

HUMAN RF EXPOSURE MEASUREMENTS

AT GROUND LEVEL NEAR

DIELECTRIC TAC-6FMB-3/8

PANEL ANTENNA

DEER POINT, IDAHO

10-25-2001

INTRODUCTION

On October 25, 2001 ground level radio frequency exposure measurements were made on the new Deer Point, ID multi-user panel antenna, Dielectric Md. TAC-6FMB-3/8. This antenna is used by stations at the following frequencies: 90.3 MHz, 91.5MHz, 92.3MHz, 93.1 MHz, 96.9MHz, 97.9 MHz. All stations were operating at licensed power. Power was supplied to all portions of the antenna when the measurements were made.

METHODS AND EQUIPMENT USED

A NARDA Model 8718B Electromagnetic Radiation Survey Meter (sn0001) with a NARDA Model 8742 Isotropic Shaped Electric Field Probe (sn01001) was used to make the measurements. The meter and probe were calibrated 5/2001 by the manufacturer. The NARDA B8742D probe provides an output proportional to the FCC Occupational (Controlled Environment) maximum permissible exposure (MPE) over a frequency range from 300 kHz to 3.0 GHz. The isotropic response of the NARDA 8742 probe is +/- 0.75dB. The probe calibration factor at 100 MHz was applied to all readings for greater accuracy since the highest fields were found near FM broadcast antennas.

The area near the tower base was scanned with the probe and spatially averaged measurements were made at the locations where peak fields were found. Spatial averaged readings were taken from ground level to two meters above ground. Several spatially averaged readings were taken at the location of each peak field in an attempt to minimize the scattering effects of the measurer.

MEASURED FIELDS

None of the measured fields exceeded the occupational, or controlled environment (CE), FCC MPE limits. Measured fields in a radial direction from the panels of the new antenna that face in a direction away from the existing Deer Point FM antennas were a maximum averaged spatial averaged level of 6.26% of the CE MPE. To the south of the same building, near the KRVB transmitter building, the maximum averaged spatial averaged measured fields were 6.3% of the CE MPE. East of the new building the maximum averaged spatial averaged field was less than 6% of the CE MPE. The highest measured fields at locations strongly illuminated by the existing antennas ranged from 17 to 25% of the CE MPE.

When all six transmitters using the panel antenna were reduced to 10% of their respective authorized powers, no change was observed readings at the location where the highest field was measured. This shows that measured hot spots were caused by fields from the pre-existing antennas on the the "old Sutro" tower, and demonstrates that the fields from the new panel antenna have minimal impact upon RF levels at the site.

CONCLUSION

The ground level RF fields from the whole panel antenna at Deer Point, with all users operating at licensed TPO did not exceed FCC Controlled MPE levels at any location where measurements were taken. The fields from this antenna also did not exceed the FCC Uncontrolled MPE limits when measurements were made that could be isolated from the effects of other Deer Point antennas.

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