

Analysis of Non Ionizing RF Radiation

In accordance with the order of Docket 79-144, as adopted January 1, 1986, the following analysis of human exposure to non ionizing RF radiation has been performed. The KSEL-FM and KSMX contributions to the site total were determined by employing the Commission's FM Model software and that contribution was determined to be 27.9478 $\mu\text{W}/\text{cm}^2$. A copy of the FM Model plot is included in this report as Exhibit 4¹. The proposed KSEL-FM operation is also co-located with the transmitter of KVIH-TV. An online search of the Commission's databases yielded no information on the make and model of antenna nor the aural power percentage for the KVIH-TV operation. For the purposes of the calculation an aural power of 20% of the visual was assumed and, in accordance with the guidance of OST Bulletin number 65, a downward scaling factor of 0.2 was assumed for the following worst case calculation.

KVIH-TV

$$s = \frac{33.4(f^2)[(0.4 \text{ Visual erp}) + \text{Aural erp}]}{R^2}$$

$$s = \frac{33.4(.2^2)[(.4)(178,000) + 35,600]}{209^2}$$

$$S = 3.2665 \mu\text{W}/\text{cm}^2$$

Site Total

KSEL-FM and KSMX (FM) = 27.9478 $\mu\text{W}/\text{cm}^2$ = 13.97 % of ANSI Max.

KVIH-TV = 3.2665 $\mu\text{W}/\text{cm}^2$. = 0.0163 % of ANSI Max.

Site Total = 23.5558 $\mu\text{W}/\text{cm}^2$. = 13.98 % of ANSI Max.

¹ As KSEL-FM and KSMX are to be combined into a single 8 bay ERI antenna the FM Model plot was generated as a single 200 kW H&V source so as to account for both radio station's contribution.

Conclusion

As the above calculations indicate, the total power density at ground level falls well below the 0.2 mW/cm² limits set forth in ANSI C95.1 (1992). As such, there is no threat to the public of passive overexposure to dangerous levels of non ionizing RF radiation. Further precautions are in place as well. The tower is surrounded by a security fence and the site is posted with signs warning of dangers due to High Voltage and RF Radiation. Rooney Moon Broadcasting, Inc. will further work in cooperation with other users of the tower so as to assure that no tower workers will be exposed to excessive levels of RF radiation by reducing power and or ceasing operation, as necessary, during periods of tower maintenance.