

ENGINEERING STATEMENT
APPLICATION FOR LICENSE
FOR OUTSTANDING CONSTRUCTION PERMIT
FCC FILE NO. BDFCDTA-20100831AAI
AN EXISTING CLASS A STATION
KTMJ-CA, TOPEKA, KANSAS
CHANNEL 43 15 KW MAX DA ERP 516.8 METERS RC/AMSL

MARCH 2012

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)

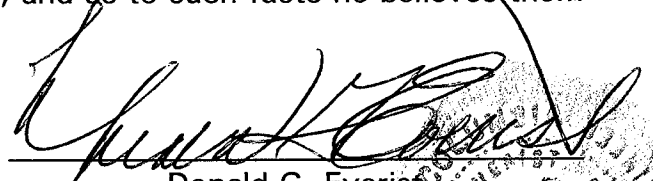
Donald G. Everist, being duly sworn upon his oath, deposes and states that:

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 1420 N Street, N.W., Suite One, Washington, D.C. 20005;

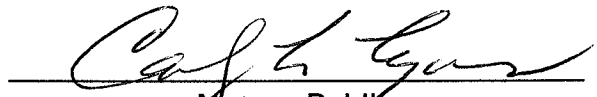
That his qualifications are a matter of record in the Federal Communications Commission;

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

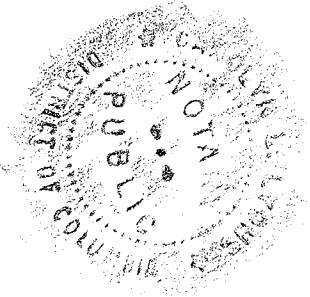
That the facts stated herein are true of his own knowledge, except such facts as are stated to be on information and belief, and as to such facts he believes them to be true.


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

Subscribed and sworn to before me this 14th day of March, 2012.


Notary Public

My Commission Expires: 2/28/2013



Introduction

This engineering statement accompanied a request for license and has been prepared on behalf of NT Topeka Licensee LLC, licensee of Class A television station KTMJ-CA, Topeka, Kansas. This engineering statement accompanies an application of a license for the facilities as authorized by the outstanding construction permit (FCC File No. BDFCDTA-20100831AAI) for DTV operation as a “flashcut” on the currently licensed analog channel 43. The facilities authorized are for a DTV operation with an effective radiated power (“ERP”) of 15 kW directional at a radiation center above mean sea level (“RCAMSL”) of 516.8 meters. The analog operation has been terminated.

Transmitter Site

A directional antenna is utilized and no significant alteration of the tower was required. The existing tower is located 301 NW Wanamaker Road, Topeka, Kansas. There is no change in transmitter site. The geographic coordinates of the site follow below.

North Latitude: 39° 03' 50"

West Longitude: 95° 45' 49"

NAD-27

Equipment Data

| | |
|--------------------|---|
| Transmitter: | Type-approved |
| Transmission Line: | ERI, Type HJ8-50A, 3-1/8”, flexible coaxial air heliax, 199 meters (654 feet) with 53.1% efficiency or equivalent [0.42 dB loss/100 ft on Ch.43] |

Antenna: ERI, Model ALP32L3-HSER-43 with maximum gain of 61.6 (17.90 dB) and 0.75° electrical beam tilt (no mechanical tilt) or equivalent; extended cardioid azimuth pattern, reduced rear, oriented towards N 275° E, true

Emission Mask: Stringent

Power Data

| | | |
|--|----------|------------|
| Transmitter Power Output ("TPO") Includes filter: | 0.458 kW | -3.392 dBk |
| Transmission Line Efficiency/Loss: | 53.1% | 2.747 dB |
| Input Into Antenna: | 0.243 kW | -6.139 dB |
| Antenna Gain: | 61.62 | 17.9 dB |
| ERP: | 15.0 kW | 11.76 dBk |

