HATFIELD & DAWSON
CONSULTING ELECTRICAL ENGINEERS
9500 GREENWOOD AVE. N.
SEATTLE, WASHINGTON 98103

JAMES B. HATFIELD, PE
BENJAMIN F. DAWSON III, PE
THOMAS M. ECKELS, PE
STEPHEN S. LOCKWOOD, PE
DAVID J. PINION, PE

PAUL W. LEONARD, PE
ERIK C. SWANSON, EIT
THOMAS S. GORTON, PE

TELEPHONE
(206) 783-9151
FACSIMILE
(206) 789-9834
E-MAIL
hatdaw@hatdaw.com

MAURY L. HATFIELD, PE
CONSULTANT
OAKHURST, NSW
AUSTRALIA

September 2005
FM Station RFR Analysis
KXIX(FM) Channel 231C0 Bend, OR
KSJJ(FM) Channel 275C1 Redmond, OR

Stations KXIX and KSJJ operate from a tower on Jack Pine Ridge, 18 km west of central Bend, Oregon.

KXIX operates on Channel 231C0 with an effective radiated power of 100 kilowatts. Operation is with an 8-element circularly-polarized omnidirectional antenna.

KSJJ operates on Channel 275C1 with an effective radiated power of 100 kilowatts. Operation is with a 7-element circularly-polarized omnidirectional antenna.

There are no other broadcast users of this site. (A construction permit facility for KLBR 201C2 Bend at this site has not yet been constructed.) Precise calculations are made only with regard to the levels from KXIX and KSJJ. Calculations have been made using station technical data from the FCC's Consolidated Database System and from the station licensee.

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.

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

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.

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.

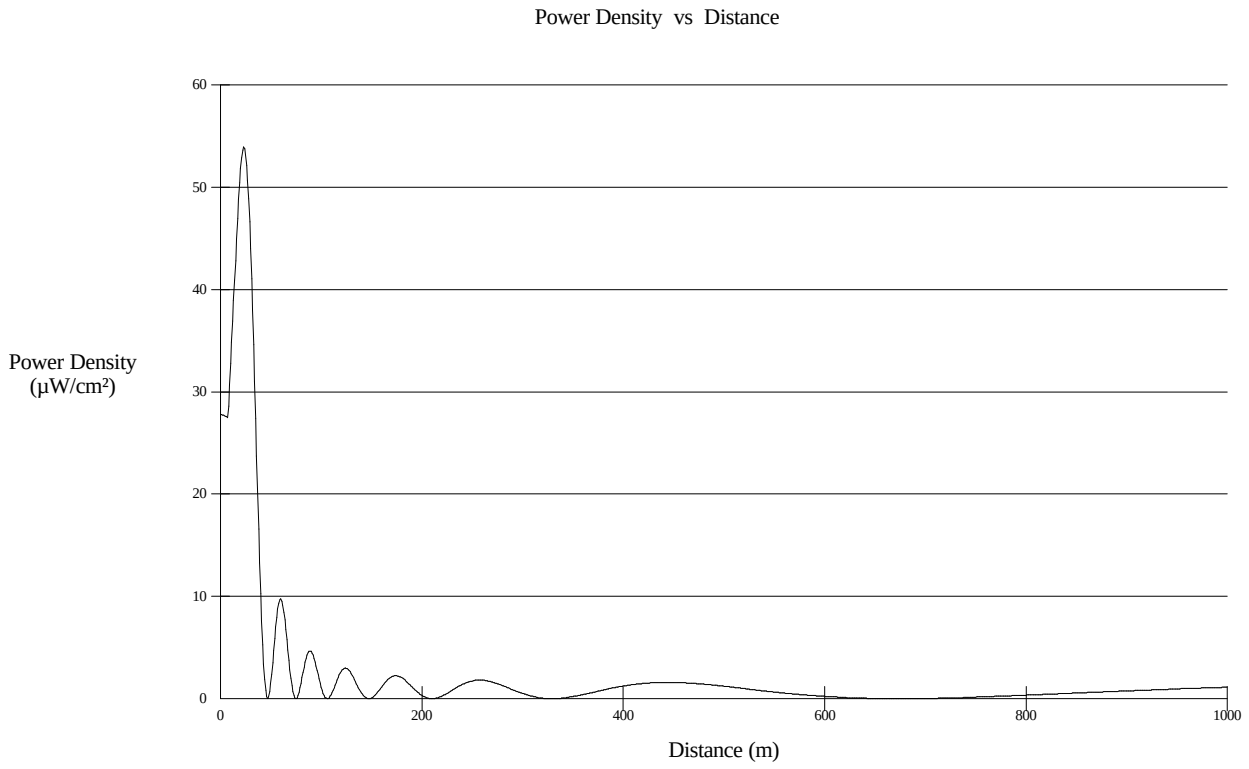
Calculations of the power density produced by the KXIX antenna system assume a Type 3 element pattern, which is the element pattern for the ERI "rototiller" antenna used by that station. The highest calculated ground level power density occurs at a distance of 23 meters from the base of the antenna support structure. At this point the power density is calculated to be 53.9 $\mu W/cm^2$, which is 5.4% of 1000 $\mu W/cm^2$ (the FCC standard for controlled environments) and 27.0% of 200 $\mu W/cm^2$ (the FCC standard for uncontrolled environments).

