

TECHNICAL EXHIBIT  
APPLICATION FOR MODIFICATION OF  
CONSTRUCTION PERMIT  
FCC FILE NO. BPH-20100426ADR  
FM STATION WBMW  
PAWCATUCK, CONNECTICUT  
CH 293B1 12.5 KW (MAX-DA) 141 M

Technical Narrative

The technical exhibit of which this narrative is part was prepared in support of an application for modification of construction permit for FM station WBMW at Pawcatuck, Connecticut. Station WBMW is currently licensed (BMLH-20020613AAA, Facility ID 55404) to operate on channel 293A (106.5 MHz) at Ledyard, Connecticut with a nondirectional antenna maximum effective radiated power (ERP) of 3.1 kilowatts (kW) and an antenna height above average terrain (HAAT) of 140 meters. In addition, WBMW is authorized by outstanding construction permit (BPH-20100426ADR) to change its city of license to Pawcatuck, Connecticut and to upgrade from Class A to Class B1 status on channel 293 with a directional antenna (DA) maximum ERP of 12 kW and an HAAT of 144 meters. The purpose of this instant modification application is to change WBMW's transmitter site and operate on channel 293B1 with a DA maximum ERP of 12.5 kW and an HAAT of 141 meters.<sup>1</sup> No other changes are proposed. The instant application is considered a "minor" change in facilities in accordance with Section 73.3573(a)(1)(i) and 73.3573(g).

Section 73.215 Processing

Processing under Section 73.215 is requested with respect to short-spacings with WWKX on channel 292A at Woonsocket, Rhode Island and WMJX on channel 294B at Boston, Massachusetts as detailed below.

Paragraph 12 - Directional Antenna Relative Field Values

Figure 5 is a graph of the horizontal plane relative field pattern for the proposed WBMW hypothetical directional antenna.

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<sup>1</sup> These are equivalent maximum Class B1 facilities pursuant to Section 73.211(b)(2). The WBMW HAAT was calculated using a 3-second terrain database and 8 standard radials.

#### Response to Paragraph 14 - Community Coverage

Figure 6 is a map which demonstrates that the proposed WBMW operation complies with the provisions of Section 73.315 and provides the entire community of Pawcatuck, Connecticut with a 70-dBu signal.

#### Response to Paragraph 16 - Interference

Figure 1 is a separation study from the proposed transmitter site coordinates. As shown, the proposed transmitter site complies with the minimum distance separation requirements of Section 73.207 for Class B1 operation on channel 293 towards all existing, authorized and proposed stations and allotments, with the exceptions of the licensed operations of WWKX on channel 292A at Woonsocket, Rhode Island and WMJX on channel 294B at Boston, Massachusetts. Therefore, it is proposed to utilize the contour protection provisions of Section 73.215 with respect to these short-spacings.

Figure 2, Sheets 1 and 2, demonstrate that the proposed WBMW operation on channel 293B1 at Pawcatuck complies with the contour protection provisions of Section 73.215 with respect to the licensed operations of WWKX and WMJX.<sup>2</sup>

#### Determination of Contour Locations

All contour locations were based on the use of the U.S. Geological Survey (U.S.G.S.) National Elevation Dataset (NED), 3-second terrain database. The NED dataset is a high-resolution terrain dataset, which essentially replicates the terrain averages that would be obtained using the U.S.G.S. Topographic Quadrangle Maps that are referenced in Section 73.312 of the FCC Rules.<sup>3</sup> The terrain data is native at 1 arc-second of resolution and was extracted at 3 arc-second intervals. Linear interpolation was employed in deriving the

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<sup>2</sup> The distance between the proposed WBMW transmitter site and the WWKX and WMJX transmitter sites complies with the minimum distance separation requirement of Section 73.215(e).

<sup>3</sup> The USGS National Elevation Dataset (NED) has been developed by merging the highest-resolution, best quality elevation data available across the United States into a seamless raster format. See <http://ned.usgs.gov/>.

terrain elevations at intermediate points along a radial. Figures 3A, 3B and 3C provide the 3-second terrain data and contour distances for WBMW, WMJZ and WWKX, respectively.

Response to Paragraph 17 - Environmental Considerations

The proposed WBMW facilities were evaluated in terms of potential radiofrequency radiation exposure at 2 meters above ground level in accordance with OST Bulletin No. 65, "Evaluating Compliance With FCC-Specified Guidelines for Human Exposure to Radiofrequency Radiation". This Bulletin provides assistance in determining whether FCC-regulated transmitting facilities, operations or devices comply with limits for human exposure to radiofrequency (RF) electromagnetic fields.

A Dielectric model DCR-H4E, 4-bay, 0.5 wavelength spaced directional antenna will be side-mounted at the 191 meter level on the supporting structure. As shown on Figure 4, attached, the maximum vertical plane relative field for depression angles towards the tower base ( $-60^{\circ}$  to  $-90^{\circ}$  elevation) is less than 0.10. Therefore using a "conservative" vertical relative field value of 0.10, a total ERP of 25 kW (horizontal plus vertical) and an antenna center of radiation height above the ground level of 191 meters, the calculated power density at 2 meters above the base of the tower is 0.00084 milliwatt per square centimeter ( $\text{mW}/\text{cm}^2$ ), or 0.42 percent of the Commission's recommended limit for a "uncontrolled" exposure areas ( $0.2 \text{ mW}/\text{cm}^2$  for FM frequencies). Therefore, based on the responsibility threshold of 5%, the proposal will comply with the RF emission rules.

Access to the transmitting site will be restricted and appropriately marked with warning signs. Furthermore, procedures will be in effect in the event that workers or other authorized personnel enter the restricted area or climb the tower to ensure worker safety with respect to radio frequency radiation exposure. Such measures include reducing the average exposure by spreading out the work over a longer period of time, wearing "accepted" RFR protective clothing and/or RFR exposure monitors or scheduling work when the stations are at reduced power or shut down.

Finally, it is noted that this technical exhibit only addresses the potential for radiofrequency electromagnetic field exposure.

If there are any questions, or additional information is required, please contact the office of the undersigned.



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**SECTION 73.207 SEPARATION STUDY - PROPOSED WBMW, CH 293B1, PAWCATUCK, CT**

**Channel:** 293    **Coordinates:** 041-26-04 072-00-07 (NAD 27)  
**Class:** B1    **Buffer Distance:** 30 km

**Date:** 05/21/2012  
**Page:** 1 of 1

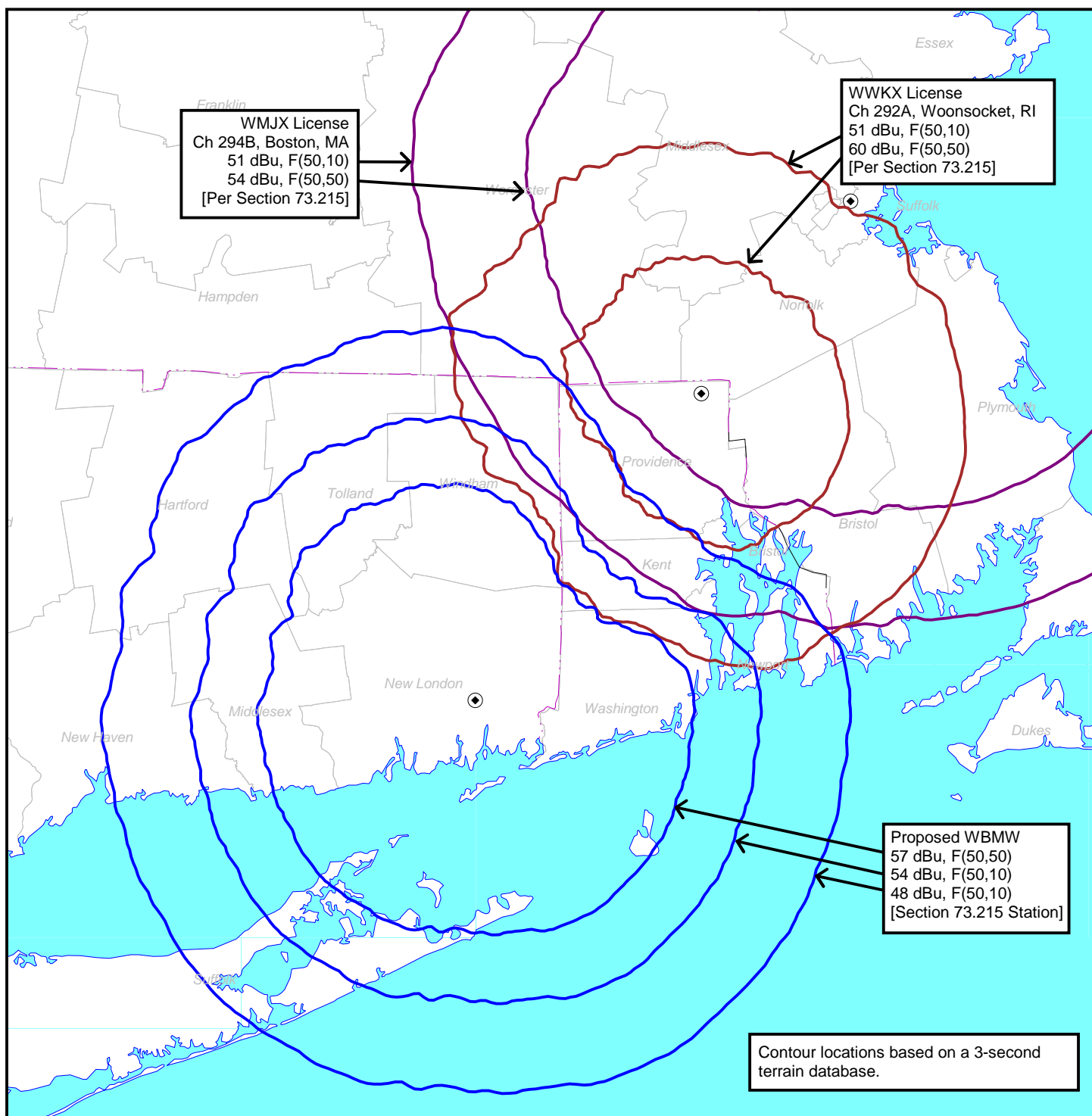
<i>Callsign</i>	<i>Status</i>	<i>Chan.</i>	<i>Serv.</i>	<i>Freq.</i>	<i>City</i>			<i>State</i>	<i>Latitude</i>	<i>Dist.(km)</i>	<i>Sep.(km)</i>	<i>Spacing(km)</i>
<i>Fac. ID</i>	<i>ARN</i>			<i>Class</i>	<i>DA</i>	<i>Ant. ID</i>	<i>ERP(kW)</i>	<i>HAAT(m)</i>	<i>Longitude</i>	<i>Bear.(deg)</i>	<i>73.215</i>	<i>Comment</i>
<i>WHCN</i>	LIC	290	FM	105.9	HARTFORD			CT	041-33-47	71.83	71	0.83
72144	BLH 19890323KA			B	D	13946	16	264	072-50-42	281.79	<b>65 N</b>	<b>CLOSE</b>
<i>WXHQ-LP</i>	LIC	290	FL	105.9	NEWPORT			RI	041-29-06	58.18	46	12.18
123581	BMLL 20020821ABV			L1	N		0.05	42.32	071-18-32	84.21		<b>CLEAR</b>
<i>WWKX</i>	LIC	292	FM	106.3	WOONSOCKET			RI	041-59-43	77.48	96	-18.52
65198	BLH 19921228KB			A	N		1.15	158	071-26-54	36.2	<b>72 N</b>	<b>SHORT<sup>1</sup></b>
<i>WEIB</i>	LIC	292	FM	106.3	NORTHAMPTON			MA	042-22-25	118.28	96	22.28
14771	BLH 19980318KB			A	N		3	88	072-40-26	332.19	<b>72 N</b>	<b>CLEAR</b>
<i>WBMW</i>	CP	293	FM	106.5	PAWCATUCK			CT	041-27-35	6.8	175	-168.2
55404	BPH 20100426ADR			B1	D	99142	12	144	071-55-40	65.52	<b>143 Y</b>	<b>SHORT<sup>2</sup></b>
<i>WBMW</i>	LIC	293	FM	106.5	LEDYARD			CT	041-27-43	3.57	143	-139.43
55404	BMLH 20020613AAA			A	N		3.1	140	072-01-27	328.8	<b>119 N</b>	<b>SHORT<sup>3</sup></b>
<i>WPYX</i>	LIC	293	FM	106.5	ALBANY			NY	042-38-09	212.65	211	1.65
73911	BMLH 20101012ADP			B	N		15.5	275	074-00-05	309.64	<b>178 N</b>	<b>CLOSE</b>
<i>WMJX</i>	LIC	294	FM	106.7	BOSTON			MA	042-20-50	126.86	145	-18.14
25052	BLH 19911018KC			B	N		21.5	235	071-04-59	36.54	<b>114 N</b>	<b>SHORT<sup>1</sup></b>
<i>WCCC-FM</i>	LIC	295	FM	106.9	HARTFORD			CT	041-47-48	77.58	71	6.58
25072	BLH 20010911AAC			B	N		23	221	072-47-52	301.6	<b>65 N</b>	<b>CLOSE</b>

