

Human exposure to excess levels of radiofrequency radiation

The proposed facility is to be built using a 1-bay circularly polarized 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 17A, the proposed facility's maximum contribution to RF on the site is $1.159\mu\text{W}/\text{cm}^2$ at a distance of 40 meters from the tower, which is .1% 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.

ROI 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	0.24 kW	% of OET-65
Height above ground	46.0 meters	0.6% Uncontrolled
Height above head	44.0 meters	0.1% Controlled
Antenna Brand Scala		
Antenna Model CA2-CP		

Horizontal distance from tower (meters)	Angle (°)	Distance (m)	Field	Power (W)	Power Density (uW/cm ²)
0	90	44.0	0.03	7.2	0.004
10	77	45.1	0.187	44.88	0.138
20	66	48.3	0.388	93.12	0.517
30	56	53.3	0.57	136.8	0.918
40	48	59.5	0.715	171.6	1.159
50	41	66.6	0.715	171.6	0.924
60	36	74.4	0.829	198.96	0.995
70	32	82.7	0.829	198.96	0.806
80	29	91.3	0.92	220.8	0.814
90	26	100.2	0.92	220.8	0.676
100	24	109.3	0.92	220.8	0.568

