

ENGINEERING STATEMENT
RE APPLICATION FOR LICENSE TO COVER THE
OUTSTANDING CONSTRUCTION PERMIT
(FCC FILE NO. BMPCDT-20080319ACZ)
ON BEHALF OF
WJZY-DT, BELMONT, NORTH CAROLINA
CHANNEL 47 1000 KW ERP 553.5 METERS HAAT

JULY 2008

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)

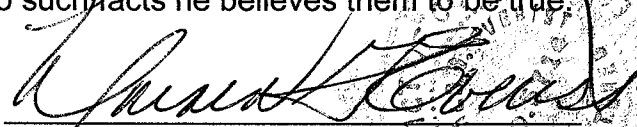
Donald G. Everist, being duly sworn upon his oath, deposes and states that:

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;

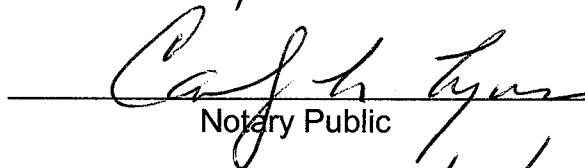
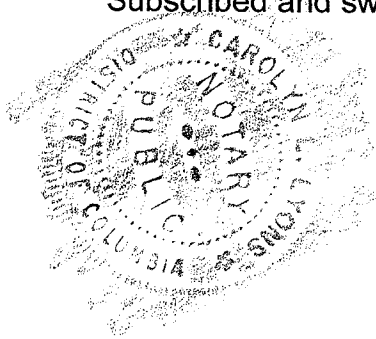
That the attached engineering report was prepared by him or under his supervision and direction and

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 16th day of July, 2008.



Notary Public

My Commission Expires: 2/28/2013

Introduction

This engineering statement has been prepared on behalf of WJZY-TV, Inc., (“WJZY-DT”) licensee of TV station WJZY(TV), Belmont, North Carolina, in support of its request to license the outstanding construction permit (FCC File No. BMPCDT-20080319ACZ) for a digital television (“DTV”) operation. WJZY(TV) operates from the site on NTSC TV Channel 46 (656-662 MHz) with 5000 kW effective radiated power (“ERP”) and 594 meters antenna height above average terrain (“HAAT”). The current analog Channel 46 operation of WJZY(TV) is with a non-directional TV antenna. WJZY-DT has been allotted¹ Channel 47 (662-668 MHz) for its digital TV operation and had been authorized to construct a facility (FCC File No. BPCDT-19990927AAK) with 1000 kW non-directional ERP and 595.3 meters HAAT. This construction permit was modified to reduce HAAT from 595.3 meters to 553.5 meters HAAT. WJZY-DT is currently operating under Special Temporary Authority (“STA”) (FCC File No. BDSTA-20060424ACE), with 1000 kW non-directional ERP and 553.5 meters HAAT which was granted October 17, 2007. It is now proposed to operate from the existing tower with 1000 kW non-directional ERP and 553.5 meters in HAAT which matches the current STA operation.

Antenna Site

There is no change in the proposed antenna site. The existing antenna is side-mounted on the existing tower at 542.5 meters above ground level and operates under STA with a non-directional ERP of 1000 kW.

¹“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.

The WJZY(TV) antenna site is located at 945 Old Willis School Road, Dallas, North Carolina. The WJZY(TV) antenna structure registration number is 1006705. A vertical sketch of the existing antenna structure has been included as Exhibit E-2.

The geographic coordinates of the existing tower are as follows:

North Latitude: 35° 21' 44"

West Longitude: 81° 09' 19"

(NAD-27)

The following data shows the pertinent information concerning the final operation to be licensed as requested herein, and there are no changes from the current STA.

