June 2005
KLAK(FM) 248C2 Tom Bean, TX
NIER Analysis

Facilities Proposed

The proposed operation will be on Channel 248C2 (97.5 MHz) with an effective radiated power of 32 kilowatts. Operation is proposed with a 6-element circularly-polarized omni-directional half-wave-spaced antenna. The antenna will be side-mounted on a uniform cross-section guyed tower to be located at the southeast corner of Rose Hill Road and Reynolds Road, southeast of Tom Bean.

Notice of the proposed tower construction has been filed with the Federal Aviation Administration on FAA Form 7460-1. Upon receipt of the FAA's determination of no hazard, FCC Antenna Structure Registration for the tower will be filed on FCC Form 854, and the resulting Antenna Structure Registration Number will be promptly supplied to the Audio Division.

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.

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

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 64 kW (32 kW H + 32 kW V) straight down. The results indicate a maximum ground level power density of 54 µW/cm², which is 5.4% of 1000 µW/cm^2 (the FCC standard for controlled environments) and 27% of 200 µW/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 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.

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