

ENGINEERING STATEMENT  
MODIFICATION OF A CONSTRUCTION PERMIT  
WITH FCC FILE NO. BMPCDT-19990713KJ  
ON BEHALF OF WRAZ-TV, INC.  
WRAZ-DT, RALEIGH, NORTH CAROLINA  
CHANNEL 49 1000 KW ERP 614.1 METERS HAAT

MARCH 2004

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         )

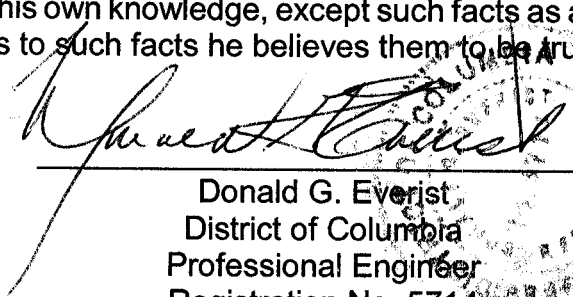
Donald G. Everist, being duly sworn upon his oath, deposes and states that:

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;

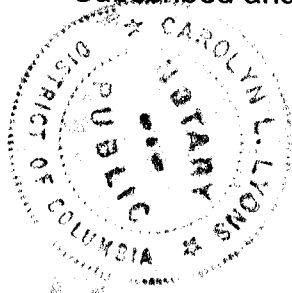
That his qualifications are a matter of record in the Federal Communications Commission;

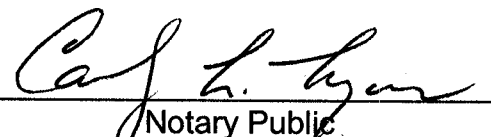
That the attached engineering report was prepared by him or under his supervision and direction and

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 25<sup>th</sup> day of March, 2004.



  
Notary Public

My Commission Expires: 2/28/2008

### Introduction

This engineering statement has been prepared on behalf of WRAZ-TV, Inc. ("WRAZ") in support of its request to modify an existing construction permit with FCC File Number BMPCDT-19990713KJ. This construction permit ("CP") modification application proposes a non-directional operation of the current antenna at the currently authorized effective radiated power of 1000 kilowatts. No other changes are proposed.

WRAZ(TV) is licensed to operate on NTSC Television Channel 50 with a maximum visual effective radiated power of 5000 kW and a HAAT of 549 meters (1800 feet). WRAZ(TV) has been allocated DTV Channel 49 with facilities of 198 kW and HAAT of 548 meters in the revised DTV Table of Allotments<sup>1</sup> and has been authorized to operate with a special temporary authority of 200 kW at an HAAT of 614.1 meters at the site herein specified.

### Antenna Site

The proposed operation will remain on the same tower as authorized in the current CP with FCC antenna structure registration number 1027322. The site is located 3201 Transmitter Road, Garner, North Carolina. This is a multi-use tower and hosts several other NTSC and DTV broadcast facilities.

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<sup>1</sup>"Second Memorandum Opinion and Order on Reconsideration of the Fifth and Sixth Report and Order", released December 18, 1998. DTV Table of Allotments, Page B-35.

There are no AM stations located within 3.2 km of the proposed WRAZ-DT tower site.

There are no FM stations located within 100 meters. There are several full-service NTSC and DTV stations located within 100 meters.

The geographic coordinates of the site follow below:

North Latitude: 35° 40' 29"

West Longitude: 78° 31' 40"

Equipment Data

Transmitter:	Type-approved
Transmission Line:	Andrew, standard 7-3/16 line or equivalent; length of 656 meters (2153 feet) and an efficiency of 60.61%
Antenna:	Andrew, ATW25H3-ETOU-50H, or equivalent; 1.25 degrees beam tilt, 22.46 numeric power gain. The vertical plane pattern and other exhibits required by Section 73.622 are provided as Exhibit E-2.

Horizontal Power Data<sup>1</sup>

Transmitter output	73.5 kW	18.665 dBk
Transmission line efficiency	60.61%	-2.175 dB
Input power to the antenna	44.56 kW	16.49 dBk
Antenna power gain	22.46	13.51 dB
Effective Radiated Power (Max)	1000 kW	30.00 dBk

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<sup>1</sup>NOTE: The antenna has elliptical polarization

Elevation Data

Elevation of site above mean sea level	109.7 meters
Center of radiation of antenna above ground	583.9 meters (1915.6 feet)
Center of radiation of antenna above mean sea level	693.6 meters (2275.6 feet)
Overall height above ground of the existing antenna structure (including appurtenances)	606.2 meters (1988.8 feet)
Overall height above mean sea level of the existing antenna structure (Including appurtenances)	715.9 meters (2349 feet)
Antenna height above average terrain	614.1 meters (2014.8 feet)

Table I provides a tabulation for the eight cardinal radials, depression angle, and the predicted distances to the 48 dBu and 41 dBu contours. Exhibit E-3 of this report is a coverage map showing the extent of the 48 dBu DTV City Grade and 41 dBu contours for the proposed operation on Channel 49.

