

ENGINEERING STATEMENT  
APPLICATION FOR LICENSE  
FOR CONSTRUCTION PERMIT  
FCC FILE NO. BNPEDT-20090626AAC  
ON BEHALF OF  
WCTE-DT, COOKEVILLE, TENNESSEE  
CHANNEL 22 57 KW ND ERP 412 METERS HAAT

JULY 2009

COHEN, DIPPELL AND EVERIST, P.C.  
CONSULTING ENGINEERS  
RADIO AND TELEVISION  
WASHINGTON, D.C.

COHEN, DIPPELL AND EVERIST, P. C.

City of Washington )  
 ) ss  
District of Columbia )

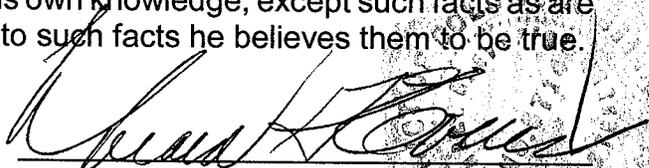
Donald G. Everist, being duly sworn upon his oath, deposes and states that:

He is a graduate electrical engineer, a Registered Professional Engineer in the District of Columbia, and is President, Secretary and Treasurer of Cohen, Dippell and Everist, P.C., Consulting Engineers, Radio - Television, with offices at 1300 L Street, N.W., Suite 1100, Washington, D.C. 20005;

That his qualifications are a matter of record in the Federal Communications Commission;

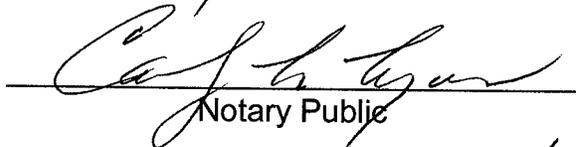
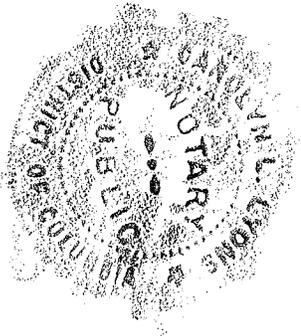
That the attached engineering report was prepared by him or under his supervision and direction and

That the facts stated herein are true of his own knowledge, except such facts as are stated to be on information and belief, and as to such facts he believes them to be true.



Donald G. Everist  
District of Columbia  
Professional Engineer  
Registration No. 5714

Subscribed and sworn to before me this 28<sup>th</sup> day of July, 2009.

  
Notary Public

My Commission Expires: 2/28/2013

Introduction

This engineering statement has been prepared on behalf of the Upper Cumberland Broadcast Council, licensee of WCTE-DT, Cookeville, Tennessee in support of an application to license its outstanding construction permit (FCC File No. BMPEDT-20090626AAC). WCTE-DT just received approval from its request to maximize its operation to 200 kW per FCC File No. BMPEDT-20090430AAC, however, time is required to acquire and install the necessary transmitter and associated RF equipment.

WCTE(TV), a non-commercial educational broadcast station, operated on NTSC Television Channel 22 with a maximum visual effective radiated power (“ERP”) of 1320 kW non-directional (horizontal polarization) and a height above average terrain (“HAAT”) of 425 meters (1394 feet). WCTE-DT was allocated DTV Channel 22 with facilities of 50 kW Max DA and HAAT of 425 meters in the revised DTV Table of Allotments.<sup>1</sup> WCTE-DT’s maximization was granted in BMPEDT-20090430AAC. WCTE-DT now proposes to license the Channel 22 DTV facilities of 57 kW non-directional ERP (horizontal polarization) at a HAAT of 412 meters and to be operated until such time that the facilities authorized in FCC File No. BMPEDT-20090430AAC can be completed.

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<sup>1</sup>“In the Matter of Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service”, MM Docket 87-268, Memorandum Opinion and Order on Reconsideration of the Seventh Report and Order and Eighth Report and Order (FCC 08-72) Released March 6, 2008.

WCTE(TV) Transmitter Site

The WCTE(TV) tower hosts a side-mounted antenna from which the Channel 22 DTV signal will be transmitted. The overall structure height will remain unchanged as the DTV antenna is side-mounted on the tower. The transmitter site is located on Buck Mountain Road, 3.5 miles southeast of Monterey, Tennessee.

The Antenna Structure Registration No. is 1047124.

The geographic coordinates of the existing tower are:

North Latitude: 36° 10' 26"

West Longitude: 85° 20' 37"

NAD-27

Equipment Data

Antenna: Andrew, Type ALP16M2-HSO-22 horizontally polarized antenna with 0.5° electrical beam tilt.

Transmission Line: 100 feet horizontal and 710 feet vertical of ERI, Type MACX450, 4-1/6", 50 ohm line

Power Data

Transmitter output:	4.71 kW	6.73 dBk
Transmission Line Efficiency/Loss:	72.9%	1.37 dB
Input power to the antenna:	3.44 kW	5.36 dBk
Antenna power gain, Main Lobe	16.59	12.2 dB
Effective Radiated Power, Maximum	57 kW	17.56 dBk

Elevation Data

Vertical dimension of Channel 22 side-mounted antenna	12.4 meters 40.8 feet
Elevation of site above mean sea level	608.7 meters 1997.1 feet
Overall height above ground of the proposed antenna and existing tower structure (including beacon)	245.4 meters 805.1 feet
Overall height above mean sea level of existing tower (including beacon)	854.1 meters 2802.2 feet
Center of radiation of Channel 22 antenna above ground	216.3 meters 709.6 feet
Center of radiation of Channel 22 antenna above mean sea level	825.0 meters 2706.7 feet
Antenna height above average terrain	412 meters 1351.7 feet

NOTE: Slight height differences result due to conversion to metric.

