

ENVIRONMENTAL STATEMENT

The proposed modification has been analyzed with respect to OET Bulletin 65 Edition 97-01 entitled *Evaluating Compliance With FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields*. The instant application proposes operation of WRTI at an antenna at height of 346 meters above ground level (AGL) with an effective radiated power (ERP) of 7.7 kilowatts in both horizontal and vertical polarizations. Using formula (9) in the OET bulletin, the free-space (worst-case) power density is calculated as follows:

$$S = \frac{33.4 \times \text{ERP}}{R^2}$$

$$S = \frac{33.4 \times (7700V + 7700H)}{(346 - 2)^2}$$

$$S = 4.34 \mu\text{W}/\text{cm}^2$$

where: S = power density in $\mu\text{W}/\text{cm}^2$
ERP = power in watts (vertical and horizontal components added together)
R = distance in meters (subtract 2m to account for height of person)

This calculation does not take into account the vertical (elevation) pattern of the antenna, and therefore represents a worst-case power density which assumes uniform radiation characteristics at all elevation angles. The resulting value, $4.34 \mu\text{W}/\text{cm}^2$ represents only 2.2% of the $200 \mu\text{W}/\text{cm}^2$ maximum allowable exposure limit for uncontrolled access.

The proposed facility, as well as the currently-licensed facility, transmit from antenna towers located in the Roxborough section of Philadelphia. With a total of 11 towers clustered within a 1 kilometer radius, Roxborough is the recognized “tower farm” for the Philadelphia metropolitan area. These towers host a total of 18 analog television and television translator stations, 10 digital television stations, and 17 FM and FM translator stations. In addition, there are countless non-broadcast transmitters operating from these towers, including but not limited to Part 22 paging, radiotelephone, and cellular radiotelephone, Part 24 personal communication services, Part 90 land mobile, Part 97 amateur, and Part 101 microwave. Unlike the broadcast stations, these non-broadcast transmitters, most of which are categorically excluded from routine evaluation, contribute a negligible amount to the total power density at or near ground level by virtue of their high antenna heights and low power levels.

Due to the large number of transmitters operating in this vicinity, modeling each emitter individually to determine its theoretical contribution to the overall radiofrequency environment was deemed impractical. Recently, however, field measurements were made in the vicinity of the proposed tower using a calibrated, broadband, radiofrequency survey instrument with a shaped-response probe to verify compliance with the applicable standards. The results of those field measurements indicate that at no location in the vicinity of the tower were levels in excess of 5% of the

uncontrolled maximum permissible exposure (MPE) limit found. A complete copy of this report, dated March 28, 2007, will be made available to the Commission upon request.

Assuming that the proposed facility contributes an additional 4.34% to the total exposure level, the resulting level is still less than 10% of the uncontrolled MPE. In reality, the 4.34% contribution of the proposed facility is an over-estimate as the elevation pattern of the antenna is not considered the calculations detailed above. Furthermore, one of the contributing emitters in the aforementioned field measurements is the presently-operating WRTI facility which is located only 0.27 km from the proposed tower site. Once the proposed facility is constructed, the transmitter at the former site will no longer contribute to the total radiofrequency environment, therefore reducing the predicted level further.

The tower and transmitter building are enclosed by a chain-link fence with locking gate. The roadway leading up to the transmitter site is gated and locked. The antenna site is posted with appropriate signage warning that non-ionizing radiation in excess of the aforementioned limits may be experienced at some locations on the tower, and also includes contact information and instructions such that power may be removed from the antennae should a worker require access to areas in excess of the controlled access limits. The WRTI transmitter will be reduced in power or turned off completely when work is being done on the tower to avoid exposure to non-ionizing radiation in excess of the prescribed limits. The site management and all tenants cooperate in performing power reductions and shutdowns when necessary to protect the safety of workers on the tower as they are legally required pursuant to FCC and OSHA regulations.

Based on the analyses above, it is concluded that the proposed facility is in full compliance with non-ionizing radiation exposure limits and applicable safety standards and regulations.

The proposed antenna tower is an existing structure. There will be no change in the height of the tower. The antenna site is not in a sensitive environmental area. The instant application has no other significant environmental impact. As such, the proposed facility does not require further analysis under 47 CFR §1.1307, and is therefore excluded from further processing per 47 CFR §1.1306.