

ENGINEERING STATEMENT  
RE DTV BROADCAST ENGINEERING DATA  
APPLICATION FOR CONSTRUCTION PERMIT  
KWQC-DT, DAVENPORT, IOWA  
CHANNEL 56 1000 KW ERP 329 METERS

OCTOBER 2002

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WASHINGTON, D.C.

This engineering statement has been prepared in support of an application for outstanding construction permit on behalf of Young Broadcasting of Davenport Inc., licensee of TV station KWQC-TV and permittee of KWQC-DT, Davenport, Iowa (Facility ID #6885). The purpose of the application is to modify (1) the location of the DTV antenna as authorized by the outstanding construction permit FCC file number (BPCDT-19991027ABQ) and (2) the model of antenna.

KWQC-TV is licensed to operate on NTSC television Channel 6 with a maximum visual effective radiated power of 100 kW and a HAAT of 408 meters (1339 feet). KWQC-TV has been allocated DTV Channel 56 with facilities of 1000 kW and HAAT of 408 meters in the revised DTV Table of Allotments. KWQC-DT is authorized to construct facilities of 1000 kW and HAAT of 306 meters. KWQC-DT now proposes to construct DTV facilities of 1000 kW (non-directional) at a slight increased height above average terrain of 329 meters. No other changes are requested.

There are no AM stations located within 3.22 km of the KWQC-DT tower site. There is one NTSC station, one full-service DTV facility, and no FM stations located within one km.

The KWQC-DT antenna will be top-mounted on an existing tower (Exhibit E-1) having a total overall structure height above ground of 334.1 meters (1096 feet). The existing transmitter site is located at 2880 N. 1100 Avenue, Orion, Illinois. The registration number for the tower is 1225582.

The geographic coordinates of the site are as follows:

North Latitude: 41° 18' 44"

West Longitude: 90° 22' 46"

NAD-27

Equipment Data

Antenna: Dielectric, Model TUF-04-14/56H-1-T (or equivalent) antenna with 0.70° electrical beam tilt. The vertical plane pattern and other exhibits required by Section 73.625(c) are herein included.  
\*\* See Exhibit E-2

Transmission Line: 353.3 meters (1159 ft) of EHT DigitLine, 7-3/16", 75 ohm

Power Data

Transmitter output	42.6	16.29 dBk
Transmission line loss	74.7%	1.27 dB
Input power to the antenna	31.8 kW	15.02 dBk
Antenna power gain, Main Lobe	31.5	14.98 dB
Effective Radiated Power, Maximum	1000 kW	30 dBk

Elevation Data

Vertical dimension for Channel 56 antenna	17.8 meters 58.5 feet
Overall height above ground of the proposed antenna structure (including beacon)	334.1 meters 1096 feet
Center of radiation of Channel 56 antenna above ground	324.4 meters 1064.3 feet
Elevation of site above mean sea level	229.5 meters 753.0 feet
Center of radiation of Channel 56 antenna above mean sea level	553.9 meters 1817.3 feet

Overall height above mean sea level of proposed tower and stacked antenna (including beacon)	563.6 meters 1849.1 feet
Antenna height above average terrain	329 meters 1079 feet

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

#### Allocation

An allocation and interference study for the proposed site has been performed since the proposed DTV facilities exceed that authorized in Table B and the results of the Longley-Rice analysis are included in Table III.

#### Interference Analysis

A study of predicted interference caused by the proposed KWQC-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 titled "Additional Application Processing Guidelines for Digital Television" outlines the station selection criteria "culling distances" for considering potential interference. Stations selected according to these criteria are listed in Table 1. 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 database dated August 30, 2002.

#### Coverage

The average elevation data for 3.2 to 16.1 km along each radial are based upon the NGDC 3-second computerized terrain database.

The F(50,90) DTV coverage contour (Exhibit E-3) has been computed from reference to the propagation data for Channels 14-69, as published by the FCC in Figure 10b and Figure 10c, Section 73.699 of the FCC Rules and Regulations.

Utilizing the formula in Section 73.625(b)(2) of the Rules for the effective heights, it is found that the depression angle,  $A_h$ , varies from 0.50 to 0.51 degrees. Since the relative vertical field is

greater than 90% of the maximum at these depression angles, the maximum power was used in determining the distance to the DTV contour.

Table I includes the distances to the 48 and 41 dBu F(50,90) coverage contours, the average elevation 3 to 16 km, and the antenna height above average terrain for the eight radials.

#### Population and Area Data

The population within the predicted DTV coverage contour was determined by employing a computer program using the 2000 census data. The computer program overlaid the 41 dBu contours over the land area in Davenport, Iowa, and determined the population within the contour by using the centroids for the pertinent census blocks. A population of 1,080,559 people was determined. The land area of the contour was measured with a polar planimeter using the original map and the predicted F(50,90) 41 dBu contour encompasses 31,420 sq. km. This information is compiled in Table II.

#### 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 Statement

According to the permittee, the proposed antenna is not located near any known wilderness area, wildlife preserve, historic place, or Indian religious site. The proposed facilities are not located in a flood plain area. The proposed facilities will not affect or jeopardize threatened or endangered

species or their critical habitats. The construction of a guyed tower and a building to house the TV transmitters do not involve any significant changes in the surface features.

The guyed tower is lighted and painted as required by the FAA. The proposed site is not located near any residential neighborhood.

The proposed facilities will not affect any districts, sites, buildings, structures, or objects significant in American history, architecture, archaeology, engineering, or culture.

