Larry H. Will, P.E. **Broadcast Engineering**

1055 Powderhorn Drive
Glen Mills, PA 19342-9504

PH (610) 399-1826
FAX (610) 399-0995
E-Mail lhwill@verizon.net

THE UNIVERSITY OF NORTH CAROLINA

LICENSEE OF W27AB

CANTON, ETC., NORTH CAROLINA

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AUCTION 85 APPLICATION FOR A CONSTRUCTION PERMIT FOR

A DTV COMPANION CHANNEL ON CH 46

FOR W27AB

(MINOR CHANGE)

ENGINEERING EXHIBIT 12

September 11, 2006

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Glen Mills, PA 19342-9504

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FAX (610) 399-0995
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REASEARCH TRIANGLE PARK, NC

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EXHIBIT 12 – RFR STATEMENT

There are no AM stations within 3.2 km of the proposed W27AB companion channel site. The instant application is excluded under 1.1306. There are no physical changes proposed to the existing pre 1986 antenna structure or immediate surrounding area. Proposed W27AB (CH 46) is one of seven LPTV stations and 7 FM stations at this general location required to be considered by 47 CFR 1.1307(b). They are W08AO, W11AU, APP PENDING-W51CK(CH 18), W57BG, NEW CH 48, W27AB(CH46), W27AB(CH 27), W209AD, NEW 250, 252, 264, 269, and WQNS, CH 285. UNCTV has completed RFR measurements on March 23, 2006 using a standard RFR power density meter and determined that the maximum total RFR levels from all emitters anywhere on the ground did not exceed 15% of the allowable limit for the general public/uncontrolled environment.

Using the procedures outlined in OET Bulletin 65, Edition 97-01 and specifically Appendix A, Table 1 and Equation 10, Page 21, I have evaluated the RFR energy from the antenna system of W27AB (CH 46) as follows:

W27AB(CH 46) W27AB is proposing digital companion operation on Channel 46 and utilizing an ERP of 1.0 kilowatts average digital power with a non-directional antenna and horizontal polarization. The proposed Channel 46 transmitting antenna is a high gain unit with a power gain of 10x side mounted with a C/R 20 meters up the tower. With the resulting high elevation gain, the RFR energy at steep angles below the horizon are expected to be at least 10 dB below that of the main lobe. Utilizing Appendix A, Table 1 the maximum occupational/controlled exposure level at CH 46 is 2.2 mW/cm^2. Using Equation 10, Page 21, the distance to the 2.2 mW/cm^2 contour is 1.2 meters. For general population/uncontrolled environment the maximum exposure level is 440 uW/cm^2. Again using Equation 10, Page 21, the distance to the 440 uW/cm^2 contour is 2.8 meters. Since the base of the antenna is approximately 18 meters above ground, the height of the structure limits the possible excessive RFR levels to at least 15 meters above ground. Again using Equation 10, the predicted RFR energy levels at 2 meters above ground is calculated at 13.0 uW/cm^2 or 3.0% of the allowable RFR energy exposure for the general population/uncontrolled environment per FCC OET 65. **The proposed W27AB(CH 46) contributes less than 5% of the FCC allowable for the general public/uncontrolled environment and therefore is exempt from totals in this multi-use site.**

FM FACILITIES

NEW 250 NEW250 is proposing an ERP of 4 watts at 25 meters above ground. Due to the extremely low power radiated and antenna height, NEW 250 contributes negligible RFR energy at ground level and was not evaluated further. This station has not yet be granted a CP.

NEW 252, 264 (2 APPS), 269 These stations are all proposing an ERP of 10 watts at 15-25 meters above ground. Due to the extremely low power radiated and antenna height, all of

these stations contribute negligible RFR energy at ground level and are not evaluated further. These stations have not yet be granted a CP.

WQNS WQNS is licensed with an ERP of 0.245 kilowatts power and circular polarization. The antenna is mounted with a C/R 43 meters up the tower. With the antenna height above ground, the RFR energy at steep angles below the horizon are expected to be at least 3 dB below that of the main lobe. Utilizing Appendix A, Table 1 the maximum occupational/controlled exposure level at FM is 1 mW/cm^2. Using Equation 10, Page 21, the distance to the 1 mW/cm^2 contour is 2.9 meters. For general population/uncontrolled environment the maximum exposure level is 200 uW/cm^2. Again using Equation 10, Page 21, the distance to the 200 uW/cm^2 contour is 6.4 meters. Since the base of the antenna is approximately 41 meters above ground, the height of the structure limits the possible excessive RFR levels to at least 34 meters above ground. Again using Equation 10, the predicted RFR energy levels at 2 meters above ground is calculated at 5.4 uW/cm^2 or 2.7% of the allowable RFR energy exposure for the general population/uncontrolled environment per FCC OET 65. The WQNS contribution has been included in the RFR measurements conducted by UNCTV on March 13, 2006.

Therefore the total levels of all RFR energy sources at all points on the ground from proposed and operating W27AB are below that required for protection of both the employees and the general public as required by ANSI 95.1-1992 or FCC OET 65, Edition 97-01. The total RFR level from proposed W27AB is calculated not to not exceed 3% of the FCC allowable for the general public/uncontrolled environment anywhere on the ground in the immediate area of the tower. After construction of W27AB (CH19), the site RFR total anywhere at ground level will be no more than 18% of that allowable for the general public/uncontrolled environment. Neither workers nor the general public will be inadvertently exposed to RFR energy levels exceeding the maximum permissible exposure (MPE) levels set forth in Section 1.1310 of the Rules.

Where radio frequency fields in excess of FCC guidelines are predicted to be encountered (very near the station's transmission antenna), signs and protective devices shall secure the area affected from the general public. With respect to direct employees of this licensee, OSHA RFR

guidelines will be observed. Contractors and other outside workers potentially exposed to such areas shall be advised of the hazard by posted notices or other means. The station will reduce power or cease operation, if necessary, in order to protect workers on the tower.

With these procedures in place, we believe the proposed W27AB (Channel 46) operation is in compliance with the RFR energy requirements of 47 CFR 1.1307(b).