

**MINOR CHANGE APPLICATION**  
**POSITIVE ALTERNATIVE RADIO, INC.**  
**WJYJ (FM) RADIO STATION**  
**CH 213B - 90.5 MHZ - 47.0 KW (DA)**  
**FREDERICKSBURG, VIRGINIA**  
**April 2012**

**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 WWUZ, and utilizes the appropriate formulas contained in the OET Bulletin.<sup>1</sup>

The proposed WJYJ antenna system will be mounted with its center of radiation 130.5 meters (418.1 feet) above the ground at the tower location and will operate with an effective radiated power of 47.0 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 WJYJ antenna system will contribute 0.1145 mw/cm<sup>2</sup>.<sup>2</sup> Based on exposure limitations for a controlled environment, 11.5% of the allowable ANSI limit is reached at 2.0 meters above the ground at the base of the tower. For uncontrolled environments, 57.3% of the ANSI limit is reached at 2.0 meters above the ground at the base of the tower.

- 
- 1) The contribution of the FM station was calculated with the FMModel program. The EPA dipole antenna was used for calculations unless otherwise noted.
  - 2) This level of contribution occurs at 35.0 meters out from the tower and is considered worst case.

The authorized WWUZ antenna system is mounted with its center of radiation 147.0 meters (482.3 feet) above the ground at the tower location and operates with an effective radiated power of 2.95 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 WWUZ antenna system contributes  $0.0056 \text{ mw/cm}^2$ .<sup>3</sup> Based on exposure limitations for a controlled environment, 0.6% of the allowable ANSI limit is reached at 2.0 meters above the ground at the base of the tower. For uncontrolled environments, 2.8% of the ANSI limit is reached at 2.0 meters above the ground at the base of the tower.

Combining the contributions of WJYJ and WWUZ, a total of 60.1% is reached at 2.0 meters above the ground at the base of the existing tower. Since this level for uncontrolled environments is below the 100% limit defined by the Commission, the proposed WJYJ facility is believed to be in compliance with the radio frequency radiation exposure limits as required by the Federal Communications Commission. Further, PAR will post warning signs in the vicinity of the tower warning of potential radio frequency radiation hazards at the site. In addition, PAR 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.

---

3) This level of contribution occurs at 39.0 meters out from the tower and is considered worst case.