Elevation Data

| | |
|--|-------------------------------|
| Elevation of site above mean sea level | 329.0 meters (1079.4 feet) |
| Center of radiation of antenna above ground level | 187.8 meters (616 feet) |
| Center of radiation of antenna above mean sea level | 516.8 meters (1695.4 feet) |
| Overall height above ground of antenna including appurtenances | 285.7 meters (937.3 feet) |
| Overall height above mean sea level of tower including appurtenances | 614.7 meters (2016.7 feet) |

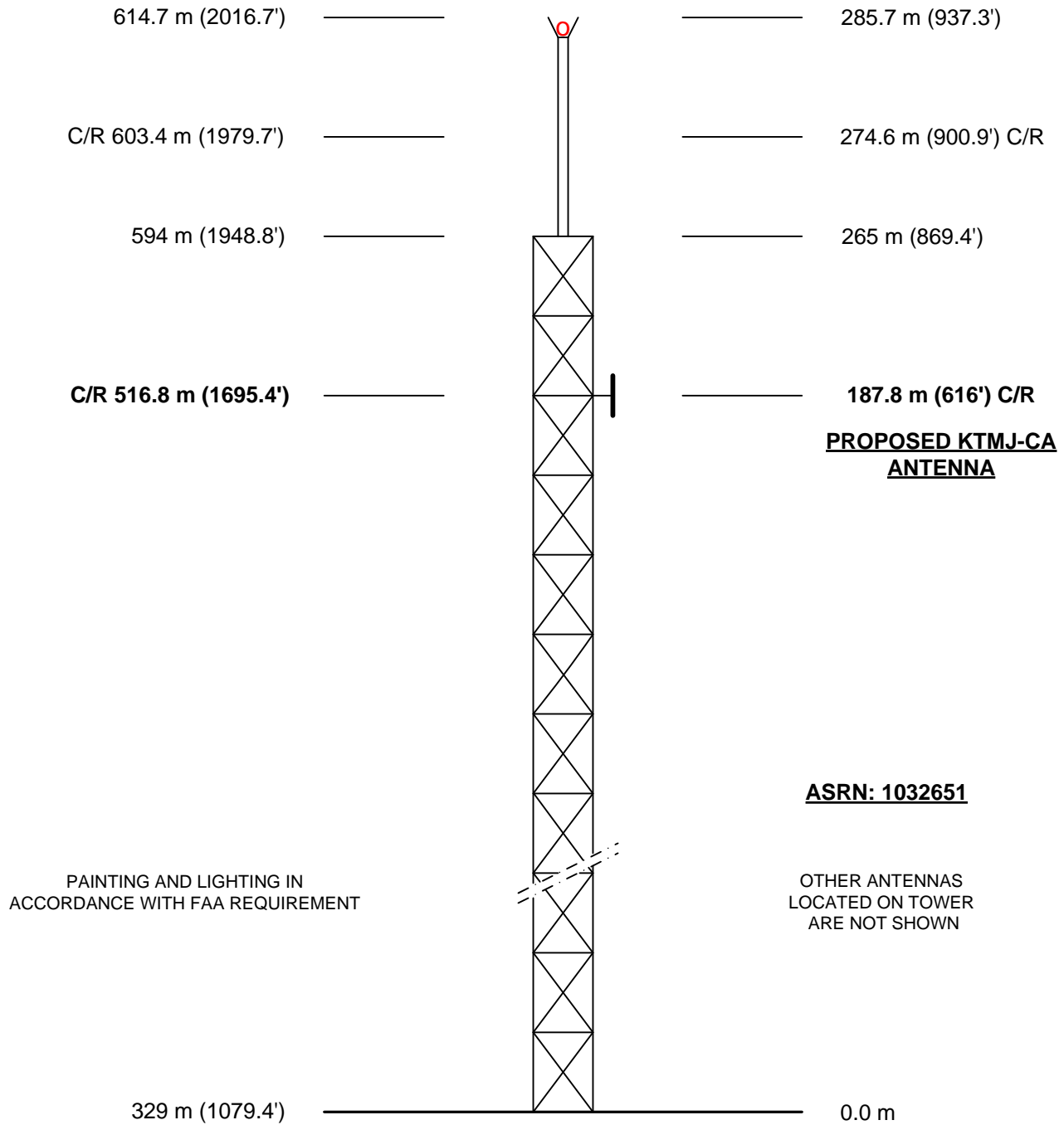
Slight differences may result due to conversion to metric

