

ENGINEERING STATEMENT
APPLICATION FOR MODIFICATION OF THE OUTSTANDING
DTV CONSTRUCTION PERMIT FOR
AN EXISTING TELEVISION TRANSLATOR
(FCC FILE NO. BMPD TT-20090825BVQ)
K16AB-D, GUYMON, OKLAHOMA
CHANNEL 16 6.30 KW ND ERP 1109 METERS RC/AMSL

JANUARY 2010

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

City of Washington)
) ss
District of Columbia)

My Commission Expires: 2/28/2013

INTRODUCTION

This engineering statement has been prepared on behalf of Oklahoma Educational Television Authority, licensee of TV translator K16AB, Guymon, Oklahoma. This statement supports the licensee's request for modification of the outstanding construction permit, FCC File No. BMPDTT-20090825BVQ, to reduce the authorized DTV effective radiated power ("ERP") from 15 kW to 6.30 kW at a radiation center above mean sea level ("RCAMSL") of 1109 meters. These factors specify, due to economic reasons, the construction using a 1 kW transmitter in lieu of a larger transmitter. There are no other changes requested.

TRANSMITTER SITE

The existing antenna has been utilized and the tower has not been significantly altered. The existing tower is located at 9th & Ellison Streets in Guymon, Oklahoma. The geographic coordinates of the site follow below.

North Latitude: 36° 40' 13"

West Longitude: 101° 28' 48"

NAD-27

ELEVATION DATA

Elevation of site above mean sea level	950 meters (3116.8 feet)
Center of radiation of antenna above ground level	159 meters ¹ (521.7 feet)
Center of radiation of antenna above mean sea level	1109 meters (3638.5 feet)
Overall height of tower above ground	159.2 meters (522.3 feet)

¹Center of radiation above ground level derived from the current license (FCC File No. BLTT-19790307ID).

The Antenna Structure Registration Number ("ASRN") for the existing tower is 1011306.

EQUIPMENT DATA

Transmitter:	Type-approved
Transmission Line:	Andrew, Type HJ7-50A, 1-5/8", 164.6 meters (540 feet) with 55.8% efficiency [0.469 dB loss/100 ft]
Antenna:	Bogner, B8UO with a gain of 11.3 and 0° electrical beamtilt
Out-of-Channel Emission Mask:	Simple

POWER DATA

Transmitter:	1.00 kW	0.00 dBk
Transmission Line Loss:	55.8%	2.53 dB
Input Into Antenna:	0.558 kW	-2.53 dBk
Antenna Gain:	11.3	10.53 dB
ERP:	6.30 kW	7.99 dBk

There will be slightly less radiofrequency field level than previously determined as demonstrated in the engineering filing for the previous application. The proposed operation, the calculation, based on the current OET Bulletin 65 edition 97-01 dated August 1997 and Supplement A, produces less than $0.2 \mu\text{W}/\text{cm}^2$ on Channel 16 which is less than 0.1% of the maximum permissible exposure (MPE limit) for an uncontrolled environment 2 meters above ground in the vicinity of the K16AB tower site. That report demonstrated compliance with the radiofrequency field level guidelines.

Section III - Engineering (Digital)

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. Translator Input Channel No. _____
3. Station proposed to be rebroadcast:

Call Sign	City	State	Channel
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4. Antenna Location Coordinates: (NAD 27)

____° ____' ____" ☐ N ☐ S Latitude
____° ____' ____" ☐ E ☐ W Longitude

5. Antenna Structure Registration Number: _____

☐

Not applicable

See Explanation
in Exhibit No.

☐

FAA Notification Filed with FAA

6. Antenna Location Site Elevation Above Mean Sea Level: _____ meters
7. Overall Tower Height Above Ground Level: _____ meters
8. Height of Radiation Center Above Ground Level: _____ meters
9. Maximum Effective Radiated Power (ERP): _____ kW
10. Transmitter Output Power: _____ kW

11. a. Transmitting Antenna: ☐ Nondirectional ☐ Directional ☐ Directional composite

Manufacturer	Model
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- b. Electrical Beam Tilt: _____ degrees ☐ Not applicable

c. Directional Antenna Relative Field Values:

Rotation: _____ ° ☐ No rotation ☐ N/A (Nondirectional)

Degree	Value	Degree	Value	Degree	Value	Degree	Value	Degree	Value	Degree	Value
0		60		120		180		240		300	
10		70		130		190		250		310	
20		80		140		200		260		320	
30		90		150		210		270		330	
40		100		160		220		280		340	
50		110		170		230		290		350	
Additional Azimuths											

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

12. **Out-of-Channel Emission Mask:** Simple ☐ Stringent ☐

CERTIFICATION

13. **Interference.** The proposed facility complies with all of the following applicable rule sections. 47 C.F.R. Sections 74.709, 74.793(e), 74.793(f), 74.793(g), 74.793(h), 74.794(b) and 73.1030. ☐ Yes ☐ No

See Explanation in Exhibit No.

14. **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). Unless the applicant can determine RF compliance. An **Exhibit is required.** ☐ Yes ☐ No

See Explanation in Exhibit No.

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.

15. **Channels 52-59.** If the proposed channel is within channels 52-59, the applicant certifies compliance with the following requirements, as applicable:

☐ The applicant is applying for a digital companion channel for which no suitable channel from channel 2-51 is available.

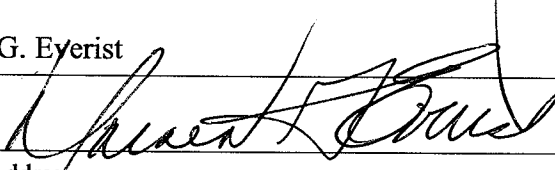
☐ Pursuant to Section 74.786(d), the applicant has notified, within 30 days of filing this application, all commercial wireless licensees of the spectrum comprising the proposed TV channel and the first adjacent channels thereto, for which the proposed digital LPTV or TV translator antenna site lies inside the licensed geographic boundaries of the wireless licensees or within 75 miles and 50 miles, respectively, of the geographic boundaries of co-channel and adjacent-channel wireless licensees.

PREPARER'S CERTIFICATION ON PAGE 8 MUST BE COMPLETED AND SIGNED.

16. **Channels 60-69.** If the proposed channel is within channels 60-69, the applicant certifies compliance with the following requirements, as applicable:

- ☐ Pursuant to Section 74.786(e), the applicant has notified, within 30 days of filing this application, all commercial wireless licensees of the spectrum comprising the proposed TV channel and the first adjacent channels thereto, for which the proposed digital LPTV or TV translator antenna site lies inside the licensed geographic boundaries of the wireless licensees or within 75 miles and 50 miles, respectively, of the geographic boundaries of co-channel and adjacent-channel wireless licensees,
- ☐ Pursuant to Section 74.786(e), the applicant proposing operation on channel 63, 64, 68 and 69 ("public safety channels") has secured a coordinated spectrum use agreement(s) with 700 MHz public safety regional planning committee(s) and state frequency administrator(s) of the region(s) and state(s) within which the antenna site of the digital LPTV or TV translator station is proposed to locate, and those adjoining regions and states with boundaries within 75 miles of the proposed station location.
- ☐ Pursuant to Section 74.786(e), an applicant for a channel adjacent to channel 63, 64, 68 or 69 has notified, within 30 days of filing this application, the 700 MHz public safety regional planning committee(s) and state administrator(s) of the region and state containing the proposed digital LPTV or TV translator antenna site and regions and states whose geographic boundaries lie within 50 miles of the proposed LPTV or TV translator antenna site.

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 January 19, 2010	
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).