Antenna and Elevation Data
(no change)

| | | |
|---|-----------------------|---|
| Antenna: | Andrew | Model No. ATW30H5-HSO-47H See Exhibit E-1 for technical exhibits required by Section 73.625(c) |
| Beam Tilt | 1.2 degree electrical | |
| Transmitter Power Output | 49.38 kW | 16.94 dBk |
| Transmission Line Efficiency/Loss | 67.53% | 1.705 dB (582.2 m (1910 ft) of Andrew 8-3/16" MACXLine) |
| Input Power to Antenna | 33.34 kW | 15.23 dBk |
| Non-Directional Max. Power Gain | 30 | 14.77 dB |
| Effective Radiated Power | 1000 kW | 30 dBk |
| Elevation of the site above mean sea level | | 245.6 meters 805.8 feet |
| Elevation of the top of existing supporting structure above ground including DTV antenna | | 592.4 meters 1943.6 feet |
| Elevation of the top of supporting structure | | 838.0 meters |

| | |
|---|-----------------------------|
| above mean sea level including DTV antenna | 2749.3 feet |
| Height of DTV antenna radiation center meters above ground | 542.5 meters 1779.9 feet |
| Height of DTV antenna radiation center above mean sea level | 788.1 meters 2585.7 feet |
| Height of DTV antenna radiation center above average terrain | 553.5 meters 1804.4 feet |

Note: Slight height differences may result due to conversion to metric.

Special Operating Condition

WJZY-DT acknowledges that the grant of this DTV license is subject to the special operating condition specified in the outstanding construction permit. Therefore, WJZY-DT certifies that it has made a good faith effort to identify and notify potentially affected health care facilities within the predicted 41 dbu service area authorized by the outstanding construction permit

Cohen, Dippell and Everist, P.C.

EXHIBIT E-1

ANTENNA MANUFACTURER DATA

WJZY-DT, BELMONT, NORTH CAROLINA

**PRELIMINARY SPECIFICATION FOR
ANDREW TRASAR® HORIZONTALLY POLARIZED
COAXIAL SLOTTED ARRAY ANTENNA**

Prepared For
WJZY-DT Channel 47 Belmont, NC
December 14, 2000

ANTENNA TYPE:
ATW30H5-HSO-47H

SPECIFICATION NO.:
AG121300-788



Andrew Corporation
10500 W. 153rd Street
Orland Park, Illinois U.S.A. 60462

AG121300-788 -1-

PRELIMINARY SPECIFICATION FOR ANDREW TRASAR® HORIZONTALLY POLARIZED COAXIAL SLOTTED ARRAY ANTENNA

ELECTRICAL CHARACTERISTICS:

| | |
|---------------------------|------------------------------------|
| CHANNEL: | 47 |
| FREQUENCY RANGE: | 668 to 674 MHz |
| AZIMUTH PATTERN NUMBER: | CH47AZ-H-BID-OMNI |
| ELEVATION PATTERN NUMBER: | ATW30H5H |
| AZIMUTH DIRECTIVITY: | 1.00 (0.00 dB) |
| ELEVATION DIRECTIVITY: | 30.00 (14.77 dBd) |
| PEAK POWER GAIN: | 30.00 (14.77 dBd) |
| GAIN AT HORIZONTAL: | 4.06 (6.09 dBd) |
| ELECTRICAL BEAM TILT: | 1.20 Degrees |
| INPUT POWER REQUIRED: | 7.6 kW Average Power, 8VSB Digital |
| MAXIMUM INPUT POWER: | 96 kW Average Power |
| INPUT TYPE: | 8-3/16 inch EIA, 75 ohm |
| VSWR (MAXIMUM): | 1.10 Over 6 MHz of Channel |



Andrew Corporation
10500 W. 153rd Street
Orland Park, Illinois U.S.A. 60462

AG121300-788 -2-

PRELIMINARY SPECIFICATION FOR ANDREW TRASAR® HORIZONTALLY POLARIZED COAXIAL SLOTTED ARRAY ANTENNA

MECHANICAL CHARACTERISTICS:

MOUNTING CONFIGURATION: Side Mount*

*(Tower Interface supplied and
installed by others.)

