

ENGINEERING STATEMENT
RE REQUEST FOR A MINOR CHANGE IN DTV
APPLICATION (BPEDT-20000501AGV)
ON BEHALF OF
EASTERN ILLINOIS UNIVERSITY
WEIU-DT, CHARLESTON, ILLINOIS
CHANNEL 50 255 KW ERP 146 METERS HAAT

SEPTEMBER 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)

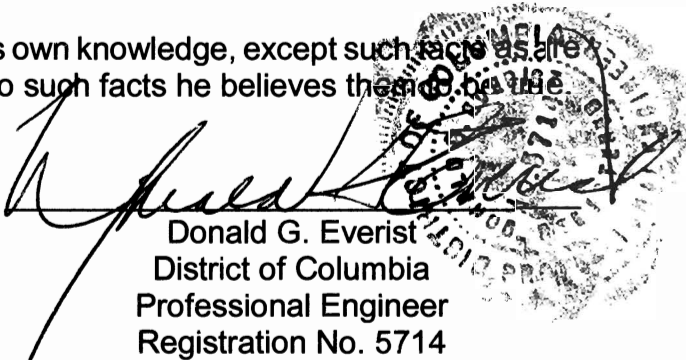
Donald G. Everist, being duly sworn upon his oath, deposes and states that:

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 27th day of October, 2004.





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;

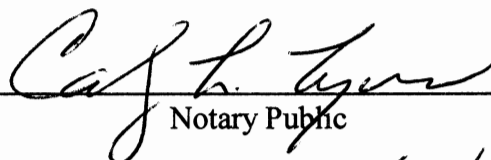
That the attached engineering report was prepared by him or under his supervision and direction and

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 29th day of October, 2004.



Notary Public

My Commission Expires: 2/28/2008



Introduction

This engineering statement has been prepared on behalf of Eastern Illinois University ("WEIU"), licensee of TV station WEIU-TV, Charleston, Illinois, in support of its request to make a minor modification in its DTV construction permit (BPEDT-20000501AGV). At present, WEIU-TV has a construction permit for NTSC TV Channel 51+ (692-698 MHz) with 50.0 kW non-directional effective radiated power ("ERP") and 180.2 meters antenna height above average terrain ("HAAT"). WEIU-TV has been allotted Channel 50 (686-692 MHz) with 50 kW (directional maximum ERP) and 70.0 meters HAAT. In its construction permit, WEIU-DT is authorized facilities of 250 kW (non-directional) with a HAAT of 180.2 meters. This engineering statement and accompanying Section VII of FCC Form 340 and related exhibits propose to amend the construction permit by relocating the antenna site and increasing the power to 255 kW ERP (non-directional) and decreasing the HAAT to 146 meters.

It is important to note that WEIU-TV will be submitting a request to move its NTSC operation to collocate with this new DTV facility, and duplex these two stations using the proposed antenna.

Antenna Site

The proposed WEIU-DT antenna site has been changed to a proposed tower, 7 miles north-northwest of the Coles County Memorial, Charleston, Illinois. The FAA has approved the structure (FAA Study No. 2004-AGL-5279-OE). The Antenna Structure Registration number is 1245858.

The geographic coordinates of this structure are as follows:

North Latitude: 39° 34' 15.0"

West Longitude: 88° 18' 25.5"

(NAD-27)

The WEIU-DT antenna will be side-mounted at a radiation center of at 144.0 meters (472.3 feet) above ground level. The following data shows the pertinent information concerning the proposed operation.

Power Data

Transmitter output	14.5 kW	11.61 dBk
Combiner loss (STF N-1 combiner or equivalent)	89.1%	0.50 dB
Transmission line loss	85.6%	0.67 dB
Input power to the antenna	11.1 kW	10.46 dBk
Antenna power gain, Main Lobe	23.0	13.62 dB
Effective Radiated Power, Maximum	255 kW	24.07 dBk

Antenna and Elevation Data

Antenna:	Dielectric	TFU-24DSB-A (C) DC or equivalent	
	Beam Tilt	1.0 ° electrical	
	Non-Directional Max. Power Gain	23.0 (See Exhibits E-2a - E-2c per §73.625(c))	13.62 dB
Elevation of the site above mean sea level:		207.3 meters (680 feet)	
Elevation of the top of the existing supporting structure above ground including appurtenances		150 meters (492 feet)	
Elevation of the top of supporting structure above mean sea level including appurtenances		357.3 meters (1172 feet)	
Height of DTV antenna radiation center meters above ground		144.0 meters (472.3 feet)	

Height of DTV antenna radiation center above mean sea level	351.3 meters (1152.6 feet)
Height of DTV antenna radiation center above average terrain	146 meters (479 feet)

Authorized Effective Radiated Power

The maximum ERP authorized by the outstanding allocation for the DTV operation is 250 kW at 180.2 meters HAAT. Station WEIU-DT is proposing to operate its facility with a maximum ERP of 255 kW at 146 meters HAAT using a non-directional transmitting antenna from a different site.

