

Human exposure to excess levels of radiofrequency radiation

The proposed facility is to be built using a 1-bay vertically 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 $1.732 \mu\text{W}/\text{cm}^2$ at a distance of 40 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 17-A / Detailed Report

ERP	0.2 kW	% of OET-65
Height above ground	24.0 meters	0.9% Uncontrolled
Height above head	22.0 meters	0.2% Controlled
Antenna Brand	SCA	
Antenna Model	CLFM V	

Horizontal distance from tower (meters)	Angle (°)	Distance (m)	Field	Power (W)	Power Density (uW/cm ²)
0	90	22.0	0.01	2	0.001
5	77	22.6	0.01	2	0.001
10	66	24.2	0.045	9	0.023
15	56	26.6	0.155	31	0.226
20	48	29.7	0.36	72	0.979
25	41	33.3	0.47	94	1.331
30	36	37.2	0.563	113	1.527
35	32	41.3	0.645	129	1.626
40	29	45.7	0.735	147	1.732
45	26	50.1	0.735	147	1.438
50	24	54.6	0.82	164	1.505
55	22	59.2	0.82	164	1.280
60	20	63.9	0.82	164	1.100
65	19	68.6	0.895	179	1.136
70	17	73.4	0.895	179	0.994
75	16	78.2	0.895	179	0.876
80	15	83.0	0.895	179	0.777
85	15	87.8	0.895	179	0.694
90	14	92.6	0.95	190	0.702
95	13	97.5	0.95	190	0.634
100	12	102.4	0.95	190	0.575

