



ENGINEERING STATEMENT
OF
JOHN F.X. BROWNE, P.E.
IN SUPPORT OF
APPLICATION FOR CONSTRUCTION PERMIT
POST-TRANSITION DTV FACILITY
WVIZ-DT
CLEVELAND, OH

Background

IDEASTREAM is the licensee of WVIZ, located at Cleveland, OH, which is presently authorized to operate its digital facility on Channel 26 with the following parameters:

Pre-transition Facility (Ch. 26)

Coordinates: 41° 20' 28" N (NAD27)
81° 44' 25" W
ERP: 100 kW (DA)
HAAT: 313m

WVIZ elected Channel 26 and has been allotted the post-transition DTV operation Appendix B facility parameters listed below:

Post-transition Facility (Ch. 26)

Coordinates: 41° 20' 28" N (NAD27)
81° 44' 25" W
ERP: 100 kW (DA)
HAAT: 313m



WVIZ operates its analog (Channel 25) and digital facilities from a multi-user tower (ASR #1026082, on which WVIZ is a tenant) that is also occupied by an FM station; the tower is in very close proximity to a standard broadcast (AM) array. Although the current WVIZ authorization matches the parameters of the Appendix B facility, WVIZ is presently operating a digital facility under Special Temporary Authority and has been unable to complete construction at the current site.

WVIZ has identified a new site for its DTV facility and is proposing to collocate with WKYC with the post-transition operating parameters listed below:

Proposed Post-transition Facility (Ch. 26)

Coordinates:	41° 23' 10" N (NAD27)
	81° 41' 21" W
ERP:	170 kW (DA)
HAAT:	337m

As depicted in Figure 1, attached hereto, the parameters listed above will not expand the noise limited coverage contour of the proposed WVIZ digital facility beyond the contour of its Appendix B facility.

Site

The facility is located within the Canadian border coordination zone; however, WVIZ is not seeking to expand the coverage contour of its digital facility beyond the contour of its Appendix B facility. The WVIZ Appendix B facility exactly matches its digital facility as currently authorized (BPEDT-2000501AID) which has already been coordinated with Canada and, therefore, coordination with the Canadian government should not be required.



Antenna System and Tower

WVIZ-DT will use a Dielectric directional antenna (TFU-10GTH-R C400) which will be part of a new top-mounted WVIZ/WKYC antenna stack that will take the place of the existing WKYC Channel 3 analog antenna. The antenna stack will be placed on the tower (ASR#1013919) at the coordinates specified above. The overall height of the structure will remain the same (595m AMSL, with appurtenances) and the WVIZ antenna will have a center of radiation of 590.4m AMSL (with a calculated HAAT of 336.9m).

Coverage

The entire principal community of Cleveland, OH is well within the predicted F(50,90) 48 dBu contour based on the proposed directional 170 kW ERP.

While the proposed WVIZ parameters do not match the Appendix B facility exactly, the proposed facility is predicted to provide Longley Rice coverage (based on an OET-69 analysis) to 96.4% of the Appendix B population.

Interference

WVIZ is not seeking to expand its service contour beyond the contour of its Appendix B facility in any direction; therefore, no interference analysis is required to be submitted with this application.

Environmental/RFR

The proposed construction does not require preparation of an Environmental Assessment as it does not involve any of the factors listed in Section 1.1306.



The additional ground level RFR contributed to the site by this proposal in public areas is calculated to be 0.00075 mW/cm^2 which is less than 5% of the MPE for public exposure (0.36 mW/cm^2) at the proposed frequency and, therefore, the proposal is excluded from further consideration.

IDEASTREAM agrees to comply with the Commission's requirements regarding power adjustments or cessation of operation as may be necessary to ensure a compliant environment for worker access. Workers will be encouraged to wear personal RFR monitors when on the structure. The tower base is enclosed by a locked security fence and appropriate signage warning of RFR hazards is posted.

Certification

I hereby certify that the foregoing report or statement was prepared by me but may include work performed by others under my supervision or direction. The statements of fact contained therein are believed to be true and correct based on personal knowledge, information and belief unless otherwise stated; with respect to facts not known of my own personal knowledge, I believe them to be true and correct based on their origin from sources known to me to be generally reliable and accurate. I have prepared this document with due care and in accordance with applicable standards of professional practice.

