

ENGINEERING STATEMENT
APPLICATION FOR
LPTV DIGITAL COMPANION CHANNEL
CONSTRUCTION PERMIT
K38EB-D, KINGSVILLE-ALICE, TEXAS
CHANNEL 48 15 KW DA ERP 115 METERS RC/AMSL

APRIL 2007

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)

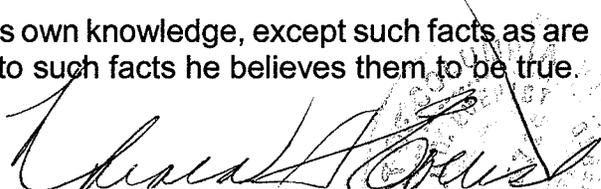
Donald G. Everist, being duly sworn upon his oath, deposes and states that:

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;

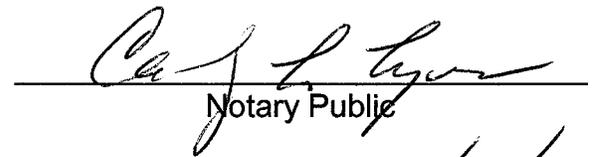
That the attached engineering report was prepared by him or under his supervision and direction and

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 27th day of April, 2007.



Notary Public

My Commission Expires: 2/28/2008

COHEN, DIPPELL AND EVERIST, P. C.

City of Washington)
) ss
District of Columbia)

Martin R. Doczkat being duly sworn upon his oath, deposes and states that:

He is a graduate electrical engineer of the Pennsylvania State University, and is a staff engineer at Cohen, Dippell and Everist, P.C., Consulting Engineers, Radio - Television, with offices at 1300 L Street, N.W., Suite 1100, Washington, D.C. 20005;

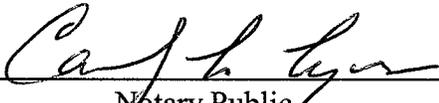
That the attached engineering report was prepared by him or under his supervision and direction and

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.



Martin R. Doczkat

Subscribed and sworn to before me this 27th day of April, 2007.



Notary Public

My Commission Expires: 2/28/2008



INTRODUCTION

This engineering statement has been prepared on behalf of KVOA Communications, Inc. (“KVOA”), licensee of low-power television station K38EB, Kingsville-Alice, Texas (Facility ID 51372). This statement supports the licensee’s request for a digital companion channel to be operated simultaneously with K38EB’s licensed Channel 38 analog operation.

KVOA filed an application (FCC File No. BSFDTL-20060630CLC) for a digital low-power television companion channel during the Auction 85 filing window and the Commission has identified this application as mutually exclusive (“MX”) in group number MX070 in the FCC Public Notice, dated October 17, 2006. This application, as amended during the 60-day settlement window, is now deemed a “singleton”. In accordance with the procedures outlined in the FCC Public Notice dated March 22, 2007, KVOA hereby requests digital low-power facilities on Channel 48 with an effective radiated power (“ERP”) of 15 kW (directional) at a radiation center above mean sea level (“RCAMSL”) of 115 meters, as amended, which was KVOA’s engineering solution to this MX070 group. No changes are proposed in this engineering statement from the technical details submitted in the amended Auction 85 settlement window. The sole purpose of this engineering statement is to supplement the long-form submission of FCC Form 346 to request digital companion Channel 48 facilities for K38EB. The proposed F(50,90) 51 dBu contour encompasses the F(50,50) 74 dBu contour of the currently licensed operation of K38EB.

Transmitter Site

The proposed digital low-power operation will utilize an existing tower located 15.5 km west of Route 70 in Bishop, Texas.

The geographic coordinates of the existing transmitter site are as follows:

North Latitude: 27° 40' 10"

West Longitude: 97° 54' 59"

NAD-27

Antenna Structure Registration Number: 1055958

Elevation Data

Antenna Location Site Elevation Above Mean Sea Level	35.0 meters (114.8 feet)
Overall Tower Height Above Ground Level	97.5 meters (319.9 feet)
Center of Radiation of Antenna Above Ground Level	80 meters (262.5 feet)
Center of Radiation of Antenna Above Mean Sea Level	115 meters (377.3 feet)

Equipment Data

Transmitter:	Type-approved
Emission Mask:	Simple
Transmission Line:	Andrew, Type HJ7-50A (or equivalent), 1-5/8", 50 ohm, 86 meters (281 feet) with 69.5% efficiency
Antenna:	Andrew, Type ALP8L1-HSBR with maximum gain of 13.96 dB and 0.25° electrical beam tilt or equivalent