<sup>1</sup> It is proposed to utilize Section 73.215 with respect to this short-spacing. See Figure 2. The proposal complies with the minimum distance separations contained in Section 73.215(e).

<sup>2</sup> Current WBMW CP being modified by the instant application.

<sup>3</sup> Licensed WBMW operation.

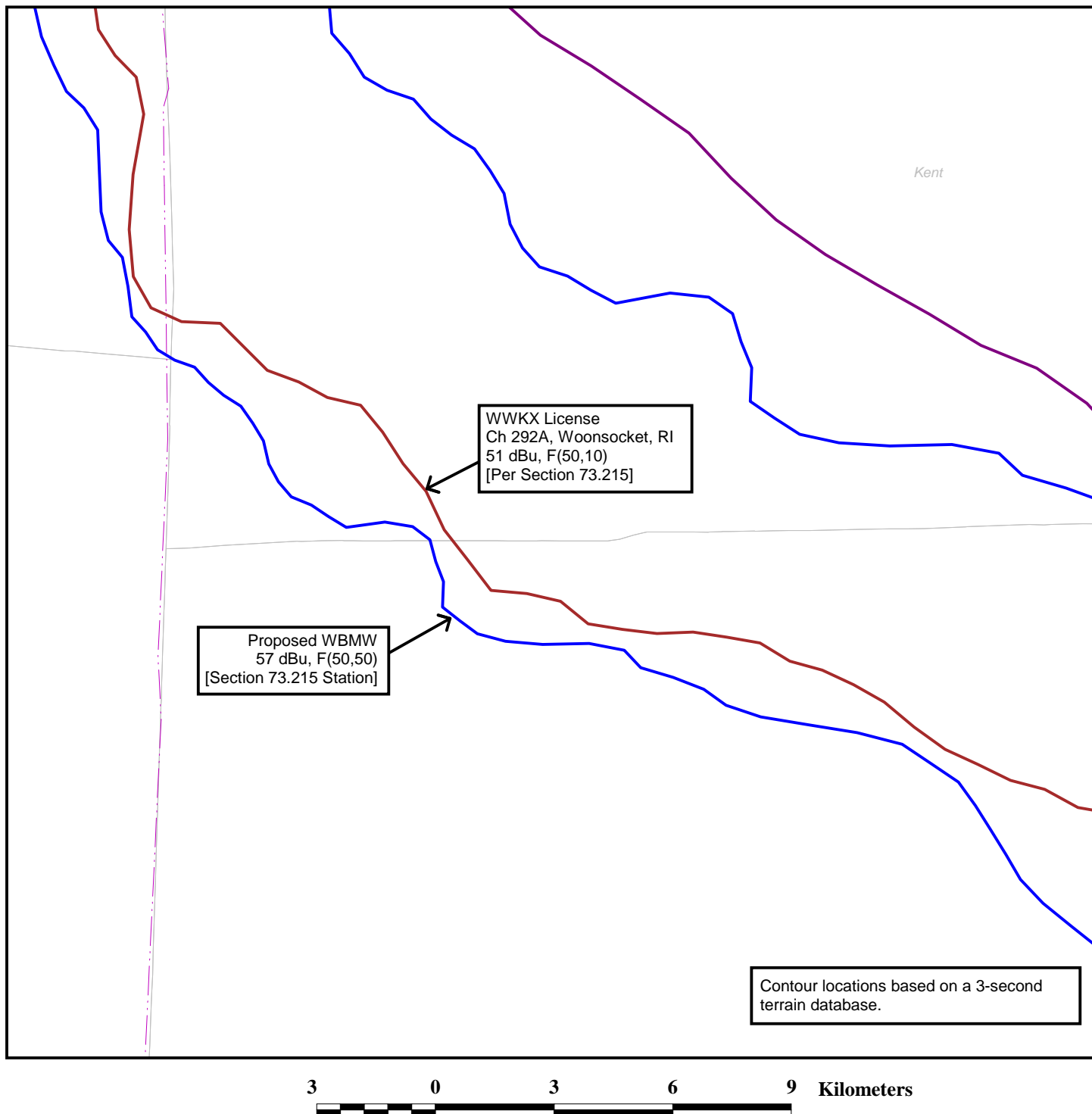
**Figure 2**  
**Sheet 1 of 2**



## COMPLIANCE WITH SECTION 73.215

STATION WBMW  
PAWCATUCK, CONNECTICUT  
CH 293B1 12.5 KW (DA) 141 M

du Treil, Lundin & Rackley, Inc. Sarasota, Florida



## COMPLIANCE WITH SECTION 73.215 [EXPANDED SCALE]

STATION WBMW  
PAWCATUCK, CONNECTICUT  
CH 293B1 12.5 KW (DA) 141 M

du Treil, Lundin & Rackley, Inc. Sarasota, Florida

**Proposed WBMW (12.5 kW/141 m, DA)**

**N41-26-04/W72-00-07**

**RCAMSL 191 M**

**[Note: All terrain elevations are based on the USGS 3-second linearly-interpolated database]**

AZM	TERRAIN	HAAT		ERP		DIST		DIST		DIST
(DEG T)	(M)	(M)	HRF	(KW)	F5010 F.S.	(KM)	F5010 F.S.	(KM)	F5050 F.S.	(KM)
0	62	129	1.000	12.50	48	74.8	54	56.7	57	43.2
1	63	128	0.985	12.13	48	74.2	54	56.2	57	42.8
2	62	129	0.970	11.77	48	73.9	54	56.0	57	42.7
3	59	132	0.955	11.41	48	73.9	54	56.0	57	42.8
4	59	132	0.940	11.05	48	73.5	54	55.7	57	42.5
5	60	131	0.926	10.71	48	72.8	54	55.1	57	42.1
6	62	129	0.911	10.36	48	72.1	54	54.5	57	41.6
7	63	128	0.896	10.03	48	71.5	54	54.1	57	41.2
8	64	127	0.881	9.70	48	70.9	54	53.5	57	40.8
9	62	129	0.866	9.37	48	70.7	54	53.5	57	40.8
10	58	133	0.851	9.05	48	70.8	54	53.5	57	41.0
11	57	134	0.834	8.69	48	70.4	54	53.2	57	40.8
12	60	131	0.817	8.34	48	69.4	54	52.4	57	40.1
13	63	128	0.800	7.99	48	68.2	54	51.4	57	39.3
14	64	127	0.783	7.66	48	67.6	54	50.9	57	38.9
15	63	128	0.766	7.32	48	67.1	54	50.6	57	38.7
16	63	128	0.748	7.00	48	66.5	54	50.0	57	38.3
17	62	129	0.731	6.68	48	66.0	54	49.6	57	38.0
18	65	126	0.714	6.38	48	65.0	54	48.8	57	37.4
19	66	125	0.697	6.07	48	64.0	54	48.0	57	36.8
20	67	124	0.680	5.78	48	63.2	54	47.3	57	36.3
21	69	122	0.666	5.55	48	62.5	54	46.7	57	35.8
22	68	123	0.652	5.32	48	62.0	54	46.3	57	35.5
23	66	125	0.639	5.10	48	61.8	54	46.1	57	35.4
24	66	125	0.625	4.88	48	61.2	54	45.6	57	35.0
25	70	121	0.611	4.67	48	60.1	54	44.6	57	34.2
26	72	119	0.597	4.46	48	59.3	54	43.9	57	33.7
27	72	119	0.583	4.25	48	58.7	54	43.3	57	33.3
28	70	121	0.570	4.06	48	58.4	54	43.1	57	33.1
29	70	121	0.556	3.86	48	57.9	54	42.7	57	32.8
30	74	117	0.542	3.67	48	56.7	54	41.6	57	31.9
31	79	112	0.533	3.55	48	55.6	54	40.5	57	31.0
32	81	110	0.523	3.42	48	54.8	54	39.8	57	30.5
33	80	111	0.514	3.30	48	54.5	54	39.5	57	30.3
34	82	109	0.504	3.18	48	53.8	54	38.8	57	29.8
35	85	106	0.495	3.06	48	52.9	54	38.0	57	29.2
36	86	105	0.495	3.06	48	52.8	54	37.8	57	29.1
37	87	104	0.495	3.06	48	52.5	54	37.6	57	28.9
38	87	104	0.495	3.06	48	52.6	54	37.7	57	29.0
39	85	106	0.495	3.06	48	52.8	54	37.9	57	29.2
40	86	105	0.495	3.06	48	52.7	54	37.8	57	29.1
41	88	103	0.506	3.19	48	52.8	54	37.8	57	29.1
42	89	102	0.516	3.33	48	53.0	54	38.0	57	29.2
43	92	99	0.527	3.47	48	53.0	54	37.8	57	29.1
44	95	96	0.537	3.60	48	52.9	54	37.7	57	28.9
45	99	92	0.548	3.75	48	52.5	54	37.2	57	28.6
46	101	90	0.558	3.89	48	52.4	54	37.0	57	28.5
47	103	88	0.569	4.04	48	52.5	54	37.0	57	28.4
48	103	88	0.579	4.19	48	52.9	54	37.4	57	28.7



