

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."

The antenna structure is mounted on a building rooftop at a center of radiation of 12m above the roof. The roof has limited access to employees only.

As can be seen in Exhibit 17-A, the proposed facility's maximum contribution to RF on the roof of the building is $9.569\mu\text{W}/\text{cm}^2$ at a distance of 10 meters from the tower, which is less than 4.8% 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

ERP0.12 kW% of OET-65

Height above ground12.0 meters4.8% Uncontrolled

Height above head10.0 meters1.0% Controlled

Antenna Brand Nicom

Antenna Model BKG77/1

Horizontal distance from tower (meters)	Angle (°)	Distance (m)	Field	Power (W)	Power Density (uW/cm2)
0	90	10.0	0.104	12.48	0.434
10	45	14.1	0.691	82.92	9.569
20	27	22.4	0.918	110.16	6.755
30	18	31.6	0.982	117.84	3.865
40	14	41.2	0.982	117.84	2.274
50	11	51.0	0.982	117.84	1.487
60	9	60.8	1	120	1.083
70	8	70.7	1	120	0.802
80	7	80.6	1	120	0.617
90	6	90.6	1	120	0.489
100	6	100.5	1	120	0.397

