



STATEMENT OF JOHN E. HIDLE, P.E.  
IN SUPPORT OF AN  
APPLICATION TO AMEND AN  
APPLICATION FOR CONSTRUCTION PERMIT  
BPCDT-19991029AGZ  
WTTE-DT – COLUMBUS, OHIO  
DTV - CH. 36 - 1000 kW - 271 Meters HAAT

Prepared for: Columbus (WTTE-TV) Licensee, Inc.

I am a Consulting Engineer, an employee in the firm of Carl T. Jones Corporation, with offices located in Springfield, Virginia. My education and experience are a matter of record with the Federal Communications Commission. I am a registered Professional Engineer in the Commonwealth of Virginia, Registration No. 7418, and in the State of New York, Registration No. 63418.

**GENERAL**

Columbus (WTTE-TV) Licensee, Inc., licensee of WTTE(TV), Channel 28, Columbus, Ohio, and applicant for a construction permit for the paired Digital Television Allotment for WTTE-DT, Channel 36, has authorized this office to evaluate a letter received from the Federal Communications Commission stating the results of the Commission's technical review of the subject application, BPCDT-19991029AGZ, prepare this statement as a part of the applicant's response to that letter, and prepare FCC Form 301, Sections III and III-D, in support of an Application to Amend the pending Application for Construction Permit for WTTE-DT, BPCDT-19991029AGZ.

## **ANALYSIS**

The March 30, 2001 letter from the FCC states that the WTTE-DT Application for Construction Permit “cannot be granted because it would have an adverse impact on the future implementation of Digital Television (DTV) in the United States.” The letter further states “a grant of your proposal would cause a reduction in the population that would receive DTV service within the replicated service area of station WYTV-DT located in Youngstown, Ohio, by 4.4 percent utilizing a 2 km cell. The interference would occur on WYTV-DT’s DTV channel 36, which is co-channel to your proposed DTV operation.”

The March 30, 2001 letter bases its inability to grant the WTTE-DT application on the policies set forth in the *Public Notice, Additional Application Processing Guidelines for Digital Television (DTV)*, released August 10, 1998 (“Processing Guidelines Notice”). The Processing Guidelines Notice defines the technical and interference studies that must be performed to determine whether a proposal will comply with the 2 percent and 10 percent *de minimis* standards contained in Section 73.623(c)(2) of the Commission’s Rules, which was established by the *Memorandum Opinion and Order on Reconsideration of the Sixth Report and Order in MM Docket No. 87-268*, 13 FCC Rcd 7418 (1998).

## **RESULTS**

I have utilized the Commission’s tv\_process software, which is available on the FCC’s website, in evaluating the pending WTTE-DT proposal. In order to determine compliance with the guidelines, I have analyzed the “raw data” from the tv\_process study

relative to both WYTV-DT's allotment and authorized construction permit facility. WYTV-DT's allotted facility is the first station in the list of "Stations Potentially Affected by Proposed Station" shown in the tv\_process analysis results file. The analysis of the allotment current record, beginning on page 3 of Attachment A, contains four scenarios showing various combinations of license, construction permit and application files for three stations which potentially affected WYTV-DT. The "before analysis" and "after analysis" results comparing the effects of WTTE-DT's allotment with the effects of WTTE-DT's pending application reveal no increase in interference population in excess of the 2.0 percent *de minimis* criteria contained in Section 73.623(c)(2) of the Commission's Rules.

WYTV-DT's construction permit facility, BPCDT19991028ADP is the second station in the list of "Stations Potentially Affected by Proposed Station" shown in the tv\_process results file, and, according to the records contained in the Commission's Consolidated Database System (CDBS), the construction permit was granted in response to a "checklist" application. The processing guidelines specifically exclude "checklist" construction permits from interference analysis.

These data show that the Commission's analysis is correct only as it relates to WYTV-DT's allotted facilities, and WTTE-DT's pending application does not violate the *de minimis* interference criteria contained in Section 73.623(c)(2) when compared to WYTV-DT's allotment. The Commission's analysis toward WYTV-DT's "checklist" construction permit is in error and should never have been considered. Current Commission policy requires that commercial DTV allotments must be protected as such until December 31,

2004<sup>1</sup>. WTTE-DT's pending application, BPCDT-19991029AGZ, does comply with this policy in that it fully protects WYTV-DT's allotted facilities. Although under no obligation to do so, the applicant herein takes this opportunity to submit an application seeking to amend WTTE-DT's pending application.

### **PROPOSED AMENDMENT**

The applicant herein proposes to amend the pending application of WTTE-DT to specify a new site with a different Height Above Average Terrain (HAAT) and propose a different antenna. I have further utilized the program tv\_process in order to determine the appropriate modifications to comply with the Commission's Rules. Attachment B contains the results of my analysis, again using tv\_process, of an acceptable modification of the WTTE-DT proposal. In the modified proposal herein analyzed, the proposed Effective Radiated Power is not changed and remains at 1000 kW. In Attachment B, when compared to Attachment A, an improvement is shown in that the WYTV-DT interference populations have actually been reduced by the instant proposal.

The applicant herein proposes to amend WTTE-DT's pending Application for Construction Permit, BPCDT-19991029AGZ, by relocating the antenna site and substituting a non-directional antenna while maintaining the ERP at 1000 kW. The instant proposal, when compared to all pertinent television facilities using tv\_process, fully

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<sup>1</sup> Report and Order and Further Notice of Proposed Rule Making in MM Docket No. 00-39, In the Matter of Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television, FCC 01-24, released January 19, 2001. 66 FR 10001 (2001) at Paragraph 24.

complies with the 2 percent and 10 percent *de minimis* interference criteria specified in Section 73.623(c)(2) of the Commission's Rules.