AZM (DEG T)	TERRAIN (M)	HAAT (M)	HRF	ERP (KW)	F5010 F.S.	DIST (KM)	F5010 F.S.	DIST (KM)	F5050 F.S.	DIST (KM)
49	104	87	0.590	4.34	48	53.2	54	37.6	57	28.8
50	104	87	0.600	4.50	48	53.6	54	37.8	57	29.0
51	101	90	0.614	4.71	48	54.8	54	39.1	57	29.8
52	100	91	0.628	4.93	48	55.6	54	39.8	57	30.3
53	101	90	0.642	5.15	48	55.9	54	40.0	57	30.4
54	104	87	0.656	5.38	48	55.8	54	39.7	57	30.2
55	106	85	0.670	5.61	48	55.7	54	39.6	57	30.1
56	110	81	0.684	5.85	48	55.4	54	39.1	57	29.7
57	111	80	0.698	6.09	48	55.7	54	39.4	57	29.9
58	111	80	0.712	6.34	48	56.1	54	39.7	57	30.1
59	110	81	0.726	6.59	48	56.9	54	40.4	57	30.6
60	107	84	0.740	6.85	48	58.0	54	41.5	57	31.4
61	104	87	0.758	7.18	48	59.3	54	42.9	57	32.4
62	102	89	0.776	7.53	48	60.3	54	43.8	57	33.1
63	103	88	0.794	7.88	48	60.7	54	44.1	57	33.3
64	102	89	0.812	8.24	48	61.6	54	44.9	57	33.9
65	100	91	0.830	8.61	48	62.4	54	45.7	57	34.5
66	100	91	0.848	8.99	48	63.0	54	46.2	57	34.8
67	98	93	0.866	9.37	48	64.0	54	47.2	57	35.5
68	94	97	0.884	9.77	48	65.4	54	48.5	57	36.5
69	90	101	0.902	10.17	48	67.0	54	50.0	57	37.6
70	86	105	0.920	10.58	48	68.3	54	51.2	57	38.6
71	83	108	0.928	10.76	48	69.0	54	51.8	57	39.1
72	80	111	0.936	10.95	48	69.7	54	52.4	57	39.6
73	80	111	0.944	11.14	48	70.1	54	52.7	57	39.9
74	79	112	0.952	11.33	48	70.4	54	53.0	57	40.1
75	79	112	0.960	11.52	48	70.8	54	53.3	57	40.3
76	78	113	0.968	11.71	48	71.1	54	53.5	57	40.5
77	76	115	0.976	11.91	48	71.7	54	54.0	57	40.9
78	73	118	0.984	12.10	48	72.5	54	54.7	57	41.5
79	69	122	0.992	12.30	48	73.3	54	55.4	57	42.1
80	65	126	1.000	12.50	48	74.3	54	56.3	57	42.8
81	60	131	1.000	12.50	48	75.1	54	56.9	57	43.4
82	58	133	1.000	12.50	48	75.4	54	57.3	57	43.7
83	57	134	1.000	12.50	48	75.6	54	57.4	57	43.8
84	56	135	1.000	12.50	48	75.7	54	57.5	57	44.0
85	55	136	1.000	12.50	48	75.9	54	57.7	57	44.1
86	54	137	1.000	12.50	48	76.0	54	57.8	57	44.2
87	53	138	1.000	12.50	48	76.1	54	57.9	57	44.3
88	52	139	1.000	12.50	48	76.4	54	58.2	57	44.6
89	51	140	1.000	12.50	48	76.5	54	58.2	57	44.6
90	52	139	1.000	12.50	48	76.4	54	58.2	57	44.5
91	51	140	1.000	12.50	48	76.6	54	58.3	57	44.7
92	50	141	1.000	12.50	48	76.7	54	58.4	57	44.8
93	50	141	1.000	12.50	48	76.7	54	58.5	57	44.8
94	51	140	1.000	12.50	48	76.5	54	58.3	57	44.6
95	53	138	1.000	12.50	48	76.2	54	58.0	57	44.4
96	53	138	1.000	12.50	48	76.3	54	58.0	57	44.4
97	51	140	1.000	12.50	48	76.5	54	58.3	57	44.7
98	49	142	1.000	12.50	48	76.8	54	58.5	57	44.9
99	50	141	1.000	12.50	48	76.7	54	58.5	57	44.8
100	51	140	1.000	12.50	48	76.6	54	58.3	57	44.7
101	51	140	1.000	12.50	48	76.5	54	58.2	57	44.6

AZM (DEG T)	TERRAIN (M)	HAAT (M)	HRF	ERP (KW)	F5010 F.S.	DIST (KM)	F5010 F.S.	DIST (KM)	F5050 F.S.	DIST (KM)
102	51	140	1.000	12.50	48	76.5	54	58.2	57	44.6
103	49	142	1.000	12.50	48	76.8	54	58.5	57	44.9
104	48	143	1.000	12.50	48	77.0	54	58.7	57	45.1
105	47	144	1.000	12.50	48	77.2	54	58.9	57	45.2
106	45	146	1.000	12.50	48	77.4	54	59.1	57	45.4
107	44	147	1.000	12.50	48	77.6	54	59.3	57	45.6
108	43	148	1.000	12.50	48	77.7	54	59.4	57	45.7
109	44	147	1.000	12.50	48	77.6	54	59.3	57	45.6
110	43	148	1.000	12.50	48	77.7	54	59.4	57	45.7
111	44	147	1.000	12.50	48	77.6	54	59.3	57	45.6
112	42	149	1.000	12.50	48	77.8	54	59.5	57	45.8
113	42	149	1.000	12.50	48	77.9	54	59.6	57	45.9
114	42	149	1.000	12.50	48	77.8	54	59.5	57	45.8
115	42	149	1.000	12.50	48	77.9	54	59.6	57	45.8
116	43	148	1.000	12.50	48	77.8	54	59.5	57	45.8
117	40	151	1.000	12.50	48	78.1	54	59.8	57	46.1
118	38	153	1.000	12.50	48	78.4	54	60.1	57	46.3
119	38	153	1.000	12.50	48	78.5	54	60.2	57	46.4
120	35	156	1.000	12.50	48	78.9	54	60.5	57	46.7
121	35	156	1.000	12.50	48	79.0	54	60.7	57	46.8
122	34	157	1.000	12.50	48	79.0	54	60.7	57	46.9
123	34	157	1.000	12.50	48	79.0	54	60.7	57	46.8
124	32	159	1.000	12.50	48	79.3	54	61.0	57	47.1
125	31	160	1.000	12.50	48	79.5	54	61.2	57	47.3
126	29	162	1.000	12.50	48	79.7	54	61.4	57	47.5
127	30	161	1.000	12.50	48	79.7	54	61.4	57	47.4
128	31	160	1.000	12.50	48	79.6	54	61.2	57	47.3
129	30	161	1.000	12.50	48	79.7	54	61.3	57	47.4
130	29	162	1.000	12.50	48	79.7	54	61.4	57	47.5
131	28	163	1.000	12.50	48	79.9	54	61.6	57	47.6
132	26	165	1.000	12.50	48	80.2	54	61.9	57	47.8
133	26	165	1.000	12.50	48	80.2	54	61.9	57	47.8
134	26	165	1.000	12.50	48	80.2	54	61.9	57	47.9
135	25	166	1.000	12.50	48	80.3	54	62.0	57	47.9
136	24	167	1.000	12.50	48	80.4	54	62.1	57	48.0
137	24	167	1.000	12.50	48	80.5	54	62.2	57	48.1
138	24	167	1.000	12.50	48	80.5	54	62.2	57	48.1
139	24	167	1.000	12.50	48	80.5	54	62.2	57	48.1
140	23	168	1.000	12.50	48	80.6	54	62.3	57	48.2
141	22	169	1.000	12.50	48	80.8	54	62.5	57	48.3
142	21	170	1.000	12.50	48	80.9	54	62.6	57	48.4
143	20	171	1.000	12.50	48	81.0	54	62.7	57	48.5
144	19	172	1.000	12.50	48	81.1	54	62.8	57	48.6
145	17	174	1.000	12.50	48	81.4	54	63.1	57	48.8
146	15	176	1.000	12.50	48	81.6	54	63.4	57	49.0
147	14	177	1.000	12.50	48	81.8	54	63.5	57	49.1
148	13	178	1.000	12.50	48	81.9	54	63.6	57	49.2
149	13	178	1.000	12.50	48	81.9	54	63.6	57	49.2
150	12	179	1.000	12.50	48	82.1	54	63.8	57	49.3
151	11	180	1.000	12.50	48	82.2	54	63.9	57	49.4
152	12	179	1.000	12.50	48	82.0	54	63.7	57	49.3
153	13	178	1.000	12.50	48	81.9	54	63.6	57	49.2
154	13	178	1.000	12.50	48	81.9	54	63.6	57	49.2

AZM (DEG T)	TERRAIN (M)	HAAT (M)	HRF	ERP (KW)	F5010 F.S.	DIST (KM)	F5010 F.S.	DIST (KM)	F5050 F.S.	DIST (KM)
155	13	178	1.000	12.50	48	81.9	54	63.7	57	49.2
156	13	178	1.000	12.50	48	81.9	54	63.7	57	49.2
157	14	177	1.000	12.50	48	81.8	54	63.6	57	49.2
158	14	177	1.000	12.50	48	81.8	54	63.5	57	49.1
159	14	177	1.000	12.50	48	81.8	54	63.5	57	49.1
160	13	178	1.000	12.50	48	81.9	54	63.6	57	49.2
161	13	178	1.000	12.50	48	81.9	54	63.6	57	49.2
162	15	176	1.000	12.50	48	81.7	54	63.4	57	49.1
163	15	176	1.000	12.50	48	81.7	54	63.4	57	49.0
164	18	173	1.000	12.50	48	81.3	54	63.1	57	48.8
165	21	170	1.000	12.50	48	80.8	54	62.5	57	48.4
166	25	166	1.000	12.50	48	80.4	54	62.0	57	48.0
167	26	165	1.000	12.50	48	80.3	54	62.0	57	47.9
168	26	165	1.000	12.50	48	80.2	54	61.9	57	47.8
169	27	164	1.000	12.50	48	80.1	54	61.8	57	47.8
170	27	164	1.000	12.50	48	80.0	54	61.7	57	47.7
171	27	164	1.000	12.50	48	80.0	54	61.7	57	47.7
172	28	163	1.000	12.50	48	79.9	54	61.6	57	47.6
173	28	163	1.000	12.50	48	79.9	54	61.6	57	47.6
174	26	165	1.000	12.50	48	80.2	54	61.9	57	47.9
175	26	165	1.000	12.50	48	80.2	54	61.9	57	47.9
176	26	165	1.000	12.50	48	80.2	54	61.9	57	47.8
177	29	162	1.000	12.50	48	79.8	54	61.5	57	47.5
178	32	159	1.000	12.50	48	79.4	54	61.1	57	47.2
179	32	159	1.000	12.50	48	79.4	54	61.1	57	47.2
180	30	161	1.000	12.50	48	79.6	54	61.3	57	47.4
181	30	161	1.000	12.50	48	79.6	54	61.3	57	47.3
182	33	158	1.000	12.50	48	79.2	54	60.9	57	47.0
183	35	156	1.000	12.50	48	78.9	54	60.5	57	46.7
184	37	154	1.000	12.50	48	78.7	54	60.3	57	46.5
185	37	154	1.000	12.50	48	78.6	54	60.3	57	46.4
186	36	155	1.000	12.50	48	78.8	54	60.4	57	46.6
187	33	158	1.000	12.50	48	79.3	54	61.0	57	47.1
188	28	163	1.000	12.50	48	79.9	54	61.6	57	47.6
189	27	164	1.000	12.50	48	80.0	54	61.7	57	47.7
190	30	161	1.000	12.50	48	79.6	54	61.3	57	47.3
191	34	157	1.000	12.50	48	79.0	54	60.7	57	46.9
192	32	159	1.000	12.50	48	79.3	54	61.0	57	47.1
193	28	163	1.000	12.50	48	79.9	54	61.6	57	47.6
194	25	166	1.000	12.50	48	80.4	54	62.1	57	48.0
195	22	169	1.000	12.50	48	80.8	54	62.5	57	48.3
196	20	171	1.000	12.50	48	81.0	54	62.7	57	48.5
197	20	171	1.000	12.50	48	81.0	54	62.7	57	48.5
198	21	170	1.000	12.50	48	80.9	54	62.6	57	48.4
199	22	169	1.000	12.50	48	80.7	54	62.4	57	48.3
200	22	169	1.000	12.50	48	80.7	54	62.4	57	48.3
201	22	169	1.000	12.50	48	80.7	54	62.4	57	48.3
202	22	169	1.000	12.50	48	80.7	54	62.4	57	48.3
203	22	169	1.000	12.50	48	80.8	54	62.5	57	48.3
204	22	169	1.000	12.50	48	80.8	54	62.5	57	48.4
205	23	168	1.000	12.50	48	80.7	54	62.3	57	48.2
206	25	166	1.000	12.50	48	80.4	54	62.1	57	48.0
207	27	164	1.000	12.50	48	80.0	54	61.7	57	47.7