Interference Analysis

A study of the predicted interference caused by the proposed WRAZ-DT service has been performed using a version of the Longley-Rice program as described in OET Bulletin No. 69 (July 2, 1997) and the Public Notice, "Additional Application Processing Guidelines for Digital Television (DTV)" (August 1998). The FCC's FORTRAN-77 code was modified only to the extent necessary

(primarily input/output handling) for the program to run on a Windows 98/Intel platform. Comparison of service/interference areas and populations indicates that this model closely matches the FCC's evaluation program. Best efforts have been made to use data and calculations identical to the FCC's program. Any slight differences are attributable to compiler, operating system and/or processor characteristics. The effect of any variance in calculated population values versus the FCC's program is minimized when differencing a given model's results, such as calculating new interference as total interference less baseline interference. Any variance effect is further reduced when using ratios of calculated population values such as measuring the incremental population affected as a percent of the total population served. The model employs the Longley-Rice propagation methodology and evaluates in grid cells of approximately 4 km<sup>2</sup> using 3-second terrain data sampled approximately every 0.1 km at one degree azimuth intervals with 1990 Census centroids.

The FCC Public Notice dated August 10, 1998 and entitled, "Additional Application Processing Guidelines for Digital Television" outlines the station selection criteria "culling distances" for considering potential interference scenarios. Stations selected according to these criteria are listed in Table II. All of the potentially affected stations are predicted to receive less than de-minimus levels of new interference. Also, none of these stations are covered by more restrictive interference standards due to more than 10% total interference or less than 90% replication.

The above considers all pending, outstanding construction permits and licensed operations

abstracted from the FCC engineering data base dated March 25, 2004.

#### Allocation Situation

The proposal causes less than de-minimis interference to all stations included in Table II. Stations that are fully spaced are assumed to receive much less than de-minimis interference but a Longley-Rice analysis is provided. Co-located first adjacent stations are also assumed to receive much less than de-minimis interference from the proposal; however, a Longley-Rice analysis is provided.

The proposal is also located in the vicinity of five stations, six authorizations, that have either received Class A status or have a current application pending with the FCC that requests Class A status. A list of these stations has been included as Table III. The proposal does not cause prohibited overlap to any of the stations included in Table II, with the exception of the licensed facility, WARZ-LP (FCC File No. BLTTA-20021118AAW), and a currently authorized WARZ-LP CP modification which would receive prohibited contour overlap from the proposal. As per Section 73.623(c)(5)(iii) Longley-Rice can be used in support of a waiver request of the FCC's Rules regarding DTV protection to Class A facilities. Therefore, with respect to the WARZ-LP license and CP modification, the permittee requests a waiver of the FCC's Class A protection rules by the use of Longley-Rice analysis. The Longley-Rice analysis determines 0.00% new interference is caused to WARZ-LP by the proposal.

#### Other Licensed and Broadcast Facilities

No adverse technical effect is anticipated by the proposed DTV operation to any other FCC licensed facility. If required, the applicant will install filters or take other measures as necessary to resolve the problem.

#### Environmental Assessment

The proposed 1000 kW horizontal operation will utilize an Andrew, ATW25H3-ETOU-50H antenna or the equivalent with a center of radiation above ground of 583.9 meters. The proposed antenna will be stacked below WRAL-DT's antenna on an existing guyed, uniform, cross-section, steel lattice tower with an overall height of 606.2 meters AGL.

As previously indicated, there are no AM stations located within 3.2 km of the proposed tower site. According to the FCC data base, there are no other stations located within 100 meters except for the five stations described in this section, WLFL-DT (STA), WRDC-DT (STA), WNCN(TV), WNCN-DT, WRAZ-DT, and WRAL-DT. The existing property for the existing tower is located at 3201 Transmitter Road, Garner, North Carolina. Access to the tower property is prevented by a chain link fence with a locked gate.

The proposed operation based upon the current OET Bulletin No. 65, Edition 97-01 dated August 1997 and Supplement A meets the provisions of the FCC radio frequency field ("RFF") guidelines, and thus, complies with Section 1.1307 of the FCC Rules. Provisions will be made to reduce power or to terminate the transmitter emissions, as appropriate, when it is necessary for



authorized personnel to be on the tower.

For NTSC, WNCN(TV) in its application for construction permit proposed to employ a Dielectric, Type TFU-33EBT/VP-R with horizontal polarization, 0.75° electrical beam tilt and 5000 kW ERP with a center of radiation of 580 meters above ground. In its application for construction permit, FCC File Number BPCT-970916KF, WNCN(TV) states that the RFF level at 2 meters above ground will be 0.63 uW/cm<sup>2</sup> where the Maximum Permissible Exposure (“MPE”) for the general public is 326 uW/cm<sup>2</sup>.

For the STA operation by WLFL-DT on Channel 57 with an ERP of 9.2 kW and 610 meters HAAT, the RFF level will be less than 1 percent.

For the STA operation by WRDC-DT on Channel 27 with an ERP of 9.1 kW and 610 meters HAAT, the RFF level will be less than 1 percent.

For DTV, WNCN(TV) Channel 55 licensed at an ERP of 525 kW horizontal and 107 kW vertical with a radiation center of 598 meters above ground. In its application, BPCDT-980730KM, WNCN-DT states that the RFF level at 2 meters above ground will be 1.5 uW/cm<sup>2</sup> where the MPE for the general public is 479 uW/cm<sup>2</sup>.

