

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 3-A, the proposed facility’s maximum contribution to RF on the site is $0.829 \mu\text{W}/\text{cm}^2$ at a distance of 50 meters from the tower, which is 0.4% of the uncontrolled (public) exposure limit and .1% of the controlled 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.

Pembrook Pines Elmira 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	0.22 kW	% of OET-65
Height above ground	55.0 meters	0.4% Uncontrolled
Height above head	53.0 meters	0.1% Controlled
Antenna Brand Shively		
Antenna Model 6812B-1		

Horizontal distance from tower (meters)	Angle (°)	Distance (m)	Field	Power (W)	Power Density (uW/cm ²)
0	90	53.0	0.001	0.22	0.000
10	79	53.9	0.357	78.54	0.322
20	69	56.6	0.514	113.08	0.605
30	60	60.9	0.514	113.08	0.523
40	53	66.4	0.654	143.88	0.713
50	47	72.9	0.774	170.28	0.829
60	41	80.1	0.774	170.28	0.687
70	37	87.8	0.871	191.62	0.723
80	34	96.0	0.871	191.62	0.605
90	30	104.4	0.871	191.62	0.511
100	28	113.2	0.942	207.24	0.509

