



**STATEMENT OF JOHN E. HIDLE, P.E.  
IN SUPPORT OF AN APPLICATION TO MODIFY  
CONSTRUCTION PERMIT BPCDT-19991028ACC  
WGME-DT- PORTLAND, MAINE  
DTV - CH. 38 - 1000 kW - 465.0 M HAAT**

Prepared for:  
WGME Licensee, LLC

I am a Consulting Engineer, an employee in the firm of Carl T. Jones Corporation, with offices located in Springfield, Virginia. My education and experience are a matter of record with the Federal Communications Commission. I am a registered Professional Engineer in the Commonwealth of Virginia, Registration No. 7418, and in the State of New York, Registration No. 63418.

**GENERAL**

This office has been authorized by WGME Licensee, LLC, permittee of WGME-DT, channel 38, Portland, Maine, to prepare this statement, FCC Form 301, Sections III and III-D, and the associated exhibits in support of this application to modify its current authorization, construction permit BPCDT-19991028ACC, to substitute a different antenna for the antenna currently authorized, change the directional antenna azimuth pattern and decrease the antenna centerline Height Above Average Terrain (HAAT). No other changes are herein proposed.

**PROPOSED DIRECTIONAL ANTENNA**

It is proposed to substitute a Dielectric model TFU-30DSC-R 4C140 directional antenna at a centerline height of 451.0 meters Above Ground Level (AGL) and 580.5 meters Above Mean Sea Level (AMSL). The antenna centerline Height Above Average

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Terrain (HAAT) is proposed to be 465.0 meters. The antenna shall employ an electrical beam tilt of 0.75 degrees below the horizontal plane. The manufacturer's horizontal plane azimuth radiation pattern is shown in exhibit 2 and tabulated in exhibit 3. The manufacturer's vertical plane elevation radiation pattern, illustrating the proposed antenna's radiation characteristics above and below the horizontal plane, is shown in exhibits 4A and 4B, and tabulated in exhibit 5. A vertical plan antenna sketch is shown in exhibit 1.

**PREDICTED COVERAGE CONTOURS**

The predicted coverage contours were calculated in accordance with Section 73.625 using the method described in Section 73.684 of the Rules. The appropriate F(50,90) propagation curves (47 CFR Section 73.699, Figure 9), power, and antenna height above average terrain were used, as determined for each profile radial. The average terrain on the eight cardinal radials from 3 kilometers to 16 kilometers from the site, was determined using the National Geophysical Data Center Thirty Second Point Database (TPG-0050) as prescribed in the FCC Rules. The predicted principal community (48 dBu) service contour completely encompasses Portland, Maine, the principal community of license, shown in exhibit 6, in compliance with Section 73.625(a) of the Commission's rules. The predicted 41 dBu noise limited service contour is also shown in exhibit 6.

**ALLOCATION CONSIDERATIONS**

**NTSC Allocation Considerations**

An interference study was performed, using the Commission's application analysis program, tv\_process, to ensure that the proposed DTV facility, as modified herein, remains

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in compliance with the Commission's *de minimis* interference requirement contained in Section 73.623(c)(2) of the Commission's rules. The study showed that the DTV facility proposed herein is predicted to cause no increase in the interference population in excess of the Commission's *de minimis* criteria to any authorized NTSC television facility, or relevant pending application.

**DTV Allocation Considerations**

The same study was evaluated to determine if the substitute antenna as proposed herein would be predicted to cause any level of new prohibited interference to other authorized DTV facilities, including other authorized DTV stations, DTV expansion construction permits, DTV allotments (including checklist CPs), or pending DTV applications. The study results indicate that the instant proposal is predicted to cause no unacceptable level of new interference to the populations served by any other relevant DTV facility, and thereby is in compliance with the *de minimis* interference criteria contained in Section 73.623(c)(2) of the Commission's Rules.

**Class A Television Allocation Considerations**

As required in Section 73.623(c)(5) of the FCC's Rules, a study of interference contour overlap was performed to establish compliance with the protection requirements specified therein. The study shows that there are no class A LPTV stations potentially affected by the instant proposal to modify the subject construction permit.

**Largest Station in the Market**

The Commission's application processing software indicates that WGME-DT's proposed facility exceeds the combined maximum ERP and HAAT limits set forth in

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Section 73.622(f)(8). Section 73.622(f)(5), however, permits a DTV station's maximum facility (power and antenna height) to be expanded such that its predicted coverage area is as large, but no larger, than the largest predicted geographic coverage area of the largest station in the common Nielsen Designated Market Area (DMA). WGME-DT's maximum predicted service area, based on its currently authorized 1000 kW ERP and 491.0 meters HAAT, is 40,287 square kilometers. WGME-DT's maximum predicted service area, based on its proposed substitute antenna with the same 1000 kW ERP and 465.0 meters HAAT, is 36,654 square kilometers.

The largest station in the market appears to be WCSH-DT, channel 44, Portland, Maine, 1000kW ERP at 587.9 meters HAAT as authorized in its construction permit, BMPCDT-20020517AAM. WCSH-DT is authorized to serve a predicted geographic area encompassing 42,417 square kilometers. The combination of 1000 kW ERP and 491.0 meters HAAT as currently authorized, and the combination of 1000 kW and 465.0 meters HAAT as herein proposed for WGME-DT both, therefore, comply with Section 73.622(f)(5) of the Commission's rules.

