

ENGINEERING STATEMENT
RE MODIFICATION OF CONSTRUCTION PERMIT
FCC FILE NO. BPCDT-19991025ADD
ON BEHALF OF
MEDIA GENERAL COMMUNICATIONS, INC.
WTVQ-DT, LEXINGTON, KENTUCKY
CHANNEL 40 370 KW ERP MAX 286 METERS HAAT

JUNE 2005

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)

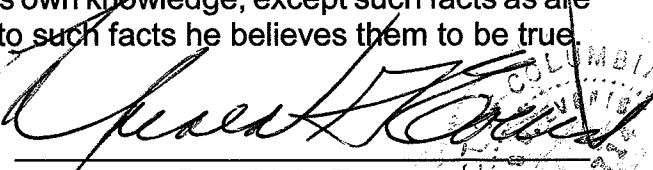
Donald G. Everist, being duly sworn upon his oath, deposes and states that:

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.



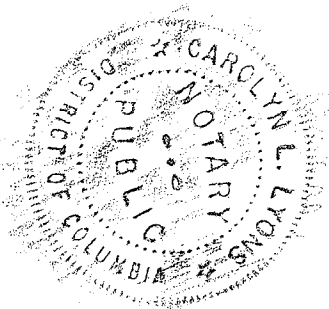
Donald G. Everist
District of Columbia
Professional Engineer
Registration No. 5714

Subscribed and sworn to before me this 22nd day of June, 2005.



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;

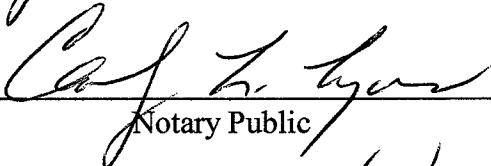
That the attached engineering report was prepared by him or under his supervision and direction and

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 22nd day of June, 2005.



Notary Public

My Commission Expires: 2/28/2008



This engineering statement has been prepared on behalf of Media General Communications, Inc., licensee of WTVQ-TV, Lexington, Kentucky. The purpose of this engineering statement is to accompany its application for modification of its outstanding digital television ("DTV") construction permit (FCC File No. BPCDT-19991025ADD), specifically that required in FCC Form 301, Section III-D. WTVQ-TV requests an expedited application processing time due to the fact that the predicted 41 dBu contour does not extend beyond the 41 dBu contour authorized by the outstanding construction permit in any direction, which is consistent with the freeze dated August 3, 2004. Further, WTVQ-TV expects the DTV facility proposed herein to be its operational post-transition facility to be used consistent with the July 1, 2005 DTV buildout deadline.

WTVQ-TV is licensed to operate on NTSC television Channel 36 with a maximum visual effective radiated power ("ERP") of 2240 kW (horizontal polarization) at a height above average terrain ("HAAT") of 305 meters. WTVQ-DT has been allocated DTV Channel 40 with facilities of 69.5 kW ERP (maximum directional) at a HAAT of 305 meters in the revised DTV Table of Allotments.¹ WTVQ-DT proposes to construct DTV facilities for Channel 40 (626-632 MHz) of 370 kW (directional, horizontal polarization) at a HAAT of 286 meters at the allotted site.

The proposed antenna will be a diplexed broadband panel system and will be side-mounted on an existing tower. Exhibit E-1 shows a tower sketch and the antenna arrangement on the tower.

According to the FCC engineering data base as of June 14, 2005, there are no AM stations located within 3.2 km of the existing WTVQ-DT tower site and there are no FM stations within

¹ "In the Matter of Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service", MM Docket No. 87-286, Second Memorandum Opinion and Order on Reconsideration of the Fifth and Sixth Report and Orders (FCC 98-315), 12/18/98, DTV Table of Allotments, Appendix B, Page B-56.

100 meters. The tower currently supports the licensed operation of WTVQ-TV, Channel 36, Lexington, Kentucky. Also WLEX-DT, Channel 39 has received authorization to construct at this site for its DTV operation (FCC File No. BPCDT-20000501AJY) for 475 kW directional at 286 meters HAAT.

The existing tower will be modified such that the WTVQ-TV, Channel 36 antenna remains in the same position and the overall height above ground of the tower (303.0 meters) will remain unchanged. The existing transmitter site is located at 6940 Man-O-War Boulevard, Lexington, Kentucky. The tower registration number is 1044034.

The geographic coordinates of the site are:

North Latitude: 38° 02' 03"

West Longitude: 84° 23' 39"

NAD-27

Equipment Data

Antenna: Dielectric, Type TFU-30DSC-R 3S180DC (or equivalent) horizontally polarized antenna with 0.75° electrical beam tilt. The vertical and horizontal plane patterns and other exhibits required by Section 73.625(c) are herein included as Exhibit E-2.

Power Data

Transmitter output	13.9 kW	11.43 dBk
Combiner efficiency/loss	89.1%	0.50 dB
Transmission line efficiency/loss Type EIA 75 ohm 6-1/8" rigid coax or equivalent 305 m (1000 ft)	75.3%	1.23 dB
Antenna input	9.33 kW	9.7 dBk

Antenna gain, peak	39.6	15.98 dB
Antenna gain, horizontal plane	25.3	14.03 dB
Effective Radiated Power, peak	370.0 kW	25.68 dBk
Max. ERP, horizontal plane	236.4 kW	23.73 dBk

Elevation Data

Vertical dimension of Channel 40 side-mounted broadband panel	16.0 meters 52.5 feet
Overall height above ground of the existing antenna structure (including beacon)	303.0 meters 994.1 feet
Center of radiation of Channel 40 antenna above ground	276.7 meters 907.8 feet
Elevation of site above mean sea level	305.0 meters 1000.7 feet
Center of radiation of Channel 40 antenna above mean sea level	581.7 meters 1908.5 feet
Overall height above mean sea level of existing tower (including beacon)	608.0 meters 1994.8 feet
Antenna height above average terrain	286 meters

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

Coverage

The average elevation data for 3.2 to 16.1 km along each radial have been determined based upon 3-second NGDC terrain data. The F(50,90) DTV coverage contour 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 0.46 to 0.48 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 contour, the average elevation 3.2 to 16.1 km, and the antenna height above average terrain for every ten degrees in azimuth commencing with N 0 ° E, T. Exhibit E-3 shows the 48 dBu and 41 dBu contours and the city of license. Exhibit E-4 shows that the proposed F(50,90) 41 dBu contour does not extend in any direction beyond the F(50,90) 41 dBu contour authorized by the outstanding construction permit (FCC File No. BPCDT-19991025ADD).

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 permittee will install filters or take other measures as necessary to resolve the problem.