For DTV operation, WRAL-DT operates with an Andrew, ATW25H4-ETOU-53S, elliptically polarized (1000 kW horizontal and 200 kW vertical) with 1° electrical beam tilt with a radiation center of 599 meters above ground. The elevation pattern for this antenna shows a maximum relative field 0.038 or less towards the ground (60° to 90° below the horizontal) in the vicinity of the tower. Using

this relative field factor and the procedures prescribed in OET Bulletin 65 (Edition 97-01 and Supplement A), the maximum RFF resulting from the proposed operation is less than  $0.2 \text{ uW/cm}^2$  two meters above ground. This is less than 1.0 percent of the  $471.33 \text{ uW/cm}^2$  maximum human exposure to RFF recommended by the current FCC guidelines for the general population.

WRAZ-DT will use the Andrew, ATW25H3-ETOU-50H or equivalent antenna with 1000 kW horizontal and with 1.25 degree electrical beam tilt with a radiation center of 583.9 meters above ground. The elevation pattern for this antenna shows a maximum relative field of 0.038 or less toward the ground ( $60^\circ$  to  $90^\circ$  below the horizontal). Calculation according to OET Bulletin 65 predicts a maximum RFF power density of less than  $1.0 \text{ uW/cm}^2$ , 2 meters above ground or less than 1 percent of the Channel 49 uncontrolled maximum MPE guideline of  $455.33 \text{ uW/cm}^2$ .

The total contribution by the five operations at 2 meters above ground level is less than 10 percent of the current FCC guidelines for general population exposure.

An environmental assessment ("EA") is categorically excluded under Section 1.1306 of the FCC Rules and Regulations since the permittee indicates:

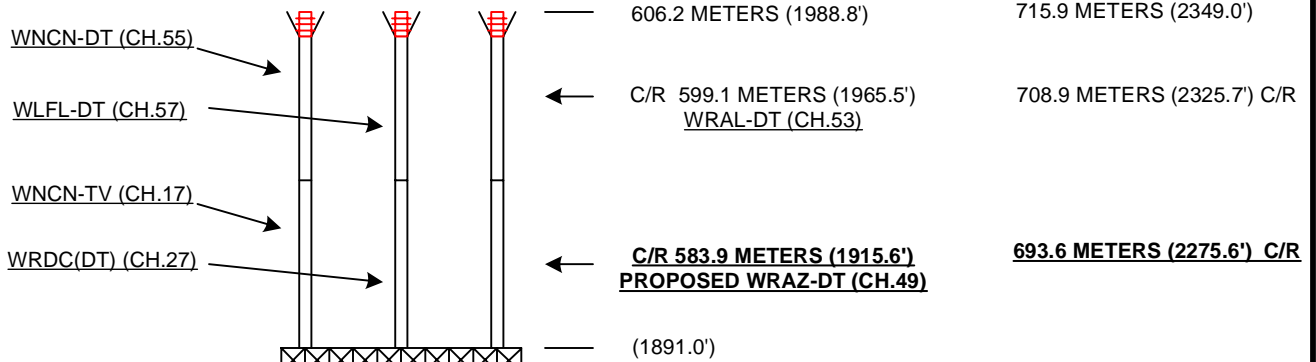
- (a)(1) The proposed facilities are located on an existing tower and are not located in an officially designed wilderness area.
- (a)(2) The proposed facilities are located on an existing tower and are not located in an officially designed wildlife preserve.
- (a)(3) The proposed facilities are located on an existing tower and will not affect any listed threatened or endangered species or habitats.
- (a)(3)(ii) The proposed facilities are located on an existing tower and 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 are located on an existing tower and will not affect any known district, sites, buildings, structures, or objects significant in American history, architecture, archaeology, engineering, or culture.
- (a)(5) The proposed facilities are not located near any known Indian religious sites.
- (a)(6) The proposed facilities are located on an existing tower and are not located in a flood plain.
- (a)(7) The proposed facilities are located on an existing tower and existing guyed tower will not involve a significant change in surface features of the ground in the vicinity of the tower.
- (a)(8) The tower is equipped with high intensity white lights. The site is in a rural area. All zoning and environmental permits have been received. The proposed tower has not been a source of local controversy.
- (b) Workers and the general public will not be subjected to RFF field levels in excess of the current FCC guidelines. Authorized personnel will be alerted to areas of the antennas where potential radiation levels are in excess of the current FCC guidelines. A security fence with a locked gate precludes access to the tower.

ABOVE GROUND

ABOVE MEAN SEA LEVEL



PAINTING AND LIGHTING  
WILL BE IN ACCORDANCE WITH  
F.A.A. RULES AND REGULATIONS

TOWER REGISTRATION  
No. 1027322

EXISTING GUYED TOWER

NOT TO SCALE

0 METERS (0')

109.7 METERS (359.9')

EXHIBIT E - 1  
VERTICAL SKETCH  
FOR THE PROPOSED DTV OPERATION OF  
**WRAZ-DT, RALEIGH, NORTH CAROLINA**  
MARCH 2004

COHEN, DIPPELL AND EVERIST, P.C. Consulting Engineers Washington, D.C.

Cohen, Dippell and Everist, P.C.

