

Human exposure to excess levels of radiofrequency radiation

The proposed facility is to be built using a 1-bay circularly polarized full-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 17-A, the proposed facility’s maximum contribution to RF on the site is $1.94 \mu\text{W}/\text{cm}^2$ at a distance of 30 meters from the tower, which is 1.0% 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 17-A / Detailed Report

ERP	0.205 kW	% of OET-65
Height above ground	30.0 meters	1.0% Uncontrolled
Height above head	28.0 meters	0.2% Controlled
Antenna Brand Nicom		
Antenna Model BKG77-1		

Horizontal distance from tower (meters)	Angle (°)	Distance (m)	Field	Power (W)	Power Density (uW/cm2)
0	90	28.0	0.104	21.32	0.094
10	70	29.7	0.239	48.995	0.442
20	54	34.4	0.538	110.29	1.674
30	43	41.0	0.691	141.66	1.941
40	35	48.8	0.818	167.69	1.922
50	29	57.3	0.918	188.19	1.757
60	25	66.2	0.918	188.19	1.316
70	22	75.4	0.918	188.19	1.015
80	19	84.8	0.982	201.31	0.919
90	17	94.3	0.982	201.31	0.743
100	16	103.8	0.982	201.31	0.612