The attached map (Exhibit E-3) shows the computed F(50,90) 48 dBu and 41 dBu contour as predicted according to Section 73.625(b) of the Commission's rules.

Principal Community Coverage

In MM Docket No. 00-39, the Commission adopted rules to require DTV stations to place a stronger TV signal over the principal community. The operation proposed by WEIU-DT places a predicted 48 dBu contour over the entire community of Charleston, Illinois.

Topographic Data

The average elevation data of the eight cardinal radials from 3.2 to 16.1 kilometers, is based on the NGDC 3-second computerized terrain database.

Contour Data

Utilizing the formula in Section 73.625(b)(2) for the effective heights shown on the attached tabulation, the depression angle A_h , for each azimuth has been calculated. The maximum radiation value has been used to calculate ERP where the vertical radiation pattern at these angles is greater than 90% of the maximum.

Table I provides the distances along the eight cardinal radials to the predicted F(50,90) 48 dBu and 41 dBu contours, the average elevations, and the effective antenna heights.

The distances along each radial to the limits of F(50,90) 48 dBu and 41 dBu contours were determined as specified in Section 73.625(b) by reference to the propagation data for Channels 14-69, as published by the Commission in Figures 10b and 10c, Section 73.699 of its rules.

Interference Study in Accordance with §73.622 of the FCC's Rules

Due to changes in coordinates, power, and height a comprehensive FCC Longley-Rice study is required.

To perform this study, a version of the Longley-Rice program described in OET Bulletin No. 69 (July 2, 1997) and the Public Notice, "Additional Application Processing Guidelines for Digital Television (DTV)" (August 1998) was executed. This version uses the FCC's FORTRAN-77 code that has been modified only to the extent necessary (primarily I/O handling) for the program to run on a Win32/Intel i386-based 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 km² using 3-second terrain data sampled approximately every 1.0 km at one degree azimuth intervals with 1990 census centroids.

After completing the entire study, it was shown that the current proposal causes no new interference above that allowed by the Commission's rules. For more information, please consult Table II of this Engineering Statement.

Other Proposed or Licensed Broadcast Facilities

There are no FM and one other proposed TV station (WEIU-TV) located within 100 meters of the proposed site. No objectionable interference problems are anticipated. However, if any problems occur, the applicant will take the necessary steps to resolve them. There are no AM stations within 3.22 km of the proposed site.

Environment Statement

The diplexed NTSC and DTV antenna will be side-mounted on the existing tower at 144.8 meters (475 feet) above ground. The following broadcast stations propose to operate from the tower:

WEIU-TV

WEIU-DT

The radiofrequency field level ("RFF") contribution of the two stations will be calculated and summed to form a total representative value for a point 2 meters above ground at the base of the tower.

Station WEIU-TV (proposed, yet to be filed)

Channel 51+ Freq: 692-698 MHz Range

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

ERP =	72.5 kW (Horizontal only)
R =	142.0 meters (antenna height above ground -2 meters)
F =	0.2 (based on maximum field from 10 to 90 degrees below the horizontal)

$$S = 2.4 \mu\text{W}/\text{cm}^2$$

The limit for an uncontrolled environment (general population) for this frequency is $463.3 \mu\text{W}/\text{cm}^2$.

WEIU-TV contributes less than 0.5% RFF level for an uncontrolled environment (general population) two meters above the ground.

Station WEIU-DT (proposed)

Channel 50 Freq: 686-692 MHz Range

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

ERP	=	255 kW (Horizontal only)
R	=	142.0 meters (antenna height above ground -2 meters)
F	=	0.2 (based on maximum field from 10 to 90 degrees below the horizontal, see Exhibit E-2)

$$S = 16.9 \mu\text{W}/\text{cm}^2$$

The limit for an uncontrolled environment (general population) for this frequency is 459.3 $\mu\text{W}/\text{cm}^2$.

WEIU-DT contributes less than 3.7% RFF level for an uncontrolled environment (general population) two meters above the ground.

Therefore the total RFF percentage two meters above the ground at the highest RFF point will still be less than 4.2% of the limit, when all transmitting antennas on the tower are operational.

The applicant indicates that all authorized personnel climbing the tower will be alerted to the potential zones of high radiation, and if necessary, the station will operate with reduced power or terminated power should the situation require.

Summary of Environmental Assessment

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

- (a)(1) The proposed facilities on the existing tower will not be located in an officially designated wilderness area.
- (a)(2) The proposed facilities on the existing tower will not be located in an officially designated wildlife preserve.
- (a)(3) The proposed facilities on the existing tower will not affect any listed threatened or endangered species or habitats.