HEIGHT OF ANTENNA: 49.8 feet

HEIGHT OF CENTER OF
RADIATION (B): 24.9 feet

OVERALL HEIGHT (A): 52.8 feet
(Includes two 3 foot Lightning
Rods)

DEICING: Pressurized Radome Enclosure

RADOME DIAMETER (C): 16.4 inches, O.D.

RADOME COLOR: AVIATION ORANGE (standard)

CLIMBING DEVICE: Not Applicable

CALCULATED WEIGHT¹: 2,270 lbs.

WINDLOAD DATA²: SHEAR: 2,835 lbs.

ANTENNA AREA: $C_A A_C$: 88.9 square feet
 A_C : 74.1 square feet

This antenna is designed to be supported by a structure that can resist the antenna base reactions and which provides a support that is rigid in the three translational and three rotational degrees of freedom.

1 Calculated weight is based on the **PRELIMINARY** design of the antenna. The actual weight of the antenna will be within $\pm 10\%$ of the calculated weight. The actual weight will be given in the technical manual which accompanies the antenna. This figure is for the antenna only and does not include the antenna input section.

2 Based on a wind speed of **70 miles per hour (MPH)**, a height above average terrain (HAAT) of **1,948 feet**, and a height above ground level (HAGL) of **1,921 feet per EIA/TIA-222-F**.

NOTE: Localized conditions may require higher wind speed specifications than TIA/EIA specifications. Check with local authorities to verify wind speed requirements.

