

Site Selection & RF Energy Exposure
WXTV License Partnership G.P.
WXTV-DT Paterson, NJ facility ID 74215
Auxiliary Antenna
Channel 26 240 kW-DA 224 m

This application proposes continued use of a multiple-use communications tower and antenna owned by American Tower, located at West Orange, NJ. Use of currently utilized, shared sites in areas with similar structures is environmentally preferred. Furthermore, WXTV-DT is licensed as a channel sharing guest on WFUT-DT's facility; ID 60555. As such, the details below match those of WFUT-DT's auxiliary facility application¹.

Operation on channel 26, with its center frequency of 545 MHz, implies a radiofrequency radiation exposure guideline value of $363 \mu\text{W}/\text{cm}^2$ for "uncontrolled" areas (the general population). The Dielectric TUD-C5SP-10/34U-2-B antenna has its radiation center 98.5 meters above ground level and is horizontally polarized. The maximum downward radiation value, at depression angles greater than 10° is 0.147. This value occurs at the depression angle of 69° , with a vector at 2 meters above ground level of 103.4 meters from the antenna's radiation center at 37 meters out from the tower base. Consequently, the worst-case predicted exposure level at 2 meters above ground level will not exceed $16.22 \mu\text{W}/\text{cm}^2$. This exposure level is 4.46% of the guideline value for uncontrolled areas and would normally not exceed the 5% threshold for further RF exposure study. However, there is a neighboring building with a height above ground of 15.24 meters that falls on the 37 meter radius from the tower base. Exposure from WXTV-DT at 2 meters above the roof of this building is predicted to be $22.87 \mu\text{W}/\text{cm}^2$, or 6.29% of the guideline value.

Four other television stations have auxiliary facilities at this site, two of which share the same antenna as WXTV-DT proposes. The other two stations share a separate antenna. Assuming a worst-case downward radiation value of 0.2 for these stations, the combined total RF energy exposure is 57.38% of the uncontrolled guideline value at 2 meters above ground. The combined total RF energy exposure is 71.21% of the uncontrolled guideline value at 2 meters above the neighboring building roof.

¹ See LMS file number [0000217852](#).

As an auxiliary site, it is unlikely that many transmitters will be operational simultaneously, thus reducing the likelihood of exposure to the general public or any person on the rooftop of the neighboring building.

Access to the site and tower base is restricted by fencing and marked by appropriate warning signs. A formal RFE exposure control protocol is in effect for tower work. The applicant recognizes its responsibility to reduce power or interrupt operation during tower work to ensure safe working conditions for rigging personnel.