## **EXHIBIT E-2**

# **ANTENNA MANUFACTURER DATA**

TECHNICAL MANUAL

ATW25H3-ETOU-50H STACKER UHF ANTENNA

WRAZ, RALEIGH, NORTH CAROLINA

183182

CH 49 DTV

CH 50 DTV

Technical Manual #

ETO- 14950

Date

24 January 2000



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

TABLE 1-1 A

Electrical Specifications - DTV

<u>Parameter</u>	<u>Value</u>
Channel	50
Frequency Range	686 - 692 MHz
Elevation Pattern No.	H POL CH50ELH V POL CH50ELV
Azimuth Pattern No.	H POL CH4950AZH V POL CH4950AZV
Elevation Gain	H POL 22.46 (13.51dbd) V POL 2.34 (3.69dbd)
Azimuthal Gain	H POL 1.00 (0.00db) V POL 1.92 (2.83db)
Peak Power Gain	H POL 22.46 (13.51dBd) V POL 4.49 (6.52dBd)
Gain at Horizontal	H POL 12.12 (10.84dBd) V POL 2.33 (3.67dBd)
Electrical Beam Tilt	0.80 degrees
Horiz./Vert. Ratio	0.20
Input Power Rating	50 kW Average Power Digital
MAX VSWR	1.10 over 6 MHz



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

ETO-14950 -5-

TABLE 1-18

## Electrical Specifications - DTV

<u>Parameter</u>	<u>Value</u>
Channel	49
Frequency Range	680 - 686 MHz
Elevation Pattern No.	H Pol CH49ELH V Pol CH49ELV
Azimuth Pattern No.	H Pol CH4950ELH V Pol CH4950ELH
Elevation Gain	H Pol 22.46 (13.51dbd) V Pol 2.34 (3.69dbd)
Azimuthal Gain	H Pol 1.00 (0.00dbd) V Pol 1.92 (2.83dbd)
Peak Power Gain	H Pol 22.46 (13.51dbd) V Pol 4.49 (6.52dbd)
Gain at Horizontal	H Pol 6.58 (8.18dbd) V Pol 1.12 (0.50dbd)
Electrical Beam Tilt	1.25 degrees
Horiz./Vert. Ratio	0.20
Input Power Rating	50 kW Average Power Digital
MAX VSWR	1.10 over 6 MHz



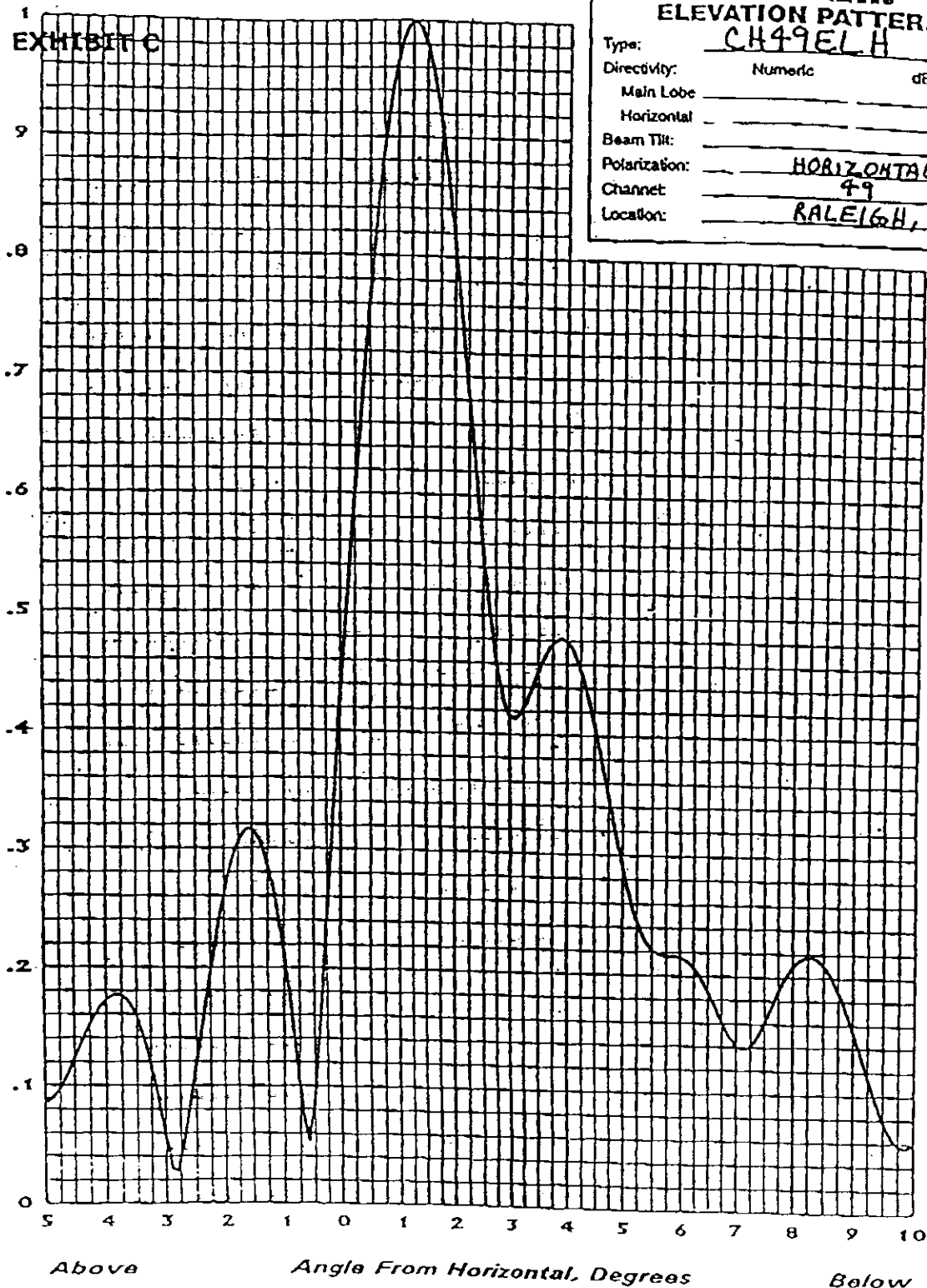
Andrew Corporation  
10500 W. 153rd Street  
Orland Park, Illinois U.S.A. 60462