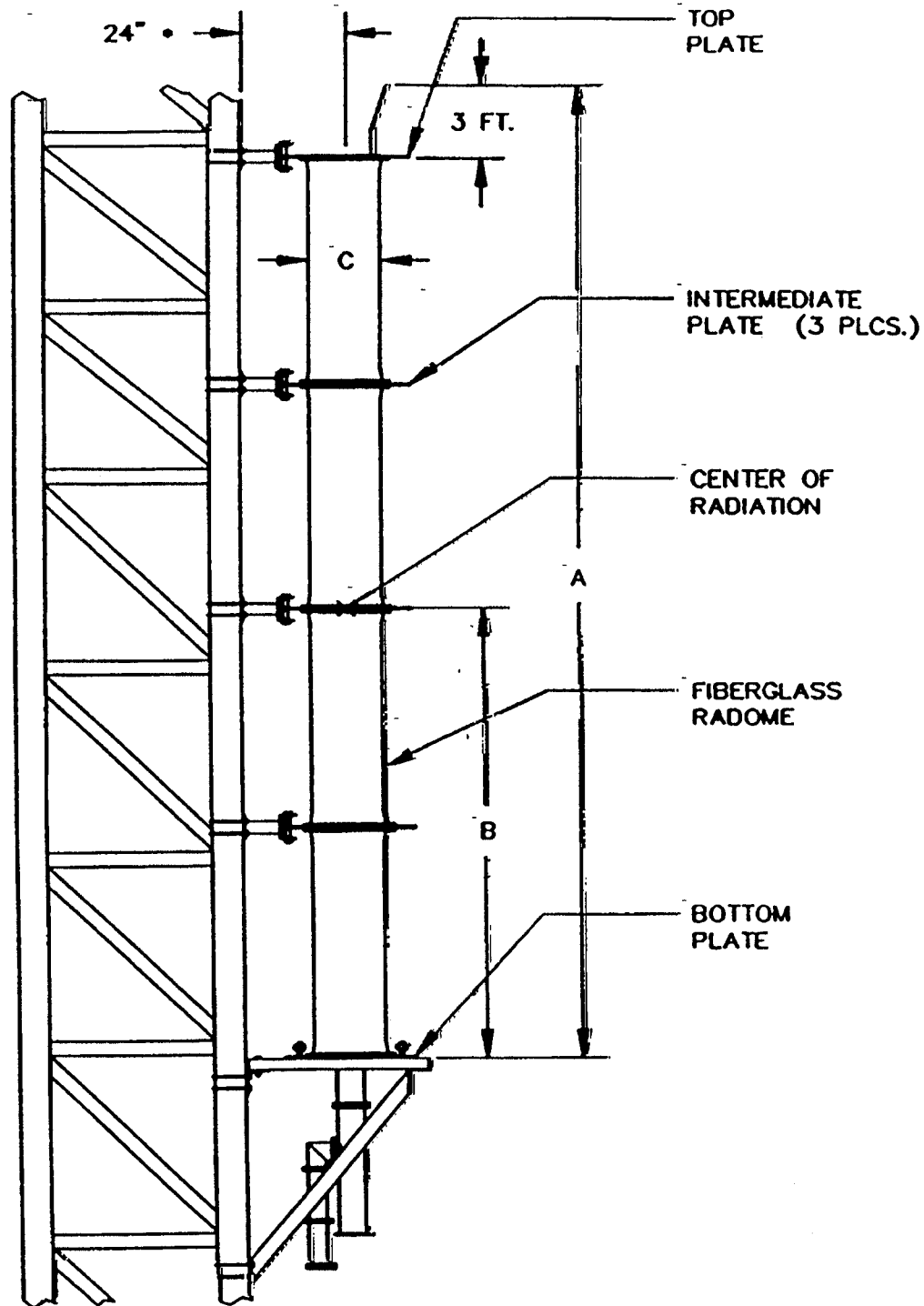


Andrew Corporation
10500 W. 153rd Street
Orland Park, Illinois U.S.A. 60462

AG121300-788 -3-

TYPICAL MOUNTING CONFIGURATION SHOWN. ACTUAL MOUNTING CONFIGURATION MAY VARY.

