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THE UNIVERSITY OF NORTH CAROLINA

LICENSEE OF WUNC-DT

CHAPEL HILL, NORTH CAROLINA

FAC ID# 690890

**FCC FILE # BLET-19950809KE
BLEDT-20020102AAW
BMPEDT-20080617AAK**

APPLICATION FOR A CONSTRUCTION PERMIT FOR

A DTV REPLACEMENT TRANSLATOR ON CH 46

FOR GRANVILLE, NC

ENGINEERING EXHIBIT 11

April 24, 2009

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**THE UNIVERSITY OF NORTH CAROLINA
REASEARCH TRIANGLE PARK, NC
APPLICATION FOR A CONSTRUCTION PERMIT FOR
A DTV REPLACEMENT TRANSLATOR ON CH 46
FOR GRANVILLE, NC.**

EXHIBIT 11

FACILITIES REQUESTED

THE UNIVERSITY OF NORTH CAROLINA (UNCTV), is filing this application to request authority to construct a digital replacement translator on Channel 46 for WUNC-DT, Channel 25¹, Chapel Hill, NC (FCC File No. BMPEDT-20080617AAK), with an effective radiated power of 0.6 kW (DA) (H). In support thereof, the following details are presented:

A: Figure 1 shows a plot of WUNC-TV, Channel 4; WUNC-DT, Channel 59 pre-transition, and WUNC-DT, Channel 25 post transition coverage as well as the 41 and 51 dBu F(50,90) proposed Ch 46 contours.

¹ WUNC-DT's present digital channel is Channel 59 (BLEDT-20020102AAW). WUNC-DT is switching to Channel 25 post transition (BMPEDT-20080617AAK).

As shown in Figure 1, the original CH 4 NTSC Grade B F(50,50) contour exceeds both the original 1998 CH 59 out of core allotment 41 dBu F(50,90) DTV contour as well as the WUNC-DT CH 25 post transition 41 dBu F(50,90) service contour².

B: Based on both telephone and electronic complaints to UNCTV from viewers of difficulties with digital reception in the areas of Granville County, NC and South Boston, VA who are able to receive WUNC-TV Channel 4 NTSC but not WUNC-DT, Channel 59 DTV. Post transition, WUNC-DT will switch to in core Channel 25, also a UHF channel with similar propagation characteristics as Channel 59. The WUNC-TV analog station is on VHF Channel 4 with considerably different propagation characteristics than those of the UHF band.

C: This area in question is well with-in the former Grade B coverage of WUNC-TV, Channel 4 and even though reliable coverage is predicted by the Longley-Rice method over some of the area lost as compared to the Channel 4 analog coverage, the significant number of complaints coupled with considerable digital signal level verification by UNCTV engineering staff on the WUNC-DT current DTV channel, have clearly demonstrated to UNCTV that a replacement translator is required to improve service in this portion of the WUNC-TV/DT service area. This problem will be further exacerbated, after the switch to CH 25 after June 12, 2009 as a result of the need to utilize a directional antenna with the null oriented to the northeast³.

Pursuant to FCC Public Notice, DA 08-2818⁴ and proposed Section 74.787(a)(5)(i) rules regarding digital replacement translators, this office, with assistance from Techware, Inc., has

² WUNC-DT's Consulting Engineers and attorneys, working closely with the UNCTV Engineering staff, succeeded in obtaining the necessary interference Agreements to allow the relocation of Channel 25 from Lumberton, NC to Chapel Hill, NC. However, as part of the interference agreement process, a directional antenna was required for Channel 25 to maintain a minimum level of predicted interference to other stations.

³ See FCC pattern number ERI 87110.

⁴ See FCC DA08-2818, "MEDIA BUREAU ANNOUNCES APPLICATION AND STA FILING PROCEDURES FOR NEW REPLACEMENT DIGITAL TELEVISION TRANSLATORS BEGINNING JANUARY 5, 2009".

completed a Longley-Rice analysis of the proposed digital operation on TV Channel 46 with an ERP of 0.6 kW non-directional, a “Stringent” channel filter per 74.794, and that study shows that no prohibited interference will occur to any other authorized or pending full service and LPTV analog or digital station as required by 74.792 and 74.793. The results of the Longley-Rice Study can be supplied to the staff if needed. The 41.68 F(50,90) replacement translator proposed on CH 46 does not extend beyond the 47 dBu Channel 4 F(50,50) contour.

CONCLUSIONS

By using the FCC recognized Longley-Rice terrain model and receiver antenna directivity, we have shown that the instant proposal for DTV operation on CH 46 meets the requirements for a DTV replacement digital channel for WUNC-DT, Channel 25 (post transition) and we believe that this proposal for DTV replacement operation on Channel 46 should be GRANTED.

SIGNAL™: WUNC DT fillin_translator_Granville.map

Sites

- WUNCTV Grade B
- WUNC DT25
- WUNC DT59
- Reference Grid (spacing: 1 degree)

Notes

Plot of the WUNC-TV CH 4 Grade B (Green);
 The WUNC-DT CH 59 41 dBu (Blue);
 The WUNC-DT CH 25 41 dBu (Orange);
 and the proposed Grandview CH 46
 Fill-In translator 51/41 dBu (Red).
 prepared by
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KILOMETERS
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COVERAGE STUDY
 GRANVILLE-WUNC-TV

Figure 1 04/13/2009