ETO-14950 -7-



EXHIBIT C

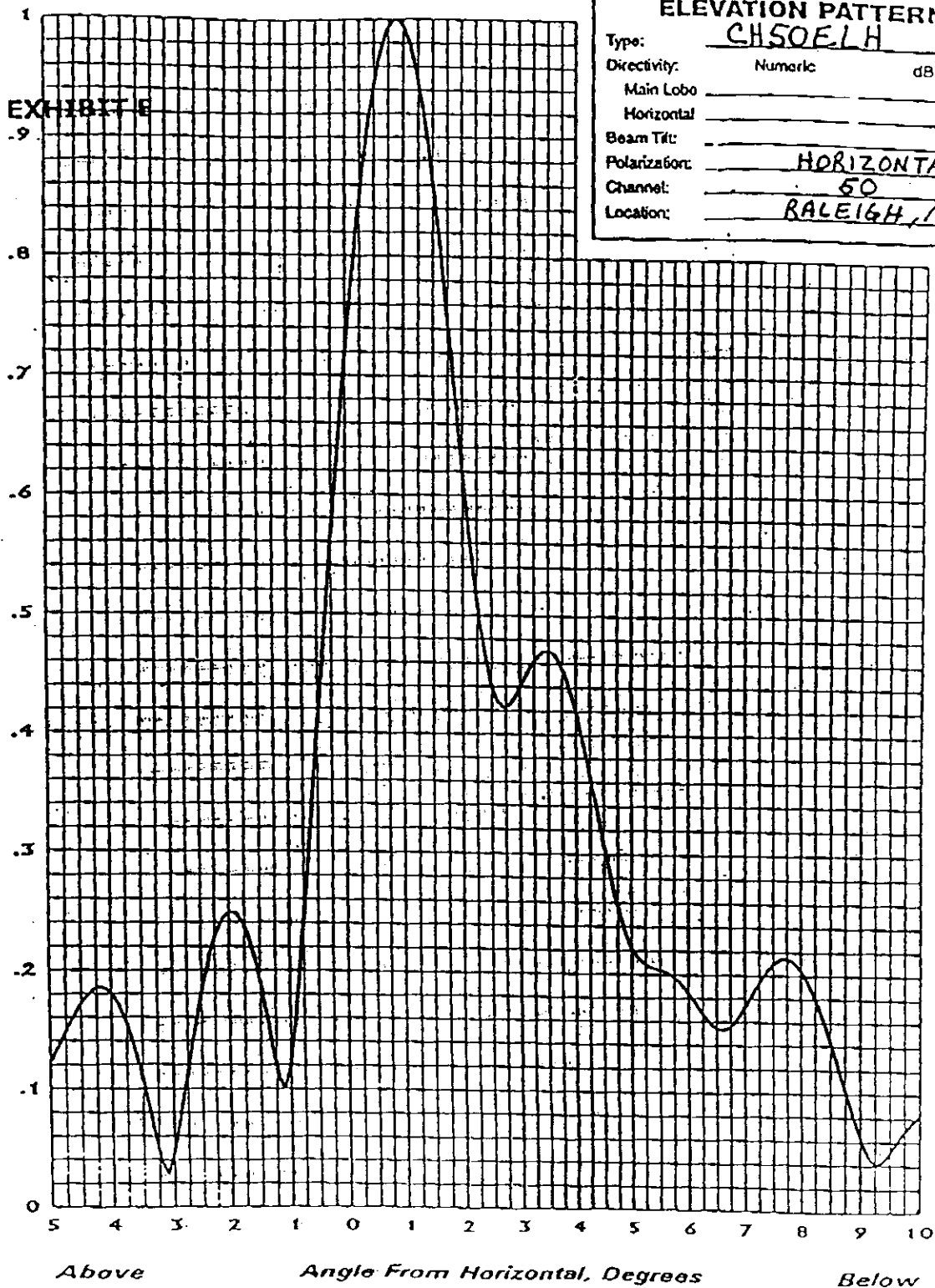
Relative Field



**ANDREW.**  
**ELEVATION PATTERN**

Type: CH49ELH  
Directivity: \_\_\_\_\_  
Main Lobe: \_\_\_\_\_  
Horizontal: \_\_\_\_\_  
Beam Tilt: \_\_\_\_\_  
Polarization: HORIZONTAL  
Channel: 49  
Location: RALEIGH, NC

ANDREW CORPORATION  
10500 W. 153rd Street  
Orland Park, Illinois U.S.A. 60462



**ANDREW.**  
**ELEVATION PATTERN**

Type: CH50E1H  
Directivity:      Numeric      dBi  
Main Lobe  
Horizontal  
Beam Tilt: \_\_\_\_\_  
Polarization: HORIZONTAL  
Channel: 50  
Location: RALEIGH, NC

ANDREW CORPORATION  
10500 W. 153rd Street  
Orland Park, Illinois U.S.A. 60462

Cohen, Dippell and Everist, P.C.