SIDE MOUNT ANTENNA DIMENSIONS AND TOWER ATTACHMENT DETAILS



TOWER AND MOUNT
NOT PROVIDED

•RECOMMENDED MINIMUM SPACING



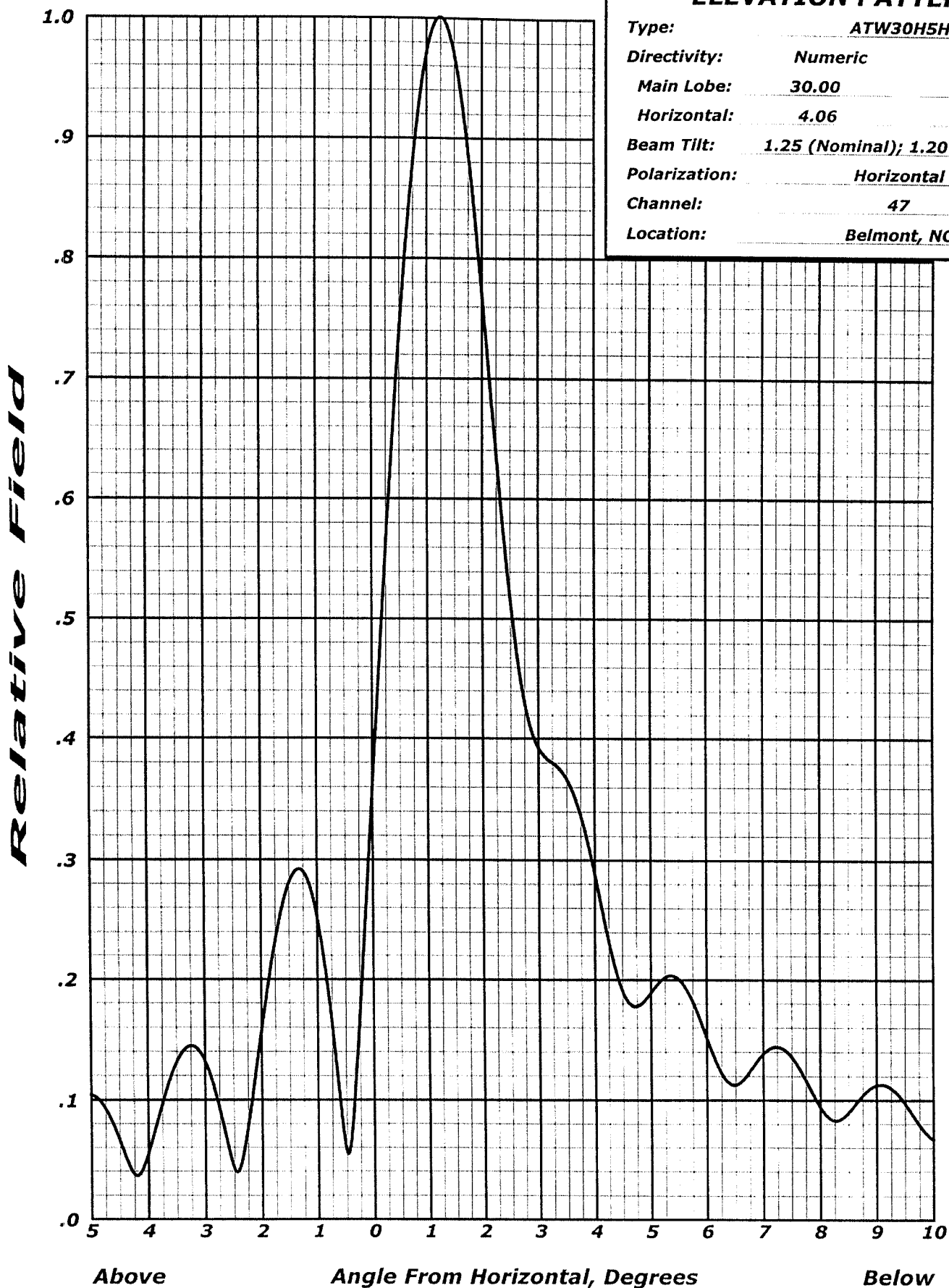
Andrew Corporation
10500 W. 153rd Street
Orland Park, Illinois U.S.A. 60462

