

THE UNIVERSITY OF NORTH CAROLINA
RESEARCH TRIANGLE PARK, NC
RADIO FREQUENCY RADIATION ENVIRONMENTAL EFFECTS
FOR
W19CR-D TRYON, NORTH CAROLINA

ENVIRONMENTAL STATEMENT

The University of North Carolina submits this exhibit in support of the Modification of a Licensed Facility application for low power translator facility, W19CR-D, Tryon, North Carolina. This exhibit provides details of W19CR-D's facility compliance with maximum permissible radio frequency electromagnetic exposure limits for controlled and uncontrolled environments.

W19CR-D, Channel 19 operates with an effective radiated power (ERP) of 0.2 kW (average digital power) utilizing a RFS RD4-OM antenna with the antenna's center of radiation located 12 meters above ground level. This antenna is non-directional and is horizontally polarized. For the purposes of RFR analysis, it was assumed that the antenna's elevation pattern relative field ratio at downward angles between 30 and 90 degrees is at worst case 0.25. That ratio was used to determine radiation levels directed at those angles from the antenna.

Utilizing Table 1 of OET 65, the general population / uncontrolled environment maximum exposure level for channel 19 is 0.335 mW/cm². Using formulas available in OET 65 the distance to the 0.335 mW/cm² contour is 7.73 meters.

The maximum occupational / controlled exposure level for channel 19 is 1.677 mW/cm². The distance to the 1.677 mW/cm² contour is calculated to be 3.46 meters.

The worst case maximum exposure level at 2 meters above ground level was calculated to be 0.000640 mW/cm² and is located about 12.77 meters from the base of the tower. The calculated exposure level for general population / uncontrolled environment is 0.19% and 0.04% for occupational / controlled environments.

Site Control

Access to the transmission site is restricted and appropriately marked with warning signs. An electromagnetic radiation abatement plan is in place at the site to educate employees and workers as to the potential hazards when working on the tower. In the event that workers or other authorized personnel need to enter restricted areas or climb the tower, appropriate measures will result in maintaining worker safety with respect to radio frequency radiation exposure.