- (a)(3)(ii) The proposed facilities on the 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 on the existing tower will not affect any known districts, sites, buildings, structures, or objects significant in American history, architecture, archaeology, engineering, or culture.
- (a)(5) The proposed facilities on the existing tower will not be located near any known Indian religious sites.
- (a)(6) The proposed facilities on the existing tower will not be located in a flood plain.
- (a)(7) The installation of the DTV facilities on an existing guyed tower will not involve a significant change in surface features of the ground in the vicinity of the tower.
- (a)(8) It is not proposed to equip the tower with high intensity white lights unless required by the FAA.
- (b) Workers and the general public will not be subjected to RFF 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 FCC guidelines.

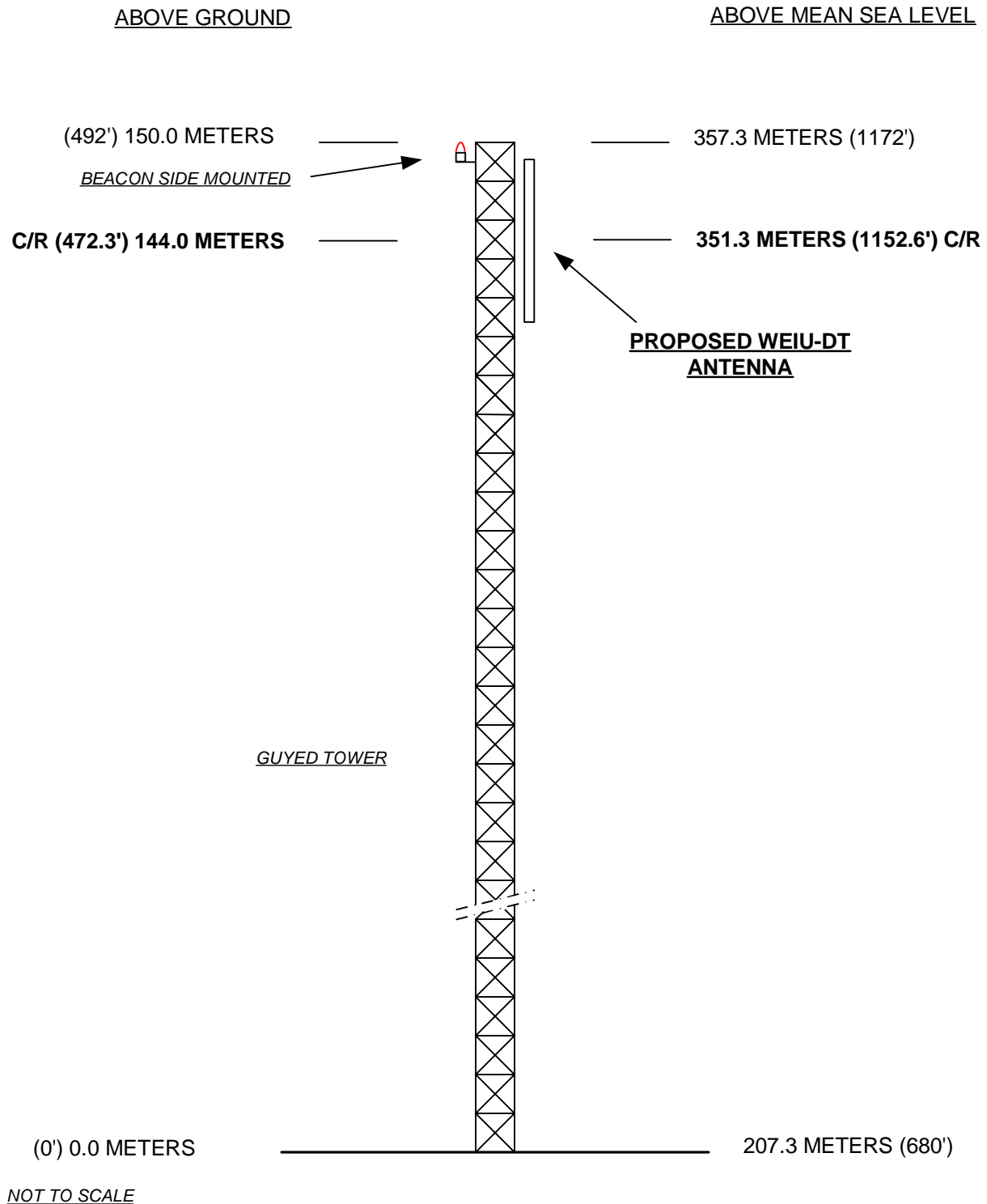


EXHIBIT E - 1
VERTICAL SKETCH
FOR THE PROPOSED OPERATION OF
WEIU-DT, CHARLESTON, ILLINOIS
OCTOBER 2004

EXHIBIT E-2

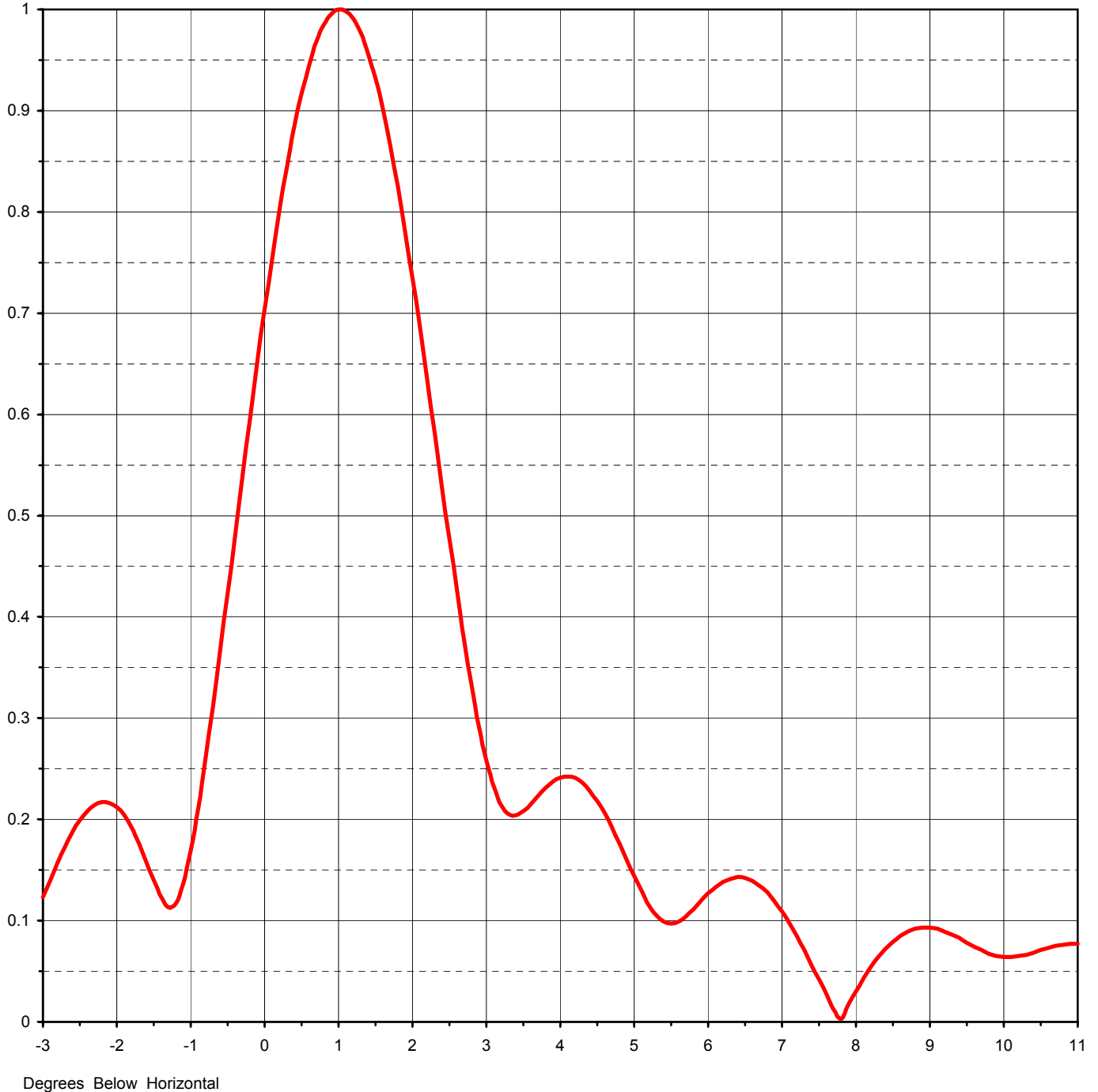
ANTENNA MANUFACTURER DATA
WEIU-DT, CHARLESTON, ILLINOIS



Proposal Number	DCA-10676		
Date	15-Sep-04		
Call Letters	WEIU-DT	Channel	50
Location	Charleston, IL		
Customer	Eastern Illinois University		
Antenna Type	TFU-24DSB-A (C) DC		

ELEVATION PATTERN

RMS Gain at Main Lobe	23.00 (13.62 dB)	Beam Tilt	1.00 deg
RMS Gain at Horizontal	11.40 (10.57 dB)	Frequency	689.00 MHz
Calculated / Measured	Calculated	Drawing #	24B23010D100