AZM (DEG T)	TERRAIN (M)	HAAT (M)	HRF	ERP (KW)	F5010 F.S.	DIST (KM)	F5010 F.S.	DIST (KM)	F5050 F.S.	DIST (KM)
208	27	164	1.000	12.50	48	80.1	54	61.7	57	47.7
209	27	164	1.000	12.50	48	80.1	54	61.8	57	47.8
210	27	164	1.000	12.50	48	80.1	54	61.7	57	47.7
211	27	164	1.000	12.50	48	80.1	54	61.8	57	47.7
212	26	165	1.000	12.50	48	80.2	54	61.9	57	47.9
213	25	166	1.000	12.50	48	80.3	54	62.0	57	47.9
214	25	166	1.000	12.50	48	80.3	54	62.0	57	47.9
215	27	164	1.000	12.50	48	80.1	54	61.8	57	47.8
216	27	164	1.000	12.50	48	80.1	54	61.8	57	47.7
217	26	165	1.000	12.50	48	80.1	54	61.8	57	47.8
218	26	165	1.000	12.50	48	80.2	54	61.9	57	47.9
219	26	165	1.000	12.50	48	80.2	54	61.8	57	47.8
220	26	165	1.000	12.50	48	80.3	54	61.9	57	47.9
221	27	164	1.000	12.50	48	80.1	54	61.8	57	47.8
222	27	164	1.000	12.50	48	80.1	54	61.8	57	47.7
223	28	163	1.000	12.50	48	79.9	54	61.6	57	47.6
224	29	162	1.000	12.50	48	79.7	54	61.4	57	47.5
225	31	160	1.000	12.50	48	79.5	54	61.2	57	47.3
226	31	160	1.000	12.50	48	79.4	54	61.1	57	47.2
227	32	159	1.000	12.50	48	79.3	54	61.0	57	47.1
228	32	159	1.000	12.50	48	79.3	54	61.0	57	47.1
229	33	158	1.000	12.50	48	79.2	54	60.9	57	47.0
230	34	157	1.000	12.50	48	79.0	54	60.7	57	46.8
231	36	155	1.000	12.50	48	78.8	54	60.5	57	46.7
232	37	154	1.000	12.50	48	78.7	54	60.4	57	46.5
233	38	153	1.000	12.50	48	78.4	54	60.1	57	46.3
234	41	150	1.000	12.50	48	78.1	54	59.7	57	46.0
235	43	148	1.000	12.50	48	77.8	54	59.5	57	45.7
236	43	148	1.000	12.50	48	77.8	54	59.4	57	45.7
237	43	148	1.000	12.50	48	77.8	54	59.5	57	45.7
238	42	149	1.000	12.50	48	77.9	54	59.6	57	45.8
239	43	148	1.000	12.50	48	77.8	54	59.4	57	45.7
240	45	146	1.000	12.50	48	77.5	54	59.1	57	45.5
241	44	147	1.000	12.50	48	77.6	54	59.3	57	45.6
242	43	148	1.000	12.50	48	77.8	54	59.4	57	45.7
243	44	147	1.000	12.50	48	77.6	54	59.3	57	45.6
244	45	146	1.000	12.50	48	77.4	54	59.1	57	45.4
245	45	146	1.000	12.50	48	77.4	54	59.1	57	45.4
246	46	145	1.000	12.50	48	77.2	54	58.9	57	45.3
247	48	143	1.000	12.50	48	76.9	54	58.7	57	45.0
248	48	143	1.000	12.50	48	76.9	54	58.6	57	45.0
249	50	141	1.000	12.50	48	76.6	54	58.4	57	44.7
250	52	139	1.000	12.50	48	76.4	54	58.1	57	44.5
251	52	139	1.000	12.50	48	76.3	54	58.1	57	44.5
252	52	139	1.000	12.50	48	76.4	54	58.2	57	44.6
253	50	141	1.000	12.50	48	76.7	54	58.5	57	44.8
254	50	141	1.000	12.50	48	76.7	54	58.4	57	44.8
255	52	139	1.000	12.50	48	76.4	54	58.2	57	44.6
256	54	137	1.000	12.50	48	76.1	54	57.9	57	44.3
257	54	137	1.000	12.50	48	76.1	54	57.9	57	44.3
258	53	138	1.000	12.50	48	76.2	54	58.0	57	44.4
259	53	138	1.000	12.50	48	76.3	54	58.0	57	44.4
260	53	138	1.000	12.50	48	76.2	54	57.9	57	44.4

<u>AZM</u> <u>(DEG T)</u>	<u>TERRAIN</u> <u>(M)</u>	<u>HAAT</u> <u>(M)</u>	<u>HRF</u>	<u>ERP</u> <u>(KW)</u>	<u>F5010 F.S.</u>	<u>DIST</u> <u>(KM)</u>	<u>F5010 F.S.</u>	<u>DIST</u> <u>(KM)</u>	<u>F5050 F.S.</u>	<u>DIST</u> <u>(KM)</u>
261	53	138	1.000	12.50	48	76.2	54	58.0	57	44.4
262	53	138	1.000	12.50	48	76.2	54	57.9	57	44.3
263	52	139	1.000	12.50	48	76.4	54	58.1	57	44.5
264	51	140	1.000	12.50	48	76.6	54	58.3	57	44.7
265	52	139	1.000	12.50	48	76.4	54	58.2	57	44.6
266	52	139	1.000	12.50	48	76.4	54	58.2	57	44.6
267	51	140	1.000	12.50	48	76.5	54	58.3	57	44.7
268	52	139	1.000	12.50	48	76.4	54	58.2	57	44.6
269	53	138	1.000	12.50	48	76.2	54	58.0	57	44.4
270	56	135	1.000	12.50	48	75.7	54	57.5	57	43.9
271	61	130	1.000	12.50	48	75.0	54	56.9	57	43.4
272	63	128	1.000	12.50	48	74.6	54	56.5	57	43.0
273	64	127	1.000	12.50	48	74.4	54	56.3	57	42.9
274	65	126	1.000	12.50	48	74.2	54	56.2	57	42.7
275	66	125	1.000	12.50	48	74.1	54	56.1	57	42.6
276	68	123	1.000	12.50	48	73.8	54	55.8	57	42.4
277	70	121	1.000	12.50	48	73.5	54	55.5	57	42.2
278	72	119	1.000	12.50	48	73.0	54	55.2	57	41.8
279	73	118	1.000	12.50	48	72.9	54	55.1	57	41.7
280	71	120	1.000	12.50	48	73.2	54	55.3	57	42.0
281	70	121	1.000	12.50	48	73.4	54	55.5	57	42.1
282	70	121	1.000	12.50	48	73.4	54	55.5	57	42.1
283	69	122	1.000	12.50	48	73.7	54	55.7	57	42.3
284	66	125	1.000	12.50	48	74.2	54	56.1	57	42.7
285	63	128	1.000	12.50	48	74.6	54	56.5	57	43.1
286	61	130	1.000	12.50	48	74.9	54	56.8	57	43.3
287	58	133	1.000	12.50	48	75.4	54	57.2	57	43.7
288	58	133	1.000	12.50	48	75.4	54	57.3	57	43.7
289	61	130	1.000	12.50	48	74.9	54	56.8	57	43.3
290	64	127	1.000	12.50	48	74.5	54	56.4	57	43.0
291	66	125	1.000	12.50	48	74.1	54	56.1	57	42.7
292	68	123	1.000	12.50	48	73.8	54	55.8	57	42.4
293	72	119	1.000	12.50	48	73.0	54	55.2	57	41.8
294	77	114	1.000	12.50	48	72.2	54	54.5	57	41.2
295	78	113	1.000	12.50	48	72.0	54	54.3	57	41.0
296	74	117	1.000	12.50	48	72.8	54	54.9	57	41.6
297	66	125	1.000	12.50	48	74.0	54	56.0	57	42.6
298	62	129	1.000	12.50	48	74.8	54	56.7	57	43.2
299	61	130	1.000	12.50	48	75.0	54	56.9	57	43.4
300	62	129	1.000	12.50	48	74.8	54	56.7	57	43.2
301	59	132	1.000	12.50	48	75.2	54	57.1	57	43.6
302	55	136	1.000	12.50	48	75.9	54	57.7	57	44.1
303	51	140	1.000	12.50	48	76.6	54	58.3	57	44.7
304	49	142	1.000	12.50	48	76.9	54	58.6	57	44.9
305	47	144	1.000	12.50	48	77.1	54	58.8	57	45.2
306	46	145	1.000	12.50	48	77.3	54	59.0	57	45.3
307	46	145	1.000	12.50	48	77.3	54	59.0	57	45.3
308	43	148	1.000	12.50	48	77.7	54	59.4	57	45.7
309	42	149	1.000	12.50	48	77.9	54	59.6	57	45.8
310	37	154	1.000	12.50	48	78.6	54	60.2	57	46.4
311	36	155	1.000	12.50	48	78.7	54	60.4	57	46.6
312	37	154	1.000	12.50	48	78.6	54	60.3	57	46.5
313	42	149	1.000	12.50	48	77.9	54	59.6	57	45.9