An evaluation has been made to determine compliance with the Commission's specified standards for human exposure to RF fields as set forth in the OET Bulletin No. 65 dated August 1997. For a maximum ERP of 1000 kW and a radiation center of 324.4 meters above ground level, the proposed DTV operation would have a maximum of 12.9 microwatts per square centimeter ( $\mu\text{W}/\text{cm}^2$ ) RF field at 2 meters above the base of the tower, conservatively assuming an antenna field factor of 0.2 in the downward direction. The Commission's guidelines for Channel 56 TV operation are  $2,417 \mu\text{W}/\text{cm}^2$  for the occupational/controlled and  $483 \mu\text{W}/\text{cm}^2$  for the general population/uncontrolled environment. The RF field contributed by KWQC-DT on the ground would be less than 3% of the Commission's guidelines for Channel 56.

Therefore, the proposed operation of KWQC-DT complies with the Commission's guidelines with respect to RF fields exposure to members of the public and personnel working around the proposed KWQC-DT, Channel 56 DTV facility. With respect to work performed on the tower, station KWQC-DT, in coordination with other stations, will establish procedures to ensure that workers are not exposed to RF fields above the Commission's guidelines, by reducing or turning off the power, as appropriate.

For the reasons stated above, it is believed this proposal complies with Section 1.1307 (a) and (b) of the Commission's Rules; therefore, under Section 1.1306, it is categorically excluded from environmental processing.

An environmental assessment ("EA") is categorically excluded under Section 1.1307 of the FCC Rules and Regulations since the applicant indicates:

- (a)(1) The proposed facilities are not located in an officially designated wilderness area.
- (a)(2) The proposed facilities are not located in an officially designated wildlife preserve.
- (a)(3) The proposed facilities will not affect any listed threatened or endangered species or habitats.
- (a)(3)(ii) The proposed facilities 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 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 are not located near any known Indian religious sites.
- (a)(6) The proposed facilities are not located in a flood plain.
- (a)(7) The installation of the DTV facilities on an existing tower at an existing site will not involve a significant change in surface features of the ground in the vicinity of the tower.
- (a)(8) The existing tower lighting will remain unchanged.
- (b) Workers and the general public will not be subjected to RFF levels in excess of the current FCC guidelines contained in OET Bulletin 65 (Edition 97-01) and Supplement A. Authorized personnel will be alerted to areas of the tower where potential radiation levels are in excess of the FCC guideline. A security fence with a locked gate will surround the tower.



TABLE I  
COMPUTED COVERAGE DATA  
FOR THE PROPOSED DTV OPERATION OF  
KWQC-DT, CHANNEL 56, DAVENPORT, IOWA  
OCTOBER 2002

<u>Radial</u> <u>Bearing</u> N ° E, T	<u>Average*</u> <u>Elevation</u> <u>3.2 to 16.1 km</u> meters	<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>	
					<u>48 dBu</u> <u>City Grade</u> km	<u>41 dBu</u> <u>Noise-Limited</u> km
0	213.8	340.1	0.511	1000	87.6	101.0
45	225.5	328.4	0.502	1000	86.3	99.9
90	227.9	326.0	0.500	1000	86.0	99.6
135	224.2	329.7	0.503	1000	86.5	100.0
180	228.4	325.5	0.500	1000	86.0	99.6
225	220.3	333.6	0.506	1000	86.9	100.4
270	234.8	319.1	0.495	1000	85.3	98.9
315	225.1	328.8	0.502	1000	86.4	99.9
Average	225.0	328.9				

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

DTV Channel 56 (722-728 MHz)  
Average Elevation 3.2 to 16.1 km 225 meters AMSL  
Center of Radiation 553.9 meters AMSL  
Antenna Height Above Average Terrain 329 meters  
Effective Radiated Power 1000 kW (30 dBk) Max.

North Latitude: 41° 18' 44"  
West Longitude: 90° 22' 46"

NAD-27

TABLE II  
POPULATION AND AREA DATA  
FOR THE PROPOSED OPERATION OF  
CHANNEL 56 1000 kW 329 METERS  
OCTOBER 2002

<u>DTV</u> <u>F(50,90)</u> <u>Contour</u>	<u>Population</u>	<u>Area</u> sq.km
41 dBu	1,080,559	31,420.9
48 dBu	764,556	23,459.9