TABLE I  
COMPUTED COVERAGE DATA  
FOR THE PROPOSED DTV OPERATION OF  
WRAZ-DT, RALEIGH, NORTH CAROLINA  
CHANNEL 49, 1000 KW ERP 614.1 METERS HAAT  
MARCH 2004

<u>Radial</u> <u>Bearing</u> N ° E, T	<u>Average*</u> <u>Elevation</u> <u>3.2 to 16.1 km</u> <u>meters</u>	<u>Effective</u> <u>Height</u> <u>meters</u>	<u>Depression</u> <u>Angle</u>	<u>ERP at</u> <u>Radio</u> <u>Horizon</u> kW	<u>Distance to Contour F(50,90)</u>	
					<u>48 dBu</u> <u>City Grade</u> km	<u>41 dBu</u> <u>Noise-Limited</u> km
0	68.5	625.2	0.693	1000	106.9	122.1
45	74.2	619.5	0.689	1000	106.7	121.8
90	83.4	610.3	0.684	1000	106.3	121.3
135	76.5	617.2	0.688	1000	106.6	121.7
180	70.0	623.7	0.692	1000	106.8	122.0
225	84.4	609.3	0.684	1000	106.2	121.3
270	96.8	596.9	0.677	1000	105.7	120.6
315	82.6	611.1	0.685	1000	106.3	121.4
Average	79.6	614.1				

\*Based on data from FCC 3-second data base

DTV Channel 49 (680-686 MHz)  
Average Elevation 3.2 to 16.1 km 79.6 meters AMSL  
Center of Radiation 693.6 meters AMSL  
Antenna Height Above Average Terrain 614.1 meters  
Effective Radiated Power 1000 kW (30 dBk) Max.

North Latitude: 35° 40' 29"  
West Longitude: 78° 31' 40"

(NAD-27)

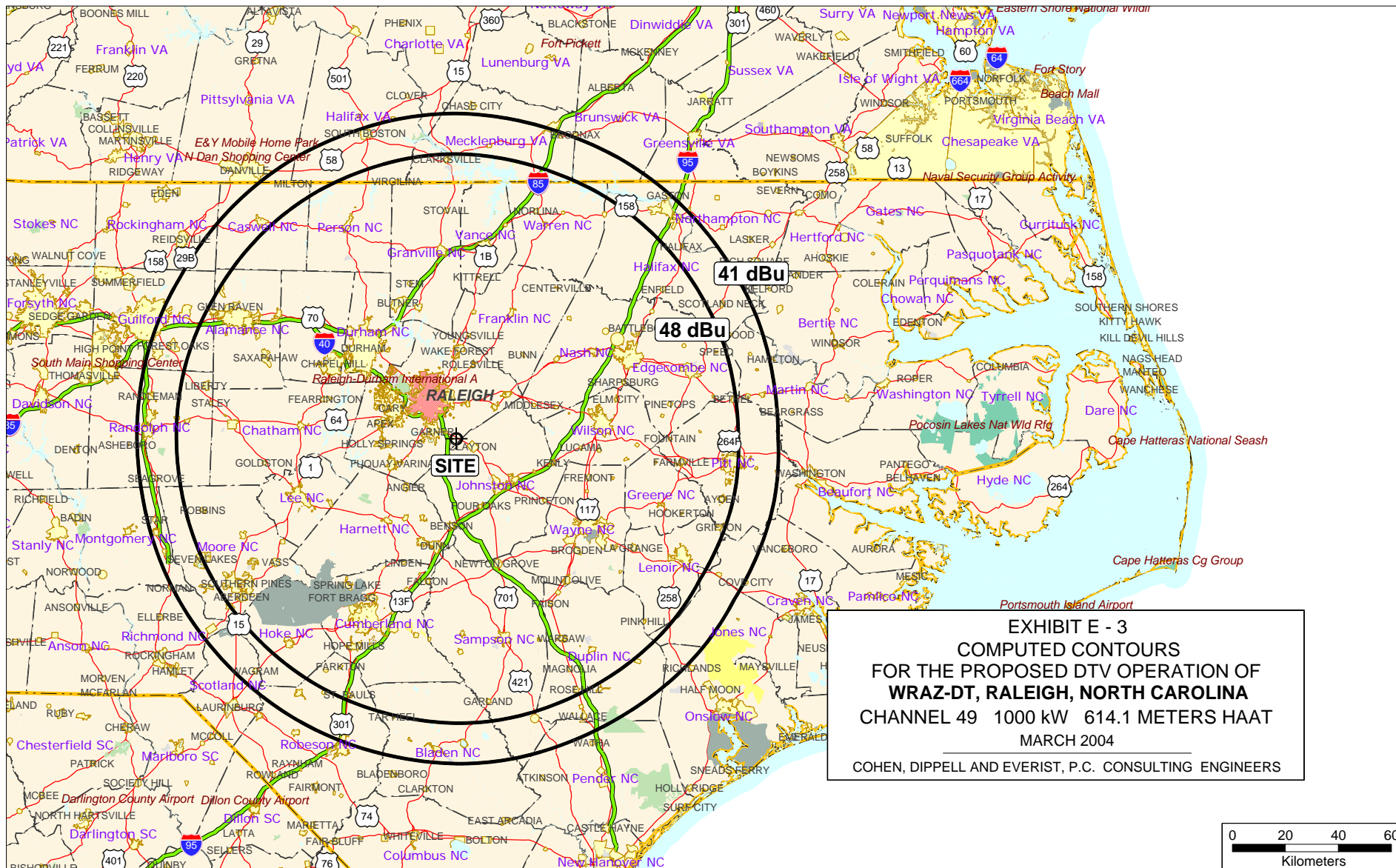


TABLE II  
POTENTIAL INTERFEREES  
OF THE PROPOSED OPERATION OF  
WRAZ-DT, RALEIGH, NORTH CAROLINA  
CHANNEL 49 1000 KW 614.1 METERS  
MARCH 2004

