

RADIOFREQUENCY EMISSION CONSIDERATIONS:

Using the methods and formulas specified in OET Bulletin No. 65 and the radiofrequency emission standards revised with implementation of the Report and Order in FCC 96-326, the impact of the proposed WQRT upgrade has been evaluated for its environmental impact. First for the uncontrolled environment at ground level, assuming a worst-case of 3.2 kW horizontal and vertical with total ERP (non-directional) radiated downward from the antenna's bottom bay, the maximum RF power density is computed to be:

$$E = \frac{(0.64)(1.64)(3200 \text{ w.} + 3200 \text{ w.})(1000)}{3.1416(10,393 \text{ cm.})^2}$$

$$E = 0.0198 \text{ mw/cm}^2 \quad \text{or} \quad 9.90\% \text{ of the allowed } 0.2 \text{ mw/cm}^2 \text{ specified for uncontrolled environments.}$$

Therefore, at ground level, compliance with RF power density standards for members of the general public is met with considerable headroom.

Next, study has been made for controlled environments at locations on the WQRT supporting structure. An elevation point is chosen 250 feet (76.2 m.) AGL, a point which is also 91 feet (27.74 meters) below the proposed antenna's bottom bay. Using the same analytical methods as previous with the 1 mw/cm² RF power density limit established for controlled environments, the calculated maximum RF power density at this point is computed to be:

$$E = \frac{(0.64)(1.64)(3200 \text{ w.} + 3200 \text{ w.})(1000)}{3.1416(2774 \text{ cm.})^2}$$

$$E = 0.2779 \text{ mw/cm}^2 \quad \text{or} \quad 27.79\% \text{ of the allowed } 1 \text{ mw/cm}^2 \text{ specified for controlled environments.}$$

At this elevation, maximum calculated RF power density stands below the allowed limit.

At tower elevations beyond the 76.2 meter (250') AGL point, Catt Communications, Inc. certifies by this filing that whenever maintenance is performed on the WQRT antenna or supporting structure, management will either extinguish transmitter power or reduce such power to calculated levels at which maintenance can be performed at power density levels within allowed safe limits.