Calculations of the power density produced by the KSJJ antenna system assume a Type 3 element pattern, which is the element pattern for the ERI "rototiller" antenna used by that station. The highest calculated ground level power density occurs at a distance of 17 meters from the base of the antenna support structure. At this point the power density is calculated to be 124.5 $\mu W/cm^2$, which is 12.5% of 1000 $\mu W/cm^2$ (the FCC standard for controlled environments) and 62.3% of 200 $\mu W/cm^2$ (the FCC standard for uncontrolled environments).

These calculations show that the maximum calculated power density produced at two meters above ground level by the operations of KXIX and KSJJ (were their maxima to coincide, which they do not) is 178.4 $\mu W/cm^2$, which is 17.8% of 1000 $\mu W/cm^2$ (the FCC standard for controlled environments) and 89.2% of 200 $\mu W/cm^2$ (the FCC standard for uncontrolled environments).

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.

Erik C. Swanson
Technical Consultant



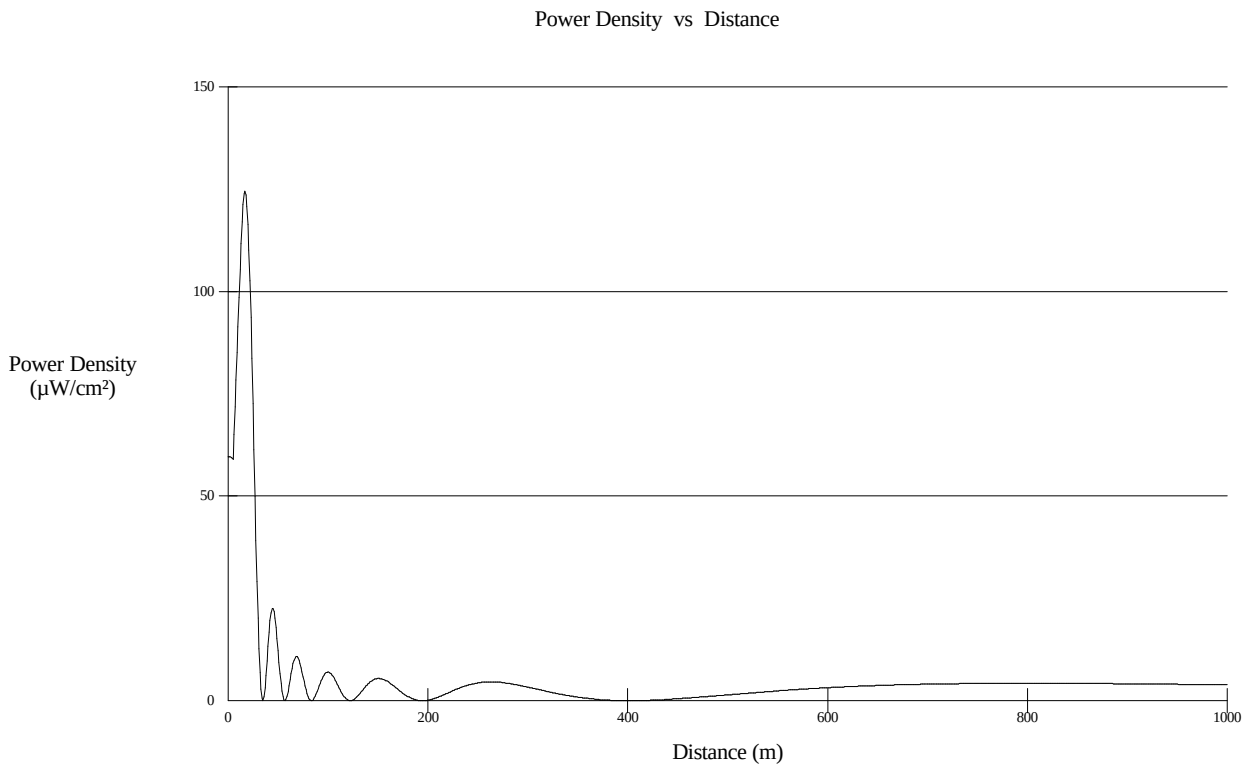
Ground-Level NIER Analysis OET FMModel

KXIX(FM) 231C0 Bend
Antenna Type: ERI SHPX-8
Number of Elements: 8
Element Spacing: 1.0 wavelength

Distance: 1000 meters
Horizontal ERP: 100 kW
Vertical ERP: 100 kW

Antenna Height: 87 meters AGL

Maximum Power Density is 53.9 µW/cm2 at 23 meters from the antenna structure.



Ground-Level NIER Analysis OET FMModel

KSJJ(FM) 275C1 Redmond
Antenna Type: ERI SHPX-7
Number of Elements: 7
Element Spacing: 1.0 wavelength

Distance: 1000 meters
Horizontal ERP: 100 kW
Vertical ERP: 100 kW

Antenna Height: 60 meters AGL

Maximum Power Density is 124.5 µW/cm2 at 17 meters from the antenna structure.