AZM (DEG T)	TERRAIN (M)	HAAT (M)	HRF	ERP (KW)	F5010 F.S.	DIST (KM)	F5010 F.S.	DIST (KM)	F5050 F.S.	DIST (KM)
314	46	145	1.000	12.50	48	77.3	54	59.0	57	45.3
315	48	143	1.000	12.50	48	77.0	54	58.7	57	45.1
316	47	144	1.000	12.50	48	77.1	54	58.8	57	45.2
317	47	144	1.000	12.50	48	77.2	54	58.9	57	45.2
318	47	144	1.000	12.50	48	77.2	54	58.9	57	45.2
319	45	146	1.000	12.50	48	77.4	54	59.1	57	45.4
320	45	146	1.000	12.50	48	77.5	54	59.2	57	45.5
321	45	146	1.000	12.50	48	77.5	54	59.2	57	45.5
322	46	145	1.000	12.50	48	77.3	54	59.0	57	45.3
323	47	144	1.000	12.50	48	77.1	54	58.8	57	45.1
324	46	145	1.000	12.50	48	77.4	54	59.1	57	45.4
325	40	151	1.000	12.50	48	78.2	54	59.9	57	46.1
326	37	154	1.000	12.50	48	78.6	54	60.3	57	46.5
327	38	153	1.000	12.50	48	78.5	54	60.2	57	46.4
328	42	149	1.000	12.50	48	77.9	54	59.6	57	45.8
329	42	149	1.000	12.50	48	77.8	54	59.5	57	45.8
330	41	150	1.000	12.50	48	78.0	54	59.7	57	46.0
331	44	147	1.000	12.50	48	77.6	54	59.3	57	45.6
332	46	145	1.000	12.50	48	77.3	54	59.0	57	45.3
333	50	141	1.000	12.50	48	76.6	54	58.3	57	44.7
334	51	140	1.000	12.50	48	76.5	54	58.2	57	44.6
335	51	140	1.000	12.50	48	76.5	54	58.3	57	44.6
336	52	139	1.000	12.50	48	76.4	54	58.2	57	44.5
337	53	138	1.000	12.50	48	76.2	54	58.0	57	44.4
338	53	138	1.000	12.50	48	76.3	54	58.0	57	44.4
339	48	143	1.000	12.50	48	77.0	54	58.7	57	45.1
340	46	145	1.000	12.50	48	77.3	54	59.0	57	45.3
341	47	144	1.000	12.50	48	77.1	54	58.8	57	45.2
342	46	145	1.000	12.50	48	77.3	54	59.0	57	45.3
343	47	144	1.000	12.50	48	77.1	54	58.8	57	45.2
344	49	142	1.000	12.50	48	76.9	54	58.6	57	45.0
345	48	143	1.000	12.50	48	76.9	54	58.7	57	45.0
346	46	145	1.000	12.50	48	77.2	54	58.9	57	45.3
347	48	143	1.000	12.50	48	77.0	54	58.7	57	45.0
348	50	141	1.000	12.50	48	76.7	54	58.4	57	44.8
349	52	139	1.000	12.50	48	76.4	54	58.2	57	44.6
350	56	135	1.000	12.50	48	75.7	54	57.5	57	43.9
351	56	135	1.000	12.50	48	75.7	54	57.5	57	43.9
352	55	136	1.000	12.50	48	75.9	54	57.7	57	44.1
353	55	136	1.000	12.50	48	75.8	54	57.6	57	44.0
354	55	136	1.000	12.50	48	75.9	54	57.7	57	44.1
355	53	138	1.000	12.50	48	76.1	54	57.9	57	44.3
356	55	136	1.000	12.50	48	75.9	54	57.6	57	44.1
357	57	134	1.000	12.50	48	75.6	54	57.4	57	43.9
358	59	132	1.000	12.50	48	75.3	54	57.1	57	43.6
359	60	131	1.000	12.50	48	75.0	54	56.9	57	43.4

WMJX (50 kW/150 m, ND)  
N42-20-50/W71-04-59  
RCAMSL 173 M

[Note: All terrain elevations are based on the USGS 3-second linearly-interpolated database]

AZM (DEG T)	TERRAIN (M)	HAAT (M)	HRF	ERP (KW)	F5010 F.S.	DIST (KM)	F5050 F.S.	DIST (KM)
0	30	143	1	50	51	87.0	54	64.1
1	28	145	1	50	51	87.4	54	64.4
2	27	146	1	50	51	87.5	54	64.6
3	21	152	1	50	51	88.3	54	65.3
4	18	155	1	50	51	88.8	54	65.7
5	15	158	1	50	51	89.1	54	66.0
6	14	159	1	50	51	89.3	54	66.2
7	15	158	1	50	51	89.1	54	66.1
8	17	156	1	50	51	88.9	54	65.9
9	19	154	1	50	51	88.6	54	65.6
10	19	154	1	50	51	88.6	54	65.6
11	22	151	1	50	51	88.2	54	65.2
12	23	150	1	50	51	88.0	54	65.1
13	22	151	1	50	51	88.1	54	65.2
14	23	150	1	50	51	88.1	54	65.1
15	22	151	1	50	51	88.1	54	65.1
16	21	152	1	50	51	88.3	54	65.3
17	20	153	1	50	51	88.5	54	65.5
18	21	152	1	50	51	88.4	54	65.4
19	19	154	1	50	51	88.6	54	65.5
20	19	154	1	50	51	88.6	54	65.6
21	17	156	1	50	51	88.8	54	65.8
22	15	158	1	50	51	89.2	54	66.1
23	14	159	1	50	51	89.3	54	66.2
24	13	160	1	50	51	89.4	54	66.3
25	12	161	1	50	51	89.6	54	66.5
26	13	160	1	50	51	89.5	54	66.4
27	13	160	1	50	51	89.4	54	66.3
28	12	161	1	50	51	89.6	54	66.5
29	12	161	1	50	51	89.6	54	66.5
30	13	160	1	50	51	89.5	54	66.4
31	12	161	1	50	51	89.5	54	66.4
32	9	164	1	50	51	90.0	54	66.9
33	8	165	1	50	51	90.1	54	67.0
34	8	165	1	50	51	90.1	54	67.0
35	7	166	1	50	51	90.2	54	67.0
36	7	166	1	50	51	90.2	54	67.0
37	7	166	1	50	51	90.2	54	67.1
38	6	167	1	50	51	90.4	54	67.2
39	5	168	1	50	51	90.5	54	67.3
40	4	169	1	50	51	90.6	54	67.4
41	4	169	1	50	51	90.7	54	67.5
42	4	169	1	50	51	90.6	54	67.4
43	3	170	1	50	51	90.7	54	67.5
44	2	171	1	50	51	90.8	54	67.6
45	2	171	1	50	51	90.9	54	67.6
46	3	170	1	50	51	90.8	54	67.6
47	3	170	1	50	51	90.7	54	67.5
48	3	170	1	50	51	90.8	54	67.5

<u>AZM</u> <u>(DEG T)</u>	<u>TERRAIN</u> <u>(M)</u>	<u>HAAT</u> <u>(M)</u>	<u>HRF</u>	<u>ERP</u> <u>(KW)</u>	<u>F5010 F.S.</u>	<u>DIST</u> <u>(KM)</u>	<u>F5050 F.S.</u>	<u>DIST</u> <u>(KM)</u>
49	3	170	1	50	51	90.8	54	67.6
50	3	170	1	50	51	90.8	54	67.5
51	4	169	1	50	51	90.7	54	67.5
52	3	170	1	50	51	90.7	54	67.5
53	3	170	1	50	51	90.7	54	67.5
54	3	170	1	50	51	90.7	54	67.5
55	4	169	1	50	51	90.6	54	67.4
56	4	169	1	50	51	90.7	54	67.5
57	3	170	1	50	51	90.8	54	67.5
58	1	172	1	50	51	91.0	54	67.7
59	1	172	1	50	51	91.0	54	67.7
60	1	172	1	50	51	91.0	54	67.7
61	1	172	1	50	51	91.0	54	67.7
62	1	172	1	50	51	91.0	54	67.7
63	2	171	1	50	51	90.9	54	67.6
64	2	171	1	50	51	90.8	54	67.6
65	2	171	1	50	51	90.8	54	67.6
66	2	171	1	50	51	90.9	54	67.6
67	2	171	1	50	51	90.9	54	67.7
68	2	171	1	50	51	90.9	54	67.7
69	2	171	1	50	51	90.9	54	67.7
70	1	172	1	50	51	91.0	54	67.7
71	1	172	1	50	51	91.0	54	67.7
72	1	172	1	50	51	91.0	54	67.7
73	1	172	1	50	51	91.0	54	67.8
74	1	172	1	50	51	91.1	54	67.8
75	1	172	1	50	51	91.1	54	67.8
76	1	172	1	50	51	91.0	54	67.7
77	1	172	1	50	51	91.0	54	67.7
78	1	172	1	50	51	91.0	54	67.8
79	1	172	1	50	51	91.0	54	67.7
80	1	172	1	50	51	91.0	54	67.7
81	1	172	1	50	51	91.0	54	67.7
82	1	172	1	50	51	91.0	54	67.7
83	1	172	1	50	51	91.0	54	67.8
84	1	172	1	50	51	91.1	54	67.8
85	1	172	1	50	51	91.1	54	67.8
86	1	172	1	50	51	91.0	54	67.8
87	1	172	1	50	51	91.1	54	67.8
88	1	172	1	50	51	91.0	54	67.7
89	1	172	1	50	51	91.0	54	67.8
90	1	172	1	50	51	91.1	54	67.8
91	1	172	1	50	51	91.1	54	67.8
92	1	172	1	50	51	91.1	54	67.8
93	1	172	1	50	51	91.1	54	67.8
94	1	172	1	50	51	91.1	54	67.8
95	1	172	1	50	51	91.1	54	67.8
96	1	172	1	50	51	91.1	54	67.8
97	1	172	1	50	51	91.1	54	67.8
98	1	172	1	50	51	91.1	54	67.8
99	1	172	1	50	51	91.0	54	67.8
100	1	172	1	50	51	91.0	54	67.8



AZM (DEG T)	TERRAIN (M)	HAAT (M)	HRF	ERP (KW)	F5010 F.S.	DIST (KM)	F5050 F.S.	DIST (KM)
101	1	172	1	50	51	91.0	54	67.7
102	1	172	1	50	51	91.1	54	67.8
103	1	172	1	50	51	91.0	54	67.7
104	1	172	1	50	51	91.0	54	67.7
105	1	172	1	50	51	91.0	54	67.7
106	2	171	1	50	51	90.8	54	67.6
107	3	170	1	50	51	90.8	54	67.5
108	4	169	1	50	51	90.6	54	67.4
109	2	171	1	50	51	90.8	54	67.6
110	3	170	1	50	51	90.8	54	67.5
111	2	171	1	50	51	90.9	54	67.7
112	2	171	1	50	51	90.8	54	67.6
113	2	171	1	50	51	90.8	54	67.6
114	2	171	1	50	51	90.9	54	67.6
115	2	171	1	50	51	90.9	54	67.6
116	2	171	1	50	51	90.9	54	67.7
117	2	171	1	50	51	90.9	54	67.6
118	2	171	1	50	51	90.9	54	67.6
119	2	171	1	50	51	90.9	54	67.7
120	2	171	1	50	51	90.9	54	67.7
121	1	172	1	50	51	91.0	54	67.7
122	1	172	1	50	51	91.0	54	67.7
123	1	172	1	50	51	91.1	54	67.8
124	1	172	1	50	51	91.0	54	67.8
125	0	173	1	50	51	91.1	54	67.8
126	0	173	1	50	51	91.1	54	67.8
127	1	172	1	50	51	91.0	54	67.8
128	0	173	1	50	51	91.1	54	67.8
129	1	172	1	50	51	91.1	54	67.8
130	1	172	1	50	51	91.0	54	67.7
131	1	172	1	50	51	91.0	54	67.7
132	2	171	1	50	51	90.9	54	67.6
133	3	170	1	50	51	90.8	54	67.5
134	3	170	1	50	51	90.8	54	67.6
135	2	171	1	50	51	90.8	54	67.6
136	3	170	1	50	51	90.8	54	67.6
137	2	171	1	50	51	90.8	54	67.6
138	2	171	1	50	51	90.9	54	67.6
139	2	171	1	50	51	90.9	54	67.7
140	1	172	1	50	51	91.0	54	67.7
141	2	171	1	50	51	90.9	54	67.6
142	2	171	1	50	51	90.8	54	67.6
143	3	170	1	50	51	90.7	54	67.5
144	5	168	1	50	51	90.5	54	67.3
145	7	166	1	50	51	90.3	54	67.1
146	6	167	1	50	51	90.3	54	67.2
147	7	166	1	50	51	90.2	54	67.0
148	8	165	1	50	51	90.1	54	67.0
149	9	164	1	50	51	90.0	54	66.8
150	11	162	1	50	51	89.6	54	66.5
151	12	161	1	50	51	89.5	54	66.4
152	13	160	1	50	51	89.5	54	66.4
153	13	160	1	50	51	89.4	54	66.3

