

# **NON-IONIZING ELECTROMAGNETIC RADIATION (NIER) MEASUREMENTS IN THE VICINITY OF THE ANTENNA OF RADIO STATION KWOL(FM)**

This report documents the results of NIER measurements taken at the base and surrounding area of the KWOL(FM) tower site located at geographic co-ordinates N48-30-43, W114-22-13, (NAD-27). This transmitter site is located on a Mesa approximately 5 miles northwest of Whitefish, Montana. Measurements reported were completed on November 19, 2005.

The purpose of this site analysis is to satisfy a condition placed on the KWOL(FM) Construction Permit, (FCC File No. BMPH-20050504ACC), which required testing of the transmitter site to demonstrate compliance with the Commission's Rules regarding non-ionizing electromagnetic radiation exposure.

## **Equipment and Procedure**

The equipment used to make these measurements included:

1. Narda 8718B Serial No. 06053 which reads power directly in  $\text{mW}/\text{cm}^2$ .
2. Narda 8761D probe which covers the FM Broadcast Band.

Prior to the commencement of these measurements, the transmitter was adjusted to insure that the Effective Radiated Power was 62 kw, as authorized by the Construction Permit for the station.

With the system operating at authorized power, power density measurements were taken facing the tower from a number of locations around the tower base out to a distance of 150 ft. from the tower base. The measurements were taken at various points located in concentric circles of varying radii out to a distance of 150 ft. from the base of the tower.

The measurement probe was held chest-high, and facing the tower in question. The probe was held at a 90 degree angle to the radiating source for all the measurements. The Narda 8718B is a direct reading instrument that indicates power directly in  $\text{mW}/\text{cm}^2$ . The measured radiation was below 1  $\text{mW}/\text{cm}^2$  at every measurement location out to 150 ft. from the tower base. All measurements indicated that the entire area around the tower base complies fully with the provisions of OET Bulletin 65.

Signs designating the entire mesa an "RFI Warning Location" are placed on the only entrance to the site to alert the public that this site may contain potentially harmful radiation. Entrance to the site is controlled by a locked gate at the only entrance to the mesa and a key to the site is maintained by the licensee. Additional signs alert maintenance personnel that power must be reduced/terminated if maintenance has to be done on any of the towers.

## Conclusion

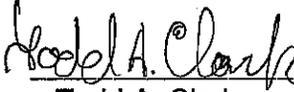
The entire site complies with OET Bulletin 65 standards. There are no points near the KWOL(FM) tower where RF exposure exceeds  $1 \text{ mW/cm}^2$ . The entire mesa is inaccessible except through the locked and posted gate that is clearly marked and is an effective barrier to insure that no maintenance personnel are inadvertently subjected to potentially harmful radiation.

## Engineer's Qualifications

The undersigned has been employed within the broadcasting industry since 1988, and is a senior Certified Broadcast Engineer and is the Certification Chairman for the Montana Chapter of SBE. The undersigned is familiar with the measurement techniques required to perform the measurements that are contained in this report and verifies that the measurements are true and correct to the best of his knowledge. The undersigned is also aware that this statement is to be filed with the Federal Communications Commission and consents to its use for that purpose.

Dated this 21<sup>st</sup> day of November 2005.

Respectfully,

  
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