Power Data

Transmitter:	0.87 kW	-0.62 dBk
Transmission Line Loss:	69.5%	1.58 dB
Input to Antenna:	0.60 kW	-2.20 dBk
Antenna Gain, Maximum:	24.89	13.96 dB
ERP, Maximum:	15 kW	11.76 dBk

As indicated above, the transmitter with typical power output of 0.87 kW will deliver 0.60 kW to the input of the antenna. The antenna having a maximum power gain of 13.96 dB and an electrical beam tilt of 0.25°, will produce a maximum ERP of 15 kW. A coverage map providing the protected contour of the proposed digital facility relative to the currently licensed analog operation of K38EB has been included as Exhibit E-1 of this report.

Other Broadcast Facilities

A brief analysis was completed to determine the presence of broadcast stations in the vicinity of the proposed K38EB site using the April 24, 2007 data contained within the Commission's Consolidated Database System ("CDBS"). Within 1 km of the proposed site, there are no authorized FM radio stations, no full-service DTV and no full-service NTSC television stations, and two existing low-power television stations aside from the proposed digital companion channel operation. There are no AM facilities within 3.22 of the existing tower. Although no adverse technical effects are expected due to the proposed changes, the applicant will take measures to resolve any problems proven to be related to the changes proposed in this application.

Interference Analysis

A study of predicted interference caused by the proposed Channel 48 K38EB low-power digital operation has been performed using the Longley-Rice program for which the source data has been posted by the Commission on its website at http://www.fcc.gov/oet/dtv/dtv_apps.html. The FCC's FORTRAN-77 code was modified only to the extent necessary (primarily input/output handling) for the program to run on a Microsoft Windows XP/Intel platform. Comparison of service/interference areas and population indicates this model closely matches the FCC's digital low-power TV/translator evaluation program. Best efforts have been made to use data and calculation identical to the FCC's program. The model employs the Longley-Rice propagation methodology and evaluates in grid cells of approximately 1 sq. km. Using 3-second terrain data sampled approximately every 1.0 km at one-degree azimuth intervals with 1990 census centroids, all studies are based upon data in the current CDBS database update of the FCC's engineering database. A Longley-Rice study was performed with the proposed Channel 48 K38EB low-power digital facilities and all relevant stations listed in the FCC data base as of April 24, 2007. The study results and the included stations are listed in Exhibit E-2.

Radio Frequency Field Level

According to the FCC database, there are no FM stations, no full-service DTV stations, no full-service NTSC stations, and two low-power analog television stations authorized to operate within 1 km of the existing tower which K38EB proposes to locate its digital companion operation. There are no AM stations within 3.22 km of the site. The broadcasting stations are as follows:

K38EB-D	Channel 48 (Proposed)
K20EK	Channel 20
K38EB	Channel 38

K38EB-D Digital Companion Facility (Proposed)

Channel 48	Freq:	674-680 MHz range
	ERP =	15 kW
	Polarization =	Horizontal
	RCAGL -2 meters =	78 meters

K38EB-D proposes to use an Andrew, Type ALP8L1-HSBR antenna with 0.25° electrical beam tilt. The manufacturer's vertical plane pattern for this antenna indicates that the field factor will be less than 0.27 at any angle greater than 15 degrees below the horizon. A value of 0.27 will be used in the calculation.

$$S = \frac{33.4 (F^2) \text{ Tot ERP}}{R^2}$$

Tot ERP = 15,000 watts (Horizontal Only)
R = 78 meters
F = 0.27 (field factor)

$$S = 6.0 \mu\text{W}/\text{cm}^2 \quad S = 0.006 \text{ mW}/\text{cm}^2$$

K38EB-D contributes less than 0.006 mW/cm² at 2 meters above ground. The limit for an uncontrolled environment is f/1500 for a station broadcasting in the 674-680 MHz range range.

$$(677 \text{ MHz})/1500 = 0.451 \text{ mW}/\text{cm}^2 \text{ is the RFF limit for K38EB-D.}$$

Therefore:

The proposed K38EB-D digital companion facility contributes less than 1.4% RFF for an uncontrolled environment two meters above ground in the vicinity of the tower site.