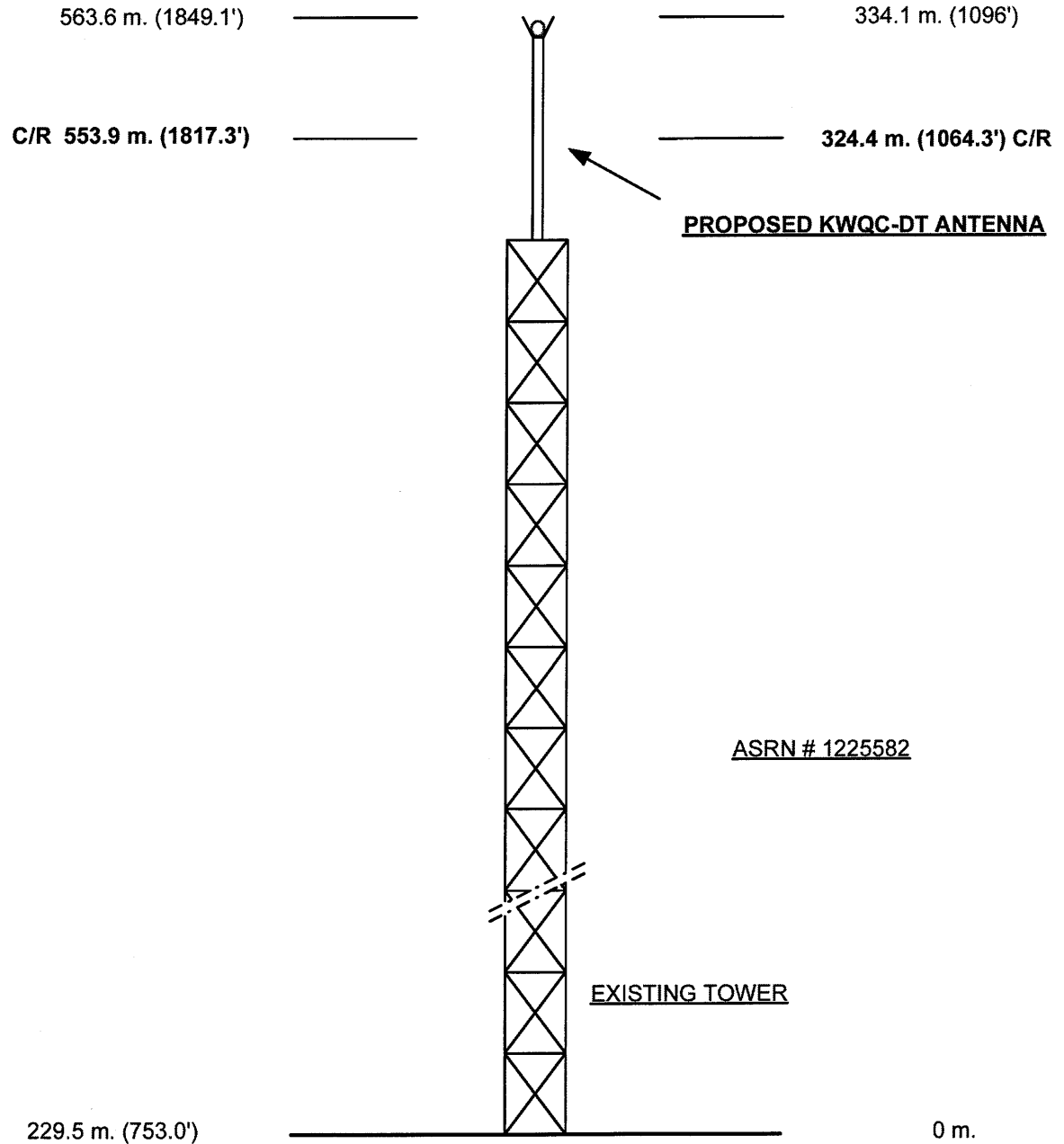
**TABLE III**  
**POTENTIAL INTERFEREES OF KWQC-DT, DAVENPORT, IOWA**  
**CHANNEL 56 1000 kW 329 Meters**  
**OCTOBER 2002**

Station	Ch	Status	City/State	Power (kW)	Bearing/Distance From KWQC-DT	App Ref No	New Interference
KWWL	55	CP MOD	Waterloo, IA	1000	315.4°/171.2 km	BMPCDT-20020313AAP	Fully-Spaced
KWWL-DT	55	ALLOT	Waterloo, IA	194	315.4°/171.4 km	---	Fully-Spaced
WRSP-TV	55	LIC	Springfield, IL	2000	154.6°/185.8 km	BLCT-19840425KH	Fully-Spaced
WRSP-TV	55	CP	Springfield, IL	2000	154.6°/185.7 km	BPCT-20000630AED	Fully-Spaced
WCLJ	56	CP	Bloomington, IN	500	119.2°/416.5 km	BPCDT-19990414KF	Fully-Spaced
WCLJ-DT	56	ALLOT	Bloomington, IN	236	119.2°/416.5 km	---	Fully-Spaced
WYIN	56	LIC	Gary, IN	1350	88.1°/248.7 km	BLET-19880105KE	Fully-Spaced
WYIN	56	APP	Gary, IN	5000	73.7°/236.6 km	BPET-20010716AAS	Fully-Spaced
KMOV	56	LIC	St Louis, MO	1000	178.7°/309.4 km	BLCDT-19991002AAB	Fully-Spaced
KMOV-DT	56	ALLOT	St Louis, MO	1000	178.7°/309.4 km	---	Fully-Spaced
WFRV-TV	56	APP	Green Bay, WI	1000	29.4°/388.5 km	BMPCDT-20020201AAM	Fully-Spaced
WFRV-TV	56	CP	Green Bay, WI	890	28.6°/394.5 km	BPCDT-19991025ACK	Fully-Spaced
WFRV-DT	56	ALLOT	Green Bay, WI	1000	28.6°/394.5 km	---	Fully-Spaced
WEEK-TV	57	CP	Peoria, IL	452	137.1°/103.1 km	BPCDT-19991026ABD	0.26%
WEEK-DT	57	ALLOT	Peoria, IL	120.2	137.1°/103.1 km	---	0.26%
WHPN-TV	57	CP MOD	Janesville, WI	5000	19.5°/205.9 km	BMPCT-20020405AAI	Fully-Spaced
WAOE	59	LIC	Peoria, IL	331	130.8°/99.6 km	BLCT-19990721KG	Fully-Spaced

\*Stations that exceed the minimum geographic spacing requirements for new stations [§73.623(d)] are presumed to receive much less than de minimis interference.