FCC Rule, Section 1.1307

The proposed 370 kW operation will utilize the Dielectric, Type TFU-30DSC-R 3S180DC antenna (or equivalent) described above with a center of radiation above ground of 276.7 meters. The proposed antenna will be side-mounted on the existing guyed steel lattice tower with an overall height of 303 meters above ground.

As previously indicated, there are no AM stations located within 3.2 km of the proposed tower site. According to the FCC data base (June 8, 2004 update), the only station located within

100 meters is WTVQ-TV on the same tower. Also, WLEX-DT is authorized to be located on the same tower and is included in the RFF calculations below. The existing site and tower is owned by Media General Operations, Inc. According to the owner, access to the tower property is prevented by an eight foot security 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. The elevation pattern for the Dielectric, Type TFU-30DSC-R 3S180DC antenna in Exhibit E-2 shows a maximum relative field of less than 0.12 toward the ground (50° to 90° below the horizontal). Calculation according to OET Bulletin 65 predicts a maximum RFF power density of less than $3 \mu\text{W}/\text{cm}^2$, 2 meters above ground or less than one percent of the uncontrolled (general public) Maximum Permissible Exposure ("MPE") guideline of $419.3 \mu\text{W}/\text{cm}^2$.

The licensed operation of WTVQ-TV on Channel 36 utilizes an RCA, Type TFU-25G antenna with a center of radiation above ground of 293.5 meters. The manufacturer's published data indicate the relative field toward the ground in the vicinity of the tower (50° to 70° below the horizontal) does not exceed 0.1. Calculation according to OET Bulletin 65 as above predicts a maximum RFF power density of less than $5 \mu\text{W}/\text{cm}^2$, 2 meters above ground or less than 1.2% of the uncontrolled (general public) MPE guidelines.

The construction permit for WLEX-DT (BPCDT-20000501AJY) predicts an RFF contribution of WLEX-DT of less than 1% the uncontrolled MPE guidelines.

The total predicted RFF contribution (2 meters AGL) of the three stations expected to operate for the existing tower (WLEX-DT, WTVQ-DT and WTVQ-TV) is less than five percent (5%) of the uncontrolled (general public) MPE guidelines.

According to the permittee, RFF safety will be coordinated with the site owner. Authorized personnel and rigging contractors will be alerted to the potential zone of high radiation on the tower, and if necessary, the station will operate with reduced power or terminate the operation of the transmitter as appropriate when it is necessary for authorized personnel or contractors to perform work on or near the tower. Workers and the general public, therefore, will not be subjected to RFF levels in excess of the current FCC guidelines.

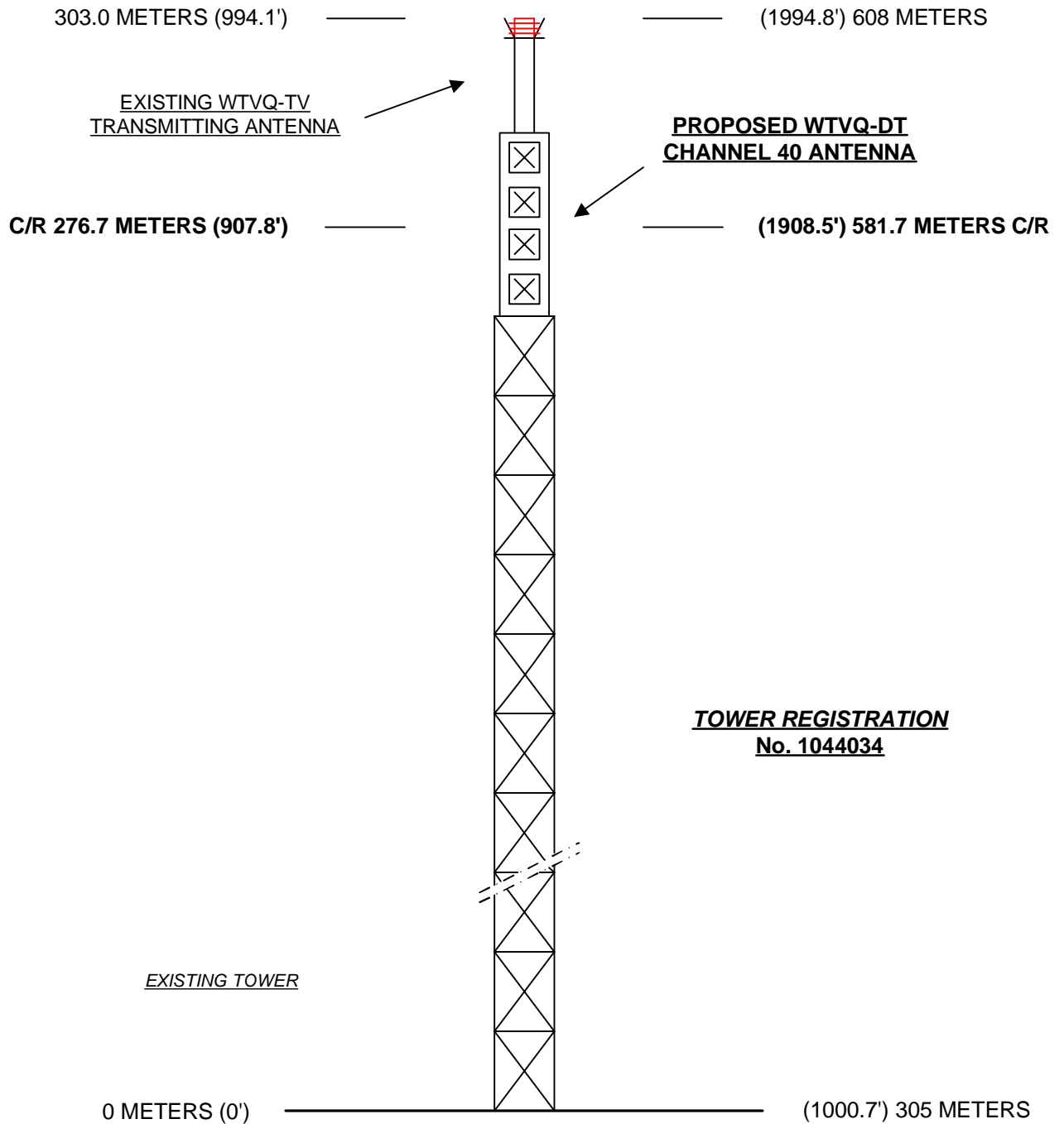
An environmental assessment ("EA") is categorically excluded under Section 1.1306 of the FCC Rules and Regulations since the site owner and the permittee indicates that:

- (a)(1) The proposed facilities mounted on an existing tower are not located in an officially designated wilderness area.
- (a)(2) The proposed facilities mounted on an existing tower are not located in an officially designated wildlife preserve.
- (a)(3) The proposed facilities mounted on an existing tower will not affect any listed threatened or endangered species or habitats.
- (a)(3)(ii) The proposed facilities mounted on an existing tower will not jeopardize the continued existence of any proposed endangered or threatened species and are not likely to result in the destruction or adverse modification of proposed critical habitats.
- (a)(4) The proposed facilities located on an 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 existing tower is not located near any known Indian religious sites.