The Antenna Structure Registration Number (“ASRN”) for the existing tower is 1032651. A tower sketch has been included as Exhibit E-1.

As indicated above, the transmitter with typical power output of 0.458 kW will deliver 0.243 kW to the input of the antenna. The antenna, having a maximum gain of 61.62 and an electrical beam tilt of 0.75° produces maximum ERP of 15 kW. The antenna elevation pattern data are included as Exhibit E-2.

ABOVE MEAN SEA LEVEL

ABOVE GROUND



(NOT TO SCALE)

EXHIBIT E - 1
VERTICAL SKETCH
FOR PROPOSED DIGITAL OPERATION OF
KTMJ-CA, TOPEKA, KANSAS
MARCH 2012

COHEN, DIPPELL AND EVERIST, P.C.

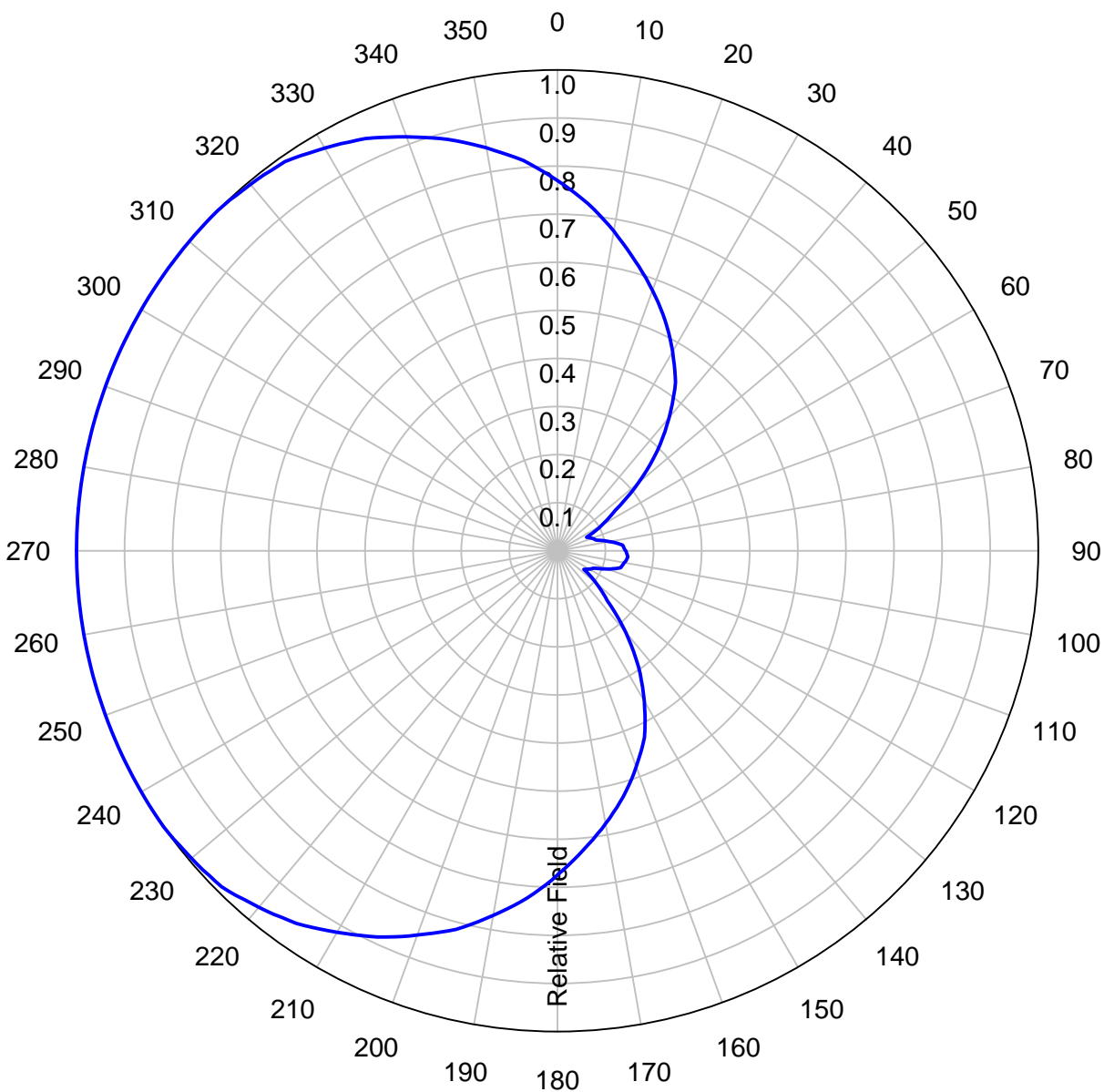
EXHIBIT E-2

ANTENNA MANUFACTURER DATA

KTMJ-CA, TOPEKA, KANSAS

AZIMUTH PATTERN**Type:**ALP-ER**Channel:**43**Directivity:**NumericdBd**Location:**Topeka, KS**Peak(s) at:**1.932.86**Polarization:**Horizontal

Note: Pattern shape and directivity may vary with channel and mouting configuration.



Preliminary, subject to final design and review.