<u>Station</u>	<u>Ch</u>	<u>Status</u>	<u>City/State</u>	<u>Distance from</u> <u>WRAZ-DT</u> km	<u>File No.</u>	<u>New</u> <u>Interference</u> percent
960628KM	34	App	Raleigh, NC	0.8	BPET-19960628KM	none
WARZ-LP	34	Lic	Smithfield-Selma, NC	26.0	BLTTA-20021118AAC	none
WXLV-TV	45	App	Winston-Salem, NC	118.8	BPCT-20000728AED	0.25
W46BF	46	Lic	Sanford, NC	62.8	BLTTL-19890630IK	none
WRPX	47	Lic	Rocky Mount, NC	56.4	BLCT-19960709KN	0.0
WRPX	47	CP mod	Rocky Mount, NC	56.5	BMPCT-19960716KM	0.00
WUPN-TV	48	Lic	Greensboro, NC	118.8	BLCT-20020607ABJ	0.1
WUPN-TV	48	CP	Greensboro, NC	118.8	BLCDDT-20000814ABU	0.1
WCTI-TV	48	Lic	New Bern, NC	125.2	BLCDDT-20010830ACH	none
WCTI-DT	48	Allot	New Bern, NC	125.1	--	1.55
WTBL-LP	49	CP mod	Lenoir, NC	268.3	BMPTTL-20001113ACI	none
WITV	49	CP mod	Charleston, SC	324.1	BMPEDT-20030812ACK	0.0
WITV-DT	49	Allot	Charleston, SC	324.1	--	0.0
WRET-TV	49	Lic	Spartanburg, SC	311.4	BLET-19810706KG	0.0
WLFG	49	CP	Grundy, VA	343.2	BPCDDT-19991029AGK	0.06

TABLE II  
POTENTIAL INTERFEREES  
OF THE PROPOSED OPERATION OF  
WRAZ-DT, RALEIGH, NORTH CAROLINA  
CHANNEL 49 1000 KW 614.1 METERS  
MARCH 2004  
(continued)

<u>Station</u>	<u>Ch</u>	<u>Status</u>	<u>City/State</u>	<u>Distance from</u> <u>WRAZ-DT</u> km	<u>File No.</u>	<u>New</u> <u>Interference</u> percent
WLFG-DT	49	Allot	Grundy, VA	343.2	--	0.0
WHSV-TV	49	CP	Harrisonburg, VA	325.4	BPCDT-19991028ADT	0.1
WHSV-DT	49	Allot	Harrisonburg, VA	325.4	--	0.2
WPXV	49	Lic	Norfolk, VA	220.9	BLCT-20020225AAQ	0.30
WAXN	50	Lic	Kannapolis, NC	204.3	BLCDT-20020426AAN	none
WAXN-DT	50	Allot	Kannapolis, NC	204.3	--	none
WRAZ	50	Lic	Raleigh, NC	0.8	BLCT-19950925KE	1.1
WTLU-CA	50	CP mod	Lynchburg, VA	184.6	BMAPTTA-20011022ABH	none
WGNT	50	Lic	Portsmouth, VA	224.2	BLCDT-20020718AAK	0.0
WGNT	50	Grant	Portsmouth, VA	224.1	BPRM-20000413AAH	0.0

Cohen, Dippell and Everist, P.C.

TABLE III  
STUDY OF CLASS A STATION PROTECTION  
WRAZ-DT, RALEIGH, NORTH CAROLINA  
CHANNEL 49 1000 KW 614.1 METERS  
MARCH 2004

<u>NTSC/DTV</u>	<u>Channel</u>	<u>City/State</u>	Distance From <u>WRAZ-DT</u> km	<u>New Interference</u>
WARZ-LP	34	Smithfield, NC	26.1	0.00%
WARZ-LP	34	Smithfield-Selma, NC	26.0	0.00%
W46BF	46	Sanford, NC	62.8	No Overlap
WBPI-LP	49	Augusta, GA	393.8	No Overlap
WTBL-LP	49	Lenoir, NC	268.3	No Overlap
WTLU-CA	50	Lynchburg, VA	184.6	No Overlap

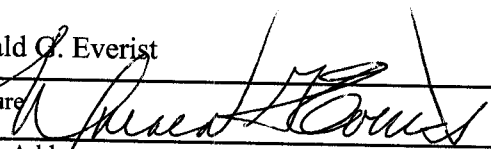
I certify that the statements in this application are true, complete, and correct to the best of my knowledge and belief, and are made in good faith. I acknowledge that all certifications and attached Exhibits are considered material representations. I hereby waive any claim to the use of any particular frequency as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and request an authorization in accordance with this application. (See Section 304 of the Communications Act of 1934, as amended.)

Typed or Printed Name of Person Signing	Typed or Printed Title of Person Signing
Signature	Date

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).