AZM (DEG T)	TERRAIN (M)	HAAT (M)	HRF	ERP (KW)	F5010 F.S.	DIST (KM)	F5050 F.S.	DIST (KM)
154	13	160	1	50	51	89.5	54	66.4
155	14	159	1	50	51	89.3	54	66.3
156	15	158	1	50	51	89.2	54	66.1
157	15	158	1	50	51	89.1	54	66.1
158	17	156	1	50	51	88.9	54	65.9
159	19	154	1	50	51	88.6	54	65.6
160	20	153	1	50	51	88.4	54	65.4
161	21	152	1	50	51	88.3	54	65.3
162	23	150	1	50	51	88.0	54	65.0
163	24	149	1	50	51	87.9	54	65.0
164	27	146	1	50	51	87.5	54	64.5
165	28	145	1	50	51	87.3	54	64.4
166	30	143	1	50	51	87.1	54	64.1
167	30	143	1	50	51	87.0	54	64.0
168	32	141	1	50	51	86.8	54	63.9
169	32	141	1	50	51	86.7	54	63.8
170	34	139	1	50	51	86.4	54	63.4
171	40	133	1	50	51	85.6	54	62.7
172	41	132	1	50	51	85.5	54	62.5
173	42	131	1	50	51	85.2	54	62.3
174	41	132	1	50	51	85.5	54	62.5
175	34	139	1	50	51	86.4	54	63.5
176	33	140	1	50	51	86.6	54	63.7
177	36	137	1	50	51	86.2	54	63.2
178	37	136	1	50	51	86.0	54	63.0
179	36	137	1	50	51	86.2	54	63.2
180	34	139	1	50	51	86.4	54	63.5
181	34	139	1	50	51	86.5	54	63.6
182	32	141	1	50	51	86.8	54	63.8
183	30	143	1	50	51	87.0	54	64.0
184	34	139	1	50	51	86.5	54	63.5
185	37	136	1	50	51	86.0	54	63.0
186	39	134	1	50	51	85.7	54	62.8
187	40	133	1	50	51	85.6	54	62.7
188	42	131	1	50	51	85.3	54	62.3
189	45	128	1	50	51	84.8	54	61.8
190	46	127	1	50	51	84.6	54	61.7
191	42	131	1	50	51	85.3	54	62.3
192	38	135	1	50	51	85.9	54	62.9
193	36	137	1	50	51	86.1	54	63.2
194	32	141	1	50	51	86.7	54	63.8
195	28	145	1	50	51	87.3	54	64.3
196	25	148	1	50	51	87.7	54	64.7
197	23	150	1	50	51	88.0	54	65.0
198	21	152	1	50	51	88.3	54	65.3
199	20	153	1	50	51	88.5	54	65.5
200	18	155	1	50	51	88.7	54	65.7
201	19	154	1	50	51	88.6	54	65.6
202	20	153	1	50	51	88.4	54	65.4
203	24	149	1	50	51	87.9	54	64.9
204	29	144	1	50	51	87.2	54	64.3
205	31	142	1	50	51	86.9	54	64.0
206	30	143	1	50	51	87.0	54	64.0

AZM (DEG T)	TERRAIN (M)	HAAT (M)	HRF	ERP (KW)	F5010 F.S.	DIST (KM)	F5050 F.S.	DIST (KM)
207	31	142	1	50	51	86.9	54	63.9
208	32	141	1	50	51	86.8	54	63.9
209	32	141	1	50	51	86.8	54	63.8
210	33	140	1	50	51	86.6	54	63.6
211	35	138	1	50	51	86.3	54	63.3
212	38	135	1	50	51	85.8	54	62.9
213	39	134	1	50	51	85.8	54	62.8
214	39	134	1	50	51	85.7	54	62.8
215	38	135	1	50	51	85.8	54	62.8
216	40	133	1	50	51	85.6	54	62.7
217	39	134	1	50	51	85.7	54	62.7
218	41	132	1	50	51	85.5	54	62.5
219	41	132	1	50	51	85.5	54	62.5
220	42	131	1	50	51	85.3	54	62.3
221	45	128	1	50	51	84.8	54	61.9
222	46	127	1	50	51	84.7	54	61.8
223	46	127	1	50	51	84.6	54	61.7
224	48	125	1	50	51	84.4	54	61.5
225	46	127	1	50	51	84.6	54	61.6
226	44	129	1	50	51	84.9	54	61.9
227	43	130	1	50	51	85.2	54	62.2
228	41	132	1	50	51	85.4	54	62.5
229	39	134	1	50	51	85.7	54	62.7
230	38	135	1	50	51	85.8	54	62.9
231	39	134	1	50	51	85.8	54	62.8
232	40	133	1	50	51	85.6	54	62.6
233	40	133	1	50	51	85.5	54	62.6
234	42	131	1	50	51	85.3	54	62.3
235	45	128	1	50	51	84.9	54	61.9
236	46	127	1	50	51	84.7	54	61.7
237	47	126	1	50	51	84.6	54	61.6
238	48	125	1	50	51	84.4	54	61.4
239	49	124	1	50	51	84.3	54	61.3
240	48	125	1	50	51	84.3	54	61.3
241	48	125	1	50	51	84.3	54	61.4
242	48	125	1	50	51	84.4	54	61.4
243	47	126	1	50	51	84.5	54	61.6
244	46	127	1	50	51	84.6	54	61.7
245	46	127	1	50	51	84.7	54	61.8
246	46	127	1	50	51	84.7	54	61.7
247	44	129	1	50	51	84.9	54	61.9
248	43	130	1	50	51	85.1	54	62.1
249	42	131	1	50	51	85.2	54	62.3
250	43	130	1	50	51	85.2	54	62.2
251	44	129	1	50	51	85.0	54	62.1
252	44	129	1	50	51	84.9	54	61.9
253	46	127	1	50	51	84.6	54	61.7
254	46	127	1	50	51	84.7	54	61.7
255	44	129	1	50	51	85.0	54	62.1
256	40	133	1	50	51	85.5	54	62.6
257	40	133	1	50	51	85.6	54	62.6
258	40	133	1	50	51	85.6	54	62.6
259	42	131	1	50	51	85.3	54	62.3

AZM (DEG T)	TERRAIN (M)	HAAT (M)	HRF	ERP (KW)	F5010 F.S.	DIST (KM)	F5050 F.S.	DIST (KM)
260	41	132	1	50	51	85.5	54	62.5
261	42	131	1	50	51	85.3	54	62.4
262	42	131	1	50	51	85.3	54	62.3
263	42	131	1	50	51	85.4	54	62.4
264	41	132	1	50	51	85.4	54	62.5
265	41	132	1	50	51	85.4	54	62.5
266	39	134	1	50	51	85.8	54	62.8
267	36	137	1	50	51	86.2	54	63.3
268	33	140	1	50	51	86.6	54	63.6
269	31	142	1	50	51	86.8	54	63.9
270	31	142	1	50	51	86.8	54	63.9
271	29	144	1	50	51	87.1	54	64.2
272	24	149	1	50	51	87.8	54	64.9
273	22	151	1	50	51	88.2	54	65.2
274	21	152	1	50	51	88.3	54	65.3
275	20	153	1	50	51	88.5	54	65.5
276	20	153	1	50	51	88.4	54	65.4
277	19	154	1	50	51	88.5	54	65.5
278	19	154	1	50	51	88.6	54	65.6
279	18	155	1	50	51	88.7	54	65.7
280	16	157	1	50	51	88.9	54	65.9
281	14	159	1	50	51	89.3	54	66.2
282	14	159	1	50	51	89.3	54	66.3
283	15	158	1	50	51	89.1	54	66.0
284	18	155	1	50	51	88.8	54	65.7
285	19	154	1	50	51	88.5	54	65.5
286	22	151	1	50	51	88.2	54	65.2
287	23	150	1	50	51	88.1	54	65.1
288	25	148	1	50	51	87.7	54	64.8
289	26	147	1	50	51	87.7	54	64.7
290	27	146	1	50	51	87.5	54	64.5
291	28	145	1	50	51	87.3	54	64.3
292	32	141	1	50	51	86.8	54	63.8
293	35	138	1	50	51	86.3	54	63.3
294	38	135	1	50	51	85.9	54	63.0
295	38	135	1	50	51	85.9	54	62.9
296	37	136	1	50	51	86.0	54	63.0
297	38	135	1	50	51	85.9	54	62.9
298	40	133	1	50	51	85.5	54	62.6
299	41	132	1	50	51	85.5	54	62.5
300	40	133	1	50	51	85.6	54	62.7
301	40	133	1	50	51	85.6	54	62.7
302	40	133	1	50	51	85.5	54	62.5
303	41	132	1	50	51	85.5	54	62.5
304	40	133	1	50	51	85.6	54	62.7
305	38	135	1	50	51	85.8	54	62.9
306	38	135	1	50	51	85.8	54	62.9
307	38	135	1	50	51	85.9	54	63.0
308	37	136	1	50	51	86.0	54	63.0
309	38	135	1	50	51	85.9	54	62.9
310	40	133	1	50	51	85.6	54	62.6
311	41	132	1	50	51	85.5	54	62.5
312	40	133	1	50	51	85.5	54	62.6

AZM (DEG T)	TERRAIN (M)	HAAT (M)	HRF	ERP (KW)	F5010 F.S.	DIST (KM)	F5050 F.S.	DIST (KM)
313	38	135	1	50	51	85.8	54	62.9
314	37	136	1	50	51	86.1	54	63.1
315	36	137	1	50	51	86.2	54	63.3
316	33	140	1	50	51	86.6	54	63.7
317	32	141	1	50	51	86.8	54	63.9
318	30	143	1	50	51	87.0	54	64.1
319	29	144	1	50	51	87.1	54	64.2
320	31	142	1	50	51	86.9	54	64.0
321	34	139	1	50	51	86.5	54	63.6
322	37	136	1	50	51	86.0	54	63.0
323	38	135	1	50	51	85.9	54	63.0
324	35	138	1	50	51	86.3	54	63.3
325	33	140	1	50	51	86.6	54	63.6
326	31	142	1	50	51	86.9	54	63.9
327	29	144	1	50	51	87.2	54	64.3
328	25	148	1	50	51	87.7	54	64.7
329	23	150	1	50	51	88.1	54	65.1
330	18	155	1	50	51	88.8	54	65.7
331	18	155	1	50	51	88.8	54	65.8
332	16	157	1	50	51	89.0	54	66.0
333	16	157	1	50	51	89.0	54	65.9
334	19	154	1	50	51	88.7	54	65.6
335	17	156	1	50	51	88.9	54	65.9
336	17	156	1	50	51	88.9	54	65.8
337	17	156	1	50	51	88.9	54	65.9
338	17	156	1	50	51	88.9	54	65.8
339	18	155	1	50	51	88.8	54	65.8
340	20	153	1	50	51	88.5	54	65.5
341	22	151	1	50	51	88.1	54	65.1
342	25	148	1	50	51	87.8	54	64.8
343	28	145	1	50	51	87.4	54	64.4
344	27	146	1	50	51	87.5	54	64.6
345	26	147	1	50	51	87.6	54	64.7
346	26	147	1	50	51	87.6	54	64.6
347	25	148	1	50	51	87.8	54	64.8
348	25	148	1	50	51	87.7	54	64.8
349	27	146	1	50	51	87.5	54	64.5
350	27	146	1	50	51	87.5	54	64.6
351	30	143	1	50	51	87.1	54	64.1
352	29	144	1	50	51	87.3	54	64.3
353	28	145	1	50	51	87.3	54	64.3
354	28	145	1	50	51	87.3	54	64.3
355	29	144	1	50	51	87.1	54	64.2
356	31	142	1	50	51	86.9	54	63.9
357	33	140	1	50	51	86.6	54	63.7
358	33	140	1	50	51	86.5	54	63.6
359	32	141	1	50	51	86.7	54	63.8