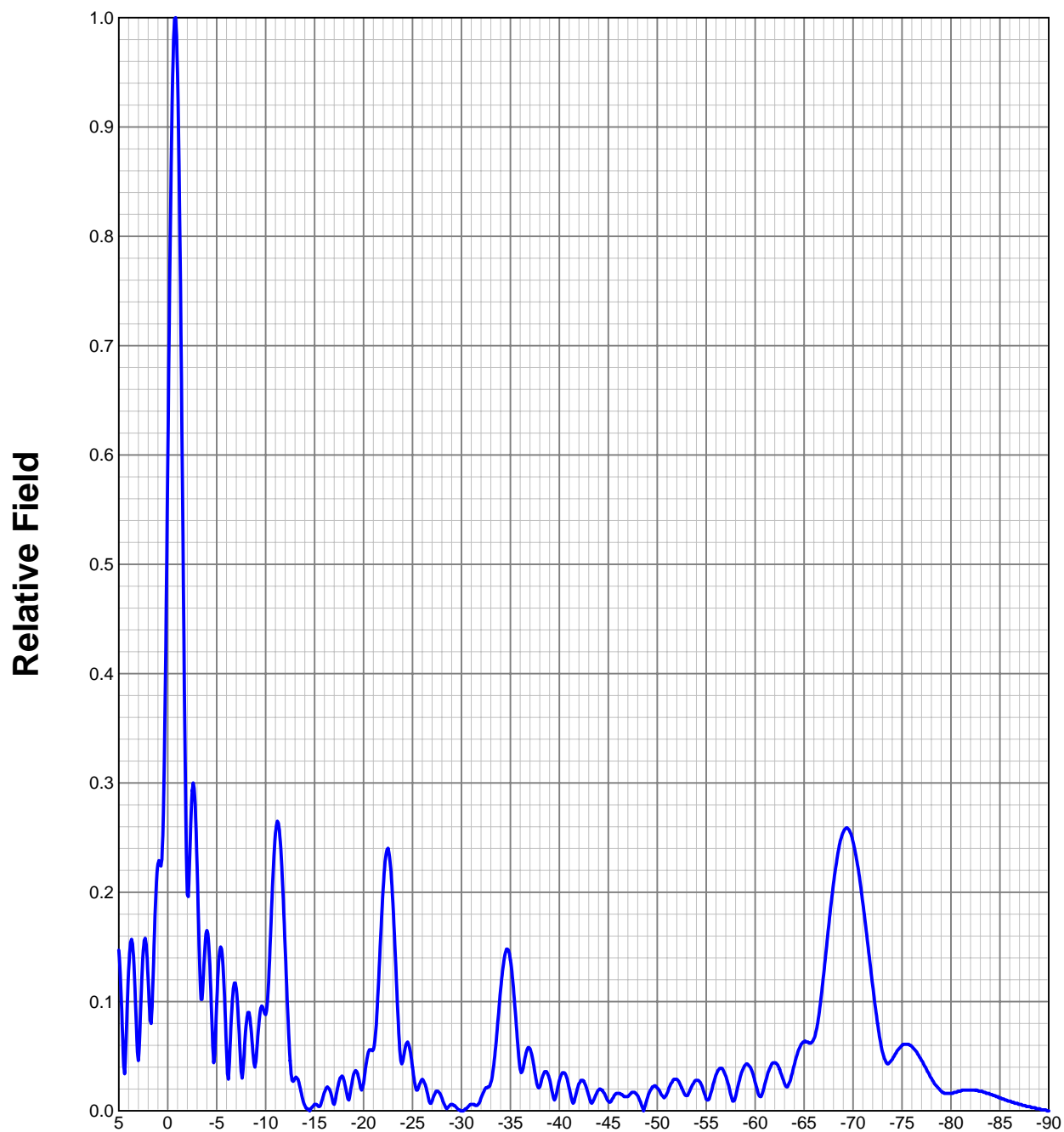
TABULATED DATA FOR AZIMUTH PATTERN FCC FILING FORMAT

Type: ALP-ER

PolarizationHorizontal

| ANGLE | FIELD | ERP (kW) | ERP (dBk) |
|--------------|--------------|-----------------|------------------|
| 0 | 0.770 | 8.893 | 9.491 |
| 10 | 0.675 | 6.834 | 8.347 |
| 20 | 0.577 | 4.994 | 6.984 |
| 30 | 0.479 | 3.442 | 5.368 |
| 40 | 0.361 | 1.955 | 2.911 |
| 50 | 0.219 | 0.719 | -1.430 |
| 60 | 0.106 | 0.169 | -7.733 |
| 70 | 0.076 | 0.087 | -10.623 |
| 80 | 0.110 | 0.181 | -7.411 |
| 90 | 0.142 | 0.302 | -5.193 |
| 100 | 0.141 | 0.298 | -5.255 |
| 110 | 0.111 | 0.185 | -7.333 |
| 120 | 0.076 | 0.087 | -10.623 |
| 130 | 0.106 | 0.169 | -7.733 |
| 140 | 0.220 | 0.726 | -1.391 |