**BLANKETING AND INTERMODULATION INTERFERENCE**

A number of both broadcast and non-broadcast facilities are located within 10 km of WGME-DT's authorized site. Although the modification of its construction permit, as proposed herein, is to change only WGME-DT's antenna azimuth pattern and the HAAT, the permittee recognizes its responsibility to investigate and remedy all complaints of interference which might result from such modification in accordance with applicable Rules.

**ENVIRONMENTAL CONSIDERATIONS**

**RADIO FREQUENCY IMPACT**

Effective October 15, 1997, the FCC adopted new guidelines and procedures for evaluating environmental effects of radio frequency (RF) emissions. The guidelines are generally based on recommendations by the National Council on Radiation Protection and Measurements (NCRP) in NCRP Report No. 86 (1986), and by the American National Standards Institute and the Institute of Electrical and Electronic Engineers, LLC (IEEE) in ANSI/IEEE C95.1-1992 (IEEE C95.1-1991). The guidelines provide a maximum permissible exposure (MPE) level for occupational or "controlled" situations that apply in cases that affect the general public. The FCC Office of Engineering and Technology's technical bulletin No. 65 entitled, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields" (Edition 97-01, August 1997), provides assistance in the determination of whether FCC-regulated transmitting facilities, operations or devices comply with guideline limits for human exposure to radio frequency electromagnetic fields as adopted by the Commission in 1996. Bulletin No. 65 contains the technical information necessary to evaluate compliance with the FCC's policies and guidelines.

The Commission's Maximum Permitted Exposure (MPE) level for "uncontrolled" environments is 0.2 milliwatts per centimeter squared ( $\text{mW}/\text{cm}^2$ ) when applied to broadcast facilities operating between 30 MHz and 300 MHz, and for broadcast facilities operating between 300 MHz and 1500 MHz, primarily UHF TV stations, is derived from the formula,

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(frequency/1500). The MPE level for “controlled” environments is 1.0 milliwatts per centimeter squared ( $\text{mW}/\text{cm}^2$ ) for operations between 30 MHz and 300 MHz, and for broadcast stations operating between 300 MHz and 1500 MHz is derived from the formula, (frequency/300). The predicted emissions of WGME-DT, channel 38, must be considered, along with the predicted emissions from other proposed and existing stations at the current site. For WGME-DT, which will operate on television Channel 38 (614-620 MHz), the MPE is 0.411 milliwatts per centimeter squared ( $\text{mW}/\text{cm}^2$ ) in an “uncontrolled” environment and 2.055  $\text{mW}/\text{cm}^2$  in a “controlled” environment. The proposed WGME-DT facility will operate with a maximum ERP of 1000 kW from a horizontally polarized directional transmitting antenna with a centerline height of 451.0 meters above ground level (AGL). Considering the relevant conservative vertical plane relative field factor of 0.3, the WGME-DT facility is predicted to produce a power density at two meters above ground level of 0.01491  $\text{mW}/\text{cm}^2$ , which is 3.62% of the FCC guideline value for “uncontrolled” environments, and 0.724% of the FCC guideline value for "controlled" environments (see Appendix A). The total percentage of the ANSI value at the proposed site, considering the cumulative radiation of all stations to be located at, or within a relevant distance of, the subject site is only 23.64% of the guideline’s limit for "uncontrolled" environments, and 4.73% of the limit for "controlled" environments.

**OCCUPATIONAL SAFETY**

The permittee of WGME-DT is committed to the protection of station personnel and/or tower contractors working in the vicinity of the antenna. The permittee is committed

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to reducing power and/or ceasing operation during times of service or maintenance of the transmission systems, when necessary, to ensure protection to personnel. In light of the above, the proposed facility should be categorically excluded from RF environmental processing under Section 1.1307(b) of the Commission's Rules.

