COMPLIANCE WITH RADIOFREQUENCY RADIATION GUIDELINES

The proposed W23EB-CD antenna is a SWR Model LP-16. W23EB-D is being displaced from Channel 23 as a result of the repacking of full service facilities. The proposed operation will move to Channel 22. ***Since the proposed system will require no significant physical modifications to the tower, no additional environmental studies will be required.***

The antenna will be mounted with its center of radiation 87 meters above ground, making it 85 meters above an observer on the ground, who is assumed to be 2 meters tall. A maximum effective radiated power of 14.43 kW (horizontal polarization) is being proposed.

Equation 10 of OET Bulletin No. 65 can be used to predict the potential exposure to radiofrequency radiation for human observers on the ground as indicated by total power density expressed in units of μW/cm². This equation states:

$$S = \frac{33.4(F^2)ERP}{R^2}$$

where: S = Total Power Density in units of μW/cm²
F = Relative Field of Pattern
ERP = Effective Radiated Power in Watts
R = Distance in Meters

In the case of this instant application, a relative field value of 0.50 was used as a "worst case" scenario. This value exceeds any relative field shown on the manufacturer's tabulation and plot of the vertical plant pattern throughout the depression angles that would place an observer near the base of the tower.

Using an ERP = 14,430 watts, setting R = 85 meters, and F = 0.5 the above formula computes a worst case S of 16.68 μW/cm.

At Channel 22, 518-524 MHz, the limit for human exposure to non-ionizing radiofrequency radiation for areas that can be accessed by the general public is found be dividing the channel center frequency, 521 MHz, by 1500. This yields a value of 0.3473 mW/cm² or 347.3 μW/cm². The limit for areas classed as occupational exposure is five times this value or 1,736.7 μW/cm².

As noted above, the worst case exposure to any person on the ground is 16.68 μW/cm². This represents 4.8 % of the general public limit and 0.96% of the occupational limit.

Chapter 47 of the Code of Federal Regulations, §1.1307(b)(3) states: *"In general, when the guidelines specified in §1.1310 are exceeded in an accessible area due to the emissions from multiple fixed transmitters, actions necessary to bring the area into compliance are the shared responsibility of all licensees whose transmitters produce, at the area in question, power density levels that exceed 5% of the power density exposure limit applicable to their particular transmitter or field strength levels that, when squared, exceed 5% of the square of the electric or magnetic field strength limit applicable to their particular transmitter. Owners of transmitter sites are expected to allow applicants and licensees to take reasonable steps to comply with the requirements contained in §1.1307(b) and, where feasible, should encourage co-location of transmitters and common solutions for controlling access to areas where the RF exposure limits contained in §1.1310 might be exceeded."* Should the level of radiofrequency radiation at the proposed multiple use site ever exceed the FCC guidelines, the proposed facility is categorically exempt from responsibility for bringing the shared transmitter site into compliance because its contribution is less than 5.0% of the applicable limit.

The facility is properly marked with signs, and entry is restricted by means of fencing with locked doors and/or gates. Any other means as may be required to protect employees and the general public will be employed. In the event work would be required in proximity to the antenna such that the person or persons working in the area would potentially be exposed to fields in excess of the guidelines, the station will cooperate with other licensees at the site to reduce power or cease operation during the critical period.