

Comprehensive Engineering Exhibit
Application for Construction Permit
WTQR Winston-Salem, North Carolina
July 1, 2010

This exhibit is in support of an application for modification of permit BPH-20090108AJ0 to change antenna location and height. It is proposed to locate WTQR 143 meters above ground level on antenna structure registration, No. 1205275. From this location WTQR as a full C facility will remain fully spaced under Section 73.207 as demonstrated in Figure 1 below to all known full power facilities and allocations with the exception of the permit for WXCF-FM, and the licensed facilities of WXCF-FM and WNNL(FM). Spacing in accordance with Section 73.215 is requested. Figure 2 is a map demonstrating that prohibited contour overlap will not occur between these facilities.

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 for WTQR is an EPA type 3, 6- bay, full wave spaced, "Roto- tiller " antenna, mounted with its center of radiation 143 meters above ground level, and will operate with an effective radiated power of 100 Kilowatts in both the horizontal and vertical planes.

However, co-located on the same support structure is to be the antenna of co-owned station WMKS. A study combining the radiated power from the lowest of the antenna, WMKS, is presented below.

The proposed antenna system is an EPA type 3, 6- bay, full wave spaced, "Roto- tiller " antenna, mounted with its center of radiation 87 meters above ground level, and will operate with a COMBINED effective radiated power of 130 Kilowatts in both the horizontal and vertical planes.

At 2 meters above ground, at 27 meters from the base of the tower, this proposal will contribute worst case combined, 82.0 microwatts per square centimeter, or 8.2 percent of the allowable ANSI limit for controlled exposure, and 41.0 percent of the allowable limit for uncontrolled exposure. 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.

Figure 1.

ComStudy 2.2 search of channel 281 (104.1 MHz Class C) at 36-22-36.4 N, 80-22-08.6 W.								
Callsign	City	Chanl	ARN	Class	Status	Dist_km	Sep	Clr
WTQR	WINSTON-SALEM	281	BPH20090108AJO	C	CP	0.63	290	-289.4
WXCF-FM	BIG ISLAND	280	BPH20080114ACM	A	CP	150.41	165	-14.6
WNNL	FUQUAY-VARINA	280	BLH19921001KA	C3	LIC	169.37	176	-6.6
WXCF-FM	CLIFTON FORGE	280	BLH20071101ABA	A	LIC	161.93	165	-3.1
WFXK	TARBORO	282	BLH19900209KD	C1	LIC	210.8	209	1.8
WXCF-FM	CLIFTON FORGE	280	BMLH19901031KB	A	LIC	167.8	165	2.8
WJSG	HAMLET	282	BLH20061109ADN	C3	LIC	183.22	176	7.2
WZVA	MARION	278	BLH20030930BCX	A	LIC	107.78	95	12.8
WHAJ	BLUEFIELD	283	BLH20000330ACB	C	LIC	121.54	105	16.5
WXIS	ERWIN	280	BLH20051101AAR	A	LIC	182.98	165	18

Figure 2.