K20EK Analog Class A Television Facility

Channel 20	Freq:	506-512 MHz range
	ERP =	9.35 kW = 0.4 [18.7 kW Visual] + 1.87 kW Aural
	Polarization =	Horizontal
	RCAGL -2 meters =	78 meters

K20EK uses an Andrew, Type ALP8L1-HSBR antenna with 0.25° electrical beam tilt. The manufacturer's vertical plane pattern for this antenna indicates that the field factor will be less than 0.27 at any angle greater than 15 degrees below the horizon. A value of 0.27 will be used in the calculation.

$$S = \frac{33.4 (F^2) \text{ Tot ERP}}{R^2} \quad \begin{array}{l} \text{Tot ERP} = 9,350 \text{ watts (Horizontal Only)} \\ R = 78 \text{ meters} \\ F = 0.27 \text{ (field factor)} \end{array}$$

$$S = 3.8 \mu\text{W}/\text{cm}^2 \quad S = 0.0038 \text{ mW}/\text{cm}^2$$

K20EK contributes less than 0.0038 mW/cm² at 2 meters above ground. The limit for an uncontrolled environment is f/1500 for a station broadcasting in the 506-512 MHz range.

$$(509 \text{ MHz})/1500 = 0.339 \text{ mW}/\text{cm}^2 \text{ is the RFF limit for K20EK.}$$

Therefore:

K20EK analog Class A facility contributes less than 1.1% RFF for an uncontrolled environment two meters above ground in the vicinity of the tower site.

K38EB Analog Low-Power Television Facility

Channel 38	Freq:	614-620 MHz range
	ERP =	8.8 kW = 0.4 [17.6 kW Visual] + 1.76 kW Aural
	Polarization =	Horizontal
	RCAGL -2 meters =	78 meters

K38EB uses an Andrew, Type ALP8L1-HSBR antenna with 0.25° electrical beam tilt. The manufacturer's vertical plane pattern for this antenna indicates that the field factor less than 0.27 at any angle greater than 15 degrees below the horizon. A value of 0.27 will be used in the calculation.

$$S = \frac{33.4 (F^2) \text{ Tot ERP}}{R^2} \quad \begin{array}{l} \text{Tot ERP} = 8,800 \text{ watts (Horizontal Only)} \\ R = 78 \text{ meters} \\ F = 0.27 \text{ (field factor)} \end{array}$$

$$S = 3.5 \mu\text{W}/\text{cm}^2 \quad S = 0.0035 \text{ mW}/\text{cm}^2$$

K38EB contributes less than 0.0035 mW/cm² at 2 meters above ground.

The limit for an uncontrolled environment is $f/1500$ for a station broadcasting in the 614-620 MHz range.

$(617 \text{ MHz})/1500 = 0.411 \text{ mW/cm}^2$ is the RFF limit for K38EB.

Therefore:

K38EB analog LPTV facility contributes less than 0.9% RFF for an uncontrolled environment two meters above ground in the vicinity of the tower site.

Total RFF at Site

The total RFF contribution for all transmitters can now be calculated:

Total RFF% = 1.4% + 1.1% + 0.9% = 3.4%

The total contribution of all stations, 2 meters above the ground at the base of the tower, will be less than 3.4% of the current FCC maximum for general population exposure.

