

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. All calculations were made using the worst case formulas prescribed by OST Bulletin Number 65 and are based on a point 2 meters above the tower base.

I. Facilities

BNPFT20030317LAS	K210AG	BNPFT20030312ARZ	K288ER
97.1 MHz	89.9 MHz	98.7 MHz	105.5 MHz
0.045 kW H & V	0.182 kW H	0.062 kW H	0.062 kW H&V
76.2 m AGL	116.6 m AGL	116.6 m AGL	110.6 m AGL

No other facilities are proposed nor are considered.

II. Calculations

BNPFT20030317LAS

$$S = \frac{(0.64)(EIRP)}{\pi R^2}$$

$$S = \frac{(0.64)(1.64)(45 + 45)W(1000) \text{ mW/W}}{\pi ((74.2 \text{ m})(100\text{cm/m}))^2}$$

$$S = 0.0005 \text{ mW/cm}^2$$

$$\text{ANSI Max (C95.1-1992)} = 0.2 \text{ mW/cm}^2$$

$$\text{Percentage of ANSI Max} = 0.27\%$$

II. Calculations

K210AG

$$s = \frac{(0.64)(\text{EIRP})}{\pi R^2}$$

$$s = \frac{(0.64)(1.64)(182)W(1000) \text{ mW/W}}{\pi ((114.6 \text{ m})(100\text{cm/m}))^2}$$

$$s = 0.0005 \text{ mW/cm}^2$$

$$\text{ANSI Max (C95.1-1992)} = 0.2 \text{ mW/cm}^2$$

$$\text{Percentage of ANSI Max} = 0.27\%$$

Proposed BNPFT20030312ARZ

$$s = \frac{(0.64)(\text{EIRP})}{\pi R^2}$$

$$s = \frac{(0.64)(1.64)(62 + 62)W(1000) \text{ mW/W}}{\pi ((114.6 \text{ m})(100\text{cm/m}))^2}$$

$$s = 0.0003 \text{ mW/cm}^2$$

$$\text{ANSI Max (C95.1-1992)} = 0.2 \text{ mW/cm}^2$$

$$\text{Percentage of ANSI Max} = 0.16\%$$

K288ER

$$s = \frac{(0.64)(\text{EIRP})}{\pi R^2}$$

$$s = \frac{(0.64)(1.64)(62 + 62)W(1000) \text{ mW/W}}{\pi ((108.6 \text{ m})(100\text{cm/m}))^2}$$

$$s = 0.0004 \text{ mW/cm}^2$$

$$\text{ANSI Max (C95.1-1992)} = 0.2 \text{ mW/cm}^2$$

$$\text{Percentage of ANSI Max} = 0.18\%$$

$$\text{Site Total} = 0.0017 \text{ mW/cm}^2$$

$$\text{Percentage of ANSI Max} = 0.85\%$$

III Conclusion

As the above calculations indicate, the worst case power density at the tower base falls below both ANSI maximums. This effectively precludes inadvertent passive overexposure by members of the public. Further precautions will be put in place as well. The site will be posted with signs warning of hazards due to High Voltage and RF Radiation so as to discourage trespassers from putting themselves at risk. Additionally plans will be developed so as to establish minimum safe distances at various power levels so as to protect agents and employees of the licensee from occupational overexposure. Tower maintenance will be performed only after sufficient power reductions are made so as to protect workers or, if possible, work will be scheduled at night when a complete cessation of the operation can be accomplished. Inasmuch as the proposed tower site is a multiple use tower, Community Broadcasting pledges cooperation with the tower owners and other tower users to assure that no person is exposed to excessive levels of non-ionizing RF Radiation. That cooperation will include any power reductions or a complete cessation of the operation as necessary.