JOHN J. MULLANEY
JOHN H. MULLANEY, P.E. (1994)
ALAN E. GEARING, P.E.
TIMOTHY Z. SAWYER

MULLANEY ENGINEERING, INC.
9049 SHADY GROVE COURT
GAITHERSBURG, MD 20877
301-921-0115 Voice
301-590-9757 Fax
Mullaney@MullEngr.com

REQUEST FOR MINOR MOD OF EXISTING CP WRNT-LP - HARTFORD, CONNECTICUT CH. 481 - BPTTL-20030714AEF

R and S Broadcasting, LLC, licensee of LPTV Station WRNT-LP at Hartford, CT, herein requests a modification of its existing CP. The modification proposes to remain at the existing site but with the following changes: the antenna center of radiation will be lowered 24 meters; the manufacturer/pattern of the proposed antenna will be changed and the ERP will be increased from 50 kW-DA to 60 kW-DA . Despite these changes the modified protected contour (74.8 dBu) will be completely contained within the protected contour of the CP. **Figure 1** is a coverage map showing both the CP & Proposed contours. Thus, no increase in interference caused will result. **Figure 2** is a plot of the proposed antenna pattern in relative field.

a. **Environmental Assessment Statement:**

WRNT-LP believes its proposal will not significantly affect the environment since it does not meet any of the criteria specified in Section 1.1307 of the rules. Since an existing tower will be used with no change in overall height the only remaining environmental issue is R.F. Exposure. As will be shown, the proposed LPTV contributes less than 1% of the "controlled" standard at ground level and, therefore, it is **categorically excluded** from further consideration. Specifically the proposed facility:

1) Will NOT involve the exposure of workers or the general public to levels of Radio Frequency radiation in excess of the guidelines recommended by the FCC - OET Bulletin 65 (August 25, 1997).

The following is a more detailed discussion of this protection standard:

A. <u>National Environmental Policy Act of 1969</u>:

In 1969, Congress enacted the National Environmental Policy Act (NEPA), which requires the FCC to evaluate the potential environmental significance of the facilities it regulates and authorizes. Human exposure to Radio Frequency (RF) radiation had been identified as an issue that the FCC must consider.

Beginning with the filing of applications after January 1, 1986, broadcast stations were required to "certify compliance" with FCC prescribed guidelines on human exposure to RF radiation. The FCC standard was based upon the American National Standards Institute's (ANSI) RF radiation protection guides (ANSI C95.1-1982). These exposure limits are expressed in terms of milli-watts per square centimeter.

In October 1997, the FCC implemented a two tier evaluation criteria utilizing recommendations of the National Council on Radiation Protection and Measurement (NCRP). The "controlled" tier involves areas which have restricted access while the "un-controlled" tier involves areas which have unrestricted access. The Maximum Permissible Exposure (MPE) limits for "controlled" areas are the same as adopted in 1985, while the "un-controlled" limits for FM and TV frequencies are one-fifth or 20% of the limits for "controlled" areas.

These exposure limits are time-averaged over any six minute period and vary depending upon the frequency involved. The following are the Maximum Permissible Exposure (MPE) limits for "controlled" areas:

Frequency Range (MHz)	**Power Density (mW/sq.cm)**	
0.3 to 3	100	AM
3 to 30	$900/(Freq^2)$	
30 to 300	1.0	VHF TV & FM
300 to 1,500	**Freq/300**	**UHF TV**
1500 to 100,000	5.0	

WRNT-LP recognizes that compliance with the above criteria at sites involving multiple AM, FM and/or TV facilities is based upon the contributions of all such facilities. At the site discussed in this application, there are the following significant facilities:

WCCC-FM	Ch. 295B	23 kW Lic
WRDM-LP	Ch. 50	50 kW Lic
WHCT-LP	Ch. 38	150 kW Lic
WTMI AM	1290 kHz	0.49 kW Lic

Although other transmission facilities operate from this same site the proposed LPTV facility is not required to conduct a complete analysis since it contributes less than 1% of the "controlled" standard at ground level and therefore, it is **categorically excluded** from further consideration.

Exposure from TV signals is determined by the following formula:

$$D = \frac{SQRT(F2 * [0.4 * VERP + AERP])}{1.667 * SQRT(PD) * 3.2808}$$

Where:

D = the closest distance in feet that a human should come to an operating antenna (to obtain feet multiply by 3.2808)

F = typical relative field factor in downward direction (F = 1 is worst case main lobe)

VERP = peak Visual ERP in watts (above a dipole)
AERP = Aural ERP in watts (above a dipole)
PD = highest Power Density in milli-watts/cm2
SQRT = Square Root
Freq = Frequency in mega-cycles

The vertical radiation pattern of the TV antenna specified in this application is very narrow and, therefore, the power density as seen by an observer on the ground near the base of the tower will be less than 20 percent of the total field.

The application of the above equation (assuming the maximum field strength), in our case, for a frequency of 674 to 680 MHz results in a minimum distance of 47.2 meters (155 feet) from the antenna based upon an "un-controlled" power density of 0.45 mW/cm.sq. Inasmuch as the lowest element on the proposed antenna will be approximately 54 meters (177 feet) above ground level, it is obvious that no hazard will exist at ground level. At 2 meters above ground and using the maximum downward radiation the contribution is 12.8% of the controlled standard. However, using a more realistic value of F=0.25 the contribution at ground level is 0.8%. Based upon this the facility qualifies for **Categorical Exclusion.**

Access to the site is controlled by a locked gated fence to insure safety. WRNT-LP understands that persons expected to be in the area must not be exposed to excessive levels of R.F. radiation. The power will be reduced or turned completely off as necessary to avoid an over exposure. Prior to commencing operation WRNT-LP will see to it that the site access plan is developed to include the effect of its facility. This information will be clearly documented and all persons having access will be advised of hazardous areas.

Mullaney Engineering, Inc.

b. <u>Compliance with National Historic Preservation Act - Section 106:</u>

WRNT-LP is proposing to side mount on an existing tower which was built prior to June 2000. This is one of two towers at the site. At the height proposed the LPTV antenna will be virtually invisible from an esthetic point of view. Given these factors, the applicant is not required to conduct a Section 106 study.

John J. Mullaney
Consulting Engineer

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