John F.X. Browne, P.E.
March 14, 2008

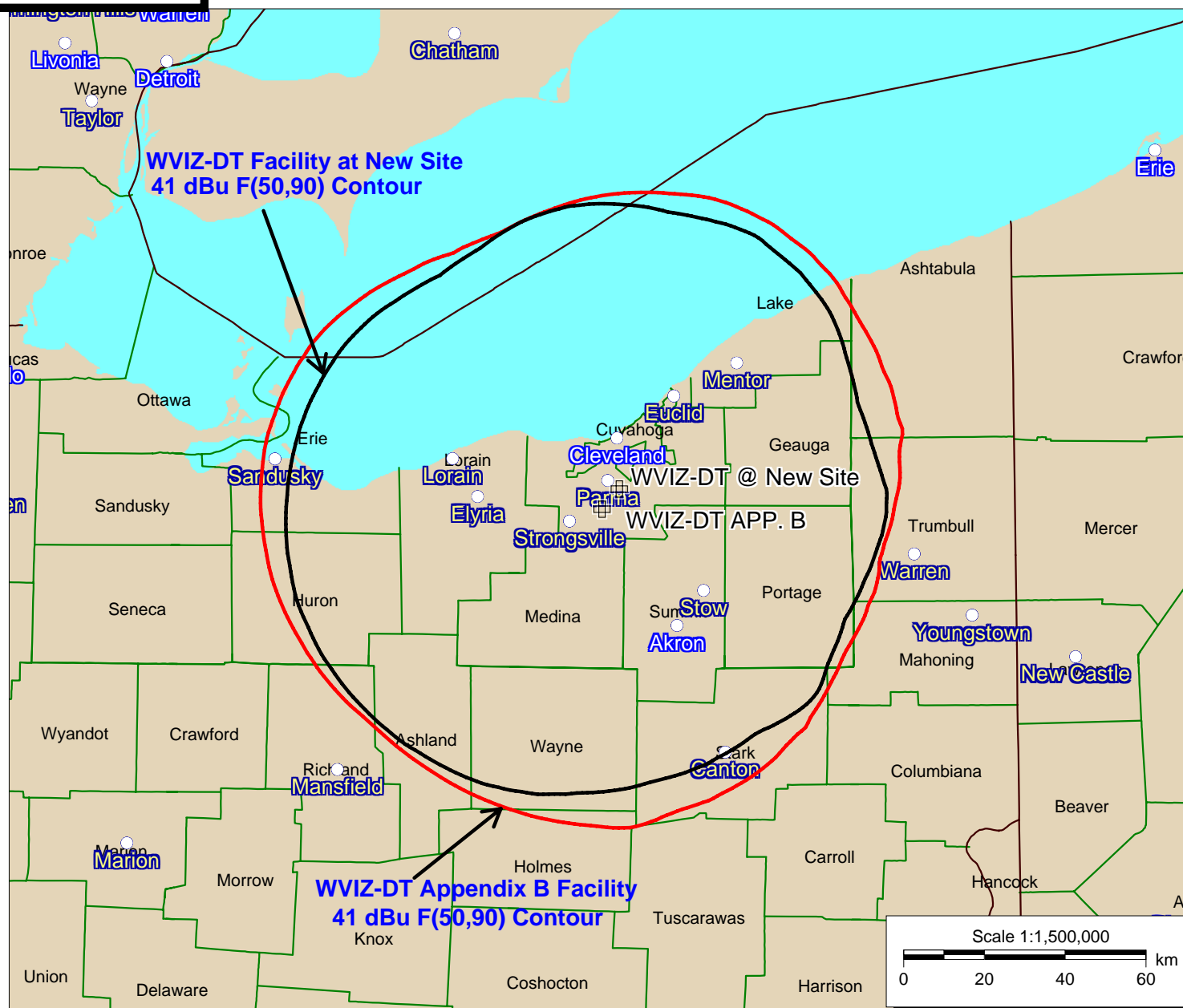
Noise Limited Contour of WVIZ Appendix B Facility vs. Proposed Facility

WVIZ-DT APP. B

Latitude: 41-20-28 N
Longitude: 081-44-25 W
ERP: 100.00 kW
Channel: 26
Frequency: 545.0 MHz
AMSL Height: 594.0 m