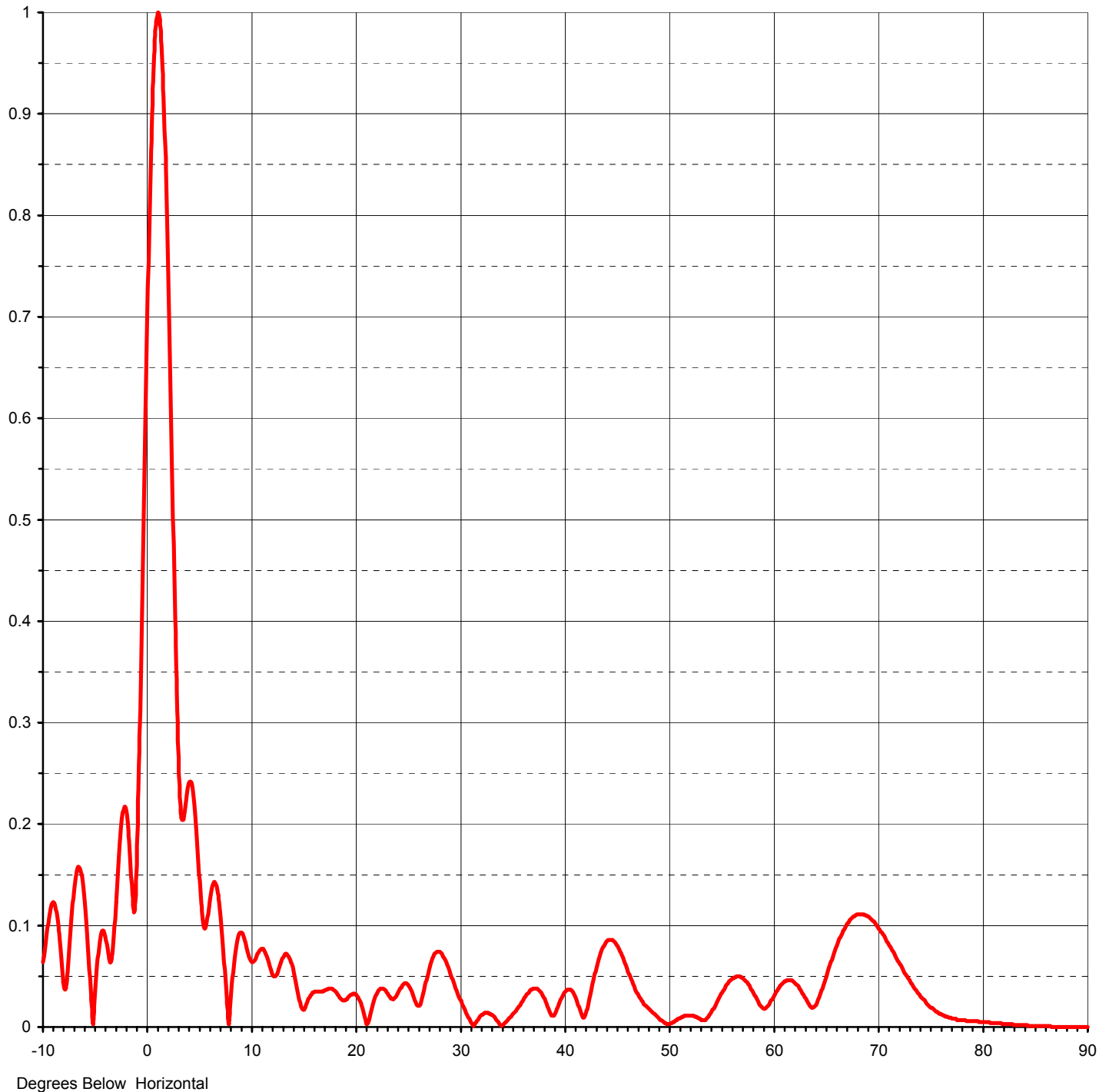


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ELEVATION PATTERN

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RMS Gain at Horizontal	11.40	(10.57 dB)
Calculated / Measured	Calculated	

Beam Tilt	1.00 deg
Frequency	689.00 MHz
Drawing #	24B23010D100-90





Proposal Number **DCA-10676**
 Date **15-Sep-04**
 Call Letters **WEIU-DT** Channel **50**
 Location **Charleston, IL**
 Customer **Eastern Illinois University**
 Antenna Type **TFU-24DSB-A (C) DC**

TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing #: **24B23010D100-90**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.064	2.4	0.529	10.6	0.071	30.5	0.017	51.0	0.008	71.5	0.072
-9.5	0.102	2.6	0.426	10.8	0.075	31.0	0.006	51.5	0.011	72.0	0.062
-9.0	0.123	2.8	0.332	11.0	0.077	31.5	0.004	52.0	0.011	72.5	0.053
-8.5	0.098	3.0	0.258	11.5	0.070	32.0	0.011	52.5	0.010	73.0	0.045
-8.0	0.042	3.2	0.214	12.0	0.054	32.5	0.014	53.0	0.008	73.5	0.037
-7.5	0.074	3.4	0.204	12.5	0.052	33.0	0.012	53.5	0.007	74.0	0.030
-7.0	0.137	3.6	0.215	13.0	0.067	33.5	0.007	54.0	0.013	74.5	0.024
-6.5	0.157	3.8	0.231	13.5	0.071	34.0	0.001	54.5	0.022	75.0	0.019
-6.0	0.123	4.0	0.241	14.0	0.059	34.5	0.006	55.0	0.032	75.5	0.015
-5.5	0.048	4.2	0.241	14.5	0.034	35.0	0.012	55.5	0.041	76.0	0.012
-5.0	0.035	4.4	0.228	15.0	0.017	35.5	0.018	56.0	0.047	76.5	0.010
-4.5	0.088	4.6	0.206	15.5	0.027	36.0	0.025	56.5	0.050	77.0	0.008
-4.0	0.088	4.8	0.176	16.0	0.034	36.5	0.033	57.0	0.049	77.5	0.007
-3.5	0.064	5.0	0.144	16.5	0.035	37.0	0.038	57.5	0.044	78.0	0.007
-3.0	0.123	5.2	0.115	17.0	0.036	37.5	0.037	58.0	0.036	78.5	0.006
-2.8	0.157	5.4	0.099	17.5	0.038	38.0	0.030	58.5	0.026	79.0	0.006
-2.6	0.187	5.6	0.099	18.0	0.036	38.5	0.018	59.0	0.019	79.5	0.006
-2.4	0.208	5.8	0.111	18.5	0.029	39.0	0.011	59.5	0.021	80.0	0.005
-2.2	0.217	6.0	0.127	19.0	0.026	39.5	0.023	60.0	0.029	80.5	0.005
-2.0	0.212	6.2	0.138	19.5	0.031	40.0	0.034	60.5	0.038	81.0	0.004
-1.8	0.192	6.4	0.143	20.0	0.032	40.5	0.037	61.0	0.044	81.5	0.004
-1.6	0.158	6.6	0.139	20.5	0.024	41.0	0.031	61.5	0.046	82.0	0.003
-1.4	0.123	6.8	0.128	21.0	0.007	41.5	0.017	62.0	0.044	82.5	0.003
-1.2	0.117	7.0	0.109	21.5	0.015	42.0	0.011	62.5	0.038	83.0	0.002
-1.0	0.169	7.2	0.085	22.0	0.032	42.5	0.032	63.0	0.030	83.5	0.002
-0.8	0.259	7.4	0.056	22.5	0.038	43.0	0.055	63.5	0.021	84.0	0.002
-0.6	0.366	7.6	0.027	23.0	0.034	43.5	0.073	64.0	0.021	84.5	0.001
-0.4	0.481	7.8	0.003	23.5	0.028	44.0	0.084	64.5	0.035	85.0	0.001
-0.2	0.595	8.0	0.030	24.0	0.032	44.5	0.086	65.0	0.050	85.5	0.001
0.0	0.704	8.2	0.054	24.5	0.041	45.0	0.081	65.5	0.066	86.0	0.001
0.2	0.801	8.4	0.072	25.0	0.042	45.5	0.071	66.0	0.080	86.5	0.000
0.4	0.883	8.6	0.085	25.5	0.032	46.0	0.058	66.5	0.092	87.0	0.000
0.6	0.945	8.8	0.092	26.0	0.021	46.5	0.045	67.0	0.102	87.5	0.000
0.8	0.985	9.0	0.093	26.5	0.033	47.0	0.033	67.5	0.108	88.0	0.000
1.0	1.000	9.2	0.089	27.0	0.054	47.5	0.025	68.0	0.111	88.5	0.000
1.2	0.991	9.4	0.083	27.5	0.070	48.0	0.019	68.5	0.111	89.0	0.000
1.4	0.957	9.6	0.074	28.0	0.074	48.5	0.014	69.0	0.109	89.5	0.000
1.6	0.901	9.8	0.071	28.5	0.068	49.0	0.009	69.5	0.104	90.0	0.000
1.8	0.826	10.0	0.065	29.0	0.056	49.5	0.005	70.0	0.097		
2.0	0.735	10.2	0.064	29.5	0.041	50.0	0.003	70.5	0.090		
2.2	0.635	10.4	0.066	30.0	0.028	50.5	0.005	71.0	0.081		

TABLE I
COMPUTED COVERAGE DATA
FOR THE PROPOSED DTV OPERATION OF
WEIU-DT, CHARLESTON, ILLINOIS
CHANNEL 50 255 KW ERP 146 METERS HAAT
SEPTEMBER 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>Effective</u> <u>Height</u> meters	<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>	
	meters				<u>48 dBu</u> <u>City Grade</u> km	<u>41 dBu</u> <u>Noise-Limited</u> km
0	202.9	149.1	0.338	255	63.5	71.0
45	204.0	148.0	0.337	255	63.5	70.9
90	208.2	143.8	0.332	255	63.1	70.5
135	200.9	151.1	0.340	255	63.7	71.1
180	213.3	138.7	0.326	255	62.8	70.1
225	215.6	136.4	0.324	255	62.6	69.9
270	200.2	151.8	0.341	255	63.7	71.2
315	199.2	152.8	0.342	255	63.8	71.3

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

DTV Channel 50 (686-692 MHz)
 Average Elevation 3.2 to 16.1 km 205.3 meters AMSL
 Center of Radiation 351.3 meters AMSL
 Antenna Height Above Average Terrain 146 meters
 Effective Radiated Power 255 kW (24.07 dBk) Max

North Latitude: 39° 34' 15"
 West Longitude: 88° 18' 25.5"

(NAD-27)

COHEN, DIPPELL AND EVERIST, P. C.