| 150 | 0.361 | 1.955 | 2.911 |
| 160 | 0.478 | 3.427 | 5.349 |
| 170 | 0.576 | 4.977 | 6.969 |
| 180 | 0.674 | 6.814 | 8.334 |
| 190 | 0.770 | 8.893 | 9.491 |
| 200 | 0.850 | 10.837 | 10.349 |
| 210 | 0.916 | 12.586 | 10.999 |
| 220 | 0.967 | 14.026 | 11.469 |
| 230 | 0.994 | 14.820 | 11.709 |
| 240 | 1.000 | 15.000 | 11.761 |
| 250 | 1.000 | 15.000 | 11.761 |
| 260 | 1.000 | 15.000 | 11.761 |
| 270 | 1.000 | 15.000 | 11.761 |
| 280 | 1.000 | 15.000 | 11.761 |
| 290 | 1.000 | 15.000 | 11.761 |
| 300 | 1.000 | 15.000 | 11.761 |
| 310 | 1.000 | 15.000 | 11.761 |
| 320 | 0.994 | 14.820 | 11.709 |
| 330 | 0.967 | 14.026 | 11.469 |
| 340 | 0.916 | 12.586 | 10.999 |
| 350 | 0.851 | 10.863 | 10.359 |

Preliminary, subject to final design and review.