WVIZ-DT @ New Site

Latitude: 41-23-10 N
Longitude: 081-41-21 W
ERP: 170.00 kW
Channel: 26
Frequency: 545.0 MHz
AMSL Height: 590.4 m



03-14-2008

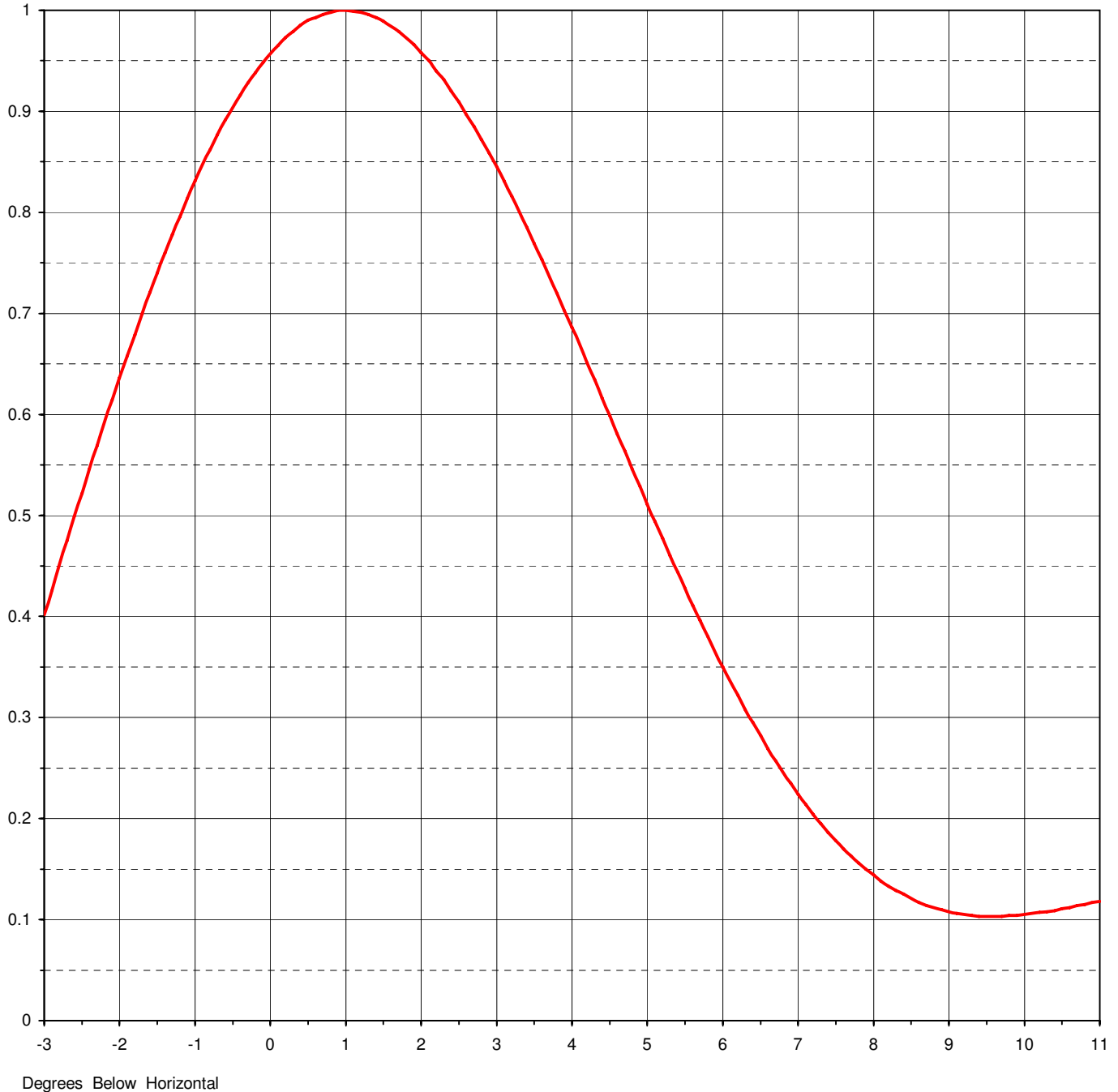
Figure 1



Proposal Number	C-02193	
Date	14-Mar-08	
Call Letters	WVIZ	Channel 26
Location	Cleveland, OH	
Customer		
Antenna Type	TFU-10GTH-R C400	