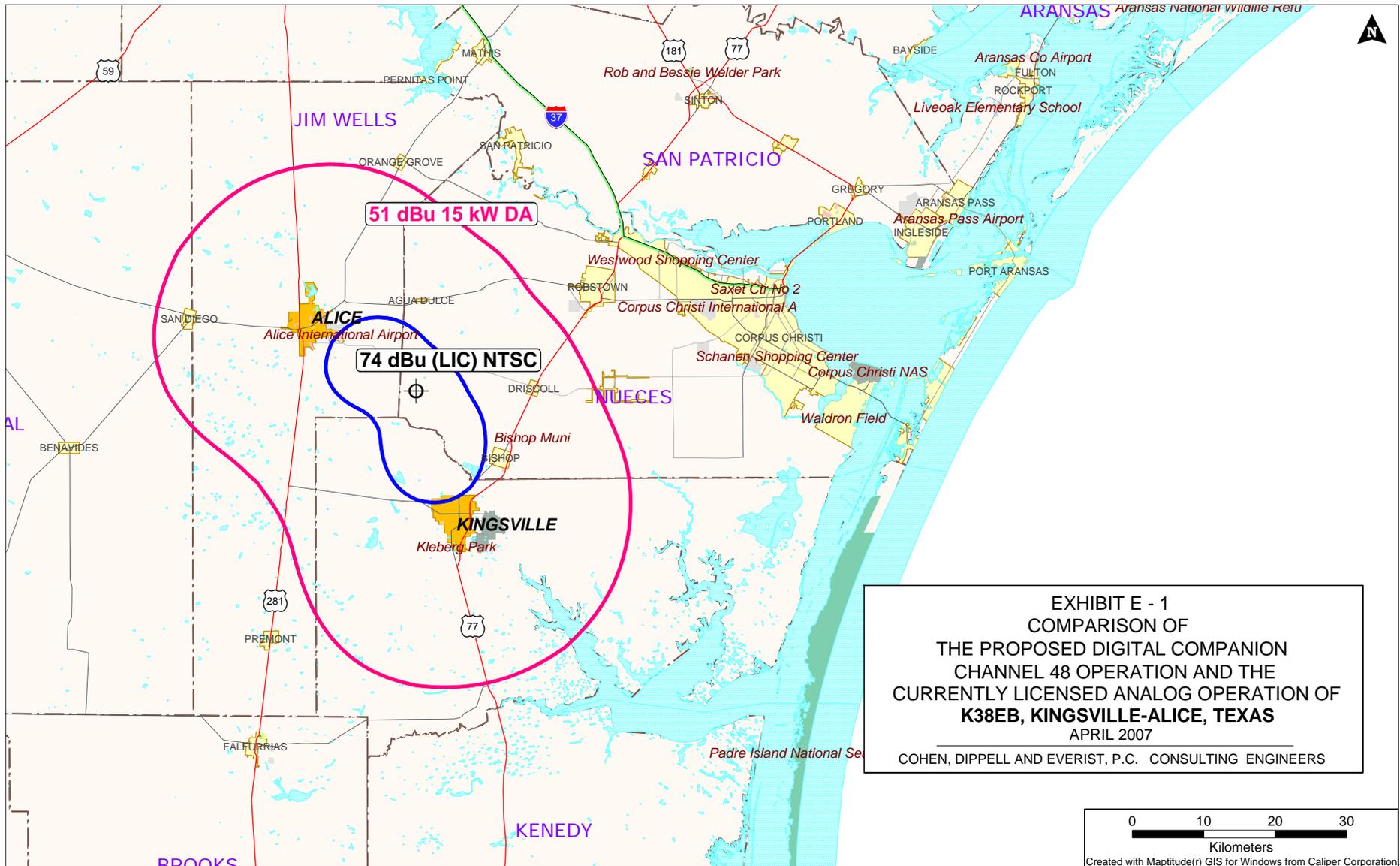
Authorized personnel and rigging contractors will be alerted to the potential zone of high field levels on the tower, and if necessary, the station will operate with reduced power or terminate the operation of the transmitter as appropriate when it is necessary for authorized personnel or contractors to perform work on the tower. Workers and the general public, therefore, will not be subjected to RFF levels in excess of the current FCC guidelines.

Summary of Environmental Assessment

An environmental assessment ("EA") is categorically excluded under Section 1.1306 of the FCC Rules and Regulations as the tower was constructed prior to the requirements specified in WT Docket No. 03-128 and the applicant indicates:

- (a)(1) The proposed facilities on an existing tower are not located in an officially designated wilderness area.

- (a)(2) The proposed facilities on an existing tower are not located in an officially designated wildlife preserve.
- (a)(3) The proposed facilities located on an existing tower will not affect any listed threatened or endangered species or habitats.
- (a)(3)(ii) The proposed facilities located on an existing tower will not jeopardize the continued existence of any proposed endangered or threatened species or likely to result in the destruction or adverse modification of proposed critical habitats.
- (a)(4) The proposed facilities located on a tower which was built prior to the adoption of WT Docket No. 03-128 and is grandfathered and has not any known districts, sites, buildings, structures, or objects significant in American history, architecture, archaeology, engineering, or culture.
- (a)(5) The proposed facilities located on an existing tower are not located near any known Indian religious sites.
- (a)(6) The proposed facilities are not located in a flood plain.
- (a)(7) There are no changes on an existing guyed tower, and therefore, are no significant change in surface features of the ground in the vicinity of the tower.
- (a)(8) The existing tower lighting will remain unchanged.
- (b) Workers and the general public will not be subjected to RFF levels in excess of the current FCC guidelines set forth in OET Bulletin No. 65, Edition 97-01, released August 1997 and Supplement A. Authorized personnel will be alerted to areas of the antennas where potential field levels are in excess of the FCC guidelines.



COHEN, DIPPELL AND EVERIST, P.C.