**SUMMARY**

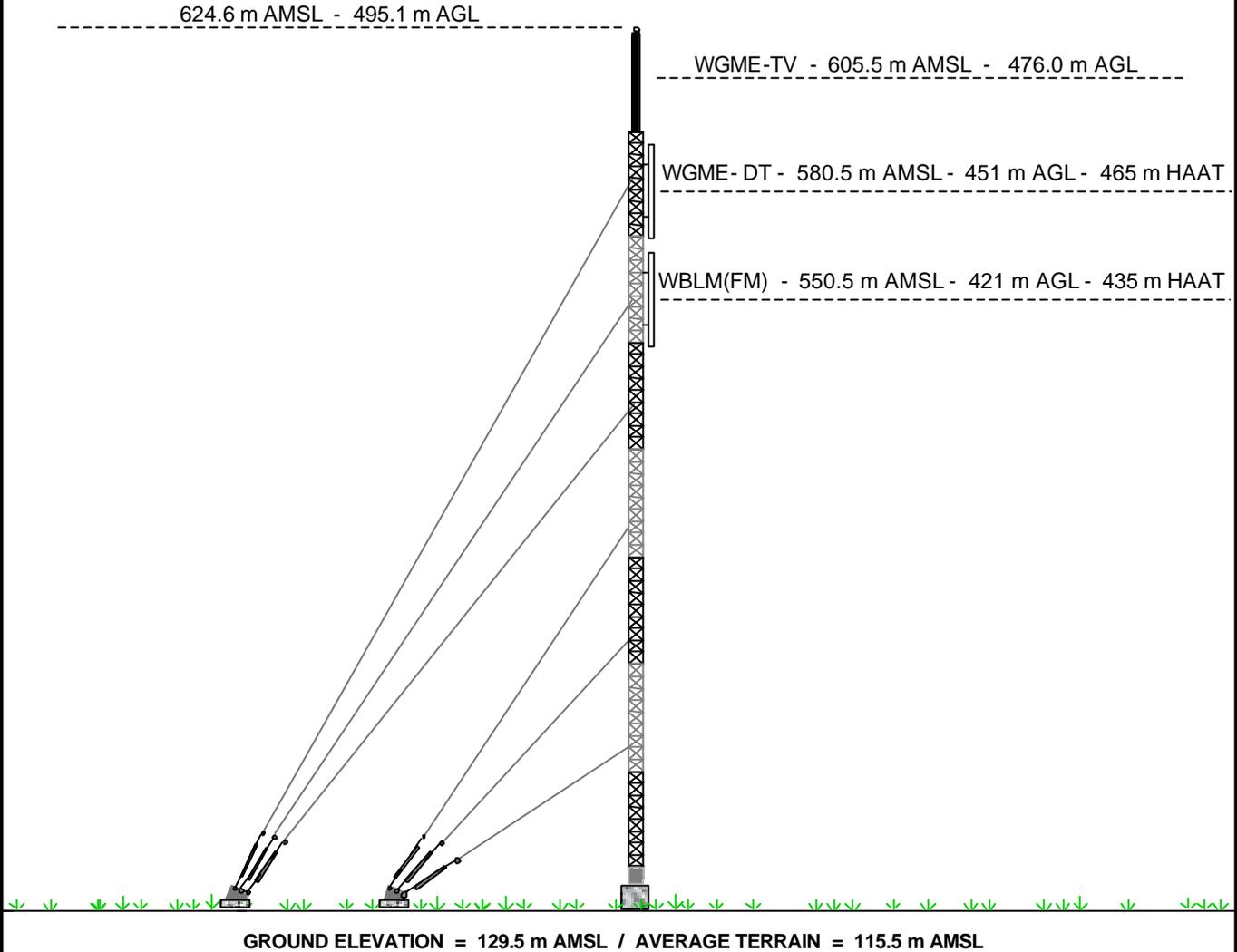
It is submitted that the instant proposal to modify WGME-DT's construction permit, BPCDT-19991028ACC, as described herein, complies with the Rules, Regulations and Policies of the Federal Communications Commission. This statement, FCC Form 301, and the attached exhibits were prepared by me or under my direct supervision and are believed to be true and correct to the best of my knowledge and belief.

DATED: June 22, 2005

  
John E. Hidle, P.E.



COORDINATES NAD-27  
NORTH LATITUDE: 43° 55' 28"  
WEST LONGITUDE: 70° 29' 28"