ELEVATION PATTERN

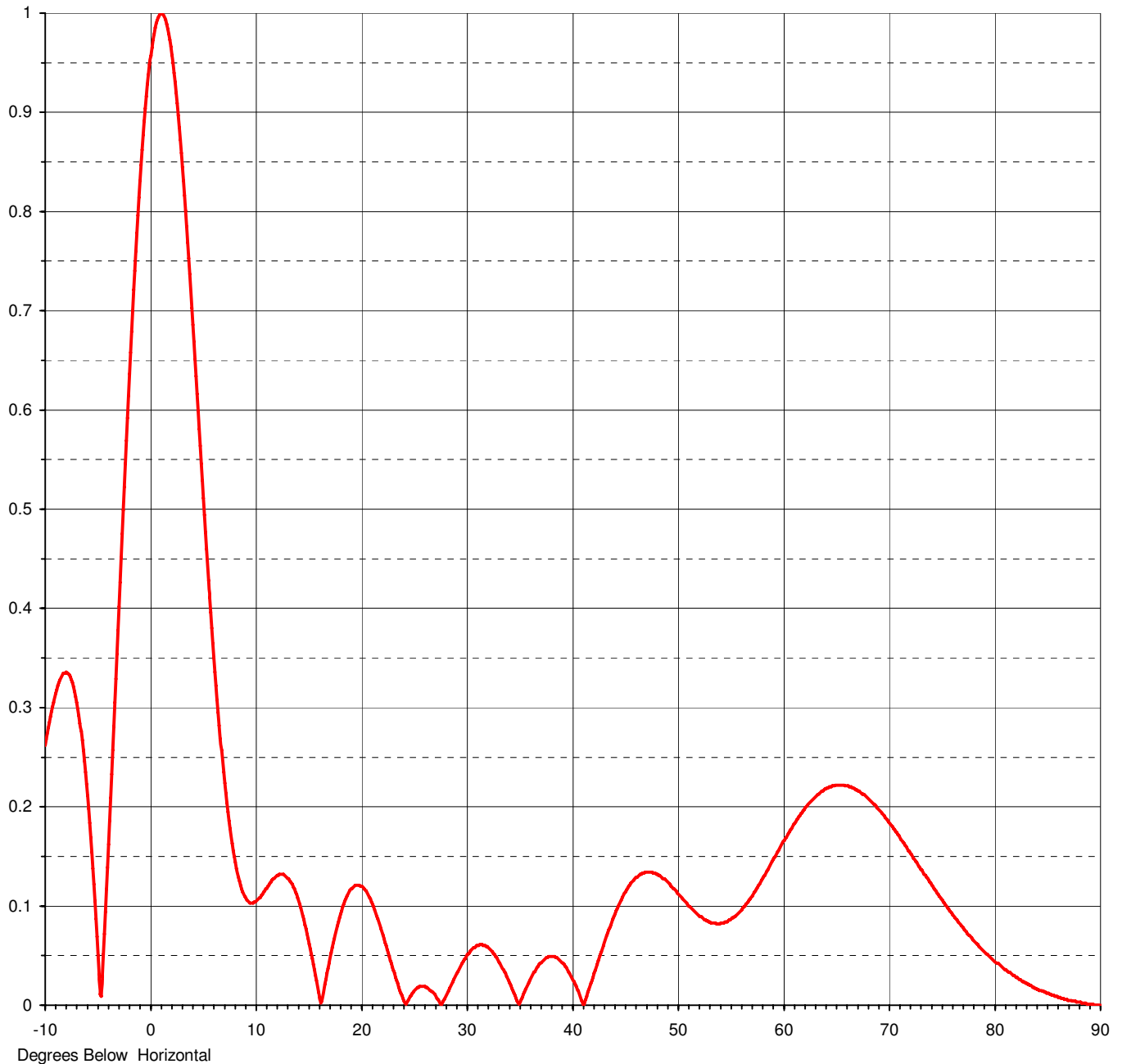
RMS Gain at Main Lobe	8.50 (9.29 dB)	Beam Tilt	1.00 deg
RMS Gain at Horizontal	7.80 (8.92 dB)	Frequency	545.00 MHz
Calculated / Measured	Calculated	Drawing #	10G085100



