

**February 2006**  
**New FM – Channel 259A – Mason, TX**  
**NIER Analysis**

**Facilities Proposed**

The proposed operation will be on Channel 259A (99.7 MHz) with an effective radiated power of 5 kilowatts. Operation is proposed with an antenna to be side-mounted on an existing tower in Mason, Texas. The FCC Antenna Structure Registration Number for the tower is #1038710.

**NIER Calculations**

Study of the area within 1000 meters of the proposed site reveals no other likely sources of non-ionizing radiation. Thus, the ground level NIER values near the base of the proposed structure are believed to be negligible. Precise calculations are made only with regard to the levels from this proposal.

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 antenna system have been made using the above formula, presuming that the antenna will radiate 10,000 Watts (5000 Watts H + 5000 Watts V) straight down. The results indicate a maximum ground level power density of 145.0  $\mu\text{W}/\text{cm}^2$ , which is 14.5% of 1000  $\mu\text{W}/\text{cm}^2$  (the FCC standard for controlled environments) and

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72.5% of  $200 \mu\text{W}/\text{cm}^2$  (the FCC standard for uncontrolled environments). This is a worst-case figure. The actual ground level power densities from the antenna to be used will likely be significantly lower.

Public access to the site is restricted by a locked gate and the antenna tower is posted with warning signs. Pursuant to OET Bulletin No. 65, all station personnel and contractors are required to follow appropriate safety procedures before any work is commenced on the antenna tower, including reduction in power or discontinuance of operation before any maintenance work is undertaken.

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.