WWKX (6 kW/100 m, ND)

N41-59-43/W71-26-54

RCAMSL 177 M

[Note: All terrain elevations are based on the USGS 3-second linearly-interpolated database]

AZM (DEG T)	TERRAIN (M)	HAAT (M)	HRF	ERP (KW)	F5010 F.S.	DIST (KM)	F5050 F.S.	DIST (KM)
0	81	96	1	6	51	50.8	60	27.8
1	80	97	1	6	51	51.0	60	27.9
2	80	97	1	6	51	51.0	60	27.9
3	80	97	1	6	51	51.0	60	27.9
4	80	97	1	6	51	51.0	60	27.9
5	81	96	1	6	51	50.7	60	27.7
6	83	94	1	6	51	50.4	60	27.5
7	85	92	1	6	51	49.9	60	27.2
8	86	91	1	6	51	49.6	60	27.0
9	87	90	1	6	51	49.5	60	26.9
10	87	90	1	6	51	49.5	60	26.9
11	87	90	1	6	51	49.6	60	27.0
12	86	91	1	6	51	49.8	60	27.1
13	84	93	1	6	51	50.1	60	27.3
14	83	94	1	6	51	50.5	60	27.5
15	81	96	1	6	51	50.7	60	27.7
16	81	96	1	6	51	50.9	60	27.8
17	83	94	1	6	51	50.4	60	27.5
18	83	94	1	6	51	50.4	60	27.5
19	83	94	1	6	51	50.3	60	27.4
20	85	92	1	6	51	50.0	60	27.3
21	87	90	1	6	51	49.5	60	26.9
22	89	88	1	6	51	49.0	60	26.6
23	90	87	1	6	51	48.8	60	26.5
24	88	89	1	6	51	49.3	60	26.8
25	86	91	1	6	51	49.8	60	27.1
26	83	94	1	6	51	50.3	60	27.4
27	85	92	1	6	51	49.9	60	27.2
28	86	91	1	6	51	49.7	60	27.1
29	86	91	1	6	51	49.8	60	27.1
30	86	91	1	6	51	49.7	60	27.1
31	87	90	1	6	51	49.5	60	26.9
32	91	86	1	6	51	48.6	60	26.4
33	94	83	1	6	51	47.8	60	25.9
34	97	80	1	6	51	47.0	60	25.5
35	97	80	1	6	51	46.9	60	25.4
36	98	79	1	6	51	46.9	60	25.4
37	95	82	1	6	51	47.6	60	25.8
38	93	84	1	6	51	48.0	60	26.0
39	94	83	1	6	51	47.8	60	25.9
40	94	83	1	6	51	47.7	60	25.9
41	93	84	1	6	51	48.1	60	26.1
42	89	88	1	6	51	49.1	60	26.7
43	87	90	1	6	51	49.6	60	27.0
44	85	92	1	6	51	50.0	60	27.3
45	82	95	1	6	51	50.5	60	27.6
46	80	97	1	6	51	50.9	60	27.8
47	78	99	1	6	51	51.3	60	28.1
48	77	100	1	6	51	51.5	60	28.2

<u>AZM</u> <u>(DEG T)</u>	<u>TERRAIN</u> <u>(M)</u>	<u>HAAT</u> <u>(M)</u>	<u>HRF</u>	<u>ERP</u> <u>(KW)</u>	<u>F5010 F.S.</u>	<u>DIST</u> <u>(KM)</u>	<u>F5050 F.S.</u>	<u>DIST</u> <u>(KM)</u>
49	76	101	1	6	51	51.8	60	28.4
50	78	99	1	6	51	51.3	60	28.1
51	80	97	1	6	51	51.0	60	27.9
52	80	97	1	6	51	51.0	60	27.9
53	80	97	1	6	51	51.0	60	27.9
54	81	96	1	6	51	50.8	60	27.8
55	82	95	1	6	51	50.6	60	27.6
56	84	93	1	6	51	50.2	60	27.4
57	86	91	1	6	51	49.7	60	27.1
58	88	89	1	6	51	49.3	60	26.8
59	90	87	1	6	51	48.8	60	26.5
60	90	87	1	6	51	48.7	60	26.4
61	90	87	1	6	51	48.8	60	26.5
62	89	88	1	6	51	48.9	60	26.6
63	89	88	1	6	51	49.0	60	26.6
64	86	91	1	6	51	49.6	60	27.0
65	84	93	1	6	51	50.1	60	27.3
66	81	96	1	6	51	50.8	60	27.8
67	78	99	1	6	51	51.4	60	28.2
68	75	102	1	6	51	51.9	60	28.5
69	74	103	1	6	51	52.1	60	28.7
70	74	103	1	6	51	52.2	60	28.7
71	74	103	1	6	51	52.1	60	28.7
72	75	102	1	6	51	51.9	60	28.6
73	76	101	1	6	51	51.7	60	28.4
74	77	100	1	6	51	51.5	60	28.2
75	77	100	1	6	51	51.6	60	28.3
76	77	100	1	6	51	51.6	60	28.3
77	77	100	1	6	51	51.6	60	28.3
78	77	100	1	6	51	51.6	60	28.3
79	77	100	1	6	51	51.7	60	28.4
80	76	101	1	6	51	51.9	60	28.5
81	75	102	1	6	51	51.9	60	28.5
82	75	102	1	6	51	52.0	60	28.6
83	74	103	1	6	51	52.1	60	28.6
84	74	103	1	6	51	52.2	60	28.7
85	72	105	1	6	51	52.4	60	28.9
86	72	105	1	6	51	52.5	60	29.0
87	72	105	1	6	51	52.5	60	29.0
88	72	105	1	6	51	52.6	60	29.0
89	71	106	1	6	51	52.7	60	29.1
90	70	107	1	6	51	52.8	60	29.2
91	69	108	1	6	51	53.0	60	29.3
92	69	108	1	6	51	53.1	60	29.4
93	68	109	1	6	51	53.3	60	29.5
94	67	110	1	6	51	53.4	60	29.6
95	66	111	1	6	51	53.5	60	29.7
96	66	111	1	6	51	53.6	60	29.7
97	64	113	1	6	51	53.8	60	29.9
98	64	113	1	6	51	53.8	60	29.9
99	63	114	1	6	51	54.0	60	30.1
100	61	116	1	6	51	54.3	60	30.3
101	59	118	1	6	51	54.5	60	30.5

Figure 3C  
Sheet 3 of 7

<u>AZM</u> <u>(DEG T)</u>	<u>TERRAIN</u> <u>(M)</u>	<u>HAAT</u> <u>(M)</u>	<u>HRF</u>	<u>ERP</u> <u>(KW)</u>	<u>F5010 F.S.</u>	<u>DIST</u> <u>(KM)</u>	<u>F5050 F.S.</u>	<u>DIST</u> <u>(KM)</u>
102	58	119	1	6	51	54.7	60	30.6
103	57	120	1	6	51	54.9	60	30.7
104	56	121	1	6	51	55.0	60	30.8
105	56	121	1	6	51	55.0	60	30.8
106	56	121	1	6	51	55.1	60	30.9
107	55	122	1	6	51	55.1	60	30.9
108	55	122	1	6	51	55.2	60	30.9
109	55	122	1	6	51	55.1	60	30.9
110	55	122	1	6	51	55.1	60	30.9
111	55	122	1	6	51	55.1	60	30.9
112	55	122	1	6	51	55.2	60	31.0
113	55	122	1	6	51	55.2	60	31.0
114	54	123	1	6	51	55.3	60	31.0
115	54	123	1	6	51	55.4	60	31.1
116	53	124	1	6	51	55.4	60	31.1
117	53	124	1	6	51	55.4	60	31.1
118	53	124	1	6	51	55.5	60	31.2
119	53	124	1	6	51	55.5	60	31.2
120	53	124	1	6	51	55.5	60	31.2
121	52	125	1	6	51	55.6	60	31.3
122	52	125	1	6	51	55.6	60	31.3
123	52	125	1	6	51	55.6	60	31.2
124	51	126	1	6	51	55.7	60	31.4
125	50	127	1	6	51	55.9	60	31.5
126	48	129	1	6	51	56.2	60	31.7
127	46	131	1	6	51	56.4	60	31.9
128	45	132	1	6	51	56.5	60	32.0
129	45	132	1	6	51	56.6	60	32.0
130	44	133	1	6	51	56.7	60	32.1
131	46	131	1	6	51	56.5	60	32.0
132	46	131	1	6	51	56.5	60	32.0
133	46	131	1	6	51	56.4	60	31.9
134	46	131	1	6	51	56.4	60	31.9
135	45	132	1	6	51	56.5	60	32.0
136	45	132	1	6	51	56.6	60	32.1
137	45	132	1	6	51	56.6	60	32.0
138	46	131	1	6	51	56.4	60	31.9
139	47	130	1	6	51	56.2	60	31.8
140	47	130	1	6	51	56.2	60	31.8
141	47	130	1	6	51	56.2	60	31.8
142	47	130	1	6	51	56.3	60	31.8
143	47	130	1	6	51	56.3	60	31.8
144	47	130	1	6	51	56.3	60	31.8
145	47	130	1	6	51	56.3	60	31.8
146	49	128	1	6	51	56.1	60	31.6
147	51	126	1	6	51	55.7	60	31.3
148	53	124	1	6	51	55.4	60	31.1
149	54	123	1	6	51	55.3	60	31.0
150	53	124	1	6	51	55.4	60	31.1
151	53	124	1	6	51	55.5	60	31.2
152	54	123	1	6	51	55.4	60	31.1
153	54	123	1	6	51	55.3	60	31.0
154	53	124	1	6	51	55.5	60	31.2