**ABOVE MEAN SEA LEVEL**

**ABOVE GROUND**



( NOT TO SCALE)

EXHIBIT E - 1  
VERTICAL SKETCH  
FOR THE PROPOSED STA OPERATION OF  
KWQC-DT, DAVENPORT, IOWA  
OCTOBER 2002

# Dielectric

EXHIBIT E-2a

Proposal #: **DCA-9907**

Antenna Type: **TUF-O4-14/56H-1-T**

Channel: **56 DTV**

Call Letters: **KWQC**

Location: **Davenport, IA**

Electrical Specifications		Value		Remarks	
		Ratio	dB		
RMS Gain at Main Lobe over Halfwave Dipole	Hpol	31.5	14.98	D56;	D49: 30.4 (14.83 dB)
	Vpol				
RMS Gain at Horizontal over Halfwave Dipole	Hpol	11.5	10.61	D56;	D49: 12.8 (11.07 dB)
	Vpol				
Peak Directional Gain over Halfwave Dipole	Hpol				
	Vpol				
Peak Directional Gain at Horizontal over Halfwave Dipole	Hpol				
	Vpol				
Circularity		+/- 2.0 dB			
Axial Ratio		dB			
Beam Tilt		0.70 deg		D56;	D49: 0.70 deg
Average Power	DTV	80 kW	19.03 dBk		
Antenna Input: T/L		7-3/16 in	75.0 ohm	Type:	EIA/DCA
Maximum Antenna Input VSWR		Channel 1.10 : 1		D49: Channel: 1.10 : 1	
Patterns	Azimuth	TUF-O4-725	TUF-O4-683	D56 D49	
	Elevation	14U315070	14U315070-90		
		14U304070	14U304070-90		
Mechanical Specifications		Metric	English		
Height with Lightning Protector	H4	17.8 m	58.5 ft		
Height Less Lightning Protector	H2	16.6 m	54.5 ft		
Height of Center of Radiation	H3	8.4 m	27.6 ft		
Basic Wind Speed	V	128.7 km/h	80 mi/h	TIA/EIA-222-F.	
Force Coeff. x Projected Area	CaAc	8.73 m²	94 ft²	Above base flange	
Moment Arm	D1	8.5 m	27.8 ft	Above base flange	
Force Coeff. x Projected Area	CaAc	3.7 m²	40 ft²	Below tower top	
Moment Arm	D3	2.74 m	9 ft	Below tower top	
Pole Bury Length	D2	m	ft		
Weight	W	4.1 t	9,000 lbs		
Radome Full Cylindrical					
Antenna designed in accordance with AISC specifications for design of structural steel for building as prescribed by TIA/EIA-222-F.					

NOTE:

Prepared By :  
Original Date : 16-Apr-02

SRR

Approved By :

RN



Proposal Number	DCA-9907
Date	16-Apr-02
Call Letters	KWQC Channel 56
Location	Davenport, IA
Customer	Young Bradcasing
Antenna Type	TUF-O4-14/56H-1-T

## SYSTEM SUMMARY

### Antenna:

Type:	TUF-O4-14/56H-1-T	ERP:	1000 kW ( 30.00 dBk )
Channel:	56	Gain*:	31.5 ( 14.98 dB )
Location:	Davenport, IA		

### Transmission Line:

Type:	EHT DigitLine	Attenuation:	1.27 dB
Size:	7-3/16 in	Efficiency:	74.7%
Impedance:	75 ohm		
Length:	1,100 ft		335.3 m

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\* Gain is with respect to half wave dipole.



Exhibit E-2d

Proposal Number	<b>DCA-9907</b>
Date	<b>16-Apr-02</b>
Call Letters	<b>KWQC</b> Channel <b>56</b>
Location	<b>Davenport, IA</b>
Customer	<b>Young Bradcasing</b>
Antenna Type	<b>TUF-O4-14/56H-1-T</b>