ELEVATION PATTERN**Type:****ALP32L3****Channel:****43****Directivity:****Numeric****dBd****Location:****Topeka, KS****Main Lobe:****31.93****15.04****Beam Tilt:****-0.75****Horizontal:****11.15****10.47****Polarization:****Horizontal**

Preliminary, subject to final design and review.

TABULATED DATA FOR ELEVATION PATTERN

Type: ALP32L3

PolarizationHorizontal

| ANGLEFIELD | dB | ANGLEFIELD | dB | ANGLEFIELD | dB | ANGLEFIELD | dB | ANGLEFIELD | dB |
|------------|-------|------------|--------|------------|--------|------------|-------|------------|--------|
| 5.00 | 0.147 | -16.65 | -6.75 | 0.115 | -18.82 | -27.00 | 0.009 | -40.92 | -50.50 |
| 4.75 | 0.103 | -19.74 | -7.00 | 0.112 | -19.02 | -27.50 | 0.018 | -34.89 | -51.00 |
| 4.50 | 0.041 | -27.74 | -7.25 | 0.079 | -22.10 | -28.00 | 0.012 | -38.42 | -51.50 |
| 4.25 | 0.067 | -23.54 | -7.50 | 0.036 | -28.87 | -28.50 | 0.002 | -53.98 | -52.00 |
| 4.00 | 0.128 | -17.86 | -7.75 | 0.045 | -26.94 | -29.00 | 0.006 | -44.44 | -52.50 |
| 3.75 | 0.156 | -16.17 | -8.00 | 0.078 | -22.16 | -29.50 | 0.003 | -50.46 | -53.00 |
| 3.50 | 0.142 | -16.95 | -8.25 | 0.090 | -20.92 | -30.00 | 0.000 | -40.00 | -53.50 |
| 3.25 | 0.089 | -21.06 | -8.50 | 0.076 | -22.38 | -30.50 | 0.002 | -53.98 | -54.00 |
| 3.00 | 0.046 | -26.74 | -8.75 | 0.049 | -26.20 | -31.00 | 0.006 | -44.44 | -54.50 |
| 2.75 | 0.098 | -20.22 | -9.00 | 0.045 | -26.94 | -31.50 | 0.005 | -46.02 | -55.00 |
| 2.50 | 0.147 | -16.65 | -9.25 | 0.074 | -22.67 | -32.00 | 0.012 | -38.42 | -55.50 |
| 2.25 | 0.155 | -16.19 | -9.50 | 0.094 | -20.54 | -32.50 | 0.021 | -33.56 | -56.00 |
| 2.00 | 0.120 | -18.42 | -9.75 | 0.094 | -20.58 | -33.00 | 0.026 | -31.70 | -56.50 |
| 1.75 | 0.082 | -21.78 | -10.00 | 0.088 | -21.11 | -33.50 | 0.059 | -24.58 | -57.00 |
| 1.50 | 0.121 | -18.34 | -10.50 | 0.161 | -15.86 | -34.00 | 0.111 | -19.09 | -57.50 |
| 1.25 | 0.190 | -14.45 | -11.00 | 0.254 | -11.90 | -34.50 | 0.145 | -16.77 | -58.00 |
| 1.00 | 0.226 | -12.92 | -11.50 | 0.246 | -12.18 | -35.00 | 0.138 | -17.20 | -58.50 |
| 0.75 | 0.225 | -12.96 | -12.00 | 0.148 | -16.59 | -35.50 | 0.091 | -20.82 | -59.00 |
| 0.50 | 0.252 | -11.97 | -12.50 | 0.046 | -26.74 | -36.00 | 0.038 | -28.40 | -59.50 |
| 0.25 | 0.388 | -8.22 | -13.00 | 0.030 | -30.46 | -36.50 | 0.049 | -26.20 | -60.00 |
| 0.00 | 0.591 | -4.57 | -13.50 | 0.022 | -33.15 | -37.00 | 0.057 | -24.88 | -60.50 |
