



## Environmental Considerations

### Radiofrequency Impact

Effective October 15, 1997, the FCC adopted its current guidelines and procedures for evaluating environmental effects of radiofrequency emissions. The current guidelines are generally based on recommendations by the National Council on Radiation Protection and Measurements (NCRP) in NCRP Report No. 86 (1986), and by the American National Standards Institute and the Institute of Electrical and Electronic Engineers, Inc. (IEEE) in ANSI/IEEE C95.1-1992 (IEEE C95.1-1991). The FCC guidelines provide a maximum permissible exposure (MPE) level for occupational or “controlled” situations, as well as “uncontrolled” situations that apply in cases that affect the general public. The FCC’s Office of Engineering and Technology (OET) Commission issued a technical bulletin (OET Bulletin No. 65) entitled, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields" (Edition 97-01, August 1997), to aid in the determination of whether FCC-regulated transmitting facilities, operations or devices comply with limits for human exposure to radiofrequency electromagnetic fields as adopted by the Commission in 1996. The Bulletin contains updated and additional technical information for evaluating compliance with the current FCC policies and guidelines.

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#### Co-located Facilities

Radio station WAVA(FM) proposes herein to install a four-bay, full wavelength spaced, Jampro antenna for auxiliary use on an existing tower. The WAVA(FM) auxiliary facility will operate, when necessary, with an ERP of 34 kW at an antenna radiation centerline height of 81 meters above ground level ("RCAGL"). The shared tower also supports the WTGB-FM auxiliary antenna (FCC File No. BXLH-20021004AAF, Channel 234B, 17.0 kW ERP, 80 meters RCAGL). Further, WAVA(AM), Arlington, VA (780 kHz, 5 kW, ND-D), has an application for construction permit pending to use the instant transmitter site (See FCC File No. BP-20080207ABA).

The current FCC MPE level for "uncontrolled" environments is 0.2 milliwatt per centimeter squared ( $200 \mu\text{W}/\text{cm}^2$ ) for FM facilities. The MPE level for FM facilities in a "controlled" environment is  $1000 \mu\text{W}/\text{cm}^2$ . At WAVA's frequency of 780 kHz, Section 1.1310 of the FCC rules sets forth the limit for MPE for both General Population/Uncontrolled and Occupational/Controlled exposure as 614 V/m (E-Field) and 1.63 A/m (H-Field).

#### Tower And Property Fencing

Access to the tower is restricted by means of a protective fence and a locked gate. At its closest point, the tower fence is 15 feet 6 inches from the shared tower. RFR warning signs are posted at appropriate intervals.

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#### RFR Measurements

According to RFR measurement data on file with the FCC (See WTGB-FM, Application for Auxiliary Construction Permit, FCC File No. BXPB-20020612AAN), on-site measurements of WTGB-FM revealed a maximum power density which represented 28% of the MPE limit for the general public. Therefore, the instant analysis will assume this value as the maximum contribution for the co-located WTGB-FM auxiliary facility.

#### Proposed WAVA(AM) Electric Field Strength and Magnetic Field Strength

As stated above, WAVA(AM) has an application pending to use the tower proposed herein on a nondirectional basis during daytime hours. Specifically, the pending WAVA(AM) application specifies operation on 780 kHz with 5.0 kW during daytime hours. The nondirectional tower is approximately 0.25 wavelengths in height at 780 kHz. As stated above, the tower is fenced such that the minimum distance between the tower base and the fence is 15.5 feet (4.7 meters). Accordingly, the WAVA power density was determined using a power of 5.0 kW and a fence distance of 4.7 meters using Figure 2 of Supplement A of the Revised OET Bulletin 65.

Pursuant to Figure 2, at the nearest point of public access to the fence which surrounds the tower base, the proposed WAVA facility is predicted to contribute an Electric Field of 140.87 V/m and a Magnetic Field of 0.0805 A/m. At WAVA's frequency of 780 kHz, this represents 22.94% of the E-Field limit and 4.93% of the H-Field limit in both a

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controlled (occupational) RFR environment and in an uncontrolled (general public) RFR environment. For a worst-case analysis, the WAVA(AM) E-Field value will be considered herein for the evaluation of the multiple use transmitter site.

Proposed WAVA-FM Auxiliary Predicted Power Density

The proposed WAVA-FM auxiliary facility will operate with a Jampro JSCP Series, 4-bay, full wavelength spaced, nondirectional antenna. Based on the FCC's FM Model Program, which considers the specific antenna type and predicts the power density at two meters above ground level, the proposed WAVA-FM auxiliary facility is predicted to produce a maximum power density of 49.7 microwatts per square centimeter. This represents only 24.9% of the FCC Guideline value for uncontrolled RFR environments.

Cumulative Predicted Power Density - Uncontrolled RFR Environment

As discussed above, the two co-located FM facilities produce a maximum cumulative power density which represents only 52.9% of the FCC's guideline value in uncontrolled RFR environments. The worst-case RFR contribution from the proposed WAVA(AM) facility is a result of the WAVA E-Field which represents 22.94% of the FCC's guideline value in uncontrolled RFR environments. Considered together, the three co-located facilities, operating simultaneously would produce a worst-case field at the fence

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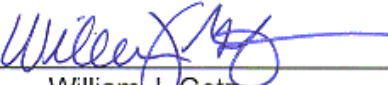
which represents only 75.84% of the FCC's guideline value in uncontrolled RFR environments.

Occupational Safety

The applicant will insure the protection of station personnel or tower contractors working in the vicinity of the WAVA-FM auxiliary transmitting antenna. The applicant will reduce power and/or cease operation during times of service or maintenance of the transmission systems as necessary to avoid potentially harmful exposure to personnel. In addition, the applicant will become party to any agreement among the site users to further ensure the safety of workers and the general public.

In light of the above, the proposed facility should be categorically excluded from RF environmental processing under Section 1.1307(b) of the Commission's Rules.

DATED: March 5, 2008

  
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