AG121300-788 -5-



ANDREW ELEVATION PATTERN

| | | |
|---------------|--------------------------------|---------|
| Type: | ATW30H5H | |
| Directivity: | Numeric | dBd |
| Main Lobe: | 30.00 | (14.77) |
| Horizontal: | 4.06 | (6.09) |
| Beam Tilt: | 1.25 (Nominal); 1.20 (Desired) | |
| Polarization: | Horizontal | |
| Channel: | 47 | |
| Location: | Belmont, NC | |





TABULATED DATA FOR ELEVATION PATTERN
TYPE : ATW30H5H

| Angle Field dB -5 To 10 In 0.25 Increments | Angle Field dB 10 To 90 In 0.5 Increments | Angle Field dB | Angle Field dB |
|--|---|-------------------|-------------------|
| -5.00 0.104-19.65 | 8.75 0.104-19.68 | 35.00 0.021-33.73 | 62.50 0.011-39.22 |
| -4.75 0.093-20.65 | 9.00 0.112-18.99 | 35.50 0.015-36.68 | 63.00 0.004-48.34 |
| -4.50 0.066-23.65 | 9.25 0.110-19.17 | 36.00 0.024-32.32 | 63.50 0.012-38.66 |
| -4.25 0.038-28.47 | 9.50 0.097-20.25 | 36.50 0.029-30.64 | 64.00 0.020-33.96 |
| -4.00 0.055-25.17 | 9.75 0.079-22.00 | 37.00 0.024-32.49 | 64.50 0.026-31.85 |
| -3.75 0.097-20.26 | 10.00 0.067-23.48 | 37.50 0.014-37.18 | 65.00 0.027-31.23 |
| -3.50 0.131-17.66 | 10.50 0.081-21.88 | 38.00 0.019-34.55 | 65.50 0.026-31.86 |
| -3.25 0.145-16.80 | 11.00 0.091-20.78 | 38.50 0.028-31.20 | 66.00 0.020-33.86 |
| -3.00 0.132-17.59 | 11.50 0.069-23.19 | 39.00 0.027-31.29 | 66.50 0.013-38.03 |
| -2.75 0.093-20.64 | 12.00 0.054-25.28 | 39.50 0.018-34.82 | 67.00 0.004-49.02 |
| -2.50 0.043-27.33 | 12.50 0.073-22.68 | 40.00 0.013-37.70 | 67.50 0.006-44.10 |
| -2.25 0.077-22.29 | 13.00 0.073-22.68 | 40.50 0.022-33.06 | 68.00 0.015-36.63 |
| -2.00 0.158-16.03 | 13.50 0.050-26.01 | 41.00 0.028-31.07 | 68.50 0.022-33.32 |
| -1.75 0.232-12.69 | 14.00 0.049-26.12 | 41.50 0.024-32.34 | 69.00 0.026-31.69 |
| -1.50 0.281-11.03 | 14.50 0.065-23.72 | 42.00 0.014-37.03 | 69.50 0.028-31.11 |
| -1.25 0.290-10.75 | 15.00 0.057-24.84 | 42.50 0.014-37.11 | 70.00 0.027-31.39 |
| -1.00 0.252-11.98 | 15.50 0.038-28.43 | 43.00 0.024-32.45 | 70.50 0.024-32.53 |
| -0.75 0.164-15.69 | 16.00 0.048-26.45 | 43.50 0.028-31.13 | 71.00 0.018-34.73 |
| -0.50 0.057-24.87 | 16.50 0.057-24.83 | 44.00 0.023-32.88 | 71.50 0.012-38.64 |
| -0.25 0.169-15.43 | 17.00 0.044-27.06 | 44.50 0.013-37.79 | 72.00 0.004-46.94 |
| 0.00 0.362-8.83 | 17.50 0.032-29.99 | 45.00 0.015-36.77 | 72.50 0.004-47.69 |
| 0.25 0.559-5.04 | 18.00 0.045-26.87 | 45.50 0.024-32.32 | 73.00 0.011-39.18 |
| 0.50 0.739-2.63 | 18.50 0.049-26.13 | 46.00 0.028-31.04 | 73.50 0.017-35.27 |
| 0.75 0.881-1.10 | 19.00 0.035-29.22 | 46.50 0.023-32.60 | 74.00 0.022-33.04 |
| 1.00 0.971-0.25 | 19.50 0.030-30.56 | 47.00 0.014-37.37 | 74.50 0.026-31.74 |
| 1.25 1.001 0.01 | 20.00 0.043-27.35 | 47.50 0.012-38.17 | 75.00 0.028-31.06 |
| 1.50 0.971-0.26 | 20.50 0.042-27.55 | 48.00 0.022-33.12 | 75.50 0.029-30.88 |
| 1.75 0.888-1.03 | 21.00 0.027-31.39 | 48.50 0.028-31.15 | 76.00 0.028-31.12 |
| 2.00 0.769-2.28 | 21.50 0.029-30.81 | 49.00 0.026-31.85 | 76.50 0.026-31.75 |
| 2.25 0.636-3.93 | 22.00 0.041-27.81 | 49.50 0.017-35.42 | 77.00 0.023-32.78 |
| 2.50 0.515-5.77 | 22.50 0.037-28.68 | 50.00 0.010-39.93 | 77.50 0.019-34.24 |
| 2.75 0.431-7.31 | 23.00 0.023-32.65 | 50.50 0.018-35.09 | 78.00 0.016-36.18 |
