

**APPLICATION FOR STATION LICENSE**  
**GOLDEN ISLES BROADCASTING, LLC**  
**WRJY FM RADIO STATION**  
**CH 281A - 104.1 MHZ - 3.9 KW**  
**BRUNSWICK, GEORGIA**  
**October 2015**

**EXHIBIT D**

**Radio Frequency Assessment**

This study has been made to determine whether WRJY, as authorized in BPH-20150602AAK, 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 WXMK, WBQO, WAYR-FM, WWZR-LP, W248AH, and W297BN, and utilizes the appropriate formulas contained in the Bulletin.<sup>1</sup>

The authorized WRJY facility utilizes a common antenna system with WXMK and WBQO. The antenna is mounted with a center of radiation 122.1 meters (400.6 feet) above ground and is authorized to operate with an effective radiated power of 3.9 kilowatts in the horizontal and vertical polarizations. The WRJY antenna is a Shively 6017 three (3) bay full wavelength spaced antenna. Since this antenna is not specifically addressed in FMModel, a single bay EPA dipole was used to determine the radio frequency field contribution. At 2.0 meters above the ground at the base of the tower, the height of an average person, WRJY will

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

deliver 0.0109 mw/cm<sup>2</sup>.<sup>2</sup> Based on exposure limitations for a controlled environment of 1.000 mw/cm<sup>2</sup> this represents 1.1% of the allowed contribution. For uncontrolled environments this level of field represents 5.5% of the 0.200 mw/cm<sup>2</sup> limit.

The authorized WXMK facility utilizes a common antenna system with WRJY and WBQO. The antenna is mounted with a center of radiation 122.1 meters (400.6 feet) above ground and is authorized to operate with an effective radiated power of 15.0 kilowatts in the horizontal and vertical polarizations. The WXMK antenna is a Shively 6017 three (3) bay full wavelength spaced antenna. Since this antenna is not specifically addressed in FMModel, a single bay EPA dipole was used to determine the radio frequency field contribution. At 2.0 meters above the ground at the base of the tower, the height of an average person, WXMK will deliver 0.0419 mw/cm<sup>2</sup>.<sup>3</sup> Based on exposure limitations for a controlled environment of 1.000 mw/cm<sup>2</sup> this represents 4.2% of the allowed contribution. For uncontrolled environments this level of field represents 21% of the 0.200 mw/cm<sup>2</sup> limit.

The authorized WBQO facility utilizes a common antenna system with WRJY and WXMK. The antenna is mounted with a center of radiation 122.1 meters (400.6 feet) above ground and is authorized to operate with an effective radiated power of 7.5 kilowatts in the horizontal and vertical polarizations. The WBQO antenna is a Shively 6017 three (3) bay full wavelength spaced antenna. Since this antenna is not specifically addressed in FMModel, a single bay EPA dipole was used to determine the radio frequency field contribution. At 2.0

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- 2) This level of field occurs at 33.0 meters out from the base of the tower and is considered a worst case contribution.
- 3) See Footnote #2, supra.

meters above the ground at the base of the tower, the height of an average person, WBQO will deliver  $0.0209 \text{ mw/cm}^2$ .<sup>4</sup> Based on exposure limitations for a controlled environment of  $1.000 \text{ mw/cm}^2$  this represents 2.1% of the allowed contribution. For uncontrolled environments this level of field represents 10.5% of the  $0.200 \text{ mw/cm}^2$  limit.

The authorized WAYR-FM facility utilizes a directional antenna system mounted with a center of radiation of 98.0 meters (321.5 feet) above ground and is authorized to operate with an effective radiated power of 14.0 kilowatts in the horizontal and vertical polarizations. The WAYR-FM antenna is a PSIFM-4-DA four (4) bay full wavelength spaced antenna. This is not a rototiller style antenna and is not specifically addressed in FMModel; therefore, a single bay EPA dipole was used to determine the radio frequency field contribution. At 2.0 meters above the ground at the base of the tower, the height of an average person, WAYR-FM will deliver  $0.0611 \text{ mw/cm}^2$ .<sup>5</sup> Based on exposure limitations for a controlled environment of  $1.000 \text{ mw/cm}^2$  this represents 6.1% of the allowed contribution. For uncontrolled environments this level of field represents 30.6% of the  $0.200 \text{ mw/cm}^2$  limit.