- (a)(6) The existing tower is not located in a flood plain.
- (a)(7) The installation of the DTV facilities on a modified 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) 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 contained in OET Bulletin 65 (Edition 97-01) and Supplement A. Authorized personnel will be alerted to areas unauthorized on the tower where potential radiation levels are in excess of the FCC guidelines. A security fence with a locked gate restricts unauthorized access to the tower site.

ABOVE GROUND

ABOVE MEAN SEA LEVEL



NOT TO SCALE

EXHIBIT E - 1
VERTICAL SKETCH
FOR THE PROPOSED DTV OPERATION OF
WTVQ-DT, LEXINGTON, KENTUCKY
JUNE 2005

TABLE I
DTV COVERAGE DATA
FOR PROPOSED OPERATION OF
WTVQ-DT, LEXINGTON, KENTUCKY
CHANNEL 40 370 KW ERP 286 METERS HAAT
JUNE 2005

<u>Radial</u> N ° E, T	<u>Average*</u> <u>Elevation</u> meters	<u>Effective</u> <u>Height</u> meters	<u>Depression</u> <u>Angle</u> degrees	<u>ERP at</u> <u>Radio Horizon</u> kW	<u>Distance to Contour F(50,90)</u>	
					<u>48 dBu</u> km	<u>41 dBu</u> km
0	286.8	294.9	0.476	62.2	66.3	74.9
10	296.0	285.7	0.468	73.3	66.5	75.0
20	284.2	297.5	0.478	93.6	68.5	77.6
30	282.5	299.2	0.479	108.7	69.4	78.7
40	290.6	291.1	0.473	107.1	68.8	77.8
50	300.7	281.0	0.464	99.7	67.7	76.3
60	297.2	284.5	0.467	109.5	68.4	77.2
70	300.2	281.5	0.465	146.4	69.7	78.7
80	300.6	281.1	0.464	197.7	71.2	80.6
90	303.0	278.7	0.462	244.0	72.1	81.8
100	305.2	276.5	0.461	277.5	72.6	82.5
110	304.1	277.6	0.462	306.4	73.3	83.4
120	292.9	288.8	0.471	335.3	74.7	85.6
130	286.0	295.7	0.476	359.0	75.8	87.1
140	279.7	302.0	0.481	369.3	76.5	88.2
150	282.9	298.8	0.479	367.8	76.2	87.7
160	273.6	308.1	0.486	361.9	77.0	88.7
170	278.5	303.2	0.482	359.7	76.5	88.1
180	295.7	286.0	0.468	364.1	74.9	85.9
190	307.8	273.9	0.458	369.3	73.9	84.4
200	303.2	278.5	0.462	367.0	74.3	85.0
210	290.9	290.8	0.472	351.0	75.2	86.3
220	296.8	284.9	0.468	324.2	74.2	84.8
230	302.2	279.5	0.463	295.1	73.2	83.4
240	306.2	275.5	0.460	265.4	72.3	82.0
250	304.7	277.0	0.461	226.8	71.6	81.1
260	307.8	273.9	0.458	177.2	70.1	79.1
270	301.0	280.7	0.464	128.8	69.0	77.8
280	293.7	288.0	0.470	102.4	68.3	77.2

TABLE I
DTV COVERAGE DATA
FOR PROPOSED OPERATION OF
WTVQ-DT, LEXINGTON, KENTUCKY
CHANNEL 40 370 KW ERP 286 METERS HAAT
JUNE 2005
 (continued)

<u>Radial</u>	<u>Average*</u>	<u>Effective</u>	<u>Depression</u>	<u>ERP at</u>	<u>Distance to Contour F(50,90)</u>	
<u>N ° E, T</u>	<u>Elevation</u>	<u>Height</u>	<u>Angle</u>	<u>Radio Horizon</u>	<u>48 dBu</u>	<u>41 dBu</u>
	meters	meters	degrees	kW	km	km
290	292.3	289.4	0.471	102.0	68.4	77.3
300	291.6	290.1	0.472	109.5	68.8	77.8
310	288.9	292.8	0.474	104.3	68.8	77.8
320	288.4	293.3	0.474	84.9	67.7	76.6
330	290.2	291.5	0.473	67.5	66.5	75.0
340	279.1	302.6	0.482	60.7	66.6	75.4
350	277.0	304.7	0.483	60.1	66.7	75.6

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

DTV Channel 40 (626-632 MHz)
 Eight Radial Average Elevation 3.2 to 16.1 km 295.7 meters AMSL
 Center of Radiation 581.7 meters AMSL
 Antenna Height Above Average Terrain 286 meters
 Site Elevation 305 meters AMSL
 Effective Radiated Power 370 kW (25.68 dBk) Max. DA

North Latitude: 38° 02' 03"
 West Longitude: 84° 23' 39"

(NAD-27)

