

**October 2007
WYGY-FM
247C3
Fort Thomas, KY
NIER Analysis**

Facilities Proposed

The proposed operation will be on Channel 247C3 (97.3 MHz) with an effective radiated power of 25 kilowatts with an antenna center of radiation at a height of 67 meters above ground level. The antenna will be a four-bay Shively 6800 series with an inter-bay spacing of 1 wavelength.

NIER Calculations

Study of the area within 1000 meters of the proposed site reveals no other likely sources of non-ionizing radiation apart from the proposed FM facility, and TV stations WCVN TV & DT. These television stations are located on a tower that is 870 meters from the proposed WYGY-FM facility.

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.

$$S(\mu W / cm^2) = \frac{33.4 \times AdjERP(Watts)}{D^2}$$

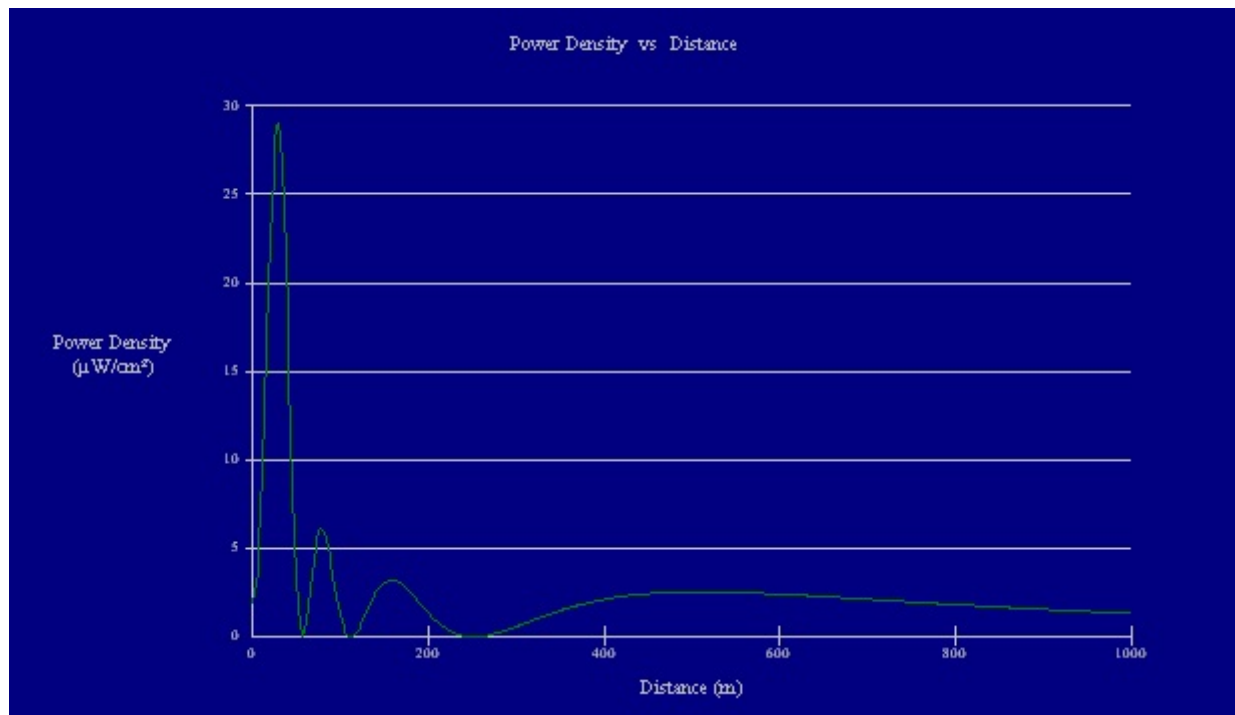
Where: *AdjERP(Watts)* is the maximum lobe effective radiated power times the element pattern factor times the array pattern factor.
D is the distance in meters from the center of radiation to the calculation point.

Ground level power densities have been calculated for locations extending from the base of the tower to a distance of 1000 meters. Values past this point are increasingly negligible.

Calculations of the power density produced by the proposed antenna system assume a Type 6 element pattern, which is the element pattern for Shively 6800 series antenna assumed for this study. The highest calculated ground level power density occurs at a distance of 30 meters from the base of the antenna support structure. At this point the power density is calculated to be $29 \mu\text{W}/\text{cm}^2$, which is 14.5% of the FCC standard for areas accessible to the general public. At the point 30 meters from the proposed WYGY tower, in the direction toward the WCVN-TV tower, the power density contribution from each of the two TV stations is calculated to be less than 1% of the FCC standard for areas accessible to the general public, therefore the combined contribution of WYGY and the two TV stations will be less than 20% of the public standard at this point.

Public access to the site will be restricted by a locked gate and the antenna tower will be 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 radio-frequency radiation in excess of FCC guidelines.



Ground-Level NIER

OET FMModel

WYGY 247C3 Fort Thomas, KY

Antenna Type: SHI 6800 series

No. of Elements: 4

Element Spacing: 1

Distance: 1000 meters

Horizontal ERP: 25 kW

Vertical ERP: 25 kW

Antenna Height: 67 meters AGL

Maximum Power Density is 29 $\mu\text{W}/\text{cm}^2$ at 30 meters from the antenna structure.

Certification

This Engineering Report has been prepared personally by the undersigned. All representations contained herein are true to the best of my knowledge. I am an experienced radio engineer whose qualifications are a matter of record with the Federal Communications Commission. I am an engineer in the firm of Hatfield and Dawson Consulting Engineers and am Registered as a Professional Engineer in the States of Washington and Oregon.

October 3, 2007



Thomas S. Gorton P.E.

Hatfield & Dawson Consulting Engineers