July 2012
KRKZ-FM Channel 232A
Chinook, WA
RF Exposure Study

Facilities Proposed

The proposed operation will be on Channel 232A (94.3 MHz) with an effective radiated power of 1.5 kilowatts. Operation is proposed with an antenna which will be installed on an existing tower with FCC Antenna Structure Registration Number 1229176.

RF Exposure 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.

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

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

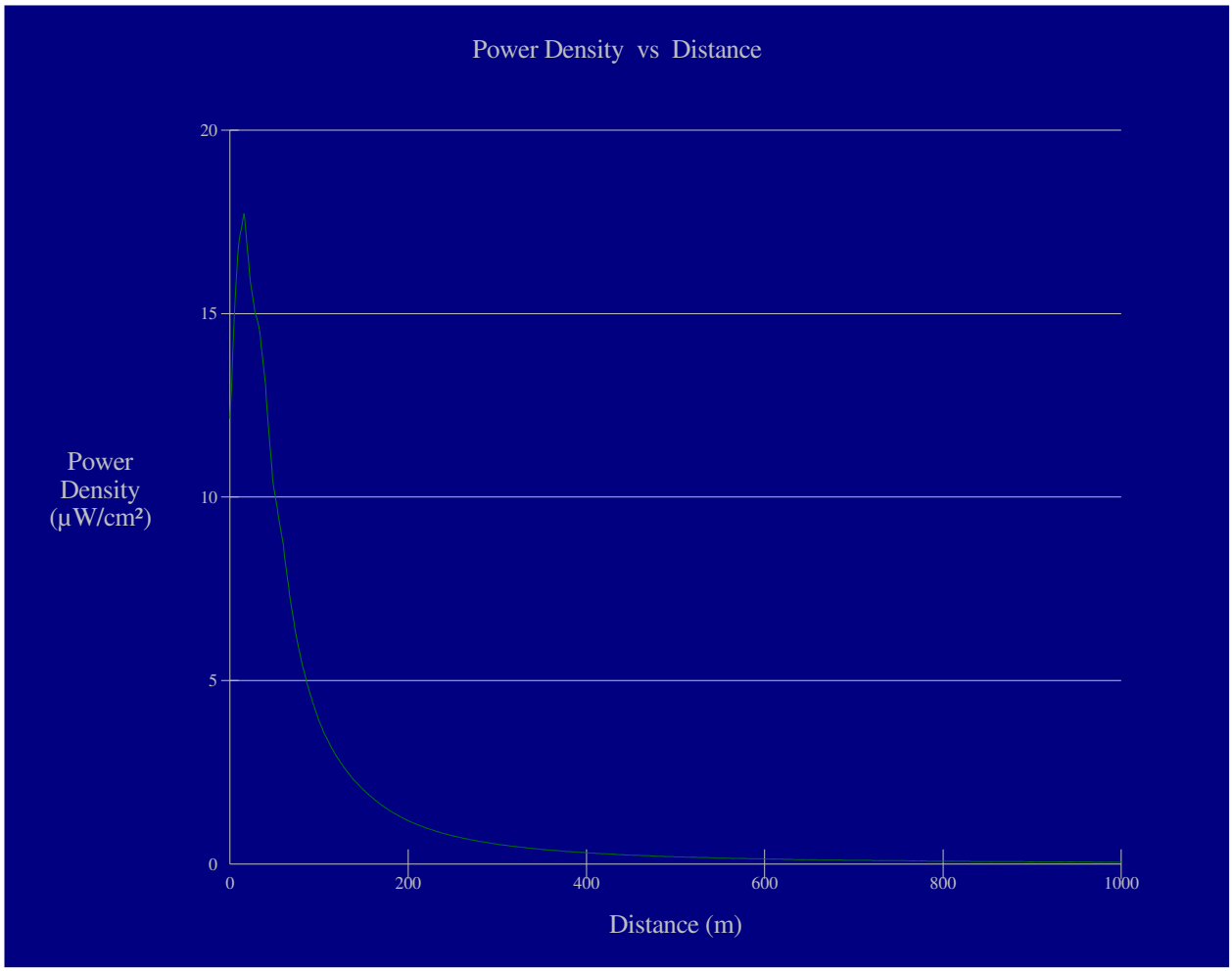
D is the distance in meters from the center of radiation to the calculation point.

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 KRKZ-FM antenna system assume a Type 1 element pattern, which is the “worst case” element pattern. The highest calculated ground level power density occurs at a distance of 16 meters from the base of the antenna support structure. At this point the power density is calculated to be 17.7 μW/cm², which is 8.9% of 200 μW/cm² (the FCC standard for uncontrolled environments).[1]

[1] There are three outstanding construction permits for LPTV stations on this same tower. None of those, however, have been constructed at this time and so are excluded from this analysis.

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 exposure in excess of FCC guidelines.



Ground-Level RF Exposure **OET FMModel**

KRKZ-FM 232A Chinook

Antenna Type:	“ring stub” assumed for this study
No. of Elements:	1
Element Spacing:	1.0 wavelength
Distance:	1000 meters
Horizontal ERP:	1.5 kW
Vertical ERP:	zero kW
Antenna Height:	30 meters AGL

Maximum Calculated Power Density is 17.7 µW/cm^2 at 16 meters from the antenna structure.