

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 $3.087 \mu\text{W}/\text{cm}^2$ at a distance of 30 meters from the base of the tower, which is 1.5% 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.

Russell S Kimble 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	1.5% Uncontrolled
Height above head	28.0 meters	0.3% Controlled
Antenna Brand PSI		
Antenna Model FML-1-DA		

Horizontal distance from tower (meters)	Angle (°)	Distance (m)	Field	Power (W)	Power Density (uW/cm ²)
0	90	28.0	0.001	0.25	0.000
10	70	29.7	0.348	87	1.144
20	54	34.4	0.648	162	2.961
30	43	41.0	0.789	197.25	3.087
40	35	48.8	0.865	216.25	2.621
50	29	57.3	0.946	236.5	2.275
60	25	66.2	0.946	236.5	1.705
70	22	75.4	0.946	236.5	1.315
80	19	84.8	0.986	246.5	1.130
90	17	94.3	0.986	246.5	0.914
100	16	103.8	0.986	246.5	0.753

