

**MINOR CHANGE APPLICATION**  
**ARSO RADIO CORPORATION**  
**WPRM-FM RADIO STATION**  
**CH 256B - 99.1 MHZ - 25.0 KW**  
**SAN JUAN, PUERTO RICO**  
**March 2006**

**EXHIBIT A**

**Radio Frequency Assessment**

Since the existing WPRM-FM tower is a relatively short tower, near two other FM stations also mounted on short towers, 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 WIDA-FM and WMEG,<sup>2</sup> and utilizes the appropriate formulas contained in the Bulletin.<sup>3</sup>

The WPRM-FM main antenna system is located atop Cerro La Santa. There are numerous FM and TV transmitters located in the general area. Each tower site and associated transmitter building are fenced individually. The fence surrounding the WPRM-FM facility is posted with RF warning signs, as is the building within the compound. The access road to the

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- 2) These stations are located 40 meters from the WPRM-FM antenna system, but are considered co-located for this review. Stations at or beyond 60 meters were not considered.
  - 3) The FM Model program was used to calculate the FM stations' contributions. The EPA single bay dipole was used unless otherwise stated.

site, which is located more than 1,000 feet from the WPRM-FM towers, is likewise posted with RF warning signs.<sup>4</sup>

The WPRM-FM main six bay antenna system is mounted with its center of radiation 58.1 meters (190.6 feet) above the ground at the existing tower location and operates with an effective radiated power of 25.0 kilowatts in the horizontal and vertical planes (circularly polarized). The WPRM-FM antenna is an Electronics Research, Inc., rototiller style system (FCC/EPA type #3). At 2.0 meters, the height of an average person above the ground at the base of the tower, the WPRM-FM antenna system contributes  $0.0362 \text{ mw/cm}^2$ .<sup>5</sup> Based on ex2.0 meters above the ground at the base of the tower. For uncontrolled environments, 18.1% of the ANSI limit is reached at 2.0 meters above the ground at the base of the tower.

The WIDA-FM three bay antenna system is mounted with its center of radiation 57.0 meters (187.0 feet) above the ground at the existing tower location and operates with an effective radiated power of 25.0 kilowatts in the horizontal and vertical planes (circularly polarized). The WIDA-FM antenna is a Jampro JSCP, Double V style (FCC/EPA type #2). At 2.0 meters, the height of an average person above the ground at the base of the tower, the WIDA-FM antenna system contributes  $0.0857 \text{ mw/cm}^2$ .<sup>6</sup> Based on exposure limitations for a controlled environment, 8.6% of the allowable ANSI limit is reached at 2.0 meters above the ground at the

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- 4) RF warning signs are also posted on the fences surrounding the other users of the site.
  - 5) This level of field occurs at 18 meters out from the base of the tower and is considered worst case.
  - 6) This level of field occurs at 25 meters out from the base of the tower and is considered worst case.

base of the tower. For uncontrolled environments, 42.9% of the ANSI limit is reached at 2.0 meters above the ground at the base of the tower.

The WMEG six bay antenna system is mounted with its center of radiation 58.0 meters (190.3 feet) above the ground at the existing tower location and operates with an effective radiated power of 25.0 kilowatts in the horizontal and vertical planes (circularly polarized). The WMEG antenna is a Jampro JSCP, Double V style (FCC/EPA type #2). At 2.0 meters, the height of an average person above the ground at the base of the tower, the WMEG antenna system contributes  $0.0401 \text{ mw/cm}^2$ .<sup>7</sup> Based on exposure limitations for a controlled environment, 4.0% of the allowable ANSI limit is reached at 2.0 meters above the ground at the base of the tower. For uncontrolled environments, 20.1% of the ANSI limit is reached at 2.0 meters above the ground at the base of the tower.

Combining the contributions of WPRM-FM, WIDA-FM, and WMEG, a total of 81.1% of the uncontrolled environment limit is reached at 2.0 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 WPRM-FM facility is believed to be in compliance with the radio frequency radiation exposure limits as is required by the Federal Communications Commission. Further, Arso has posted warning signs in the vicinity of the tower warning of potential radio frequency radiation hazards at the site. In addition, Arso will reduce the power of the proposed

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7) This level of field occurs at 20 meters out from the base of the tower and is considered worst case.

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.

It is noted that FM stations in Puerto Rico renewed their licenses in 2003. At that time, the stations at this site conducted RF measurements with all stations operational and found no levels in excess of the uncontrolled limits outside the fenced enclosures. As such, it is believed that the WPRM-FM site is in compliance with the RF exposure requirements.<sup>8</sup>

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8) As indicated in the application for permit, the combination of the nearby facilities to the WPRM-FM auxiliary facility did not mathematically exceed the uncontrolled limits. Additionally, a gate is being installed at the base of the access road as a security measure. However, it will prevent the general public from having access to the site.