### **PROPOSED OMNI-DIRECTIONAL ANTENNA**

It is proposed to install an omni-directional antenna, a Dielectric model TFU-30GBH-R 06 on an existing tower currently used by WSYX(TV), at North Latitude 39E 56' 14" and West Longitude 83E 1' 16". The existing tower is registered in the FCC's tower registration database, registration number 1011933. This antenna, when installed as proposed herein, will support the WSYX(DT) antenna, which is authorized in construction permit BPCDT-19991025AEO. The proposed omni-directional transmitting antenna shall employ an electrical beam tilt of 0.75 degrees below the horizontal plane. The antenna manufacturer's vertical plane radiation pattern, illustrating the proposed antenna's radiation characteristics above and below the horizontal plane, is attached hereto as Exhibit 2, and tabulated in Exhibit 3. A Vertical Plan Antenna Sketch is provided in Exhibit 1.

### **PREDICTED COVERAGE CONTOURS**

The predicted coverage contours, shown in Exhibit 4, were calculated in accordance with the method described in Section 73.625 of the Rules, utilizing the appropriate F(50,90) propagation curves, power, and antenna height above average terrain as determined for each profile radial. The average terrain on the eight cardinal radials from 3 kilometers to 16 kilometers from the site was determined using the National Geophysical Data Center

Thirty Second Point Database (TPG-0050) as prescribed in the FCC Rules. The antenna site elevation and coordinates were determined from FCC antenna registration data. The predicted WTTE-DT 48 dBF signal contour encompasses the entire principal community of license, as required in Section 73.625(a) of the Commission's Rules. The predicted 41 dBF contour is also shown in Exhibit 4.

## **ENVIRONMENTAL CONSIDERATIONS**

### **GENERAL**

The proposal described herein meets the criteria specified in Section 1.1306 of the FCC Rules and Regulations as an action that is categorically excluded from environmental processing. The proposed DTV facility involves neither a site location specified under Section 1.1307(a)(1)-(7) of the Rules nor high intensity lighting as specified in Section 1.1307(a)(8).

### **RADIO FREQUENCY IMPACT**

Effective October 15, 1997, the FCC adopted new guidelines and procedures for evaluating environmental effects of radio frequency (RF) emissions. The new guidelines are generally based on recommendations by the National Council on Radiation Protection and Measurements (NCRP) in NCRP Report No. 86 (1986), and by the American National Standards Institute and the Institute of Electrical and Electronic Engineers, Inc. (IEEE) in ANSI/IEEE C95.1-1992 (IEEE C95.1-1991). The newly adopted guidelines provide a

maximum permissible exposure (MPE) level for occupational or “controlled” situations as well as “uncontrolled” situations that apply in cases that affect the general public. The FCC’s Office of Engineering and Technology (OET) Commission has issued a revised technical bulletin (OET Bulletin No. 65) entitled, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields" (Edition 97-01, August 1997), to aid in the determination of whether FCC-regulated transmitting facilities, operations or devices comply with limits for human exposure to radio frequency electromagnetic fields as adopted by the Commission in 1996. The revised Bulletin contains updated and additional technical information for evaluating compliance with the new FCC policies and guidelines.

The newly adopted FCC MPE level for “uncontrolled” environments is derived from the formula, (frequency/1500), for UHF TV stations. The MPE level for UHF stations in a “controlled” environment is derived from the formula, (frequency/300). We must consider the contributions of our own station, WTTE-DT channel 36, and the other proposed and existing stations at the proposed site. For WTTE-DT, which operates on television Channel 36 (605 MHz), the MPE is 0.403 milliwatts per centimeter squared ( $\text{mW}/\text{cm}^2$ ) in an “uncontrolled” environment and 2.017  $\text{mW}/\text{cm}^2$  in a “controlled” environment.

The proposed WTTE-DT facility will operate with a maximum ERP of 1000 kW from a horizontally polarized directional transmitting antenna with a centerline height of 290 meters above ground level (AGL). Considering a very conservative vertical plane relative field factor of 0.3, the WTTE-DT facility produces a predicted power density at two meters

above ground level of 0.03624 mW/cm<sup>2</sup>, which is 8.99% of the new FCC guideline value for "uncontrolled" environments, and 1.799% of the new FCC guideline value for "controlled" environments (see Appendix A).

The total percentage of the ANSI value at the proposed site, considering the cumulative radiation of all stations at the site, is only 20.66% of the limit for "uncontrolled" environments, and 4.13% of the limit for "controlled" environments.

### **OCCUPATIONAL SAFETY**

Based on the calculations discussed above, the cumulative predicted power density for the existing and proposed co-located facilities would be only 4.13% of the FCC guideline value for "controlled" environments. The licensee of WTTE-TV is committed to the protection of station personnel and/or tower contractors working in the vicinity of the WTTE-DT antenna. The applicant is committed to reducing power and/or ceasing operation during times of service or maintenance of the transmission systems, when necessary, to ensure protection of personnel.

In light of the above, the proposed WTTE-DT facility should be categorically excluded from RF environmental processing under Section 1.1307(b) of the Commission's Rules.



**SUMMARY**

It is submitted that the proposal described herein complies with the Rules and Regulations of the Federal Communications Commission. The analyses contained herein, this statement, FCC Form 301 and associated exhibits were prepared by me or under my direct supervision and are believed to be true and correct.

DATED: October 5, 2001

  
John E. Hidle, P.E.