| 3.00 0.392-8.13 | 23.50 0.029-30.80 | 51.00 0.026-31.71 | 78.50 0.012-38.68 |
| 3.25 0.380-8.41 | 24.00 0.038-28.33 | 51.50 0.028-31.02 | 79.00 0.008-41.58 |
| 3.50 0.367-8.72 | 24.50 0.032-29.77 | 52.00 0.023-32.70 | 79.50 0.007-43.64 |
| 3.75 0.336-9.46 | 25.00 0.020-33.86 | 52.50 0.014-37.33 | 80.00 0.007-42.90 |
| 4.00 0.288-10.80 | 25.50 0.028-31.05 | 53.00 0.010-40.09 | 80.50 0.009-40.71 |
| 4.25 0.233-12.65 | 26.00 0.036-28.77 | 53.50 0.019-34.49 | 81.00 0.012-38.75 |
| 4.50 0.190-14.41 | 26.50 0.030-30.42 | 54.00 0.026-31.59 | 81.50 0.014-37.29 |
| 4.75 0.178-15.00 | 27.00 0.019-34.48 | 54.50 0.028-31.09 | 82.00 0.015-36.27 |
| 5.00 0.189-14.46 | 27.50 0.027-31.44 | 55.00 0.023-32.73 | 82.50 0.017-35.60 |
| 5.25 0.202-13.90 | 28.00 0.035-29.18 | 55.50 0.014-37.13 | 83.00 0.017-35.21 |
| 5.50 0.201-13.95 | 28.50 0.029-30.74 | 56.00 0.008-41.76 | 83.50 0.018-35.06 |
| 5.75 0.182-14.81 | 29.00 0.018-34.87 | 56.50 0.016-35.88 | 84.00 0.018-35.11 |
| 6.00 0.151-16.40 | 29.50 0.025-32.18 | 57.00 0.024-32.28 | 84.50 0.017-35.34 |
| 6.25 0.123-18.22 | 30.00 0.033-29.70 | 57.50 0.028-31.08 | 85.00 0.016-35.75 |
| 6.50 0.113-18.96 | 30.50 0.028-30.96 | 58.00 0.026-31.75 | 85.50 0.015-36.33 |
| 6.75 0.123-18.18 | 31.00 0.017-35.18 | 58.50 0.019-34.51 | 86.00 0.014-37.08 |
| 7.00 0.138-17.18 | 31.50 0.022-33.13 | 59.00 0.009-40.61 | 86.50 0.013-38.03 |
| 7.25 0.144-16.82 | 32.00 0.031-30.16 | 59.50 0.008-41.71 | 87.00 0.011-39.20 |
| 7.50 0.136-17.33 | 32.50 0.029-30.84 | 60.00 0.017-35.23 | 87.50 0.009-40.66 |
| 7.75 0.116-18.67 | 33.00 0.018-35.04 | 60.50 0.025-32.18 | 88.00 0.007-42.50 |
| 8.00 0.094-20.51 | 33.50 0.018-34.71 | 61.00 0.028-31.17 | 88.50 0.006-44.93 |
| 8.25 0.083-21.61 | 34.00 0.029-30.82 | 61.50 0.026-31.73 | 89.00 0.004-48.41 |
| 8.50 0.090-20.93 | 34.50 0.030-30.47 | 62.00 0.020-34.03 | 89.50 0.002-54.40 |

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. Main Studio Location. The main studio location complies with 47 C.F.R. Section 73.1125. | <input type="checkbox"/> Yes <input type="checkbox"/> No | <div style="border: 1px solid black; padding: 2px;">See Explanation in Exhibit No.</div> |
| 5. Constructed Facility. 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 | <div style="border: 1px solid black; padding: 2px;">See Explanation in Exhibit No.</div> |
| 6. Special Operating Conditions. 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 | <div style="border: 1px solid black; padding: 2px;">See Explanation in Exhibit No.</div> |
| An exhibit may be required. Review the underlying construction permit. | | <div style="border: 1px solid black; padding: 2px;">Exhibit No.</div> |
| 7. Transmitter. The transmitter complies with 47 C.F.R. Section 73.1660. | <input type="checkbox"/> Yes <input type="checkbox"/> No | <div style="border: 1px solid black; padding: 2px;">See Explanation in Exhibit No.</div> |

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

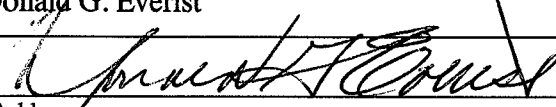
Exhibit No.

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 16, 2008 | |
| 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).