

Human exposure to excess levels of radiofrequency radiation

The proposed facility is to be built using a 2-bay circularly polarized .85 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 $0.179 \mu\text{W}/\text{cm}^2$ at a distance of 30 meters from the tower, which is 0.1% 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.

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 67.0 meters 0.1% Uncontrolled
Height above head 65.0 meters 0.0% Controlled

Antenna Brand Nicom

Antenna Model BKG77 2 bay .85 spaced

Horizontal distance from tower (meters)	Angle (°)	Distance (m)	Field	Power (W)	Power Density (uW/cm2)
0	90	65.0	0.117	29.25	0.027
10	81	65.8	0.151	37.75	0.044
20	73	68.0	0.246	61.5	0.109
30	65	71.6	0.331	82.75	0.179
40	58	76.3	0.336	84	0.162
50	52	82.0	0.336	84	0.140
60	47	88.5	0.198	49.5	0.042
70	43	95.5	0.198	49.5	0.036
80	39	103.1	0.112	28	0.010
90	36	111.0	0.112	28	0.008
100	33	119.3	0.112	28	0.007