### 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 March 25, 2004	
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).



## SECTION III-D - DTV Engineering

**Complete Questions 1-5 of the Certification Checklist and provide all data and information for the proposed facility, as requested in Technical Specifications, Items 1-13.**

**Certification Checklist:** A correct answer of "Yes" to all of the questions below will ensure an expeditious grant of a construction permit. However, if the proposed facility is located within the Canadian or Mexican borders, coordination of the proposal under the appropriate treaties may be required prior to grant of the application. An answer of "No" will require additional evaluation of the applicable information in this form before a construction permit can be granted.

1. The proposed DTV facility complies with 47 C.F.R. Section 73.622 in the following respects:
  - (a) It will operate on the DTV channel for this station as established in 47 C.F.R. Section 73.622. ☐ Yes ☐ No
  - (b) It will operate from a transmitting antenna located within 5.0 km (3.1 miles) of the DTV reference site for this station as established in 47 C.F.R. Section 73.622. ☐ Yes ☐ No
  - (c) It will operate with an effective radiated power (ERP) and antenna height above average terrain (HAAT) that do not exceed the DTV reference ERP and HAAT for this station as established in 47 C.F.R. Section 73.622. ☐ Yes ☐ No
2. The proposed facility will not have a significant environmental impact, including exposure of workers or the general public to levels of RF radiation exceeding the applicable health and safety guidelines, and therefore will not come within 47 C.F.R. Section 1.1307. ☐ Yes ☐ No  
  
Applicant must **submit the Exhibit** called for in Item 13.
3. Pursuant to 47 C.F.R. Section 73.625, the DTV coverage contour of the proposed facility will encompass the allotted principal community. ☐ Yes ☐ No
4. The requirements of 47 C.F.R. Section 73.1030 regarding notification to radio astronomy installations, radio receiving installations and FCC monitoring stations have either been satisfied or are not applicable. ☐ Yes ☐ No
5. The antenna structure to be used by this facility has been registered by the Commission and will not require reregistration to support the proposed antenna, OR the FAA has previously determined that the proposed structure will not adversely effect safety in air navigation and this structure qualifies for later registration under the Commission's phased registration plan, OR the proposed installation on this structure does not require notification to the FAA pursuant to 47 C.F.R. Section 17.7. ☐ Yes ☐ No

## SECTION III-D DTV 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 Number: DTV \_\_\_\_\_ Analog TV, if any \_\_\_\_\_
2. Zone: ☐ I ☐ II ☐ III
3. Antenna Location Coordinates: (NAD 27)
- \_\_\_\_\_° \_\_\_\_\_' \_\_\_\_\_" ☐ N ☐ S Latitude  
\_\_\_\_\_° \_\_\_\_\_' \_\_\_\_\_" ☐ E ☐ W Longitude
4. Antenna Structure Registration Number: \_\_\_\_\_
- ☐ Not applicable ☐ FAA Notification Filed with FAA
5. Antenna Location Site Elevation Above Mean Sea Level: \_\_\_\_\_ meters
6. Overall Tower Height Above Ground Level: \_\_\_\_\_ meters
7. Height of Radiation Center Above Ground Level: \_\_\_\_\_ meters
8. Height of Radiation Center Above Average Terrain: \_\_\_\_\_ meters
9. Maximum Effective Radiated Power (average power): \_\_\_\_\_ kW
10. Antenna Specifications:
- a. 

Manufacturer	Model
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- b. Electrical Beam Tilt: \_\_\_\_\_ degrees ☐ Not Applicable
- c. Mechanical Beam Tilt: \_\_\_\_\_ degrees toward azimuth \_\_\_\_\_ degrees True ☐ Not Applicable
- Attach as an Exhibit all data specified in 47 C.F.R. Section 73.625(c). 

Exhibit No.
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- d. Polarization: ☐ Horizontal ☐ Circular ☐ Elliptical

# TECHBOX

- e. Directional Antenna Relative Field Values: ☐ Not applicable (Nondirectional)  
 Rotation: \_\_\_\_\_ ° ☐ No rotation

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											

If a directional antenna is proposed, the requirements of 47 C.F.R. Section 73.625(c) must be satisfied. **Exhibit required.**

Exhibit No.

11. Does the proposed facility satisfy the interference protection provisions of 47 C.F.R. Section 73.623(a)? (Applicable only if **Certification Checklist** Items 1(a), (b), or (c) are answered "No.") ☐ Yes ☐ No

If "No," attach as an Exhibit justification therefor, including a summary of any related previously granted waivers.

Exhibit No.

12. If the proposed facility will not satisfy the coverage requirement of 47 C.F.R. Section 73.625, attach as an Exhibit justification therefor. (Applicable only if **Certification Checklist** Item 3 is answered "No.")

Exhibit No.

13. **Environmental Protection Act. Submit in an Exhibit** the following:

Exhibit No.

- a. If **Certification Checklist** Item 2 is answered "Yes," a brief explanation of why an Environmental Assessment is not required. Also describe in the Exhibit the steps that will be taken to limit RF radiation exposure to the public and to persons authorized access to the tower site.

By checking "Yes" to **Certification Checklist** Item 2, 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.

If **Certification Checklist** Item 2 is answered "No," an Environmental Assessment as required by 47 C.F.R. Section 1.1311.

**PREPARER'S CERTIFICATION IN SECTION III MUST BE COMPLETED AND SIGNED.**