| -0.25 | 0.795 | -1.99 | -14.00 | 0.005 | -46.02 | -37.50 | 0.035 | -29.12 | -61.00 |
| -0.50 | 0.946 | -0.48 | -14.50 | 0.000 | -40.00 | -38.00 | 0.022 | -33.15 | -61.50 |
| -0.75 | 1.000 | 0.00 | -15.00 | 0.006 | -44.44 | -38.50 | 0.036 | -28.87 | -62.00 |
| -1.00 | 0.949 | -0.45 | -15.50 | 0.004 | -47.96 | -39.00 | 0.029 | -30.75 | -62.50 |
| -1.25 | 0.794 | -2.01 | -16.00 | 0.017 | -35.39 | -39.50 | 0.010 | -40.00 | -63.00 |
| -1.50 | 0.574 | -4.82 | -16.50 | 0.020 | -33.98 | -40.00 | 0.028 | -31.06 | -63.50 |
| -1.75 | 0.343 | -9.29 | -17.00 | 0.006 | -44.44 | -40.50 | 0.035 | -29.12 | -64.00 |
| -2.00 | 0.198 | -14.07 | -17.50 | 0.027 | -31.37 | -41.00 | 0.021 | -33.56 | -64.50 |
| -2.25 | 0.234 | -12.62 | -18.00 | 0.028 | -31.06 | -41.50 | 0.008 | -41.94 | -65.00 |
| -2.50 | 0.293 | -10.66 | -18.50 | 0.010 | -40.00 | -42.00 | 0.025 | -32.04 | -65.50 |
| -2.75 | 0.287 | -10.83 | -19.00 | 0.034 | -29.37 | -42.50 | 0.027 | -31.37 | -66.00 |
| -3.00 | 0.224 | -13.00 | -19.50 | 0.030 | -30.46 | -43.00 | 0.014 | -37.08 | -66.50 |
| -3.25 | 0.137 | -17.30 | -20.00 | 0.025 | -32.04 | -43.50 | 0.010 | -40.00 | -67.00 |
| -3.50 | 0.102 | -19.83 | -20.50 | 0.054 | -25.35 | -44.00 | 0.019 | -34.42 | -67.50 |
| -3.75 | 0.142 | -16.95 | -21.00 | 0.056 | -25.04 | -44.50 | 0.017 | -35.39 | -68.00 |
| -4.00 | 0.165 | -15.65 | -21.50 | 0.112 | -19.02 | -45.00 | 0.009 | -40.92 | -68.50 |
| -4.25 | 0.142 | -16.95 | -22.00 | 0.203 | -13.85 | -45.50 | 0.012 | -38.42 | -69.00 |
| -4.50 | 0.084 | -21.51 | -22.50 | 0.240 | -12.40 | -46.00 | 0.016 | -35.92 | -69.50 |
| -4.75 | 0.048 | -26.38 | -23.00 | 0.190 | -14.42 | -46.50 | 0.014 | -37.08 | -70.00 |
| -5.00 | 0.098 | -20.18 | -23.50 | 0.090 | -20.92 | -47.00 | 0.013 | -37.72 | -70.50 |
| -5.25 | 0.141 | -17.02 | -24.00 | 0.045 | -26.94 | -47.50 | 0.017 | -35.39 | -71.00 |
| -5.50 | 0.148 | -16.59 | -24.50 | 0.063 | -24.01 | -48.00 | 0.014 | -37.08 | -71.50 |
| -5.75 | 0.114 | -18.86 | -25.00 | 0.040 | -27.96 | -48.50 | 0.003 | -50.46 | -72.00 |
| -6.00 | 0.056 | -25.04 | -25.50 | 0.019 | -34.42 | -49.00 | 0.012 | -38.42 | -72.50 |
| -6.25 | 0.037 | -28.64 | -26.00 | 0.029 | -30.75 | -49.50 | 0.022 | -33.15 | -73.00 |
| -6.50 | 0.086 | -21.31 | -26.50 | 0.017 | -35.39 | -50.00 | 0.021 | -33.56 | -73.50 |

Preliminary, subject to final design and review.

