

**September 2010**  
**WNUE-FM Channel 251C2**  
**Deltona, FL**  
**NIER Analysis**

**Facilities Proposed**

The proposed operation will be on Channel 251C2 (98.1 MHz) with an effective radiated power of 50 kilowatts. Operation is proposed with an antenna to be installed on a new tower to be constructed along the Osteen Road, nine kilometers east of Osteen, Florida. There are no other broadcast users of this site.

**NIER Calculations**

The power density calculations shown below were made using the techniques outlined in OET Bulletin No. 65. "Ground level" calculations in this report have been made at a reference height of 2 meters above ground to provide a worst-case estimate of exposure for persons standing on the ground in the vicinity of the tower. The equation shown below was used to calculate the ground level power density figures from each antenna.

$$S(\text{mW} / \text{cm}^2) = \frac{33.40981 \times \text{AdjERP}(\text{Watts})}{D^2}$$

Where: *AdjERP(Watts)* is the maximum lobe effective radiated power times the element pattern factor times the array pattern factor.

*D* is the distance in meters from the center of radiation to the calculation point.

"Worst case" calculations of the power density produced by the proposed antenna system have been made assuming that the antenna will radiate 100% power straight down (i.e. to a point 2 meters above the base of the tower). Under this worst-case assumption, the highest calculated ground level power density occurs at the base of the antenna support structure. At this point the power density is calculated to be 170  $\mu\text{W}/\text{cm}^2$ , which is 85% of 200  $\mu\text{W}/\text{cm}^2$  (the FCC standard for uncontrolled environments).

The permittee/licensee in coordination with other users of the site must reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency radiation in excess of FCC guidelines.

Hatfield & Dawson Consulting Engineers