TABLE II
LONGLEY-RICE ANALYSIS FOR THE
PROPOSED DTV OPERATION OF
WEIU-DT, CHARLESTON, ILLINOIS
CHANNEL 50 255 KW ERP 146 METERS HAAT
SEPTEMBER 2004

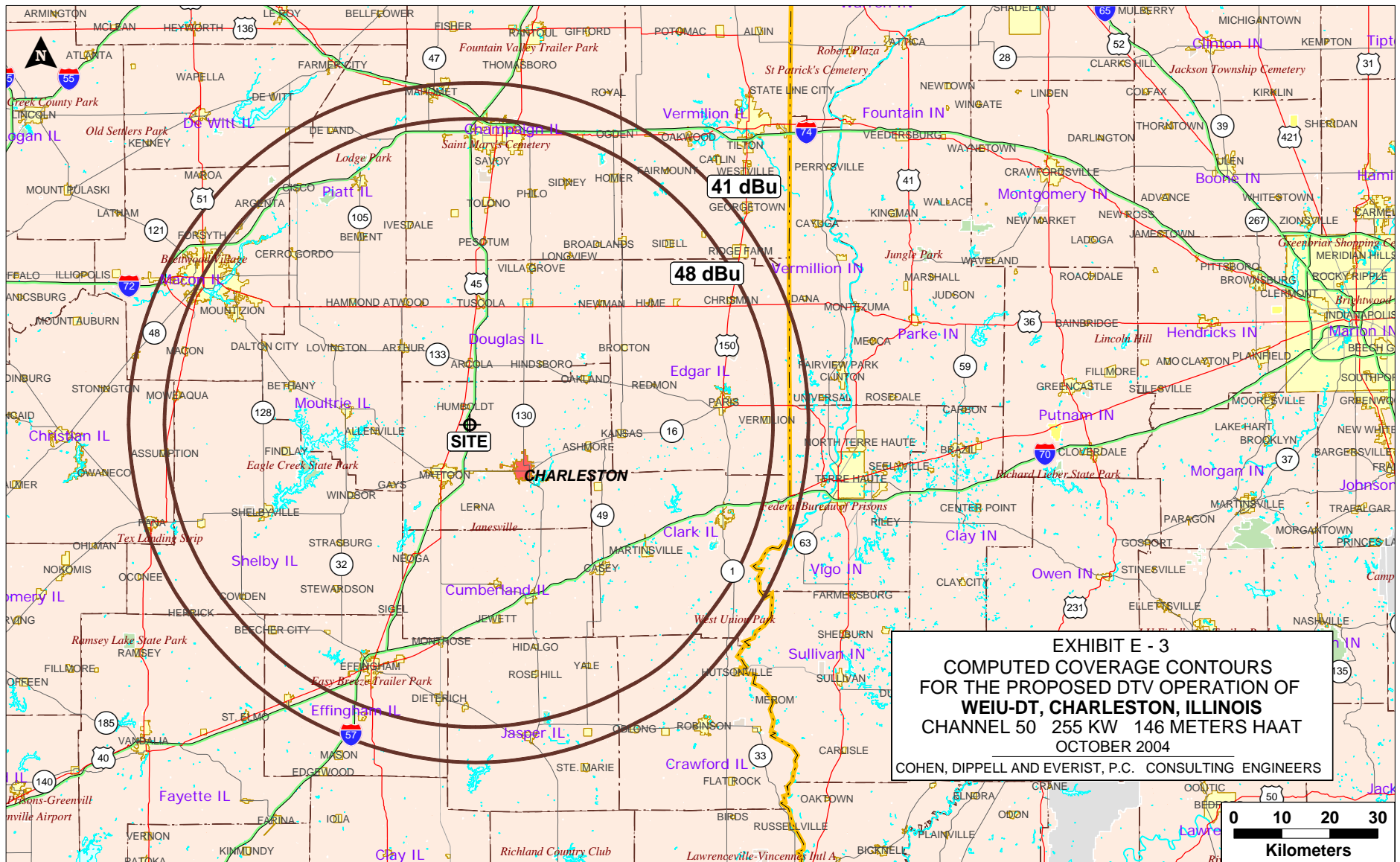
<u>Channel</u>	<u>Call</u>	<u>City/State</u>	<u>Dist(km)</u>	<u>Status</u>	<u>Application Ref. No.</u>	<u>Result</u>
35	W33AY	SPRINGFIELD IL	113.4	CP MOD	BMPTTL -20010112ABV	No Interference
36	W56DN	EVANSVILLE IN	198.4	CP	BPTTL -20030729AEX	0.0%
43	WYZZ-TV	BLOOMINGTON IL	140.6	LIC	BLCT -19851129KG	No Interference
43	W43BV	TERRE HAUTE IN	74.4	LIC	BLTT -20010713AAI	No Interference
46	WBXC-CA	CHAMPAIGN, ETC. IL	60.3	LIC	BLTTA -20040723ABO	No Interference
47	W47CT	TERRE HAUTE IN	74.5	APP	BMPTTL -20030425ABF	No Interference
47	W47CT	TERRE HAUTE IN	87	CP	BNPTTL -20000831ALC	No Interference
48	W34CD	CHAMPAIGN/URBANA IL	73.8	CP	BPTTL -20000929ADW	No Interference
49	WCFN	SPRINGFIELD IL	106.1	LIC	BLCT -20020214ABN	No Interference
49	K49FC	ST. LOUIS MO	196.2	LIC	BLTTL -19990622JF	No Interference
50	W50CH	ALTON IL	170.8	LIC	BLTTL -20001220ACX	No Interference
50	W50BY	GALESBURG IL	230.5	LIC	BLTT -19960927IA	No Interference
50	W50DD	PEORIA IL	153.4	LIC	BLTT -20040429AAU	No Interference
50	W50DG	QUINCY IL	261.9	CP	BNPTTL -20000831ASV	No Interference
50	WEOA-LP	EVANSVILLE IN	197.7	LIC	BLTTL -20000622AGB	No Interference
50	W36CE	FT. WAYNE IN	314.2	APP	BPTTL -20020111AAT	No Interference
50	WPWR-TV	GARY IN	262.7	LIC	BLCT -19870128KL	0.0%
50	WALV-CA	INDIANAPOLIS IN	185.9	LIC	BLTTA -20020621AAJ	No Interference
50	WKGK-LP	KOKOMO IN	213.1	CP	BPTTL -20010409ABL	No Interference
50	W50CI	LOUISVILLE KY	251.8	LIC	BLTTL -20000925ABD	No Interference
50	WDKA	PADUCAH KY	248	CP	BPCDT -19991029ACT	0.1%
50	WDKA-DT	PADUCAH KY	248	ALLOT		0.0%
50	WOKZ-CA	KALAMAZOO MI	376.7	LIC	BLTTA -20021213ABP	No Interference
50	NEW	HANNIBAL MO	260.8	APP	BNPTT -20000831BSJ	No Interference
50	WDTN	DAYTON OH	347.1	CP MOD	BMPCDT -20030604ACN	0.0%
50	WDTN-DT	DAYTON OH	347.1	ALLOT		0.0%
50	WPGD-TV	HENDERSONVILLE TN	380.2	LIC	BLCT -19921015KG	No Interference

