

April 2008
FM Translator K300BE
Ashland, OR Channel 300D
NIER Study

Facilities

K300BE operates on Channel 300D (107.9 MHz) with an effective radiated power of 0.25 kilowatts. Operation is proposed with an antenna to be mounted on the existing tower used by KSJK(AM). The FCC Antenna Structure Registration Number for the tower is 1210255.

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 translator antenna system have been made using the above formula, presuming that the antenna will radiate 250 Watts straight down. The results indicate a maximum ground level power density of 1.3 $\mu\text{W}/\text{cm}^2$, which is 0.13% of 1000 $\mu\text{W}/\text{cm}^2$ (the FCC standard for controlled environments) and 0.65% 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 are expected to be lower.

These calculations show that the maximum calculated power density produced at two meters above ground level by the proposed operation of K300BE alone is less than 5% of the applicable FCC exposure limit at all locations between 1 and 1000 meters from the base of the antenna support structure. Section 1.1307(b)(3) of the Commission's Rules excludes applications for new facilities or modifications to existing facilities from the requirement of preparing an environmental assessment when the calculated emissions from the applicants proposed facility are predicted to be less than 5% of the applicable FCC exposure limit. Therefore, the proposed facility is in compliance with Section 1.1301 et seq and no further analysis of non-ionizing radiation at this site is required in this application.

Public access to the site is restricted 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.

Hatfield & Dawson Consulting Engineers

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.

Consistent with the requirements of OET Bulletin No. 65, the KSJK(AM) tower is fenced to a distance of at least 1 meter from the tower base.