The authorized WWZR-LP facility utilizes a non-directional antenna system mounted with a center of radiation 40.0 meters (131 feet) above ground and is authorized to operate with an effective radiated power of 0.05 kilowatt in the horizontal polarization. The WWZR-LP antenna is a BEXT TFC-2K single bay (full wavelength spaced) antenna. This antenna is not specifically addressed in FMModel; therefore, a single bay EPA dipole was used to determine the

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4) See Footnote #2, supra.

5) This level of field occurs at 25.0 meters out from the base of the tower and is considered a worst case contribution.

radio frequency field contribution. In addition, it is assumed that WWZR-LP operates in the vertical and horizontal planes. At 2.0 meters above the ground at the base of the tower, the height of an average person, WWZR-LP will deliver  $0.0014 \text{ mw/cm}^2$ .<sup>6</sup> Based on exposure limitations for a controlled environment of  $1.000 \text{ mw/cm}^2$  this represents 0.14% of the allowed contribution. For uncontrolled environments this level of field represents 0.7% of the  $0.200 \text{ mw/cm}^2$  limit.

The authorized W248AH translator facility utilizes a non-directional antenna system mounted with a center of radiation 40.0 meters (131 feet) above ground and is authorized to operate with an effective radiated power of 0.12 kilowatt in the horizontal and vertical polarization. The W248AH antenna is an ERI 100 series single bay (full wavelength spaced) antenna. This antenna is not specifically addressed in FMModel; therefore, a single bay EPA dipole was used to determine the radio frequency field contribution. At 2.0 meters above the ground at the base of the tower, the height of an average person, W248AH will deliver  $0.00334 \text{ mw/cm}^2$ .<sup>7</sup> Based on exposure limitations for a controlled environment of  $1.000 \text{ mw/cm}^2$  this represents 0.34% of the allowed contribution. For uncontrolled environments this level of field represents 1.7% of the  $0.200 \text{ mw/cm}^2$  limit.

The authorized but not constructed W297BN translator facility utilizes a non-directional antenna system that is mounted with a center of radiation 40.0 meters (131 feet) above ground and is authorized to operate with an effective radiated power of 0.12 kilowatt in the horizontal

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6) This level of field occurs at 10.5 meters out from the base of the tower and is considered a worst case contribution.

7) See Footnote #6, supra.

and vertical polarization. The W297BN antenna is an ERI 100 series single bay (full wavelength spaced) antenna. This antenna is not specifically addressed in FMModel; therefore, a single bay EPA dipole was used to determine the radio frequency field contribution. At 2.0 meters above the ground at the base of the tower, the height of an average person, W297BN will deliver 0.00334 mw/cm<sup>2</sup>.<sup>8</sup> Based on exposure limitations for a controlled environment of 1.000 mw/cm<sup>2</sup> this represents 0.34% of the allowed contribution. For uncontrolled environments this level of field represents 1.7% of the 0.200 mw/cm<sup>2</sup> limit.

Combining the contributions to the uncontrolled environment around the tower base of WRJY (0.0109 mw/cm<sup>2</sup>, 5.5%); WXMK (0.0419 mw/cm<sup>2</sup>, 21%); WBQO (0.0209 mw/cm<sup>2</sup>, 10.5%); WAYR-FM (0.0611 mw/cm<sup>2</sup>, 30.6%); WWZR-LP (0.0014 mw/cm<sup>2</sup>, 0.7%); W248AH (0.00334 mw/cm<sup>2</sup>, 1.7%); and W297BN (0.00334 mw/cm<sup>2</sup>, 1.7%), a total of 0.143 mw/cm<sup>2</sup> or 71.1% of the 0.200 mw/cm<sup>2</sup> limit is reached. Since this level is well below the 100% limit defined by the Commission, the WRJY facility is believed to be in compliance with the radio frequency radiation exposure limits as required by the Federal Communications Commission. Further, Golden Isles has insured that warning signs are posted in the vicinity of the tower warning of potential radio frequency radiation hazards at the site and the base of the tower is within a locked fence enclosure. In addition, Golden Isles 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.

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8) See Footnote #6, supra.