

RF COMPLIANCE EXHIBIT

December 22, 2020

The proposed W18DQ facility will comply with the FCC Rules concerning human exposure to radio frequency (RF) energy. The calculation of RF energy at 2-m above ground was made under the procedures of OET Bulletin No. 65. The formula employed is as follows:

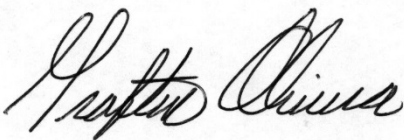
$$S = \frac{(33.4)F^2P}{R^2}$$

where, S = power density in $\mu\text{W}/\text{cm}^2$, F = relative field factor at the angle to the calculation point, P = the total effective radiated power relative to a dipole in watts, and R = distance from the antenna radiation center to the calculation point in meters.

The proposed antenna will be mounted with radiation center at a height of 46 meters on an existing tower structure. The power density at 2 meters above ground level at the base of the tower, based on a "worst-case" vertical relative field value of 0.2 for any depression angle greater than 30° below horizon, a total ERP of 3 kW (Hpol) and an antenna center of radiation height above ground level of 46 meters, the calculated power density at two meters above ground level at the base of the tower is 2.1 microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$), or 0.6 % of the Commission's recommended limit applicable to uncontrolled exposure areas, 331.3 $\mu\text{W}/\text{cm}^2$ for channel 18.

Since the total RF exposure will be much less than 5% of the FCC limits for uncontrolled environments, the proposal complies with the FCC limits for human exposure to RF radiation and since the antenna will be mounted on an existing registered tower, the proposal will comply with the FCC environmental rules.

The applicant will verify that access to the tower site is restricted and the site will be appropriately marked with RFR warning signs. In addition, in the event that workers or other authorized personnel need to enter the restricted area or climb the tower, appropriate measures will be taken to assure worker safety with respect to radio frequency radiation exposure. Such procedures include reducing the average exposure by spreading out the work over a longer period of time, wearing RFR exposure monitors or scheduling work when station W18DQ-D is shut down.



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