EXHIBIT E-2

ANTENNA MANUFACTURER DATA

WTVQ-DT, LEXINGTON, KENTUCKY

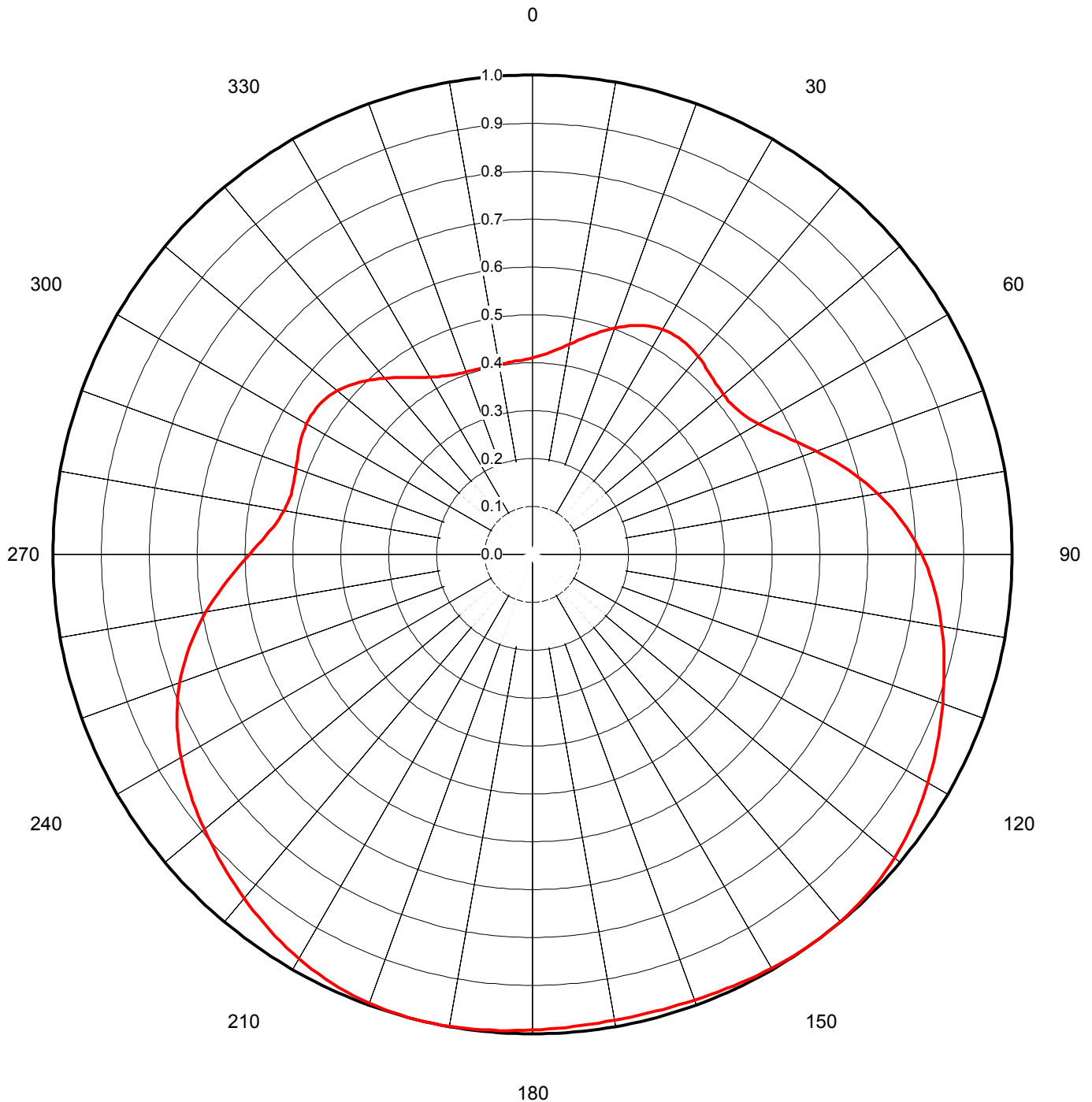


Proposal Number	1244:2:133357	Revision:	1
Date	25-Jun-03		
Call Letters	WTVQ-DT	Channel	40
Location	Lexington, KY		
Customer			
Antenna Type	TFU-30DSC-R 3S180 DC		

AZIMUTH PATTERN

Gain	1.80	(2.55 dB)
Calculated / Measured	Calculated	

Frequency	629.00 MHz
Drawing #	TFU-3S180-40





Proposal Number **1244:2:133357** Revision: **1**
Date **25-Jun-03**
Call Letters **WTVQ-DT** Channel **40**
Location **Lexington, KY**
Customer
Antenna Type **TFU-30DSC-R 3S180 DC**

TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing #: **TFU-3S180-40**

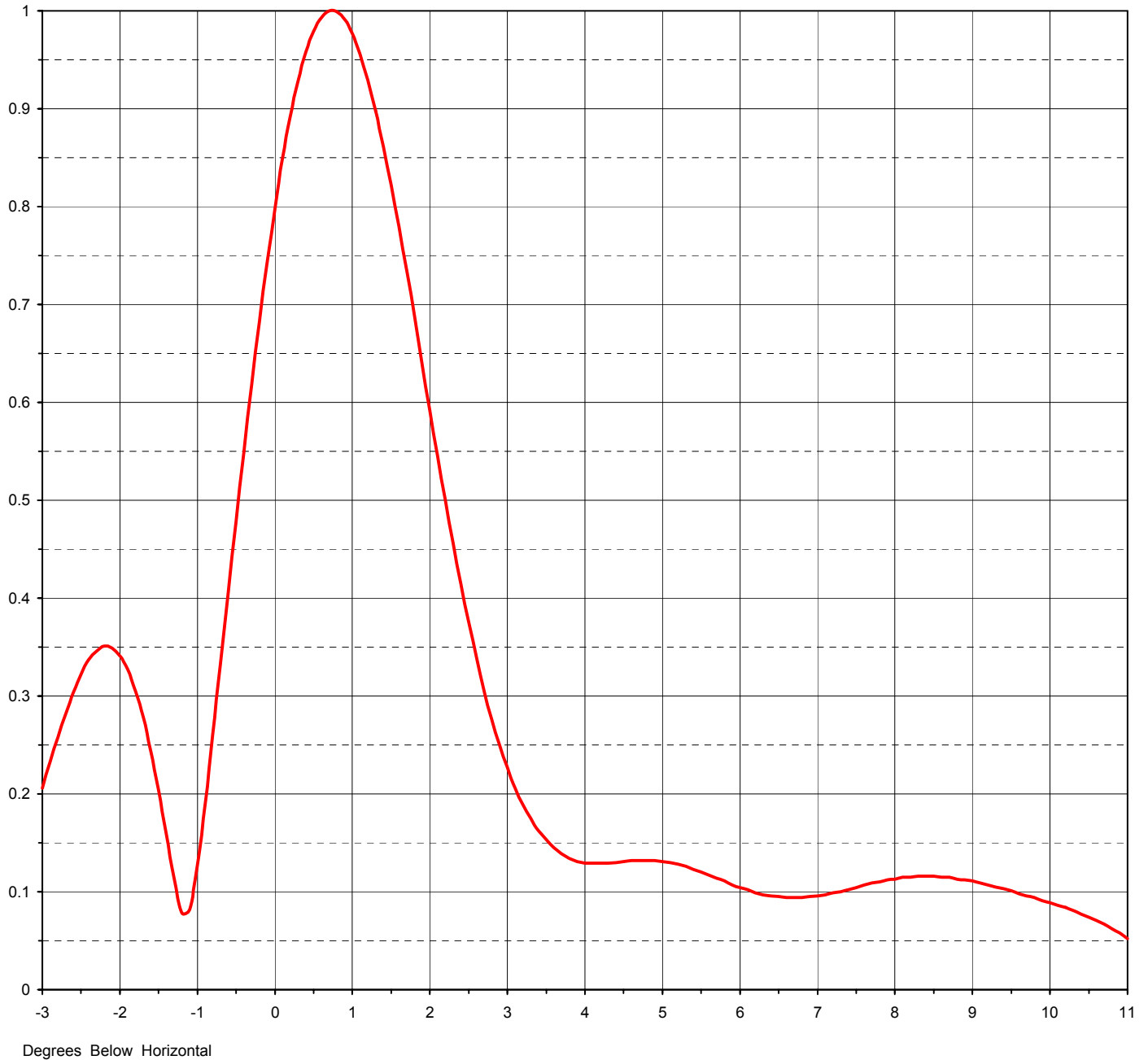
Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
0	0.410	45	0.527	90	0.812	135	0.995	180	0.992	225	0.914	270	0.590	315	0.508
1	0.412	46	0.525	91	0.818	136	0.996	181	0.993	226	0.910	271	0.581	316	0.503
2	0.414	47	0.523	92	0.824	137	0.997	182	0.994	227	0.906	272	0.573	317	0.497
3	0.417	48	0.521	93	0.830	138	0.998	183	0.995	228	0.902	273	0.565	318	0.491
4	0.420	49	0.520	94	0.836	139	0.999	184	0.995	229	0.897	274	0.557	319	0.485
5	0.423	50	0.519	95	0.841	140	0.999	185	0.996	230	0.893	275	0.551	320	0.479
6	0.427	51	0.519	96	0.847	141	1.000	186	0.997	231	0.889	276	0.544	321	0.473
7	0.431	52	0.519	97	0.852	142	1.000	187	0.998	232	0.884	277	0.539	322	0.467
8	0.435	53	0.520	98	0.857	143	1.000	188	0.998	233	0.880	278	0.534	323	0.462
9	0.440	54	0.521	99	0.862	144	1.000	189	0.999	234	0.875	279	0.530	324	0.456
10	0.445	55	0.523	100	0.866	145	1.000	190	0.999	235	0.871	280	0.526	325	0.450
11	0.450	56	0.526	101	0.871	146	0.999	191	1.000	236	0.866	281	0.523	326	0.445
12	0.456	57	0.530	102	0.875	147	0.999	192	1.000	237	0.862	282	0.521	327	0.440
13	0.462	58	0.534	103	0.880	148	0.998	193	1.000	238	0.857	283	0.520	328	0.435
14	0.467	59	0.539	104	0.884	149	0.998	194	1.000	239	0.852	284	0.519	329	0.431
15	0.473	60	0.544	105	0.889	150	0.997	195	1.000	240	0.847	285	0.519	330	0.427
16	0.479	61	0.551	106	0.893	151	0.996	196	0.999	241	0.841	286	0.519	331	0.423
17	0.485	62	0.557	107	0.897	152	0.995	197	0.999	242	0.836	287	0.520	332	0.420
18	0.491	63	0.565	108	0.902	153	0.995	198	0.998	243	0.830	288	0.521	333	0.417
19	0.497	64	0.573	109	0.906	154	0.994	199	0.997	244	0.824	289	0.523	334	0.414
20	0.503	65	0.581	110	0.910	155	0.993	200	0.996	245	0.818	290	0.525	335	0.412
21	0.508	66	0.590	111	0.914	156	0.992	201	0.995	246	0.812	291	0.527	336	0.410
22	0.514	67	0.600	112	0.919	157	0.991	202	0.993	247	0.805	292	0.529	337	0.408
23	0.518	68	0.609	113	0.923	158	0.990	203	0.991	248	0.798	293	0.532	338	0.407
24	0.523	69	0.619	114	0.927	159	0.990	204	0.989	249	0.790	294	0.534	339	0.406
25	0.527	70	0.629	115	0.931	160	0.989	205	0.987	250	0.783	295	0.536	340	0.405
26	0.531	71	0.640	116	0.936	161	0.988	206	0.985	251	0.775	296	0.538	341	0.404
27	0.534	72	0.650	117	0.940	162	0.988	207	0.982	252	0.767	297	0.540	342	0.404
28	0.537	73	0.660	118	0.944	163	0.987	208	0.980	253	0.758	298	0.542	343	0.403
29	0.540	74	0.671	119	0.948	164	0.987	209	0.977	254	0.750	299	0.543	344	0.403
30	0.542	75	0.681	120	0.952	165	0.987	210	0.974	255	0.740	300	0.544	345	0.403
31	0.543	76	0.692	121	0.956	166	0.986	211	0.970	256	0.731	301	0.545	346	0.403
32	0.545	77	0.702	122	0.960	167	0.986	212	0.967	257	0.721	302	0.545	347	0.403
33	0.545	78	0.712	123	0.963	168	0.986	213	0.963	258	0.712	303	0.545	348	0.403
34	0.545	79	0.721	124	0.967	169	0.986	214	0.960	259	0.702	304	0.545	349	0.403
35	0.545	80	0.731	125	0.970	170	0.986	215	0.956	260	0.692	305	0.543	350	0.403
36	0.544	81	0.740	126	0.974	171	0.987	216	0.952	261	0.681	306	0.542	351	0.403
37	0.543	82	0.750	127	0.977	172	0.987	217	0.948	262	0.671	307	0.540	352	0.403
38	0.542	83	0.758	128	0.980	173	0.987	218	0.944	263	0.660	308	0.537	353	0.403
39	0.540	84	0.767	129	0.982	174	0.988	219	0.940	264	0.650	309	0.534	354	0.404
40	0.538	85	0.775	130	0.985	175	0.988	220	0.936	265	0.640	310	0.531	355	0.404
41	0.536	86	0.783	131	0.987	176	0.989	221	0.931	266	0.629	311	0.527	356	0.405
42	0.534	87	0.790	132	0.989	177	0.990	222	0.927	267	0.619	312	0.523	357	0.406
43	0.532	88	0.798	133	0.991	178	0.990	223	0.923	268	0.609	313	0.518	358	0.407
44	0.529	89	0.805	134	0.993	179	0.991	224	0.919	269	0.600	314	0.514	359	0.408



Proposal Number	1244:2:133357	Revision:	1
Date	25-Jun-03		
Call Letters	WTVQ-DT	Channel	40
Location	Lexington, KY		
Customer			
Antenna Type	TFU-30DSC-R 3S180 DC		

ELEVATION PATTERN

RMS Gain at Main Lobe	22.00 (13.42 dB)	Beam Tilt	0.75 deg
RMS Gain at Horizontal	14.00 (11.46 dB)	Frequency	629.00 MHz
Calculated / Measured	Calculated	Drawing #	20Q22075H

