

Engineering Exhibit
WRDU (FM)
Facility ID 73936
Minor Change Application
July 31, 2007

By this application it is sought to modify construction permit BPH-20060818ABE of WRDU (FM), to specify a new antenna height, location, power. Permit BPH-20060818ABE was responsive to "Report and Order RM-11197, MB Docket No. 05-121" for change in community from Wilson to Knightdale North Carolina and accomplished a one-step change in station Class to "C1".

The proposed WRDU (FM) antenna is to be non-directional and will be located 468 meters above ground level upon a tower identified by antenna structure registration number (ASRN) 1006703. The proposed facility is at a Height Above Average Terrain (HAAT) of 488 meters, this is 189 meters greater than maximum for Class C1, the web tool "FMpower" was utilized to determine the equivalent power of 27.5 kW. This tower also supports FM stations WRAL Raleigh, NC and WQDR Raleigh, NC.

From this location WRDU (FM) is fully spaced as a Class C1 facility in accordance with Section 73.207 to all known facilities, applications and allocations, with the exception of WNMX-FM Waxhaw, NC. A contingent modification application is being filed concurrently for WFJA to specify operation from a height of 248 meters above mean sea level, at a power of 2.55 kW on a tower located at 35-26-40 79-18-31. Processing in accordance with Section 73.215 with respect to WNMX-FM is requested. Operation of WRDU from the proposed location at the proposed height and power will prevent prohibited contour overlap as demonstrated in Figure 1 below.

The proposed facilities were evaluated in terms of potential radio frequency radiation exposure at ground level in accordance with OET Bulletin No. 65, "Evaluating Compliance With FCC-Specified Guidelines for Human Exposure to Radio frequency Radiation."

The proposed antenna system is a Dielectric "Panel", 6-bay, 1.0 wave spaced antenna, mounted with its center of radiation 468 meters above ground level. This proposal will operate with an effective radiated power of 27.5 kilowatts in both the horizontal and vertical planes into a theoretical worst case element of "Ring Stub". At 2 meters above ground, at 82 meters from the base of the tower, this proposal will contribute worst case 4.87 microwatts per square centimeter, or 0.487 percent of the allowable ANSI limit for controlled exposure, and 2.43 percent of the allowable limit for uncontrolled exposure. This figure is less than 5% of the applicable FCC exposure limit at all locations extending out from the base of the tower. Section 1.1307(b)(3) excludes applications when the calculated level is predicted to be less than 5% of the applicable exposure limit. It is therefore believed that this proposal is in compliance with OET Bulletin Number 65 as required by the Federal Communications Commission.

Further, the applicant will see that signs are posted in the vicinity of the tower, warning of potential radio frequency hazards at the site. The site itself is restricted from public access. The applicant will cooperate with other users of the tower to reduce power of the facility, or discontinue operation, as necessary to limit human exposure to levels less than specified by the Federal Communications Commission should anyone be required to climb the tower for maintenance or inspection.