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ELEVATION PATTERN

RMS Gain at Main Lobe	8.50	(9.29 dB)	Beam Tilt	1.00 deg
RMS Gain at Horizontal	7.80	(8.92 dB)	Frequency	545.00 MHz
Calculated / Measured	Calculated		Drawing #	10G085100-90



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Proposal Number **C-02193**
 Date **14-Mar-08**
 Call Letters **WVIZ** Channel **26**
 Location **Cleveland, OH**
 Customer
 Antenna Type **TFU-10GTH-R C400**

TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing #: **10G085100-90**

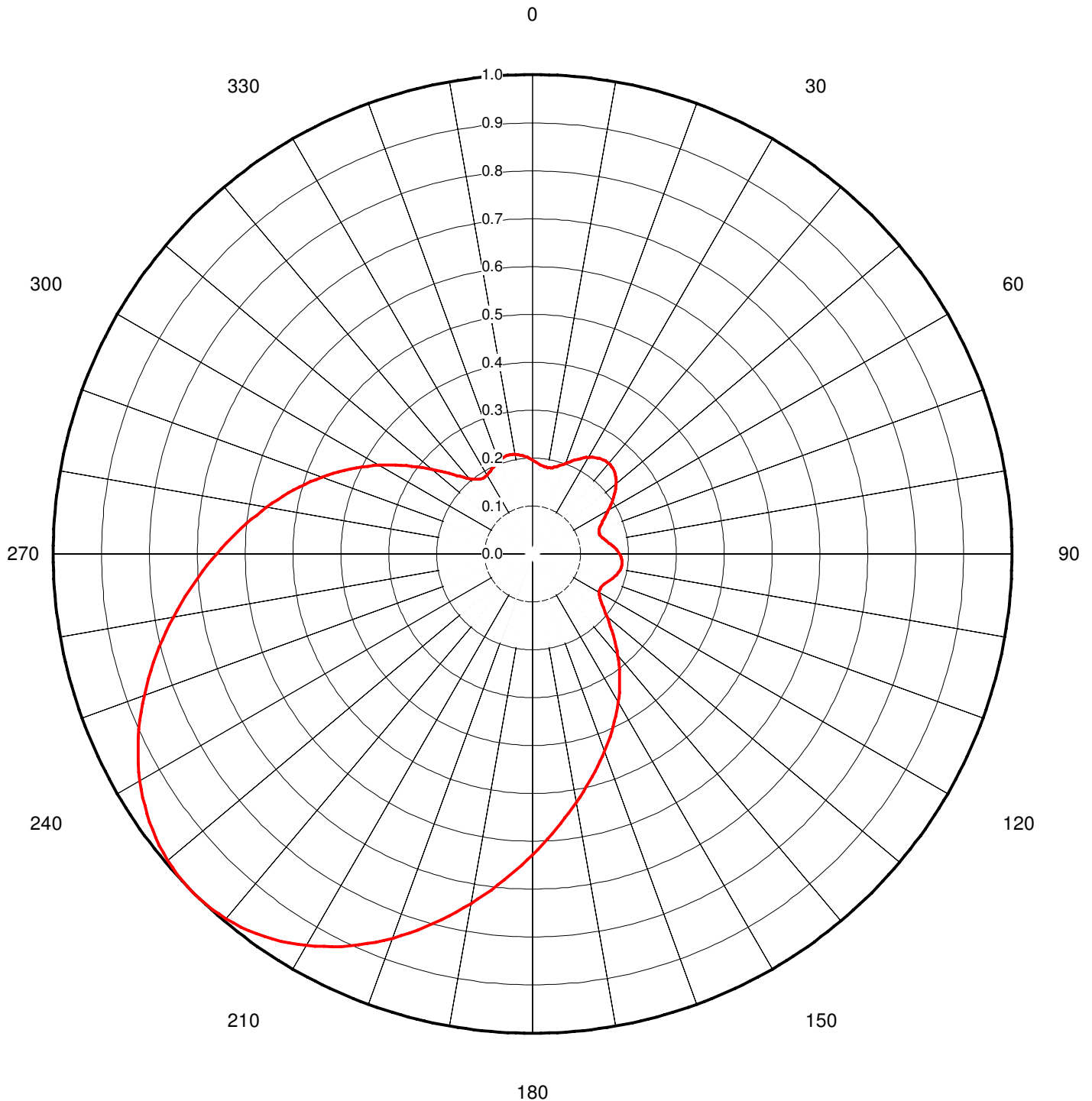
Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.262	2.4	0.920	10.6	0.111	30.5	0.056	51.0	0.101	71.5	0.161
-9.5	0.291	2.6	0.897	10.8	0.114	31.0	0.060	51.5	0.096	72.0	0.153
-9.0	0.314	2.8	0.872	11.0	0.117	31.5	0.061	52.0	0.091	72.5	0.145
-8.5	0.330	3.0	0.845	11.5	0.124	32.0	0.059	52.5	0.087	73.0	0.137
-8.0	0.336	3.2	0.816	12.0	0.130	32.5	0.054	53.0	0.084	73.5	0.129
-7.5	0.328	3.4	0.785	12.5	0.132	33.0	0.046	53.5	0.083	74.0	0.121
-7.0	0.305	3.6	0.753	13.0	0.129	33.5	0.036	54.0	0.082	74.5	0.113
-6.5	0.267	3.8	0.720	13.5	0.122	34.0	0.025	54.5	0.084	75.0	0.106
-6.0	0.211	4.0	0.686	14.0	0.108	34.5	0.012	55.0	0.086	75.5	0.098
-5.5	0.138	4.2	0.651	14.5	0.090	35.0	0.001	55.5	0.090	76.0	0.091
-5.0	0.050	4.4	0.616	15.0	0.067	35.5	0.013	56.0	0.095	76.5	0.084
-4.5	0.051	4.6	0.581	15.5	0.041	36.0	0.025	56.5	0.102	77.0	0.078
-4.0	0.162	4.8	0.546	16.0	0.013	36.5	0.034	57.0	0.109	77.5	0.071
-3.5	0.281	5.0	0.511	16.5	0.015	37.0	0.042	57.5	0.117	78.0	0.065
-3.0	0.402	5.2	0.477	17.0	0.042	37.5	0.047	58.0	0.126	78.5	0.059
