

ENGINEERING STATEMENT  
REQUEST FOR LICENSE TO COVER THE OUTSTANDING  
CONSTRUCTION PERMIT (FCC FILE NO. BMPCDT-  
20060314ABP)

**WMBD-DT, PEORIA, ILLINOIS**  
CHANNEL 30 800 KW ERP MAX DA 193 METERS HAAT

OCTOBER 2006

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         )

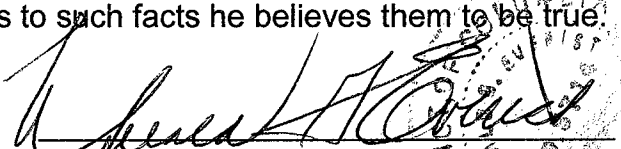
Donald G. Everist, being duly sworn upon his oath, deposes and states that:

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;

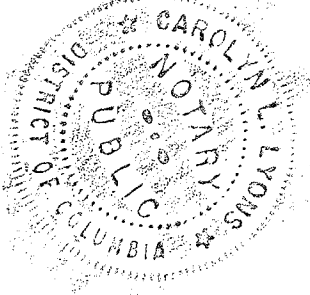
That his qualifications are a matter of record in the Federal Communications Commission;

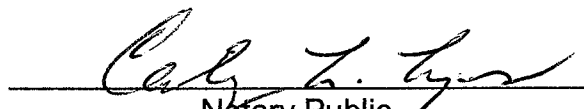
That the attached engineering report was prepared by him or under his supervision and direction and

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 17<sup>th</sup> day of October, 2006.



  
Notary Public

My Commission Expires: 2/28/2008

### Introduction

This engineering statement has been prepared on behalf of Nexstar Broadcasting, Inc. ("Nexstar") licensee of TV station WMBD-TV, Peoria, Illinois, in support of its request for license to cover its outstanding construction permit (FCC File No. BMPCDT-20060314ABP) for its digital television ("DTV") operation. At present, WMBD-TV operates on NTSC TV Channel 31 (572-578 MHz) with 2040 kW maximum effective radiated power ("ERP") and 195 meters antenna height above average terrain ("HAAT"). The current analog Channel 31 operation of WMBD-TV is with a directional TV antenna. Station WMBD-TV has been allotted Channel 30 (566-572 MHz) for its digital TV operation and has been authorized to construct a facility (FCC File No. BMPCDT-20060314ABP) from the existing tower from the same height as the WMBD-TV NTSC operation from a common directional antenna with DTV facilities of 800 kW directional ERP at an HAAT of 193 meters. WMBD-TV requests a license for these currently authorized DTV facilities herein

### Antenna Site

A new Dielectric trilobe antenna has been installed which replaced the previous trilobe NTSC directional antenna. The NTSC channel 31 directional pattern from the new antenna is identical to that currently licensed. The DTV antenna is the same as the top-mounted WMBD-TV NTSC antenna on the existing tower with a radiation center of 159 meters above ground level.

The WMBD-DT antenna site is located 5 miles SE of Peoria in East Peoria, Illinois. The DTV antenna structure registration number is 1016047.

The geographic coordinates of the existing tower are as follows:

North Latitude: 40° 38' 06"

West Longitude: 89° 32' 19"

(NAD-27)

The following data shows the pertinent information concerning the requested operation.

Antenna and Elevation Data

Antenna:	Dielectric	TFU-30GTH-R 6T170 DC	
	Beam Tilt	0.70° electrical	
	Transmitter Power Output (after combiner/filter loss)	21.5 kW	13.32 dBk
	Transmission Line Loss 572 feet (174.3 m) of Dielectric Type EIA/DCA 7-3/16", 75 ohm	87.7%	0.57 dB
	Input Power to Antenna	18.8 kW	12.75 dBk
	Directional Max. Power Gain	42.5	16.28 dB
	Maximum Effective Radiated Power	800 kW	29.03 dBk
Elevation of the site above mean sea level:		225.6 meters	740.2 feet
Elevation of the top of existing supporting structure above ground including DTV antenna		167.9 meters	550.9 feet
Elevation of the top of supporting structure above mean sea level including DTV antenna		393.5 meters	1291 feet
Height of DTV antenna radiation center meters above ground		159 meters	521.7 feet
Height of DTV antenna radiation center above mean sea level		384.6 meters	1262 feet
Height of DTV antenna radiation center above average terrain		193 meters	

Special Operating Condition

Nexstar acknowledges that the grant of this DTV license is subject to the special operating condition specified in the outstanding construction permit. Therefore, Nexstar certifies

that it has made a good faith effort to identify and notify potentially affected health care facilities within the WMBD-DT service area authorized by the outstanding construction permit.

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

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

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**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

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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

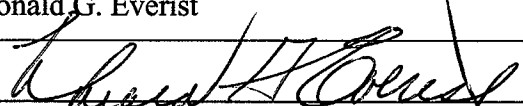
Exhibit No.

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 October 17, 2006	
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).