SECTION III - Engineering

TECHNICAL SPECIFICATIONS

Ensure that the specifications below are accurate. All items must be completed. The response "on file" is not acceptable.

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

TECH BOX

1. Channel: _____

2. Frequency Offset

☐

No offset

☐

Zero offset

☐

Plus offset

☐

Minus offset

3. Antenna Location Coordinates: (NAD 27)

_____ ° _____ ' _____ "

_____ ° _____ ' _____ "

_____ ° _____ ' _____ "

☐ N

☐ S Latitude

☐ E

☐ W Longitude

4. Operating Constants:

| | | | |
|---|---------------------|-------------------------------------|----------------------------------|
| Transmitter power output (after vestigial sideband filter, if used, and after multiplexer, if combined) | | Multiplexer loss in dB, if separate | Input to transmission line |
| dBk | | kW | dBk |
| Transmission line power loss | Antenna Input power | Maximum antenna power gain | Maximum effective radiated power |
| dB | dBk | dB | dBk kW |

5. Antenna Data:

| | |
|--------------|-------|
| Manufacturer | Model |
|--------------|-------|

6. Height of radiation center above mean sea level: _____ meters

CERTIFICATIONS

Part A: For LPTV licensees seeking to convert their licensed or authorized construction permit facilities to Class A status or to cover a displacement application for construction permit for Class A facilities.

1. **Interference.** The facility authorized in the license or construction permit or proposed in the construction permit application, complies with the following applicable interference protection rule sections.

Analog TV broadcast station protection. See 47 C.F.R. Section 73.6011.

☐ Yes ☐ No

See Explanation
in Exhibit No.

Digital TV station and DTV Table of Allotments protection. See 47 C.F.R. Section 73.6013.

☐ Yes ☐ No

See Explanation
in Exhibit No.

Low Power TV, TV translator, Class A, and Digital Class A station protection. See 47 C.F.R. Sections 73.6012 and 73.6014.

☐ Yes ☐ No

See Explanation
in Exhibit No.

Land mobile station protection. See 47 C.F.R. Section 73.6020.

☐ Yes ☐ No

See Explanation
in Exhibit No.

2. **Changed Circumstances.** Apart from changes already reported, no cause or circumstance has arisen since the grant of the underlying LPTV construction permit which would result in any statement or representation contained in the construction permit application to be now incorrect.

☐ Yes ☐ No

See Explanation
in Exhibit No.

Part B: For Class A licensees seeking a license to cover their authorized Class A construction permit facilities.

1. **Constructed Facility.** The facility was constructed as authorized in the underlying construction permit.

☐ Yes ☐ No

See Explanation
in Exhibit No.

2. **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.

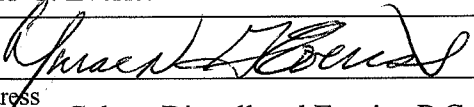
3. **Changed Circumstances.** Apart from changes already reported, no cause or circumstance has arisen since the grant of the underlying Class A construction permit which would result in any statement or representation contained in the construction permit application to be now incorrect.

☐ Yes ☐ No

See Explanation
in Exhibit No.

Part C: 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

| | | | |
|--|---|--|-------------------|
| Name Donald G. Everist | | Relationship to Applicant (e.g., Consulting Engineer) Consulting Engineer | |
| Signature  | | Date March 14, 2012 | |
| Mailing Address Cohen, Dippell and Everist, P.C., 1420 N Street, N.W., Suite One | | | |
| 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).