of radiation 286.3 meters (939.3 feet) above the ground at the tower location and will operate with an effective radiated power of 107.0 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 will contribute 0.0274 mw. Based on exposure limitations for a controlled environment, 1.4% of the allowable

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11) This level of field occurs at 92 meters out from the base of the tower and is considered worst case.

ANSI limit is reached at two meters above the ground at the base of the proposed tower. For uncontrolled environments, 7.1% of the ANSI limit is reached at two meters above the ground at the base of the tower.

The WPSG NTSC antenna system is mounted with its center of radiation 345.3 meters (1132.8 feet) above the ground at the tower location and operates with an effective radiated power of 5000.0 kilowatts in the horizontal plane.<sup>12</sup> 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 50.0 kilowatts is used for WPSG'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 WPSG antenna system contributes 0.0088 mw. 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, 1.8% of the ANSI limit is reached at two meters above the ground at the base of the tower.

Combining the contributions of WXTU, WRTI, WEJM, WWDB-FM, WBEB, WMGK, WXTV-LP, WPSG-DT and WPSG, a total of 30.7% 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 WXTU

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12) There is also an outstanding construction permit for WPSG which slightly raises the center of radiation of the antenna and lowers the effective radiated power to 3,470 kilowatts. Since the licenced facility is slightly lower with a higher effective radiated power, it was used for the radio frequency radiation compliance review as a worst case contribution.

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.