

## **Environmental Protection**

There are two main factors that need to be addressed in order to make sure that the environment around a proposed facility is protected.

### **1) Significant affects to the environment.**

EMF's proposed facility will be constructed on an existing tower (tower ID 1018738) and will cause no adverse effects to the surrounding environment at the site.

### **2) Human exposure to excess levels of radiofrequency radiation.**

The proposed facility is to be built using a 2-bay circularly polarized .85 wave-spaced antenna.

According to OET 65, "Applicants and licensees should be able to calculate, based on considerations of frequency, power and antenna characteristics the distance from their transmitter where their signal produces an RF field equal to, or greater than, the 5% threshold limit. The applicant or licensee then shares responsibility for compliance in any accessible area or areas within this 5% "contour" where the appropriate limits are found to be exceeded."

As can be seen in Exhibit 24A, the proposed facility's maximum contribution to RF on the site is  $1.768\mu\text{W}/\text{cm}^2$  at a distance of 20 meters from the tower, which is 0.9% of the uncontrolled (public) exposure limit.

Therefore, because the proposed facility will not cause an RF field that is equal to or greater than 5% of the  $200\mu\text{W}/\text{cm}^2$  limit for uncontrolled exposure at any point, the proposed facility complies with the requirements of OET 65.

EMF will fully cooperate with other site users to temporarily reduce power or cease broadcasting, as necessary, to protect workers and others having access to the site from excessive levels of RF Radiation.

## Specific Antenna RF Power Density Calculator

Based on Equation 10 of OET-65  
Exhibit 24-A / Detailed Report

<b>ERP</b>	1.55 kW	% of OET-65
<b>Height above ground</b>	55.0 meters	0.9% Uncontrolled
<b>Height above head</b>	53.0 meters	0.2% Controlled
<b>Antenna Brand Nicom</b>		
<b>Antenna Model BKG77-2/85</b>		

Horizontal distance from tower (meters)	Angle (°)	Distance (m)	Field	Power (W)	Power Density (uW/cm2)
0	90	53.0	0.117	181.35	0.252
10	79	53.9	0.246	381.3	1.077
20	69	56.6	0.331	513.05	1.768
30	60	60.9	0.331	513.05	1.529
40	53	66.4	0.336	520.8	1.326
50	47	72.9	0.198	306.9	0.382
60	41	80.1	0.198	306.9	0.317
70	37	87.8	0.112	173.6	0.084
80	34	96.0	0.112	173.6	0.071
90	30	104.4	0.112	173.6	0.060
100	28	113.2	0.518	802.9	1.084