-2.8	0.451	5.4	0.444	17.5	0.067	38.0	0.049	58.5	0.135	79.0	0.054
-2.6	0.499	5.6	0.411	18.0	0.088	38.5	0.048	59.0	0.145	79.5	0.049
-2.4	0.546	5.8	0.380	18.5	0.105	39.0	0.044	59.5	0.154	80.0	0.044
-2.2	0.592	6.0	0.350	19.0	0.116	39.5	0.038	60.0	0.164	80.5	0.040
-2.0	0.636	6.2	0.322	19.5	0.121	40.0	0.028	60.5	0.173	81.0	0.036
-1.8	0.679	6.4	0.295	20.0	0.120	40.5	0.016	61.0	0.182	81.5	0.032
-1.6	0.721	6.6	0.269	20.5	0.115	41.0	0.003	61.5	0.190	82.0	0.028
-1.4	0.760	6.8	0.246	21.0	0.104	41.5	0.013	62.0	0.197	82.5	0.025
-1.2	0.796	7.0	0.224	21.5	0.090	42.0	0.028	62.5	0.204	83.0	0.022
-1.0	0.831	7.2	0.204	22.0	0.074	42.5	0.045	63.0	0.209	83.5	0.019
-0.8	0.862	7.4	0.186	22.5	0.056	43.0	0.060	63.5	0.214	84.0	0.016
-0.6	0.891	7.6	0.170	23.0	0.038	43.5	0.076	64.0	0.218	84.5	0.014
-0.4	0.916	7.8	0.156	23.5	0.022	44.0	0.090	64.5	0.220	85.0	0.012
-0.2	0.938	8.0	0.144	24.0	0.007	44.5	0.102	65.0	0.222	85.5	0.010
0.0	0.957	8.2	0.133	24.5	0.005	45.0	0.113	65.5	0.222	86.0	0.008
0.2	0.973	8.4	0.125	25.0	0.013	45.5	0.121	66.0	0.221	86.5	0.007
0.4	0.985	8.6	0.117	25.5	0.018	46.0	0.128	66.5	0.219	87.0	0.005
0.6	0.993	8.8	0.112	26.0	0.019	46.5	0.132	67.0	0.216	87.5	0.004
0.8	0.998	9.0	0.108	26.5	0.016	47.0	0.134	67.5	0.213	88.0	0.003
1.0	1.000	9.2	0.105	27.0	0.011	47.5	0.134	68.0	0.208	88.5	0.002
1.2	0.998	9.4	0.103	27.5	0.002	48.0	0.132	68.5	0.203	89.0	0.001
1.4	0.993	9.6	0.103	28.0	0.008	48.5	0.129	69.0	0.197	89.5	0.000
1.6	0.984	9.8	0.103	28.5	0.019	49.0	0.125	69.5	0.191	90.0	0.000
1.8	0.973	10.0	0.104	29.0	0.030	49.5	0.119	70.0	0.184		
2.0	0.958	10.2	0.106	29.5	0.040	50.0	0.113	70.5	0.177		
2.2	0.940	10.4	0.108	30.0	0.049	50.5	0.107	71.0	0.169		

