

R.F. RADIATION COMPLIANCE STATEMENT
State Of Wisconsin - Educational Communications Board
December 2014
W15DJ-D

We have chosen to use worst case calculations as shown below that were derived from the formulas in the OET 65 bulletins as updated.

The WHDI (FM) antenna:

WHDI operates at 11kW ERP from an antenna height of 110 meters above ground. At head height (2 meters) this station produces a power density of 63.02 microwatts per square centimeter. The proposed tower site is fenced, gated and kept locked so the environment is controlled. This amounts to 6.3% for the controlled environment.

The WHND.CP (FM) antenna:

The tower site also has the antenna of the WHND transmission facilities. This station also transmits from an antenna height above ground of 110 Meters at an ERP of 22 kW (The WHDI and WHND antennas are dplexed). Using OET 65 worst case calculations, we find that this station will produce 126.0 microwatts per square centimeter at a head height of two meters above the ground. This amounts to 12.6% of the maximum for the controlled environment.

The W15DJ antenna:

The tower site also has the antenna of TV translator W15DJ. This station transmits from an antenna height of 149 Meters at an ERP of 3.9 kW. Using OET 65 worst case calculations (without regard to the attenuation of the antenna's vertical elevation field at the nadir), we find that this station produces 5.9 microwatts per square centimeter at a head height of two meters. This amounts to 0.37% of the maximum for the controlled environment.

WXN-69 Weather Station

WXN-69 transmits on 162.425 MHz with an ERP of 4.5 kW from an antenna height above ground of 137 meters. Therefore, at head height this station produces 3.13 microwatts per square centimeter, which is 0.313 percent of the maximum for the frequency in use.

Total calculated R.F. emissions:

Together the three broadcast antennas and one weather station antenna produce a total of 19.6 % of the maximum allowed for a controlled environment. Note that the FM and TV antennas were calculated under "worst case", when in fact, the power densities will be significantly less at the nadir due to the higher gains of the multibay antennas that significantly reduce the emissions in the downward direction.

The State of Wisconsin - Educational Communications Board will reduce power to safe levels or terminate transmissions in the event a worker must go on to the tower and be at a distance from one or more of the radiators such that over exposure

would result.

Consequently, it appears that the proposed transmitter site will be in full compliance with the Commission's human exposure to radio frequency electromagnetic field rules and regulations.

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