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LONGLEY-RICE ANALYSIS FOR THE
PROPOSED DTV OPERATION OF
WEIU-DT, CHARLESTON, ILLINOIS
CHANNEL 50 255 KW ERP 146 METERS HAAT
SEPTEMBER 2004

(continued)

<u>Channel</u>	<u>Call</u>	<u>City/State</u>	<u>Dist(km)</u>	<u>Status</u>	<u>Application</u>	<u>Ref. No.</u>	<u>Result</u>
50	WISC-TV	MADISON WI	400.7	CP	BPCDT	-19991027ABG	No Interference
50	WISC-DT	MADISON WI	400.7	ALLOT			No Interference
51	W51CT	BLOOMINGTON IL	117.1	LIC	BLTT	-20021121AAK	No Interference
51	W51CT	BLOOMINGTON IL	117.1	CP MOD	BMPTT	-20020104AAA	No Interference
51	WIPX-LP	INDIANAPOLIS IN	185.3	LIC	BLTTL	-19970918JR	No Interference
51	W57DC	LAFAYETTE IN	152.9	CP	BPTT	-20030723AIH	No Interference
51	KUMO-LP	ST. LOUIS MO	206.4	CP	BPTTL	-20021017AAW	No Interference
52	W52BR	CHAMPAIGN-URBANA IL	67.8	LIC	BLTTL	-19950606IF	No Interference
54	WEIL-LP	EFFINGHAM IL	42.5	LIC	BLTTL	-20011023AAY	No Interference
54	WVGO-LP	VIGO IN	89.1	CP	BNPTTL	-20000830AKE	No Interference
57	W57AO	ROBINSON IL	66.3	LIC	BLTTL	-19900227JE	No Interference
58	W58DA	CHAMPAIGN IL	65	LIC	BLTT	-20000817ABO	No Interference



SECTION VII- 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 VII - 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
--------------	-------
- 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.

- d. Polarization: ☐ Horizontal ☐ Circular ☐ Elliptical

TECH BOX

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 ON PAGE 8 MUST BE COMPLETED AND SIGNED.

Section VII -- Preparer's Certification

I certify that I have prepared Section VII (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		Relationship to Applicant (e.g., Consulting Engineer)	
Signature		Date	
Mailing Address			
City		State or Country (if foreign address)	ZIP Code
Telephone Number (include area code)		E-Mail Address (if available)	

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).