### AZIMUTH PATTERN

Gain	<b>1.30</b>	<b>( 1.14 dB)</b>
Calculated / Measured		<b>Calculated</b>

Frequency	<b>725.00 MHz</b>
Drawing #	<b>TUF-O4-725</b>

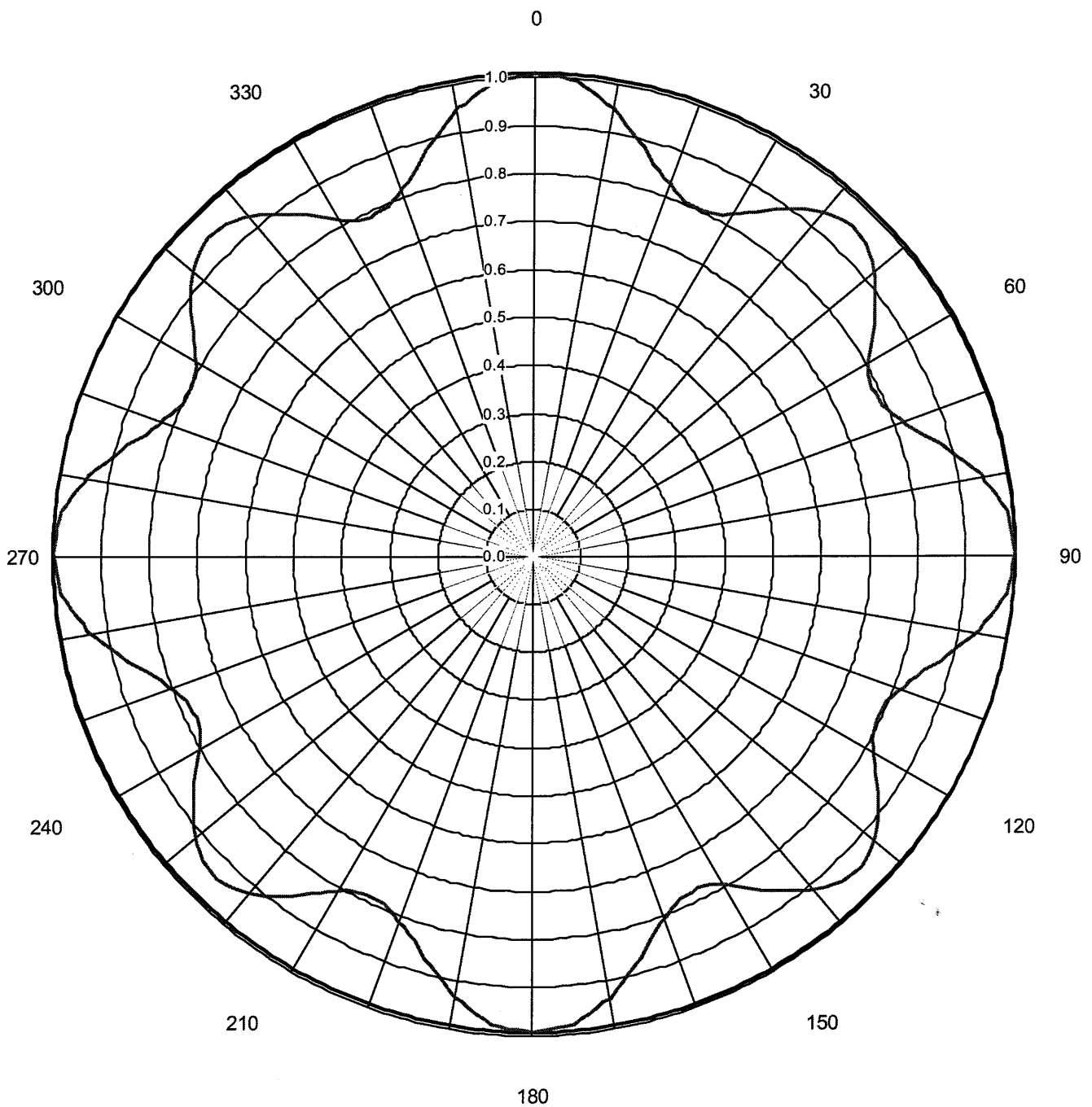




Exhibit E-2d

Proposal Number	<b>DCA-9907</b>
Date	<b>16-Apr-02</b>
Call Letters	<b>KWQC</b> Channel <b>56</b>
Location	<b>Davenport, IA</b>
Customer	<b>Young Bradcasing</b>
Antenna Type	<b>TUF-O4-14/56H-1-T</b>