**VERTICAL PLAN ANTENNA SKETCH**

WGME-DT - PORTLAND, MAINE  
Ch. 38 - 1000 kW ERP - 465.0 m HAAT  
JUNE, 2005

**CARL T. JONES**  
CORPORATION

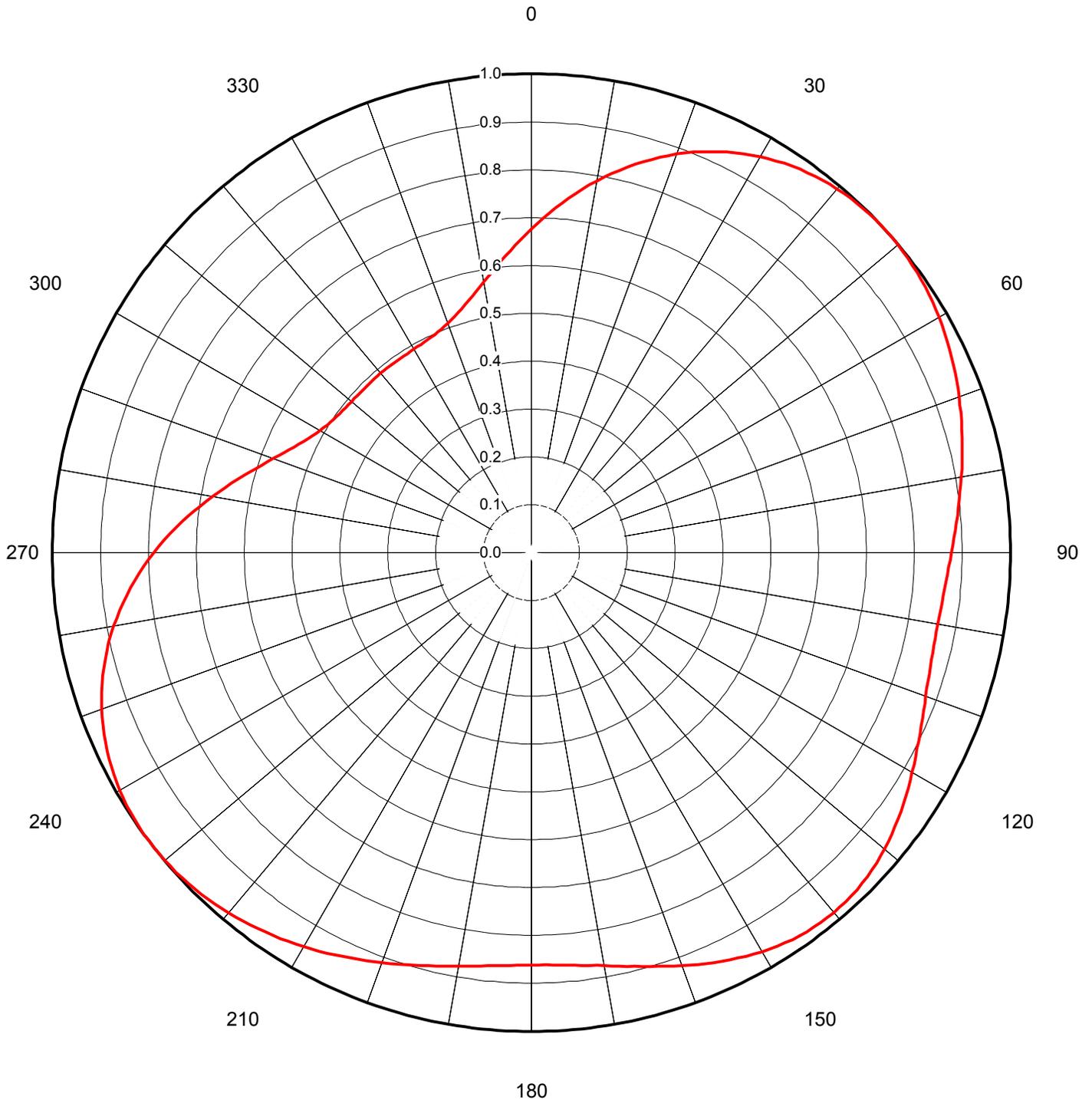
NOTE : NOT DRAWN TO SCALE



Proposal Number **DCA-9462** Exhibit 2  
Date **28-Jun-01**  
Call Letters **WGME-DT** Channel **38**  
Location **Portland, ME**  
Customer **WGME-TV 13**  
Antenna Type **TFU-30DSC-R 4C140**

### AZIMUTH PATTERN

Gain **1.40** (1.46 dB) Frequency **617.00 MHz**  
Calculated / Measured **Calculated** Drawing # **TFU-4C140-38**





Proposal Number **DCA-9462** **Exhibit 3**  
 Date **28-Jun-01**  
 Call Letters **WGME-DT** Channel **38**  
 Location **Portland, ME**  
 Customer **WGME-TV 13**  
 Antenna Type **TFU-30DSC-R 4C140**

### TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing #: **TFU-4C140-38**

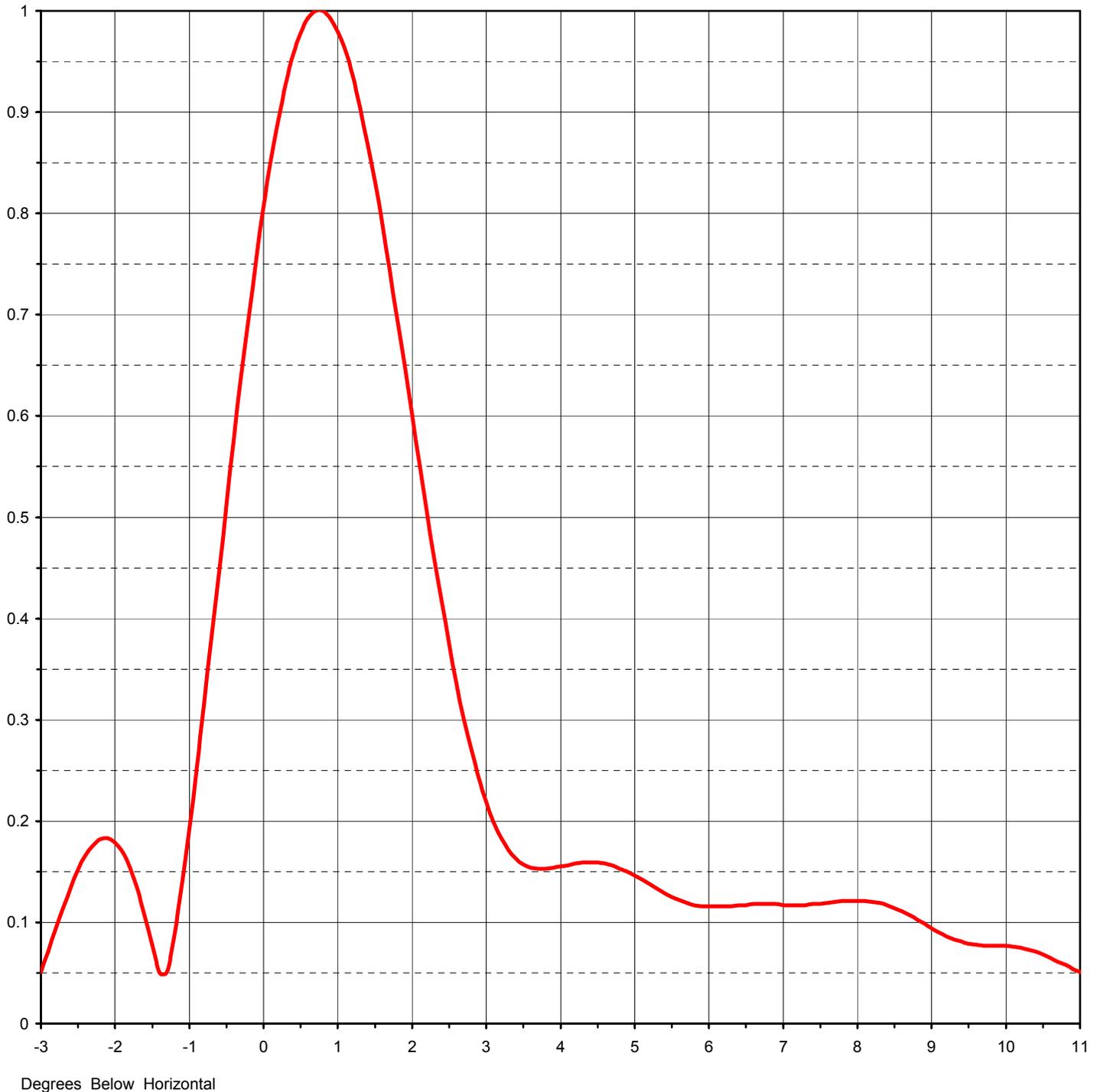
Angle	Field														
0	0.676	45	0.999	90	0.877	135	0.976	180	0.861	225	0.993	270	0.788	315	0.489
1	0.687	46	1.000	91	0.874	136	0.978	181	0.862	226	0.995	271	0.777	316	0.489
2	0.699	47	1.000	92	0.872	137	0.979	182	0.862	227	0.996	272	0.766	317	0.489
3	0.710	48	1.000	93	0.870	138	0.981	183	0.863	228	0.998	273	0.755	318	0.489
4	0.721	49	1.000	94	0.867	139	0.981	184	0.864	229	0.998	274	0.744	319	0.489
5	0.733	50	0.999	95	0.866	140	0.981	185	0.866	230	0.999	275	0.733	320	0.489
6	0.744	51	0.998	96	0.864	141	0.981	186	0.867	231	1.000	276	0.721	321	0.489
7	0.755	52	0.998	97	0.863	142	0.981	187	0.870	232	1.000	277	0.710	322	0.489
8	0.766	53	0.996	98	0.862	143	0.979	188	0.872	233	1.000	278	0.699	323	0.489
9	0.777	54	0.995	99	0.862	144	0.978	189	0.874	234	1.000	279	0.687	324	0.489
10	0.788	55	0.993	100	0.861	145	0.976	190	0.877	235	0.999	280	0.676	325	0.489
11	0.799	56	0.992	101	0.861	146	0.974	191	0.880	236	0.998	281	0.665	326	0.489
12	0.809	57	0.990	102	0.861	147	0.972	192	0.883	237	0.997	282	0.654	327	0.489
13	0.820	58	0.987	103	0.862	148	0.969	193	0.886	238	0.996	283	0.643	328	0.490
14	0.830	59	0.985	104	0.863	149	0.966	194	0.889	239	0.994	284	0.632	329	0.490
15	0.840	60	0.983	105	0.864	150	0.962	195	0.893	240	0.992	285	0.622	330	0.490
16	0.849	61	0.980	106	0.866	151	0.959	196	0.896	241	0.990	286	0.611	331	0.491
17	0.859	62	0.977	107	0.868	152	0.955	197	0.900	242	0.987	287	0.601	332	0.492
18	0.868	63	0.974	108	0.870	153	0.950	198	0.904	243	0.984	288	0.592	333	0.493
19	0.877	64	0.971	109	0.873	154	0.946	199	0.907	244	0.981	289	0.583	334	0.494
20	0.885	65	0.968	110	0.876	155	0.942	200	0.911	245	0.977	290	0.574	335	0.496
21	0.894	66	0.964	111	0.879	156	0.937	201	0.915	246	0.973	291	0.565	336	0.498
22	0.902	67	0.961	112	0.883	157	0.932	202	0.919	247	0.969	292	0.557	337	0.500
23	0.909	68	0.957	113	0.886	158	0.927	203	0.923	248	0.965	293	0.550	338	0.503
24	0.917	69	0.954	114	0.890	159	0.923	204	0.927	249	0.960	294	0.542	339	0.506
25	0.924	70	0.950	115	0.895	160	0.918	205	0.931	250	0.955	295	0.536	340	0.510
26	0.931	71	0.946	116	0.899	161	0.913	206	0.935	251	0.949	296	0.529	341	0.514
27	0.937	72	0.943	117	0.904	162	0.908	207	0.939	252	0.943	297	0.524	342	0.519
28	0.943	73	0.939	118	0.908	163	0.904	208	0.943	253	0.937	298	0.519	343	0.524
29	0.949	74	0.935	119	0.913	164	0.899	209	0.946	254	0.931	299	0.514	344	0.529
30	0.955	75	0.931	120	0.918	165	0.895	210	0.950	255	0.924	300	0.510	345	0.536
31	0.960	76	0.927	121	0.923	166	0.890	211	0.954	256	0.917	301	0.506	346	0.542
32	0.965	77	0.923	122	0.927	167	0.886	212	0.957	257	0.909	302	0.503	347	0.550
33	0.969	78	0.919	123	0.932	168	0.883	213	0.961	258	0.902	303	0.500	348	0.557
34	0.973	79	0.915	124	0.937	169	0.879	214	0.964	259	0.894	304	0.498	349	0.565
35	0.977	80	0.911	125	0.942	170	0.876	215	0.968	260	0.885	305	0.496	350	0.574
36	0.981	81	0.907	126	0.946	171	0.873	216	0.971	261	0.877	306	0.494	351	0.583
37	0.984	82	0.904	127	0.950	172	0.870	217	0.974	262	0.868	307	0.493	352	0.592
38	0.987	83	0.900	128	0.955	173	0.868	218	0.977	263	0.859	308	0.492	353	0.601
39	0.990	84	0.896	129	0.959	174	0.866	219	0.980	264	0.849	309	0.491	354	0.611
40	0.992	85	0.893	130	0.962	175	0.864	220	0.983	265	0.840	310	0.490	355	0.622
41	0.994	86	0.889	131	0.966	176	0.863	221	0.985	266	0.830	311	0.490	356	0.632
42	0.996	87	0.886	132	0.969	177	0.862	222	0.987	267	0.820	312	0.490	357	0.643
43	0.997	88	0.883	133	0.972	178	0.861	223	0.990	268	0.809	313	0.489	358	0.654
44	0.998	89	0.880	134	0.974	179	0.861	224	0.992	269	0.799	314	0.489	359	0.665