EXHIBIT E-2
DLPTV LONGLEY-RICE ANALYSIS RESULTS
FOR THE PROPOSED DIGITAL COMPANION CHANNEL OPERATION OF
K38EB, KINGSVILLE-ALICE, TEXAS
CHANNEL 48 15 KW DA ERP 115 METERS RCAMSL
APRIL 2007

<u>Channel</u>	<u>Call</u>	<u>City/State</u>	<u>Dist(km)</u>	<u>Status</u>	<u>FCC File No.</u>	<u>Result</u>
33	KCCG-LP	CORPUS CHRISTI TX	53.1	APP	BMPTTL-20061128ARY	beyond eval. distance
33	KCCG-LP	CORPUS CHRISTI TX	31.9	LIC	BLTTL-20060905AAA	no interference
34	KAEU-LP	ALICE TX	23.3	LIC	BLTTL-20051230AAM	no interference
34	KYDF-LP	CORPUS CHRISTI TX	53.6	APP	BMPTTL-20060323AEB	no interference
34	KYDF-LP	CORPUS CHRISTI TX	53.6	CP	BPTTL-20040716ABA	beyond eval. distance
40	NEW	CORPUS CHRISTI TX	34.1	APP	BNPTTL-20000829AEH	no interference
40	K40EX	MATHIS TX	55.2	APP	BMAPTTL-20000807AHH	no interference
41	NEW	ALICE TX	23.1	APP	BNPTT-20000830BFK	no interference
41	NEW	BEEVILLE TX	82.4	APP	BNPTTL-20000831BEA	beyond eval. distance
41	KCRP-CA	CORPUS CHRISTI TX	53	LIC	BLTTL-20001117ABY	beyond eval. distance
41	KETF-CA	LAREDO TX	134.2	APP	BDISTTA-20060905ABE	beyond eval. distance
44	KINE-LP	ROBSTOWN TX	27.3	LIC	BLTTL-19990503JH	no interference
45	NEW	BEEVILLE TX	82.4	APP	BNPTTL-20000831ANK	beyond eval. distance
45	KXCC-CA	CORPUS CHRISTI TX	53.1	LIC	BLTTL-19931126JE	beyond eval. distance
46	K46DL	KINGSVILLE TX	27.2	LIC	BLTT-19950411IE	no interference
46	KRYM-LP	RAYMONDVILLE TX	131.1	APP	BDISTTL-20070214AAL	beyond eval. distance
47	K47DF	CORPUS CHRISTI TX	52.2	LIC	BLTTL-19940317IE	no interference
47	NEW	MCALLEN TX	160.1	APP	BDCCDTL-20061027AEB	beyond eval. distance
47	K47JS	VICTORIA TX	155.9	CP MOD	BMPTTL-20051006AAU	beyond eval. distance
48	NEW	CORPUS CHRISTI TX	53	APP	BSFDTL-20060630AXJ	0.00%
48	KTMD-DT	GALVESTON TX	315.9	LIC	BLCDDT-20040325AEO	no interference
48	KNVO(TV)	MCALLEN TX	176.3	LIC	BLCT-19961105KE	no interference
48	KSAT-DT	SAN ANTONIO TX	181	LIC	BLCDDT-20020408AAE	0.00%
48	K48KW-D	VICTORIA TX	157.1	CP	BDCCDTL-20061005AAU	no interference
49	NEW	ALICE TX	23.1	APP	BSFDTL-20060630BDM	0.30%
49	K49DV	BEEVILLE-REFUGIO TX	93.5	LIC	BLTTL-19931206IC	no interference
49	KCBO-LP	CORPUS CHRISTI TX	53.1	LIC	BLTTL-20070122AAV	no interference
49	KNVO-DT	MCALLEN TX	176.3	CP	BPCDDT-19991025ACS	no interference
49	K49IE	VICTORIA TX	155.9	LIC	BLTTL-20070223AGB	beyond eval. distance
50	KTMV-LP	CORPUS CHRISTI TX	27.3	APP	BPTTL-20041220AAE	no interference
50	KMAO-LP	RAYMONDVILLE TX	133.1	LIC	BLTTL-19980722JG	beyond eval. distance
55	KLAO-LP	CORPUS CHRISTI TX	53.6	LIC	BLTTL-19930222JJ	beyond eval. distance
55	KRYM-LP	RAYMONDVILLE TX	133.1	LIC	BLTTL-19980421JA	beyond eval. distance
56	NEW	ALICE TX	17.8	APP	BNPTTL-20000831CCY	no interference
56	NEW	ORANGE GROVE TX	40	APP	BNPTTL-20000831BJF	no interference

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 Martin R. Doczkat		Relationship to Applicant (e.g., Consulting Engineer) Consulting Engineer	
Signature 		Date April 27, 2007	
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).