

WFAE (FM) Charlotte, North Carolina

RFR Evaluation under OET-65

The proposed facilities, when evaluated under worst case methods in OET-65 would create 0.0637 mW/cm^2 at ground level, which is 32% of the allowable exposure for uncontrolled/public areas. A five level antenna array is proposed. The antenna will have reduced downward radiation compared to the worst case. The tower also supports WTVI-TV, channel 42 (analog) and WTVI-DT, channel 11 (digital) and WRFX (FM).

The proposed WFAE antenna and the WRFX antenna were evaluated using the program FM Model developed by the EPA and the FCC. WRFX uses a Jampro JADP-3/3-1[10] panel antenna. WFAE proposes an ERI five level panel. The worst case dipole element was used in FM Model. The RF contributions from each station were added out to a distance of 400 meters from the tower base. The maximum predicted combined density is $.0735 \text{ mW/m}^2$ at a distance of 61.6 meters from the tower base, or 36.8% of the maximum allowable exposure for uncontrolled/public areas.

WTVI is a high power UHF analog television station. The specific antenna downward radiation factor is unknown. Typical values for UHF stations are in the range of 5% to 10%. As a conservative calculation, if the value were 50% (half of the maximum ERP directed toward the ground) with an aural ERP of 22% of the visual ERP, the ground level contribution would be $.104 \text{ mW/cm}^2$ or 24.3% of the maximum allowable exposure for uncontrolled/public areas.

WTVI has authorized digital television facilities at the site with a pending construction permit modification to increase power. Only the highest power facilities were studied. At a factor of 100% downward, the WTVI digital facilities contribute $.0009 \text{ mW/cm}^2$ or .046% of the maximum allowable exposure for uncontrolled/public areas.

The total RF energy using the conservative assumptions stated above and the assumption that the maximum exposure points coincide is provided in the table below.

Source	Exposure Contribution (percentage)
FM	36.8%
WTVI Analog	24.3%
WTVI Dig	0.5%
	61.6%

The site is fenced and marked with signs identifying the presence of RF energy. University Radio Foundation, Inc. will remove power from antenna when personnel are on the tower avoid exposing workers to non-ionizing radiation.