

Environmental Protection Act / RF Radiation Compliance

The Rules require that an addition to any multiple use site must not contribute non-ionizing RF Radiation in excess of the total limits for each class of service in either of the two selected environments. In the case of FM, this limit is 1,000 microwatts for the controlled, or worker environment, or 200 microwatts for the uncontrolled, or public, environment per square centimeter at 2 meters above ground level.

WLTE proposes to use a 3-bay ERI LPX2E Rototiller full wave spaced antenna.

The attached Radiofrequency Electromagnetic Exposure Analysis specifically lists all potential sources of radiation and estimates the power density expected to occur at a distance of 10 meters from the base of the tower, the maximum power density expected from each source, the maximum distance from the base of the tower to the point of maximum power density for each source, and the total worst case (sum of all maximum power densities, from all sources, at the most distant maximum occurring power density). The power density values are in units of microwatts per square meter at a height of 2 meters above ground level. These levels are also expressed relative to the maximum allowable limit of each of the two environments.

Considering all existing and proposed sources, the total contribution of all potential sources of radiation within 10 meters from the base of the tower (controlled environment) is 7.2 microwatts per square centimeter at 2 meters above ground level which is 0.72% of the ANSI limit for the controlled environment.

For the uncontrolled environment, the sum of all individual source maximum power densities is 21.9 microwatts per square centimeter at 2 meters above ground level. The maximum power density value extends no farther than 47 meters from the base of the tower. This represents a "worst case" power density level which is only 11.0% of the ANSI limit for the uncontrolled environment.

Given that access within 10 meters to the site will be restricted by a locked fence, and given that no more than 21.9 microwatts per square centimeter at 2 meters above ground level (11% of the ANSI limit) is predicted to occur at any point beyond 47 meters from the base of the tower, the total radiation contributed by WLTE would be less than the ANSI limit for all points in both the controlled and the uncontrolled environments. Therefore, this proposal is fully compliant with the provisions of OET Bulletin #65 as recently amended.

The contribution of WLTE was calculated using FCC FM Model v2.10 Beta. Further to the requirements and intentions of the FCC, appropriate signs are currently posted at entrances to the property, on the walls and doors of buildings containing transmitters, and on fences warning the public and workers of the potential hazard. Applicant will require that the power to the antenna be reduced as necessary to accommodate workers or will discontinue operation, if necessary, for this purpose.

Radiofrequency Electromagnetic Exposure Analysis for WLTE

Source	Height AGL(m)	Antenna type	Bays	Horizontal ERP (kw)	Vertical ERP (kw)	Power Density $\mu\text{W}/\text{cm}^2$ at 2 meters AGL				
						at 10 meters distance	% controlled environment limit (1000 $\mu\text{W}/\text{cm}^2$)	Max. PD	% uncontrolled environment limit (200 $\mu\text{W}/\text{cm}^2$)	Distance to maximum PD (m)
WLTE	83	ERI Rototiller	3	5.60	5.60	2.1	0.21%	6.0	3.0%	41
WCCP(CP)	96	ERI Rototiller	3	20.0	20.0	5.1	0.51%	15.9	8.0%	47
						7.2	0.72%	21.9	11.0%	47

(proposed)

The proposed facility is excluded from environmental processing under 47. C.F.R. Section 1.1306 (i.e., The facility will not have a significant environmental impact and complies with the maximum permissible radiofrequency electromagnetic exposure limits for controlled and uncontrolled environments).

Calculations made using FCC FM Model v2.10 Beta