Proposal Number **DCA-9462** Exhibit **4A**  
Date **28-Jun-01**  
Call Letters **WGME-DT** Channel **38**  
Location **Portland, ME**  
Customer **WGME-TV 13**  
Antenna Type **TFU-30DSC-R 4C140**

### ELEVATION PATTERN

RMS Gain at Main Lobe	<b>25.50 ( 14.07 dB )</b>	Beam Tilt	<b>0.75 deg</b>
RMS Gain at Horizontal	<b>16.60 ( 12.20 dB )</b>	Frequency	<b>617.00 MHz</b>
Calculated / Measured	<b>Calculated</b>	Drawing #	<b>30Q255075</b>

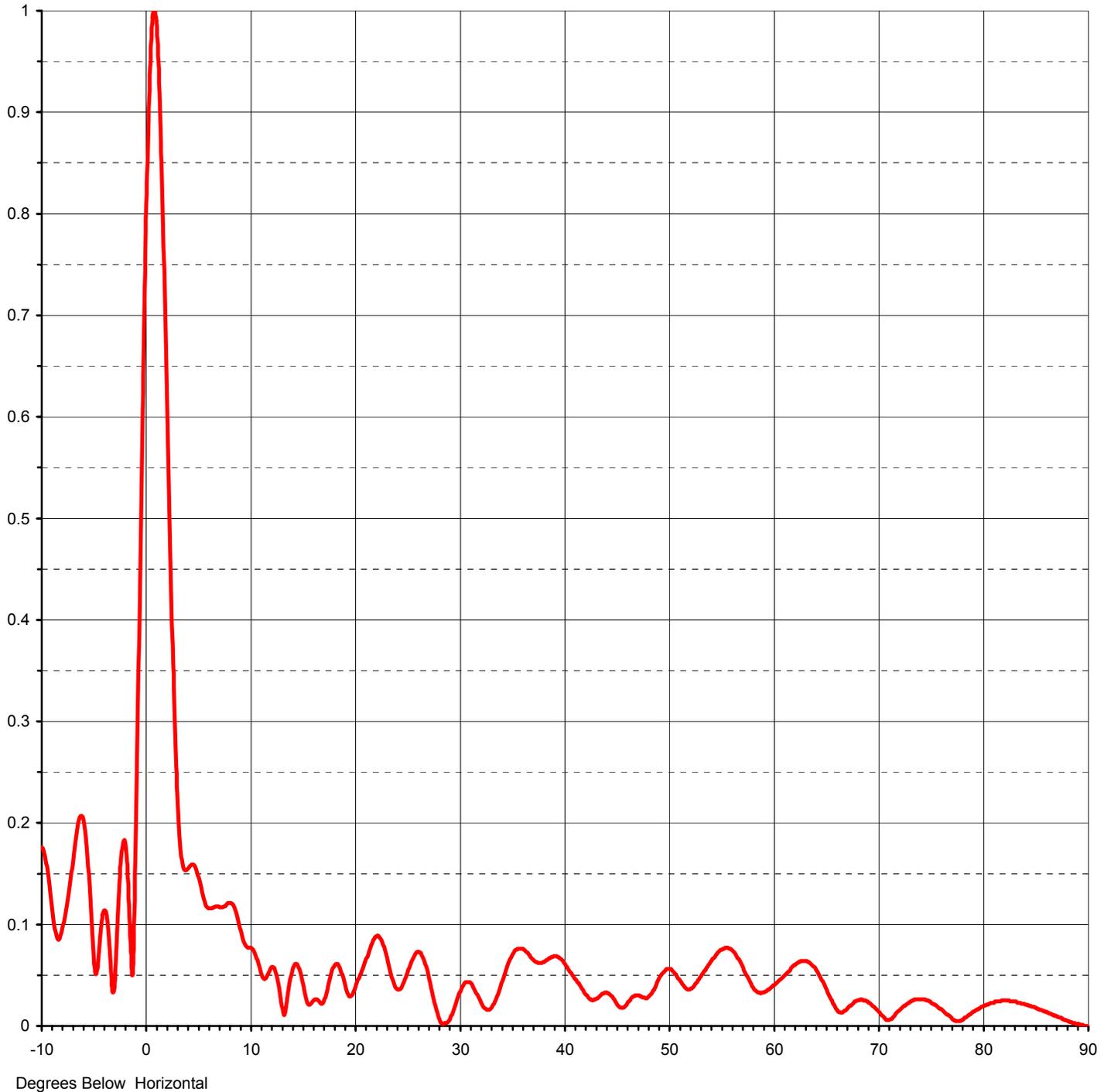




Proposal Number **DCA-9462**      **Exhibit 4B**  
Date **28-Jun-01**  
Call Letters **WGME-DT**      Channel **38**  
Location **Portland, ME**  
Customer **WGME-TV 13**  
Antenna Type **TFU-30DSC-R 4C140**

### ELEVATION PATTERN

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RMS Gain at Horizontal	<b>16.60 ( 12.20 dB )</b>	Frequency	<b>617.00 MHz</b>
Calculated / Measured	<b>Calculated</b>	Drawing #	<b>30Q255075-90</b>