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Proposal Number	C-02193	
Date	14-Mar-08	
Call Letters	WVIZ	Channel 26
Location	Cleveland, OH	
Customer		
Antenna Type	TFU-10GTH-R C400	

AZIMUTH PATTERN

Gain	4.00	(6.02 dB)	Frequency	545.00 MHz
Calculated / Measured		Calculated	Drawing #	TFU-C400



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Date **14-Mar-08**
Call Letters **WVIZ** Channel **26**
Location **Cleveland, OH**
Customer
Antenna Type **TFU-10GTH-R C400**

TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing #: **TFU-C400**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
0	0.195	45	0.241	90	0.182	135	0.237	180	0.627	225	1.000	270	0.659	315	0.234
1	0.193	46	0.239	91	0.183	136	0.245	181	0.638	226	1.000	271	0.649	316	0.227
2	0.191	47	0.237	92	0.185	137	0.253	182	0.649	227	0.999	272	0.639	317	0.221
3	0.190	48	0.234	93	0.186	138	0.260	183	0.661	228	0.998	273	0.630	318	0.215
4	0.188	49	0.231	94	0.187	139	0.268	184	0.672	229	0.996	274	0.620	319	0.210
5	0.187	50	0.227	95	0.187	140	0.276	185	0.683	230	0.994	275	0.610	320	0.205
6	0.185	51	0.224	96	0.188	141	0.284	186	0.695	231	0.991	276	0.601	321	0.201
7	0.184	52	0.220	97	0.188	142	0.293	187	0.706	232	0.988	277	0.591	322	0.197
8	0.183	53	0.216	98	0.188	143	0.301	188	0.718	233	0.984	278	0.582	323	0.195
9	0.183	54	0.211	99	0.187	144	0.309	189	0.729	234	0.980	279	0.572	324	0.192
10	0.183	55	0.207	100	0.186	145	0.317	190	0.741	235	0.975	280	0.563	325	0.191
11	0.183	56	0.202	101	0.185	146	0.325	191	0.752	236	0.970	281	0.553	326	0.189
12	0.184	57	0.197	102	0.184	147	0.333	192	0.764	237	0.965	282	0.544	327	0.189
13	0.185	58	0.193	103	0.182	148	0.341	193	0.775	238	0.959	283	0.534	328	0.189
14	0.186	59	0.188	104	0.180	149	0.349	194	0.787	239	0.952	284	0.525	329	0.189
15	0.188	60	0.183	105	0.178	150	0.357	195	0.798	240	0.946	285	0.515	330	0.190
16	0.190	61	0.178	106	0.176	151	0.365	196	0.809	241	0.939	286	0.506	331	0.191
17	0.192	62	0.174	107	0.174	152	0.373	197	0.820	242	0.931	287	0.497	332	0.192
18	0.195	63	0.169	108	0.172	153	0.381	198	0.831	243	0.923	288	0.487	333	0.194
19	0.198	64	0.165	109	0.170	154	0.390	199	0.842	244	0.916	289	0.478	334	0.196
20	0.200	65	0.161	110	0.168	155	0.398	200	0.853	245	0.907	290	0.468	335	0.197
21	0.204	66	0.158	111	0.166	156	0.406	201	0.863	246	0.899	291	0.458	336	0.199
22	0.207	67	0.155	112	0.164	157	0.414	202	0.873	247	0.890	292	0.449	337	0.201
23	0.210	68	0.152	113	0.162	158	0.422	203	0.883	248	0.881	293	0.439	338	0.203
24	0.214	69	0.150	114	0.161	159	0.430	204	0.893	249	0.871	294	0.429	339	0.205
25	0.217	70	0.148	115	0.160	160	0.438	205	0.902	250	0.862	295	0.419	340	0.206
26	0.220	71	0.147	116	0.159	161	0.447	206	0.911	251	0.852	296	0.410	341	0.208
27	0.224	72	0.146	117	0.159	162	0.455	207	0.919	252	0.842	297	0.400	342	0.209
28	0.227	73	0.146	118	0.159	163	0.464	208	0.928	253	0.832	298	0.390	343	0.210
29	0.230	74	0.146	119	0.160	164	0.472	209	0.936	254	0.822	299	0.380	344	0.211
30	0.233	75	0.147	120	0.160	165	0.481	210	0.943	255	0.812	300	0.370	345	0.212
31	0.235	76	0.148	121	0.163	166	0.490	211	0.950	256	0.802	301	0.360	346	0.212
32	0.238	77	0.150	122	0.165	167	0.499	212	0.957	257	0.792	302	0.350	347	0.212
33	0.240	78	0.152	123	0.168	168	0.508	213	0.963	258	0.782	303	0.340	348	0.212
34	0.242	79	0.154	124	0.171	169	0.517	214	0.969	259	0.771	304	0.331	349	0.212
35	0.244	80	0.156	125	0.175	170	0.526	215	0.974	260	0.761	305	0.321	350	0.211
36	0.245	81	0.159	126	0.180	171	0.536	216	0.979	261	0.751	306	0.311	351	0.210
37	0.246	82	0.162	127	0.185	172	0.545	217	0.983	262	0.740	307	0.302	352	0.209
38	0.247	83	0.164	128	0.190	173	0.555	218	0.987	263	0.730	308	0.292	353	0.208
39	0.247	84	0.167	129	0.196	174	0.565	219	0.991	264	0.720	309	0.283	354	0.207
40	0.247	85	0.170	130	0.202	175	0.575	220	0.994	265	0.709	310	0.274	355	0.205
41	0.246	86	0.172	131	0.209	176	0.585	221	0.996	266	0.699	311	0.266	356	0.203
42	0.246	87	0.175	132	0.215	177	0.596	222	0.998	267	0.689	312	0.257	357	0.201
43	0.245	88	0.177	133	0.223	178	0.606	223	0.999	268	0.679	313	0.249	358	0.199
44	0.243	89	0.179	134	0.230	179	0.617	224	1.000	269	0.669	314	0.241	359	0.197