### ELEVATION PATTERN

RMS Gain at Main Lobe **31.50 ( 14.98 dB )**

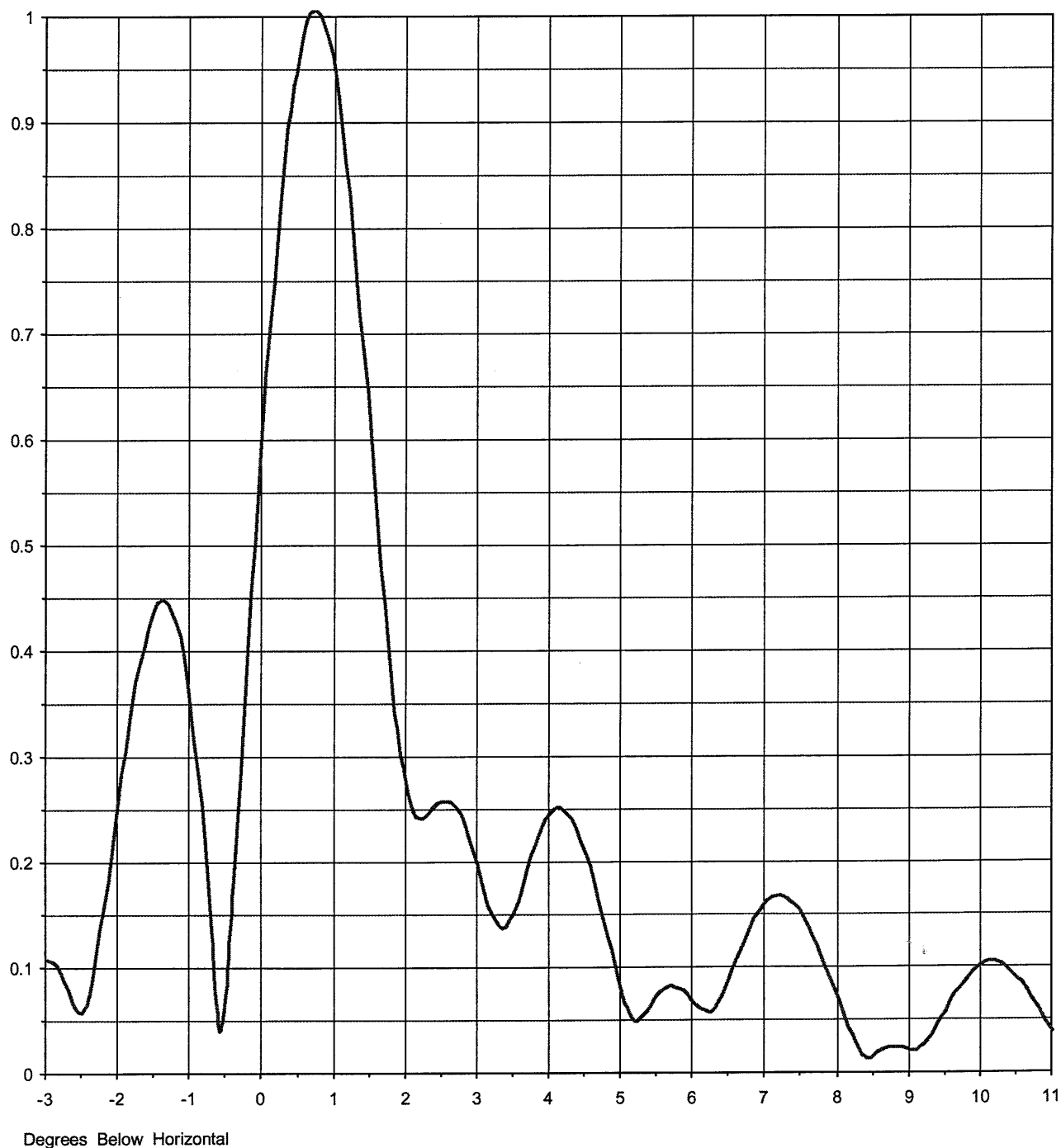
Beam Tilt **0.70 deg**

RMS Gain at Horizontal **11.50 ( 10.61 dB )**

Frequency **725.00 MHz**

Calculated / Measured **Calculated**

Drawing # **14U315070**





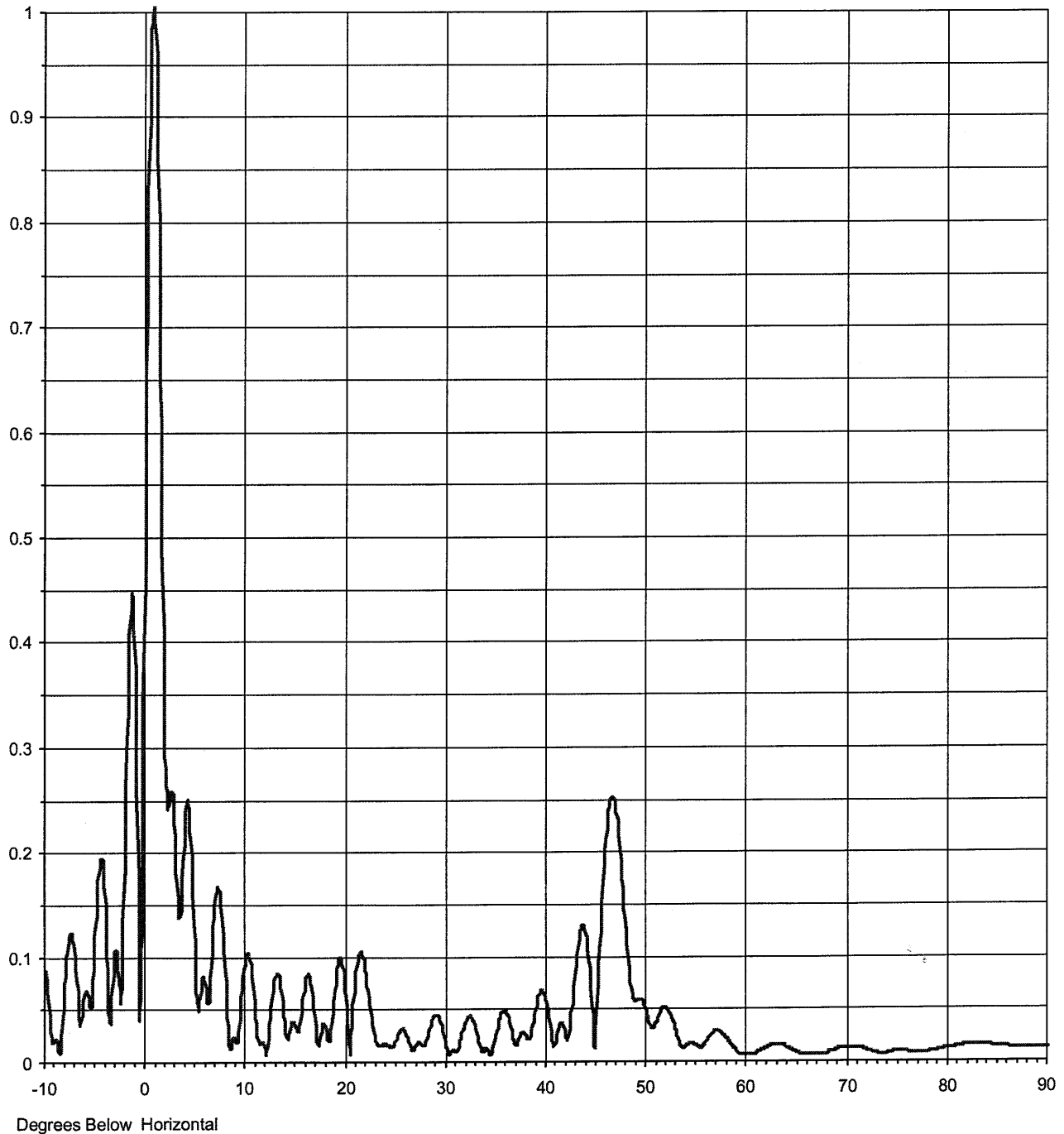


Proposal Number **DCA-9907**  
Date **16-Apr-02**  
Call Letters **KWQC** Channel **56**  
Location **Davenport, IA**  
Customer **Young Bradcasing**  
Antenna Type **TUF-O4-14/56H-1-T**

