

Human exposure to excess levels of radiofrequency radiation

The proposed facility is to be built using a 2-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 $1.150\mu\text{W}/\text{cm}^2$ at a distance of 10 meters from the tower, which is 0.58% 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	0.25 kW	% of OET-65
Height above ground	30.0 meters	0.6% Uncontrolled
Height above head	28.0 meters	0.1% Controlled
Antenna Brand RFS		
Antenna Model CPF500-2		

Horizontal distance from tower (meters)	Angle (°)	Distance (m)	Field	Power (W)	Power Density (uW/cm ²)
0	90	28.0	0.292	73	0.908
10	70	29.7	0.349	87.25	1.150
20	54	34.4	0.276	69	0.537
30	43	41.0	0.075	18.75	0.028
40	35	48.8	0.238	59.5	0.198
50	29	57.3	0.596	149	0.903
60	25	66.2	0.596	149	0.677
70	22	75.4	0.596	149	0.522
80	19	84.8	0.886	221.5	0.912
90	17	94.3	0.886	221.5	0.738
100	16	103.8	0.886	221.5	0.608