**Section III - Engineering**

**TECHNICAL SPECIFICATIONS**

Ensure that the specifications below are accurate. Contradicting data found elsewhere in this application will be disregarded. All items must be completed. The response "on file" is not acceptable.

**TECH BOX**

1. Channel _____			
2. Operating Constants			
Transmitter power output (average power at input to transmission line, after any filter attached to the transmitter, if used)			Transmission line power loss
kW		dBk	dB
Antenna Input power	Maximum antenna power gain	Effective radiated power (average power)	
dBk	dB	kW	dBk
3. Antenna Data			
Manufacturer		Model	

**NOTE: In addition to the information called for in the Certification Checklist, an explanatory exhibit providing full particulars must be submitted for each question for which a "No" response is provided.**

**CERTIFICATION**

4. **Main Studio Location.** The main studio location complies with 47 C.F.R. Section 73.1125.  Yes  No See Explanation in Exhibit No.
5. **Constructed Facility.** The facility was constructed as authorized in the underlying construction permit or complies with 47 C.F.R. Section 73.1690.  Yes  No See Explanation in Exhibit No.
6. **Special Operating Conditions.** The facility was constructed in compliance with all special operating conditions, terms, and obligations described in the construction permit.  Yes  No See Explanation in Exhibit No.
- Exhibit No.
- An exhibit may be required.** Review the underlying construction permit.
7. **Transmitter.** The transmitter complies with 47 C.F.R. Section 73.1660.  Yes  No See Explanation in Exhibit No.

**PREPARER'S CERTIFICATION ON PAGE 6 MUST BE COMPLETED AND SIGNED.**

**APPLICATION FILED PURSUANT TO 47 C.F.R. SECTIONS 73.1675(c) or 73.1690(c).**

Only applicants filing this application pursuant to 47 C.F.R. Sections 73.1675(c) or 73.1690(c) must complete the following

8. **Changing transmitter power output.** Is this application being filed to authorize a change in transmitter power output caused by the replacement of an omnidirectional antenna with another omnidirectional antenna or an alteration of the transmission line system? See 47 C.F.R. Sections 73.1690(c)(1) and (c)(10).  Yes  No

9. **Replacing a directional antenna.** Is this application being filed pursuant to 47 C.F.R. Section 73.1690(c)(3) to replace a directional antenna with another directional antenna?  Yes  No

If "Yes" to the above, the applicant certifies the following:

a. **Pattern of Directional Antenna.** The proposed theoretical antenna pattern complies with 47 C.F.R. Section 73.1690(c)(3). **Exhibit is required.**  Yes  No See Explanation in Exhibit No.  
Exhibit No.

10. **Use a formerly licensed main facility as an auxiliary facility.** Is this application being filed pursuant to 47 C.F.R. Section 73.1675(c)(1) to request authorization to use a formerly licensed main facility as an auxiliary facility and/or change the ERP of the proposed auxiliary facility?  Yes  No

If "Yes" to the above, the applicant certifies the following:

a. **Auxiliary antenna service area.** The proposed auxiliary facility complies with 47 C.F.R. Section 73.1675(a). **Exhibit is required.**  Yes  No See Explanation in Exhibit No.

b. **Environmental Protection Act.** The proposed facility is excluded from environmental processing under 47 C.F.R. Section 1.1306 (*i.e.*, the facility will not have a significant environmental impact and complies with the maximum permissible radiofrequency electromagnetic exposure limits for controlled and uncontrolled environments).  Yes  No See Explanation in Exhibit No.

By checking "Yes" above, the applicant also certifies that it, in coordination with other users of the site, will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic exposure in excess of FCC guidelines.

11. **Change the license status.** Is this application being filed pursuant to 47 C.F.R. Section 73.1690(c)(9) to change the license status from commercial to noncommercial or from noncommercial to commercial?  Yes  No

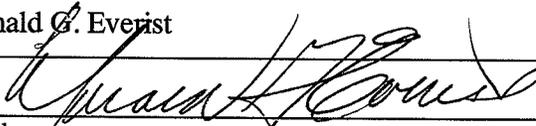
Exhibit No.

If "Yes" to the above, submit an exhibit providing full particulars. For applications changing license status from commercial to noncommercial, include Section II of FCC Form 340 as an exhibit to this application.

**PREPARER'S CERTIFICATION ON PAGE 6 MUST BE COMPLETED AND SIGNED.**

**SECTION III PREPARER'S CERTIFICATION**

I certify that I have prepared Section III (Engineering Data) on behalf of the applicant, and that after such preparation, I have examined and found it to be accurate and true to the best of my knowledge and belief.

Name Donald G. Everist		Relationship to Applicant (e.g., Consulting Engineer) Consulting Engineer	
Signature 		Date July 28, 2009	
Mailing Address Cohen, Dippell and Everist, P.C., 1300 L Street, NW, Suite 1100			
City Washington		State or Country (if foreign address) DC	ZIP Code 20005
Telephone Number (include area code) (202) 898-0111		E-Mail Address (if available) cde@attglobal.net	

WILLFUL FALSE STATEMENTS ON THIS FORM ARE PUNISHABLE BY FINE AND/OR IMPRISONMENT (U.S. CODE, TITLE 18, SECTION 1001),  
AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION PERMIT (U.S. CODE, TITLE 47, SECTION 312(a)(1)),  
AND/OR FORFEITURE (U.S. CODE, TITLE 47, SECTION 503).