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NON-IONIZING ELECTROMAGNETIC FIELD MEASUREMENTS
NEAR THE KDRK-FM AUXILIARY FACILITY
ON KRELL HILL
NEAR SPOKANE WASHINGTON

PREPARED FOR

Citadel Broadcasting Company

Licensee of KDRK-FM, 93.7 MHz

SPOKANE, WASHINGTON

October 2007

INTRODUCTION

Hatfield & Dawson Consulting Engineers has been retained by Citadel Broadcasting Company to evaluate the KDRK-FM auxiliary facility on Krell Hill near Spokane, Washington, for compliance with current Federal Communications Commission (FCC) rules regarding human exposure to radiofrequency (RF) electromagnetic fields (EMFs). This auxiliary facility is authorized by Construction Permit BXPB-20070918ACE.

The Krell Hill broadcast and telecommunications site is southeast of downtown Spokane, in Spokane County, Washington. The site has multiple towers that support transmitting antennas for several broadcast and non-broadcast wireless facilities. The KDRK-FM auxiliary facility is located at least 150 meters from any other high-power broadcast facility.

The KDRK auxiliary facility utilizes a 2-bay Scala dipole antenna with a center of radiation 9 meters above ground. This height makes it unlikely that anyone other than authorized RF workers could approach near enough to the auxiliary antenna to cause those persons' RF exposure levels to exceed FCC limits.

There appear to be no occupancies, schools or hospitals within several hundred feet of the site. Access to the site is restricted by a locked gate with warning signs, thus restricting vehicular access to authorized persons. Pedestrian access to the site is unrestricted.

To verify that the KDRK auxiliary facility, in combination with colocated facilities, is in compliance with FCC rules regarding human exposure to RF fields, I have performed RF exposure measurements at ground locations near the auxiliary facility on Krell Hill to determine the exposure conditions that exist in accessible areas near the auxiliary facility.

RECENT MEASUREMENTS OF RF EXPOSURE CONDITIONS AT KRELL HILL

RF exposure measurements were taken in accessible areas within 20 meters the KDRK auxiliary facility atop Krell Hill. At distances past 10 meters, the Commission's computer program FMModel predicts that the RF exposure contribution from the KDRK auxiliary facility will be less than 5% of the FCC standard for areas accessible to the public. The RF exposure measurements were performed on October 19 2007 between approximately 12:30 p.m. and 1:30 p.m. The KDRK transmitter was observed to be operating normally prior to the taking of these measurements.

MEASUREMENT EQUIPMENT

A NARDA Model 8718B Electromagnetic Radiation Survey Meter (S/N 1194) with a NARDA Model B8742D Isotropic Shaped Electric Field Probe (S/N 05003) was used to make the measurements. The meter and probe were calibrated in July 2007 by the manufacturer. All equipment used for the these measurements has been factory-calibrated within one year of the measurements. This meter and probe combination is a broadband instrument which measures power densities over a wide spectrum as required by IEEE Standard C95.3-2002, *IEEE Recommended Practice for Measurements and Computations of Radio Frequency Electromagnetic Fields With Respect to Human Exposure to Such Fields, 100 kHz-300 GHZ*.

The NARDA B8742D probe provides an output proportional to the FCC maximum permissible exposure (MPE) for areas accessible to the public over a frequency range from 300 kHz to 3.0 GHZ. The measurement range of the probe is 0.6 to 600% of the public standard. The isotropic response of the NARDA B8742D probe is +/-0.75dB.

The meter/probe combination is sensitive to all RF signals in the frequency range of 300 kHz to 3.0 GHZ. Thus RF signals from all of the significant Krell Hill broadcast and non-broadcast facilities were accounted for in the measurement process.

RF EXPOSURE MEASUREMENT METHODOLOGY

Measurement procedures were performed in accordance with methods described in OET Bulletin 65, August 1997, *"Evaluating Compliance with FCC Guidelines for Human Exposure to*

Radiofrequency Electromagnetic Fields,” IEEE Standard C95.3-2002, “IEEE Recommended Practice for Measurements and Computations of Radio Frequency Electromagnetic Fields With Respect to Human Exposure to Such Fields, 100 kHz-300 GHz,” and NCRP Report No. 119, “A Practical Guide to the Determination of Human Exposure to Radiofrequency Fields.”

During the measurement period, the publicly accessible areas in the immediate vicinity of the KDRK auxiliary tower were scanned with the measurement probe at head level (approximately 6 feet above ground)

The highest peak reading observed was less than 10% of the FCC standard for areas accessible to the public.

CONTRIBUTION OF KDRK AUXILIARY FACILITY TO RF EXPOSURE ENVIRONMENT

Extensive measurements were taken in the area immediately surrounding (within 20 meters of) the KDRK auxiliary facility, with special attention given to the area at the base of the tower directly below the antenna. No readings above 10% of the FCC standard for areas accessible to the public were observed.

CONCLUSION

Based on my measurements, the KDRK-FM auxiliary facility at Krell Hill will comply with current FCC rules regarding human exposure to radiofrequency electromagnetic fields.

This conclusion is based solely on the comparison measured RF conditions in specific areas with the corresponding safe exposure limits set forth in the FCC rules. The FCC exposure limits are based on recommendations by federal and private entities with the appropriate expertise in human safety issues.

QUALIFICATIONS

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 & Dawson Consulting Engineers and I am registered as a Professional Engineer in the States of Washington and Oregon and I hold an FCC General Radiotelephone Operator License PG-13-10466. All representations contained herein are true to the best of my knowledge.

October 19th, 2007



Thomas S. Gorton P.E.