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DIRECTIONAL ANTENNA DATA
WVIZ-DT
dBk Table

Actual Bearing	Pattern Azimuth	Relative Field	ERP (dBk)	CONTOURS(km)	
				48 dBu	41 dBu
N000E	0.00	0.195	8.11	59.6	70.4
	10.00	0.183	7.55		
	20.00	0.200	8.33		
	30.00	0.233	9.65		
	40.00	0.247	10.16		
N045E	45.00	0.241	9.94	59.1	69.0
	50.00	0.227	9.43		
	60.00	0.183	7.55		
	70.00	0.148	5.71		
	80.00	0.156	6.17		
N090E	90.00	0.182	7.51	56.2	66.1
	100.00	0.186	7.69		
	110.00	0.168	6.81		
	120.00	0.160	6.39		
	130.00	0.202	8.41		
N135E	135.00	0.237	9.80	59.6	69.9
	140.00	0.276	11.12		
	150.00	0.357	13.36		
	160.00	0.438	15.13		
	170.00	0.526	16.72		
N180E	180.00	0.627	18.25	65.2	74.4
	190.00	0.741	19.70		
	200.00	0.853	20.92		
	210.00	0.943	21.79		
	220.00	0.994	22.25		
N225E	225.00	1.000	22.30	71.4	82.9
	230.00	0.994	22.25		
	240.00	0.946	21.82		
	250.00	0.862	21.01		
	260.00	0.761	19.93		
N270E	270.00	0.659	18.68	70.1	82.0
	280.00	0.563	17.31		
	290.00	0.468	15.71		
	300.00	0.370	13.67		
	310.00	0.274	11.06		
N315E	315.00	0.234	9.69	59.9	70.3
	320.00	0.205	8.54		
	330.00	0.190	7.88		
	340.00	0.206	8.58		
	350.00	0.211	8.79		

Maximum: N225E 22.3 dBk

Minimum: N070E 5.71 dBk