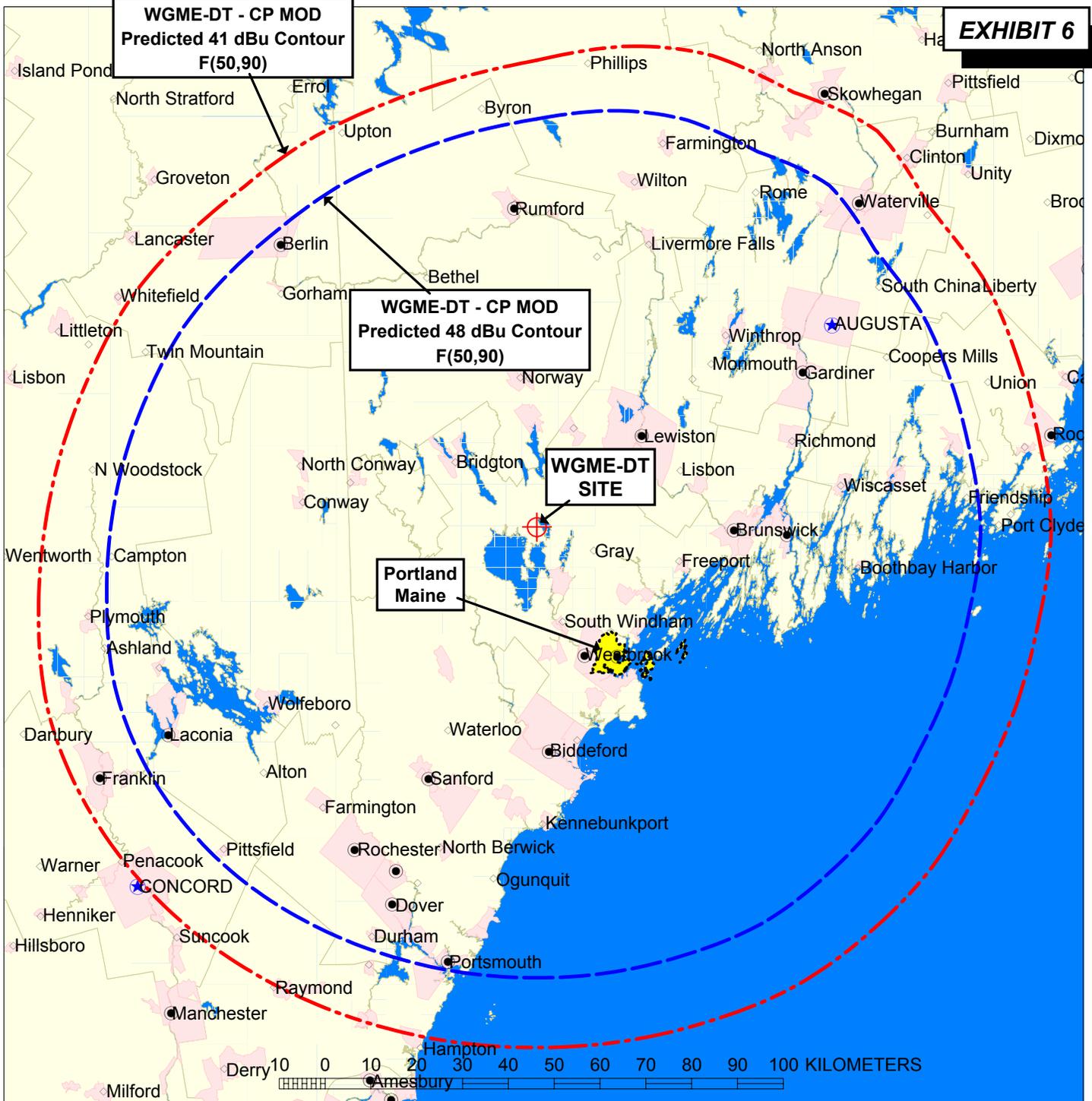


Proposal Number **DCA-9462** **Exhibit 5**  
 Date **28-Jun-01**  
 Call Letters **WGME-DT** Channel **38**  
 Location **Portland, ME**  
 Customer **WGME-TV 13**  
 Antenna Type **TFU-30DSC-R 4C140**

### TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing #: **30Q255075-90**

Angle	Field										
-10.0	0.176	2.4	0.416	10.6	0.068	30.5	0.042	51.0	0.046	71.5	0.010
-9.5	0.157	2.6	0.336	10.8	0.061	31.0	0.043	51.5	0.039	72.0	0.016
-9.0	0.116	2.8	0.270	11.0	0.054	31.5	0.035	52.0	0.036	72.5	0.020
-8.5	0.086	3.0	0.219	11.5	0.047	32.0	0.025	52.5	0.040	73.0	0.024
-8.0	0.097	3.2	0.183	12.0	0.057	32.5	0.017	53.0	0.048	73.5	0.026
-7.5	0.125	3.4	0.163	12.5	0.051	33.0	0.017	53.5	0.055	74.0	0.026
-7.0	0.163	3.6	0.154	13.0	0.023	33.5	0.026	54.0	0.063	74.5	0.025
-6.5	0.200	3.8	0.153	13.5	0.023	34.0	0.040	54.5	0.070	75.0	0.023
-6.0	0.202	4.0	0.155	14.0	0.053	34.5	0.056	55.0	0.075	75.5	0.020
-5.5	0.149	4.2	0.158	14.5	0.061	35.0	0.069	55.5	0.077	76.0	0.016
-5.0	0.065	4.4	0.159	15.0	0.044	35.5	0.075	56.0	0.075	76.5	0.011
-4.5	0.078	4.6	0.158	15.5	0.023	36.0	0.076	56.5	0.069	77.0	0.007
-4.0	0.114	4.8	0.153	16.0	0.024	36.5	0.072	57.0	0.060	77.5	0.005
-3.5	0.075	5.0	0.146	16.5	0.025	37.0	0.066	57.5	0.049	78.0	0.006
-3.0	0.051	5.2	0.138	17.0	0.023	37.5	0.062	58.0	0.039	78.5	0.010
-2.8	0.093	5.4	0.129	17.5	0.041	38.0	0.063	58.5	0.033	79.0	0.014
-2.6	0.134	5.6	0.122	18.0	0.058	38.5	0.066	59.0	0.033	79.5	0.017
-2.4	0.166	5.8	0.117	18.5	0.059	39.0	0.069	59.5	0.036	80.0	0.020
-2.2	0.182	6.0	0.116	19.0	0.044	39.5	0.068	60.0	0.040	80.5	0.022
-2.0	0.179	6.2	0.116	19.5	0.029	40.0	0.062	60.5	0.044	81.0	0.023
-1.8	0.154	6.4	0.117	20.0	0.036	40.5	0.055	61.0	0.049	81.5	0.024
-1.6	0.106	6.6	0.118	20.5	0.050	41.0	0.047	61.5	0.054	82.0	0.025
-1.4	0.050	6.8	0.118	21.0	0.063	41.5	0.040	62.0	0.060	82.5	0.024
-1.2	0.087	7.0	0.117	21.5	0.077	42.0	0.032	62.5	0.063	83.0	0.024
-1.0	0.193	7.2	0.117	22.0	0.088	42.5	0.026	63.0	0.064	83.5	0.023
-0.8	0.316	7.4	0.118	22.5	0.086	43.0	0.026	63.5	0.062	84.0	0.021
-0.6	0.447	7.6	0.119	23.0	0.071	43.5	0.030	64.0	0.057	84.5	0.020
-0.4	0.577	7.8	0.121	23.5	0.050	44.0	0.033	64.5	0.046	85.0	0.018
-0.2	0.699	8.0	0.121	24.0	0.037	44.5	0.030	65.0	0.036	85.5	0.016
0.0	0.807	8.2	0.120	24.5	0.039	45.0	0.023	65.5	0.025	86.0	0.014
0.2	0.894	8.4	0.117	25.0	0.051	45.5	0.018	66.0	0.016	86.5	0.011
0.4	0.957	8.6	0.111	25.5	0.065	46.0	0.021	66.5	0.013	87.0	0.009
0.6	0.993	8.8	0.103	26.0	0.073	46.5	0.028	67.0	0.017	87.5	0.007
0.8	1.000	9.0	0.094	26.5	0.068	47.0	0.030	67.5	0.022	88.0	0.005
1.0	0.980	9.2	0.086	27.0	0.052	47.5	0.028	68.0	0.025	88.5	0.003
1.2	0.936	9.4	0.081	27.5	0.029	48.0	0.028	68.5	0.025	89.0	0.002
1.4	0.870	9.6	0.078	28.0	0.009	48.5	0.034	69.0	0.023	89.5	0.001
1.6	0.789	9.8	0.077	28.5	0.002	49.0	0.045	69.5	0.019	90.0	0.000
1.8	0.697	10.0	0.077	29.0	0.005	49.5	0.053	70.0	0.014		
2.0	0.601	10.2	0.076	29.5	0.017	50.0	0.056	70.5	0.008		
2.2	0.506	10.4	0.073	30.0	0.032	50.5	0.053	71.0	0.006		



**PREDICTED COVERAGE CONTOURS**  
**WGME-DT - PORTLAND, MAINE**  
**MODIFICATION OF CONSTRUCTION PERMIT**  
**BPCDT-19991028ACC**  
**CH. 38 - 1000.0 kW - 465.0 m HAAT**

48 dBu - Principal Community Contour

41 dBu - Noise Limited Contour

**SUMMARY OF RADIOFREQUENCY  
RADIATION STUDY**  
WGME-DT, PORTLAND, MAINE  
CHANNEL 38, 1000 kW ERP, 465.0 m HAAT  
JUNE, 2005

<u>CALL</u>	<u>SERVICE</u>	<u>CHANNEL</u>	<u>FREQUENCY</u>	<u>POLARIZATION</u>	<u>ANTENNA HEIGHT ** mAGL</u>	<u>ERP (kW)</u>	<u>VERT. RELATIVE FIELD FACTOR</u>	<u>PREDICTED POWER DENSITY (mW/cm<sup>2</sup>)</u>	<u>FCC UNCONTROLLED LIMIT (mW/cm<sup>2</sup>)</u>	<u>PERCENT OF UNCONTROLLED LIMIT</u>
WGME-TV	TV	13	213	H	474	295.000	0.300	0.00197	0.200	0.99%
WGME-DT	DT	38	617	H	449	1000.000	0.300	0.01491	0.411	3.62%
WBLM(FM)	FM	275	102.9	H & V	419	100.000	1.000	0.03806	0.200	19.03%
<b>TOTAL PERCENTAGE OF ANSI VALUE=</b>										<b>23.64%</b>

*\*\* The antenna heights indicated above are 2 meters less than the actual antenna heights so that the predicted power densities consider the 2 meter human height allowance.  
This evaluation includes facilities collocated at the site, and facilities located within 315 meters.*