### ELEVATION PATTERN

RMS Gain at Main Lobe **31.50 (14.98 dB)**  
RMS Gain at Horizontal **11.50 (10.61 dB)**  
Calculated / Measured **Calculated**

Beam Tilt **0.70 deg**  
Frequency **725.00 MHz**  
Drawing # **14U315070-90**



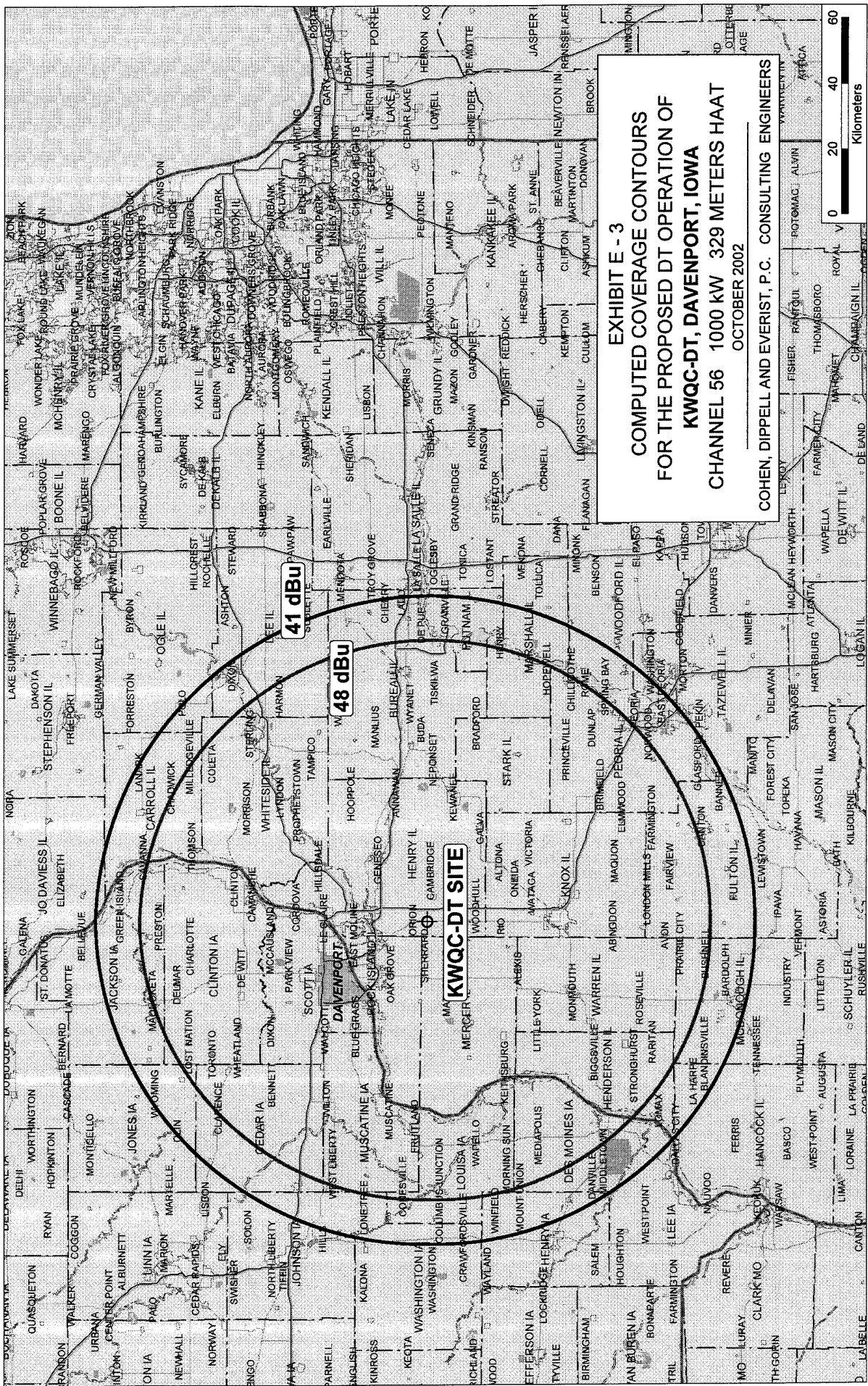


Proposal Number **DCA-9907**  
 Date **16-Apr-02**  
 Call Letters **KWQC** Channel **56**  
 Location **Davenport, IA**  
 Customer **Young Bradcasing**  
 Antenna Type **TUF-O4-14/56H-1-T**

## TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing #: **14U315070-90**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.081	2.4	0.247	10.6	0.083	30.5	0.004	51.0	0.031	71.5	0.006
-9.5	0.029	2.6	0.252	10.8	0.065	31.0	0.005	51.5	0.043	72.0	0.005
-9.0	0.017	2.8	0.232	11.0	0.043	31.5	0.016	52.0	0.046	72.5	0.003
-8.5	0.009	3.0	0.189	11.5	0.012	32.0	0.033	52.5	0.037	73.0	0.002
-8.0	0.076	3.2	0.144	12.0	0.006	32.5	0.037	53.0	0.023	73.5	0.002
-7.5	0.117	3.4	0.133	12.5	0.037	33.0	0.026	53.5	0.009	74.0	0.003
-7.0	0.085	3.6	0.166	13.0	0.075	33.5	0.008	54.0	0.010	74.5	0.003
-6.5	0.030	3.8	0.210	13.5	0.068	34.0	0.007	54.5	0.012	75.0	0.004
-6.0	0.063	4.0	0.239	14.0	0.026	34.5	0.001	55.0	0.010	75.5	0.004
-5.5	0.046	4.2	0.243	14.5	0.028	35.0	0.020	55.5	0.008	76.0	0.003
-5.0	0.124	4.4	0.222	15.0	0.028	35.5	0.039	56.0	0.014	76.5	0.003
-4.5	0.189	4.6	0.180	15.5	0.034	36.0	0.042	56.5	0.020	77.0	0.003
-4.0	0.133	4.8	0.125	16.0	0.072	36.5	0.027	57.0	0.023	77.5	0.003
-3.5	0.031	5.0	0.072	16.5	0.072	37.0	0.011	57.5	0.022	78.0	0.003
-3.0	0.101	5.2	0.043	17.0	0.030	37.5	0.021	58.0	0.017	78.5	0.004
-2.8	0.089	5.4	0.058	17.5	0.021	38.0	0.019	58.5	0.010	79.0	0.005
-2.6	0.057	5.6	0.073	18.0	0.028	38.5	0.020	59.0	0.004	79.5	0.006
-2.4	0.070	5.8	0.074	18.5	0.021	39.0	0.045	59.5	0.001	80.0	0.007
-2.2	0.152	6.0	0.061	19.0	0.072	39.5	0.061	60.0	0.002	80.5	0.008
-2.0	0.252	6.2	0.051	19.5	0.092	40.0	0.053	60.5	0.002	81.0	0.009
-1.8	0.345	6.4	0.067	20.0	0.058	40.5	0.024	61.0	0.002	81.5	0.009
-1.6	0.413	6.6	0.101	20.5	0.013	41.0	0.015	61.5	0.005	82.0	0.010
-1.4	0.442	6.8	0.133	21.0	0.076	41.5	0.031	62.0	0.008	82.5	0.010
-1.2	0.420	7.0	0.155	21.5	0.099	42.0	0.020	62.5	0.010	83.0	0.010
-1.0	0.343	7.2	0.162	22.0	0.078	42.5	0.034	63.0	0.011	83.5	0.010
-0.8	0.211	7.4	0.153	22.5	0.043	43.0	0.085	63.5	0.010	84.0	0.010
-0.6	0.035	7.6	0.131	23.0	0.015	43.5	0.120	64.0	0.008	84.5	0.009
-0.4	0.175	7.8	0.099	23.5	0.010	44.0	0.115	64.5	0.005	85.0	0.009
-0.2	0.395	8.0	0.063	24.0	0.011	44.5	0.062	65.0	0.003	85.5	0.009
0.0	0.605	8.2	0.030	24.5	0.009	45.0	0.027	65.5	0.001	86.0	0.009
0.2	0.785	8.4	0.008	25.0	0.015	45.5	0.127	66.0	0.001	86.5	0.008
0.4	0.917	8.6	0.015	25.5	0.025	46.0	0.207	66.5	0.001	87.0	0.008
0.6	0.989	8.8	0.018	26.0	0.022	46.5	0.245	67.0	0.001	87.5	0.008
0.8	0.995	9.0	0.014	26.5	0.009	47.0	0.235	67.5	0.001	88.0	0.008
1.0	0.938	9.2	0.021	27.0	0.010	47.5	0.186	68.0	0.003	88.5	0.007
1.2	0.826	9.4	0.041	27.5	0.012	48.0	0.120	68.5	0.005	89.0	0.007
1.4	0.678	9.6	0.064	28.0	0.013	48.5	0.066	69.0	0.006	89.5	0.007
1.6	0.515	9.8	0.074	28.5	0.030	49.0	0.052	69.5	0.008	90.0	0.007
1.8	0.367	10.0	0.090	29.0	0.039	49.5	0.054	70.0	0.008		
2.0	0.266	10.2	0.098	29.5	0.031	50.0	0.043	70.5	0.008		
2.2	0.236	10.4	0.095	30.0	0.011	50.5	0.028	71.0	0.007		



## 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.  
\*\*\*Transmitting antenna located at CP site. ☐ 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 56 Analog TV, if any 6
2. Zone: ☐ I ☒ II ☐ III
3. Antenna Location Coordinates: (NAD 27)
- 41 ° 18 ' 44 " ☒ N ☐ S Latitude  
90 ° 22 ' 46 " ☐ E ☒ W Longitude
4. Antenna Structure Registration Number: 1225582
- ☐ Not applicable ☐ FAA Notification Filed with FAA
5. Antenna Location Site Elevation Above Mean Sea Level: 229.5 meters
6. Overall Tower Height Above Ground Level: 334.1 meters
7. Height of Radiation Center Above Ground Level: 324.4 meters
8. Height of Radiation Center Above Average Terrain: 329 meters
9. Maximum Effective Radiated Power (average power): 1000 kW
10. Antenna Specifications:
- |    |                                |                                |
|----|--------------------------------|--------------------------------|
| a. | Manufacturer <u>Dielectric</u> | Model <u>TUF-04-14/56H-1-T</u> |
|----|--------------------------------|--------------------------------|
- b. Electrical Beam Tilt: 0.7 degrees ☐ Not Applicable
- c. Mechanical Beam            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.  
E-2 etc.

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.  
E

- 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.**

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 Ryan M Felmlee	Relationship to Applicant (e.g., Consulting Engineer) Consulting Engineer	
Signature	Date 10/04/02	
Mailing Address Cohen, Dippell and Everist, P.C., 1300 L Street, N.W., 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	

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(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).