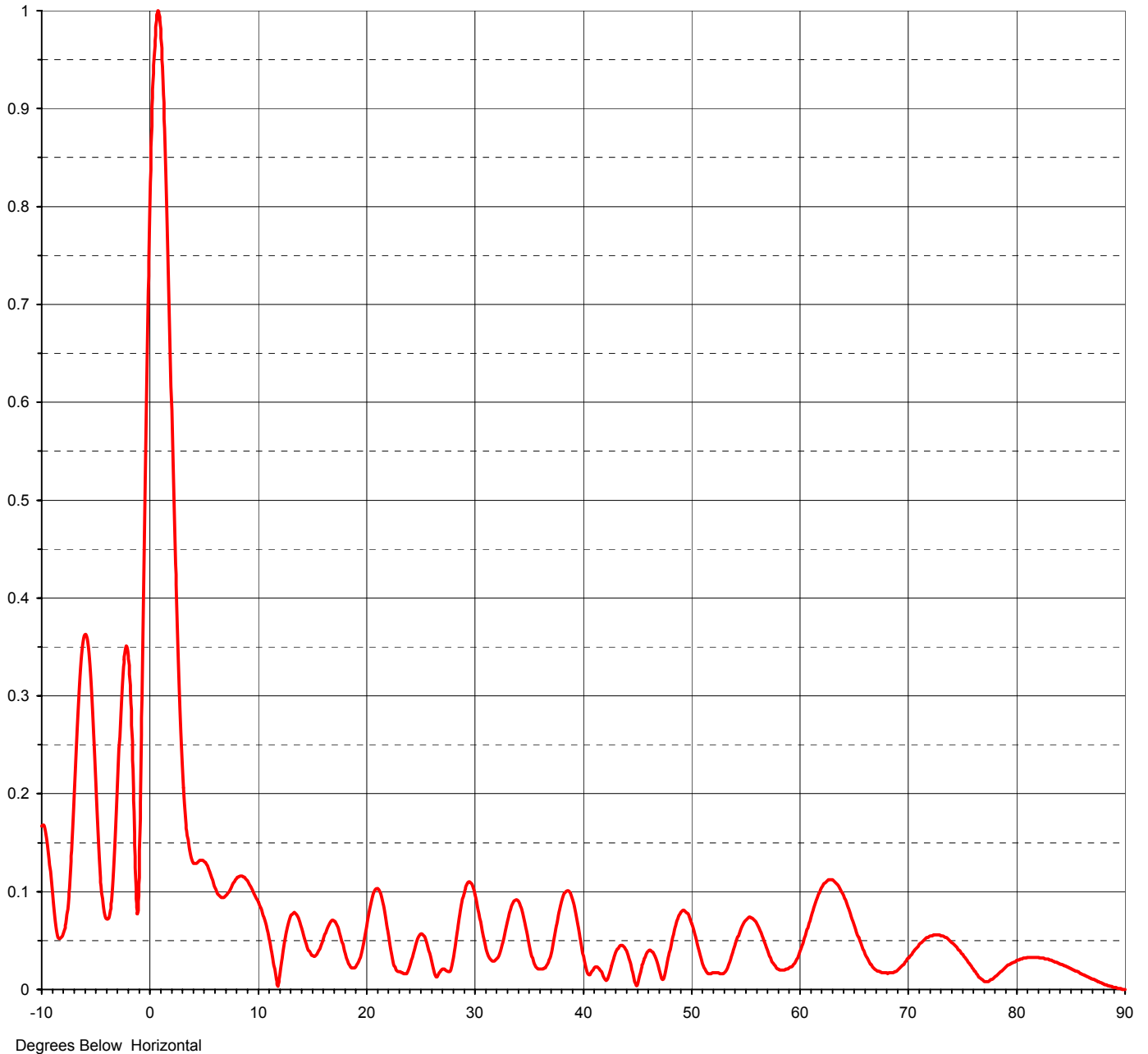




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Call Letters	WTVQ-DT	Channel	40
Location	Lexington, KY		
Customer			
Antenna Type	TFU-30DSC-R 3S180 DC		

ELEVATION PATTERN

RMS Gain at Main Lobe	22.00 (13.42 dB)	Beam Tilt	0.75 deg
RMS Gain at Horizontal	14.00 (11.46 dB)	Frequency	629.00 MHz
Calculated / Measured	Calculated	Drawing #	20Q22075H-90





Proposal Number **1244:2:133357** Revision: **1**
 Date **25-Jun-03**
 Call Letters **WTVQ-DT** Channel **40**
 Location **Lexington, KY**
 Customer
 Antenna Type **TFU-30DSC-R 3S180 DC**

TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing #: **20Q22075H-90**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.167	2.4	0.414	10.6	0.074	30.5	0.076	51.0	0.031	71.5	0.051
-9.5	0.152	2.6	0.339	10.8	0.067	31.0	0.047	51.5	0.017	72.0	0.055
-9.0	0.097	2.8	0.276	11.0	0.058	31.5	0.031	52.0	0.017	72.5	0.056
-8.5	0.053	3.0	0.227	11.5	0.028	32.0	0.030	52.5	0.017	73.0	0.055
-8.0	0.057	3.2	0.189	12.0	0.010	32.5	0.042	53.0	0.016	73.5	0.053
-7.5	0.095	3.4	0.162	12.5	0.047	33.0	0.065	53.5	0.025	74.0	0.048
-7.0	0.199	3.6	0.145	13.0	0.072	33.5	0.086	54.0	0.042	74.5	0.043
-6.5	0.311	3.8	0.134	13.5	0.078	34.0	0.091	54.5	0.058	75.0	0.036
-6.0	0.363	4.0	0.129	14.0	0.066	34.5	0.078	55.0	0.070	75.5	0.028
-5.5	0.323	4.2	0.129	14.5	0.048	35.0	0.052	55.5	0.074	76.0	0.021
-5.0	0.213	4.4	0.130	15.0	0.035	35.5	0.028	56.0	0.069	76.5	0.013
-4.5	0.106	4.6	0.132	15.5	0.036	36.0	0.021	56.5	0.058	77.0	0.008
-4.0	0.072	4.8	0.132	16.0	0.048	36.5	0.022	57.0	0.043	77.5	0.009
-3.5	0.097	5.0	0.131	16.5	0.064	37.0	0.032	57.5	0.029	78.0	0.013
-3.0	0.206	5.2	0.128	17.0	0.071	37.5	0.059	58.0	0.021	78.5	0.018
-2.8	0.258	5.4	0.123	17.5	0.062	38.0	0.086	58.5	0.020	79.0	0.023
-2.6	0.304	5.6	0.117	18.0	0.041	38.5	0.100	59.0	0.021	79.5	0.027
-2.4	0.337	5.8	0.111	18.5	0.025	39.0	0.095	59.5	0.026	80.0	0.030
-2.2	0.351	6.0	0.104	19.0	0.022	39.5	0.072	60.0	0.036	80.5	0.031
-2.0	0.341	6.2	0.099	19.5	0.033	40.0	0.040	60.5	0.052	81.0	0.033
-1.8	0.305	6.4	0.096	20.0	0.059	40.5	0.016	61.0	0.070	81.5	0.033
-1.6	0.244	6.6	0.094	20.5	0.088	41.0	0.020	61.5	0.088	82.0	0.033
-1.4	0.159	6.8	0.094	21.0	0.103	41.5	0.022	62.0	0.102	82.5	0.032
-1.2	0.078	7.0	0.096	21.5	0.093	42.0	0.012	62.5	0.110	83.0	0.030
-1.0	0.128	7.2	0.099	22.0	0.063	42.5	0.016	63.0	0.112	83.5	0.028
-0.8	0.260	7.4	0.102	22.5	0.031	43.0	0.035	63.5	0.108	84.0	0.026
-0.6	0.406	7.6	0.107	23.0	0.018	43.5	0.045	64.0	0.098	84.5	0.024
-0.4	0.549	7.8	0.110	23.5	0.016	44.0	0.041	64.5	0.082	85.0	0.021
-0.2	0.683	8.0	0.113	24.0	0.021	44.5	0.025	65.0	0.066	85.5	0.019
0.0	0.799	8.2	0.115	24.5	0.041	45.0	0.004	65.5	0.050	86.0	0.016
0.2	0.892	8.4	0.116	25.0	0.056	45.5	0.024	66.0	0.036	86.5	0.013
0.4	0.958	8.6	0.115	25.5	0.053	46.0	0.038	66.5	0.026	87.0	0.011
0.6	0.993	8.8	0.113	26.0	0.033	46.5	0.038	67.0	0.020	87.5	0.008
0.8	0.999	9.0	0.111	26.5	0.013	47.0	0.024	67.5	0.017	88.0	0.006
1.0	0.977	9.2	0.107	27.0	0.020	47.5	0.011	68.0	0.017	88.5	0.004
1.2	0.929	9.4	0.103	27.5	0.019	48.0	0.035	68.5	0.017	89.0	0.002
1.4	0.861	9.6	0.098	28.0	0.027	48.5	0.061	69.0	0.020	89.5	0.001
1.6	0.779	9.8	0.096	28.5	0.061	49.0	0.077	69.5	0.025	90.0	0.000
1.8	0.687	10.0	0.091	29.0	0.095	49.5	0.080	70.0	0.032		
2.0	0.592	10.2	0.086	29.5	0.110	50.0	0.070	70.5	0.039		
2.2	0.500	10.4	0.081	30.0	0.102	50.5	0.052	71.0	0.046		



Proposal #: **1244:2:133357** Antenna Type: **TFU-30DSC-R 3S180 DC** Channel: **39 DTV**
 Call Letters: **WLEX-DT** Location: **Lexington, KY** **40 DTV**
WTVQ-DT

Electrical Specifications		Value		Remarks
		Ratio	dB	
RMS Gain at Main Lobe over Halfwave Dipole	Hpol	22.0	13.42	D39; D40: 22.0 (13.42 dB)
	Vpol			
RMS Gain at Horizontal over Halfwave Dipole	Hpol	14.0	11.46	D39; D40: 14.0 (11.46 dB)
	Vpol			
Peak Directional Gain over Halfwave Dipole	Hpol	39.6	15.98	D39; D40: 39.6 (15.98 dB)
	Vpol			
Peak Directional Gain at Horizontal over Halfwave Dipole	Hpol	25.3	14.03	D39; D40: 25.3 (14.03 dB)
	Vpol			
Circularity		dB		
Axial Ratio		dB		
Beam Tilt		0.75 deg		D39; D40: 0.75 deg
Average Power	DTV	26 kW	14.15 dBk	+26 kW average DTV power
Antenna Input:	T/L	6-1/8 in	75.0 ohm	Type: EIA/DCA
Maximum Antenna Input VSWR		Channel 1.10 : 1		
				D40: Channel: 1.10 : 1
Patterns	Azimuth	TFU-3S180-39		D40: TFU-3S180-40
	Elevation	20Q22075L	20Q22075L-90	D39
		20Q22075H	20Q22075H-90	D40
Mechanical Specifications		Metric	English	Preliminary
Height with Lightning Protector	H4	m	ft	Side mounted
Height Less Lightning Protector	H2	16.0 m	52.5 ft	
Height of Center of Radiation	H3	8.0 m	26.3 ft	
Basic Wind Speed	V	112.7 km/h	70 mi/h	TIA/EIA-222-F.
Force Coeff. x Projected Area	CaAc	9.28 m ²	99.9 ft ²	Excludes Mounts
Moment Arm	D1	m	ft	
Force Coeff. x Projected Area	CaAc	m ²	ft ²	
Moment Arm	D3	m	ft	
Pole Bury Length	D2	m	ft	
Weight	W	1.2 t	2,600 lbs	Excludes Mounts
Radome				
Antenna designed in accordance with AISC specifications for design of structural steel for building as prescribed by TIA/EIA-222-F.				

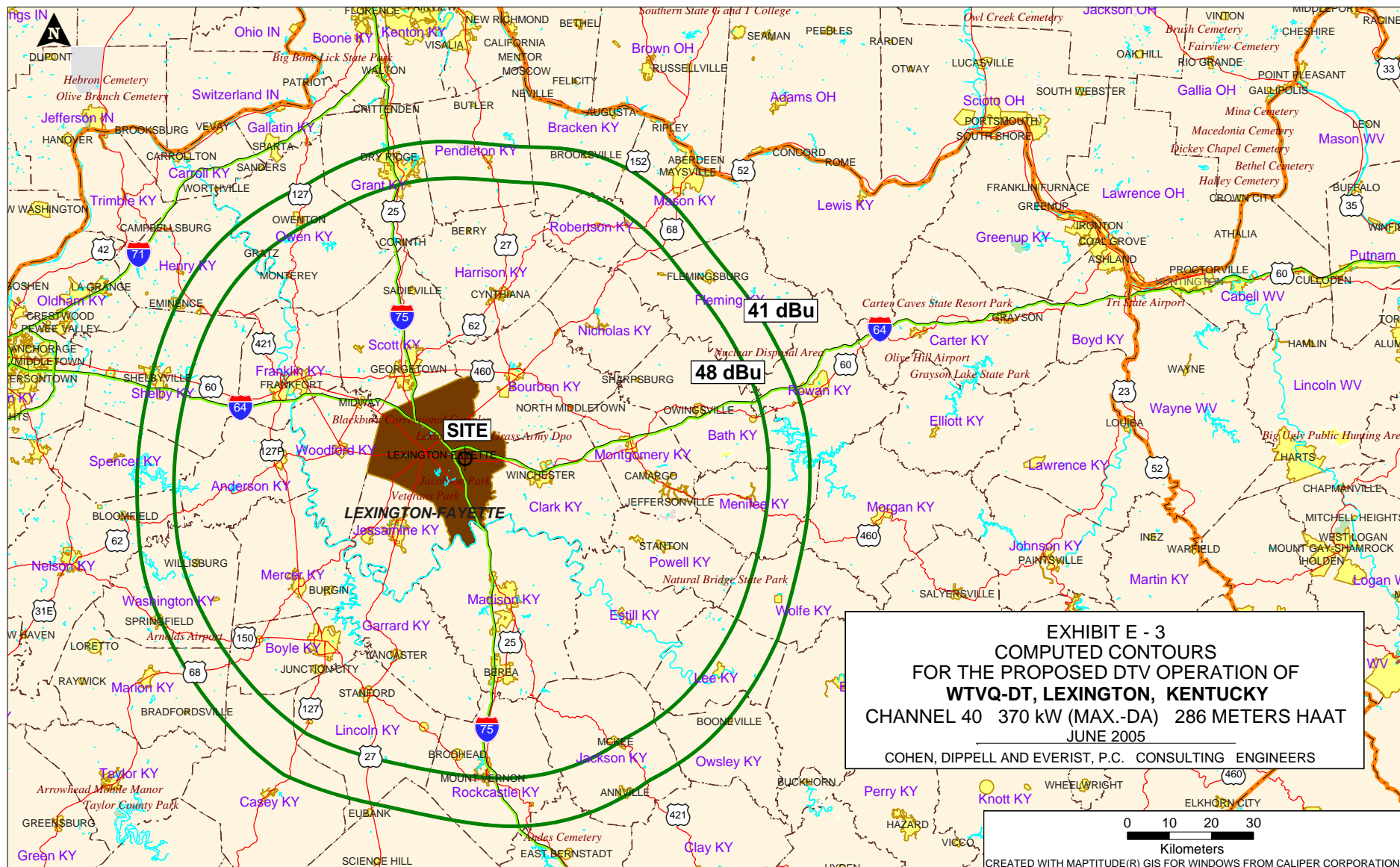
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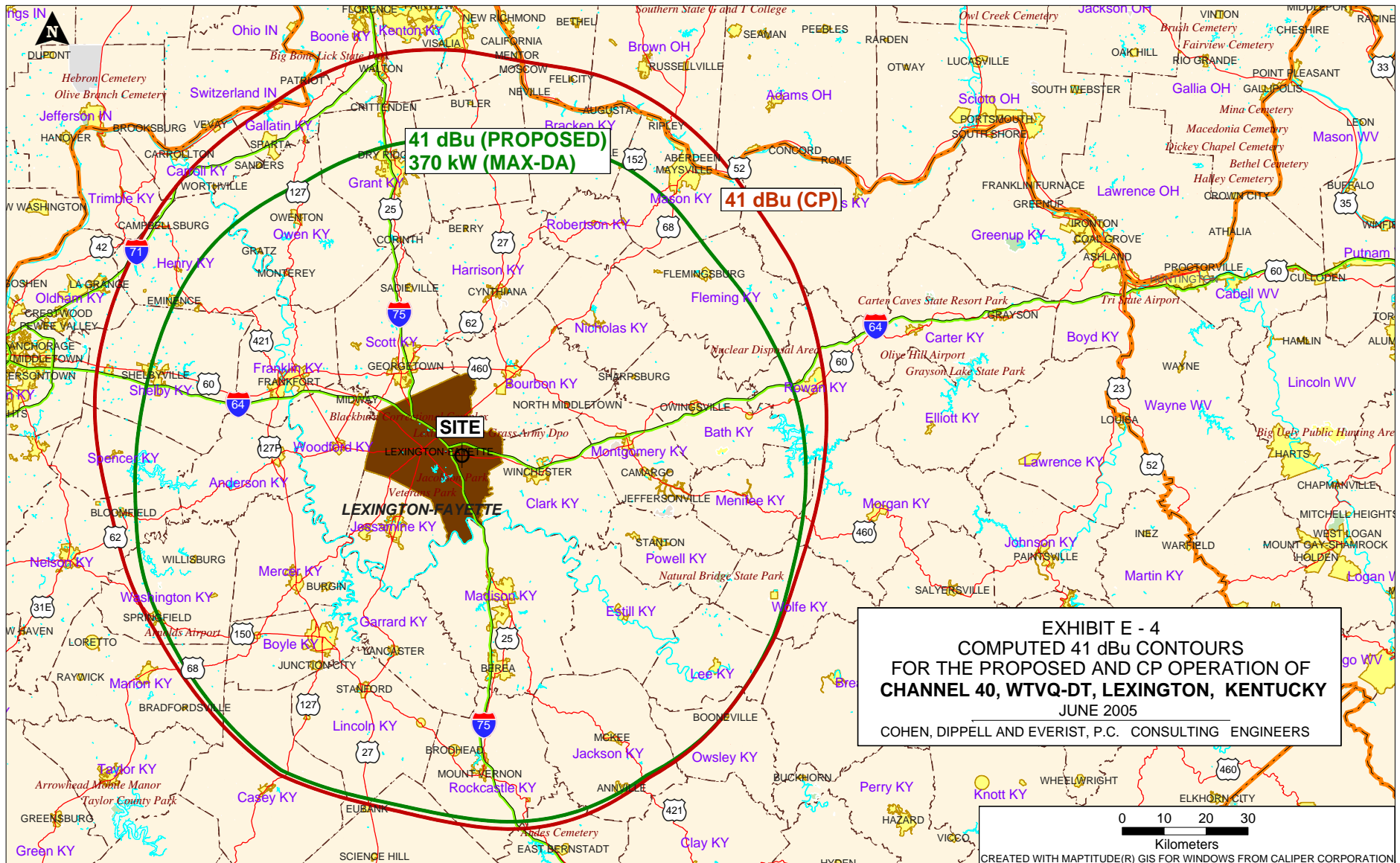
Prepared By : SWB
 Original Date : 20-Jun-03

Revision: 1

Approved By :
 Rev. Date: 25-Jun-03

AJS





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
--------------	-------
- 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

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.

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 Martin R. Doczkat		Relationship to Applicant (e.g., Consulting Engineer) Consulting Engineer	
Signature 		Date June 22, 2005	
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).