<u>AZM</u> <u>(DEG T)</u>	<u>TERRAIN</u> <u>(M)</u>	<u>HAAT</u> <u>(M)</u>	<u>HRF</u>	<u>ERP</u> <u>(KW)</u>	<u>F5010 F.S.</u>	<u>DIST</u> <u>(KM)</u>	<u>F5050 F.S.</u>	<u>DIST</u> <u>(KM)</u>
155	49	128	1	6	51	56.0	60	31.5
156	48	129	1	6	51	56.2	60	31.7
157	47	130	1	6	51	56.3	60	31.8
158	43	134	1	6	51	56.9	60	32.2
159	40	137	1	6	51	57.4	60	32.7
160	39	138	1	6	51	57.4	60	32.7
161	41	136	1	6	51	57.2	60	32.5
162	43	134	1	6	51	56.9	60	32.3
163	41	136	1	6	51	57.2	60	32.5
164	41	136	1	6	51	57.2	60	32.5
165	39	138	1	6	51	57.4	60	32.7
166	38	139	1	6	51	57.5	60	32.8
167	39	138	1	6	51	57.4	60	32.7
168	42	135	1	6	51	57.1	60	32.4
169	44	133	1	6	51	56.8	60	32.2
170	48	129	1	6	51	56.2	60	31.7
171	50	127	1	6	51	55.8	60	31.4
172	50	127	1	6	51	55.9	60	31.5
173	51	126	1	6	51	55.7	60	31.3
174	53	124	1	6	51	55.5	60	31.2
175	55	122	1	6	51	55.2	60	30.9
176	58	119	1	6	51	54.7	60	30.6
177	61	116	1	6	51	54.3	60	30.3
178	61	116	1	6	51	54.4	60	30.3
179	62	115	1	6	51	54.2	60	30.2
180	64	113	1	6	51	53.8	60	29.9
181	66	111	1	6	51	53.5	60	29.7
182	68	109	1	6	51	53.2	60	29.5
183	70	107	1	6	51	52.8	60	29.1
184	75	102	1	6	51	51.9	60	28.5
185	79	98	1	6	51	51.2	60	28.0
186	79	98	1	6	51	51.1	60	28.0
187	81	96	1	6	51	50.8	60	27.7
188	82	95	1	6	51	50.7	60	27.7
189	83	94	1	6	51	50.4	60	27.5
190	84	93	1	6	51	50.1	60	27.3
191	86	91	1	6	51	49.7	60	27.1
192	88	89	1	6	51	49.3	60	26.8
193	89	88	1	6	51	49.0	60	26.6
194	90	87	1	6	51	48.8	60	26.5
195	90	87	1	6	51	48.8	60	26.5
196	91	86	1	6	51	48.6	60	26.4
197	91	86	1	6	51	48.7	60	26.4
198	90	87	1	6	51	48.8	60	26.5
199	89	88	1	6	51	49.1	60	26.7
200	88	89	1	6	51	49.3	60	26.8
201	87	90	1	6	51	49.5	60	26.9
202	88	89	1	6	51	49.2	60	26.7
203	88	89	1	6	51	49.3	60	26.8
204	86	91	1	6	51	49.6	60	27.0
205	88	89	1	6	51	49.2	60	26.7
206	90	87	1	6	51	48.7	60	26.5
207	93	84	1	6	51	48.1	60	26.1

Figure 3C  
Sheet 5 of 7

<u>AZM</u> <u>(DEG T)</u>	<u>TERRAIN</u> <u>(M)</u>	<u>HAAT</u> <u>(M)</u>	<u>HRF</u>	<u>ERP</u> <u>(KW)</u>	<u>F5010 F.S.</u>	<u>DIST</u> <u>(KM)</u>	<u>F5050 F.S.</u>	<u>DIST</u> <u>(KM)</u>
208	94	83	1	6	51	47.7	60	25.9
209	96	81	1	6	51	47.3	60	25.6
210	97	80	1	6	51	46.9	60	25.4
211	96	81	1	6	51	47.2	60	25.6
212	96	81	1	6	51	47.2	60	25.6
213	95	82	1	6	51	47.4	60	25.7
214	96	81	1	6	51	47.2	60	25.6
215	97	80	1	6	51	47.1	60	25.5
216	95	82	1	6	51	47.6	60	25.8
217	94	83	1	6	51	47.8	60	25.9
218	95	82	1	6	51	47.4	60	25.7
219	99	78	1	6	51	46.6	60	25.2
220	103	74	1	6	51	45.4	60	24.6
221	107	70	1	6	51	44.1	60	23.9
222	109	68	1	6	51	43.5	60	23.6
223	110	67	1	6	51	43.4	60	23.6
224	110	67	1	6	51	43.3	60	23.5
225	112	65	1	6	51	42.7	60	23.2
226	115	62	1	6	51	41.7	60	22.7
227	118	59	1	6	51	41.0	60	22.3
228	118	59	1	6	51	40.9	60	22.3
229	118	59	1	6	51	40.7	60	22.2
230	118	59	1	6	51	40.9	60	22.3
231	119	58	1	6	51	40.7	60	22.2
232	118	59	1	6	51	40.9	60	22.3
233	117	60	1	6	51	41.3	60	22.5
234	117	60	1	6	51	41.1	60	22.4
235	118	59	1	6	51	40.9	60	22.3
236	118	59	1	6	51	40.9	60	22.3
237	119	58	1	6	51	40.5	60	22.1
238	120	57	1	6	51	40.3	60	22.0
239	120	57	1	6	51	40.3	60	22.0
240	119	58	1	6	51	40.6	60	22.2
241	118	59	1	6	51	41.0	60	22.4
242	116	61	1	6	51	41.5	60	22.6
243	116	61	1	6	51	41.6	60	22.6
244	115	62	1	6	51	41.8	60	22.7
245	113	64	1	6	51	42.5	60	23.1
246	110	67	1	6	51	43.5	60	23.6
247	107	70	1	6	51	44.1	60	23.9
248	104	73	1	6	51	45.0	60	24.4
249	101	76	1	6	51	45.8	60	24.8
250	99	78	1	6	51	46.4	60	25.2
251	99	78	1	6	51	46.5	60	25.2
252	99	78	1	6	51	46.4	60	25.1
253	100	77	1	6	51	46.1	60	25.0
254	101	76	1	6	51	45.9	60	24.9
255	104	73	1	6	51	45.2	60	24.5
256	105	72	1	6	51	44.8	60	24.3
257	103	74	1	6	51	45.4	60	24.6
258	99	78	1	6	51	46.5	60	25.2
259	96	81	1	6	51	47.2	60	25.6
260	95	82	1	6	51	47.4	60	25.7

Figure 3C  
Sheet 6 of 7

<u>AZM</u> <u>(DEG T)</u>	<u>TERRAIN</u> <u>(M)</u>	<u>HAAT</u> <u>(M)</u>	<u>HRF</u>	<u>ERP</u> <u>(KW)</u>	<u>F5010 F.S.</u>	<u>DIST</u> <u>(KM)</u>	<u>F5050 F.S.</u>	<u>DIST</u> <u>(KM)</u>
261	95	82	1	6	51	47.6	60	25.8
262	93	84	1	6	51	48.0	60	26.0
263	92	85	1	6	51	48.4	60	26.3
264	90	87	1	6	51	48.8	60	26.5
265	90	87	1	6	51	48.9	60	26.6
266	90	87	1	6	51	48.8	60	26.5
267	91	86	1	6	51	48.5	60	26.3
268	91	86	1	6	51	48.4	60	26.3
269	89	88	1	6	51	49.0	60	26.6
270	87	90	1	6	51	49.5	60	26.9
271	86	91	1	6	51	49.8	60	27.1
272	85	92	1	6	51	49.9	60	27.2
273	85	92	1	6	51	50.0	60	27.2
274	85	92	1	6	51	50.0	60	27.2
275	84	93	1	6	51	50.1	60	27.3
276	84	93	1	6	51	50.2	60	27.4
277	84	93	1	6	51	50.2	60	27.4
278	84	93	1	6	51	50.2	60	27.4
279	83	94	1	6	51	50.4	60	27.5
280	81	96	1	6	51	50.9	60	27.8
281	78	99	1	6	51	51.3	60	28.1
282	77	100	1	6	51	51.6	60	28.3
283	77	100	1	6	51	51.6	60	28.3
284	77	100	1	6	51	51.6	60	28.3
285	75	102	1	6	51	52.0	60	28.6
286	71	106	1	6	51	52.8	60	29.1
287	67	110	1	6	51	53.3	60	29.5
288	67	110	1	6	51	53.3	60	29.5
289	72	105	1	6	51	52.5	60	29.0
290	74	103	1	6	51	52.0	60	28.6
291	78	99	1	6	51	51.5	60	28.2
292	80	97	1	6	51	50.9	60	27.8
293	84	93	1	6	51	50.1	60	27.3
294	87	90	1	6	51	49.4	60	26.9
295	89	88	1	6	51	48.9	60	26.6
296	91	86	1	6	51	48.6	60	26.4
297	90	87	1	6	51	48.7	60	26.5
298	88	89	1	6	51	49.3	60	26.8
299	85	92	1	6	51	50.0	60	27.2
300	85	92	1	6	51	49.9	60	27.2
301	87	90	1	6	51	49.4	60	26.9
302	88	89	1	6	51	49.2	60	26.8
303	91	86	1	6	51	48.5	60	26.3
304	94	83	1	6	51	47.9	60	26.0
305	95	82	1	6	51	47.6	60	25.8
306	96	81	1	6	51	47.2	60	25.6
307	96	81	1	6	51	47.3	60	25.6
308	96	81	1	6	51	47.4	60	25.7
309	96	81	1	6	51	47.2	60	25.6
310	95	82	1	6	51	47.6	60	25.8
311	93	84	1	6	51	48.2	60	26.1
312	92	85	1	6	51	48.3	60	26.2
313	92	85	1	6	51	48.3	60	26.2

<u>AZM</u> <u>(DEG T)</u>	<u>TERRAIN</u> <u>(M)</u>	<u>HAAT</u> <u>(M)</u>	<u>HRF</u>	<u>ERP</u> <u>(KW)</u>	<u>F5010 F.S.</u>	<u>DIST</u> <u>(KM)</u>	<u>F5050 F.S.</u>	<u>DIST</u> <u>(KM)</u>
314	93	84	1	6	51	48.1	60	26.1
315	95	82	1	6	51	47.6	60	25.8
316	95	82	1	6	51	47.6	60	25.8
317	95	82	1	6	51	47.5	60	25.8
318	95	82	1	6	51	47.6	60	25.8
319	91	86	1	6	51	48.4	60	26.3
320	89	88	1	6	51	49.0	60	26.6
321	88	89	1	6	51	49.2	60	26.8
322	89	88	1	6	51	49.1	60	26.7
323	89	88	1	6	51	48.9	60	26.6
324	86	91	1	6	51	49.8	60	27.1
325	82	95	1	6	51	50.6	60	27.7
326	77	100	1	6	51	51.6	60	28.3
327	74	103	1	6	51	52.2	60	28.7
328	75	102	1	6	51	51.9	60	28.5
329	80	97	1	6	51	51.0	60	27.9
330	83	94	1	6	51	50.3	60	27.5
331	81	96	1	6	51	50.8	60	27.8
332	77	100	1	6	51	51.6	60	28.3
333	76	101	1	6	51	51.8	60	28.4
334	77	100	1	6	51	51.5	60	28.3
335	80	97	1	6	51	51.0	60	27.9
336	83	94	1	6	51	50.4	60	27.5
337	83	94	1	6	51	50.4	60	27.5
338	83	94	1	6	51	50.3	60	27.4
339	81	96	1	6	51	50.7	60	27.7
340	79	98	1	6	51	51.2	60	28.1
341	78	99	1	6	51	51.4	60	28.2
342	79	98	1	6	51	51.2	60	28.0
343	79	98	1	6	51	51.1	60	28.0
344	79	98	1	6	51	51.2	60	28.0
345	78	99	1	6	51	51.5	60	28.2
346	76	101	1	6	51	51.7	60	28.4
347	78	99	1	6	51	51.5	60	28.2
348	78	99	1	6	51	51.3	60	28.1
349	80	97	1	6	51	51.0	60	27.9
350	81	96	1	6	51	50.8	60	27.8
351	81	96	1	6	51	50.8	60	27.8
352	79	98	1	6	51	51.1	60	28.0
353	79	98	1	6	51	51.2	60	28.1
354	81	96	1	6	51	50.9	60	27.8
355	83	94	1	6	51	50.4	60	27.5
356	84	93	1	6	51	50.1	60	27.3
357	84	93	1	6	51	50.1	60	27.3
358	84	93	1	6	51	50.2	60	27.4
359	83	94	1	6	51	50.4	60	27.5

Date

23 May 2012

Call Letters

Channel 293

Location

Customer

Antenna Type

DCR-H4E

## ELEVATION PATTERN

RMS Gain at Main Lobe

1.3 (1.14 dB)

Beam Tilt

0.00 Degrees

RMS Gain at Horizontal

1.3 (1.14 dB)

Frequency

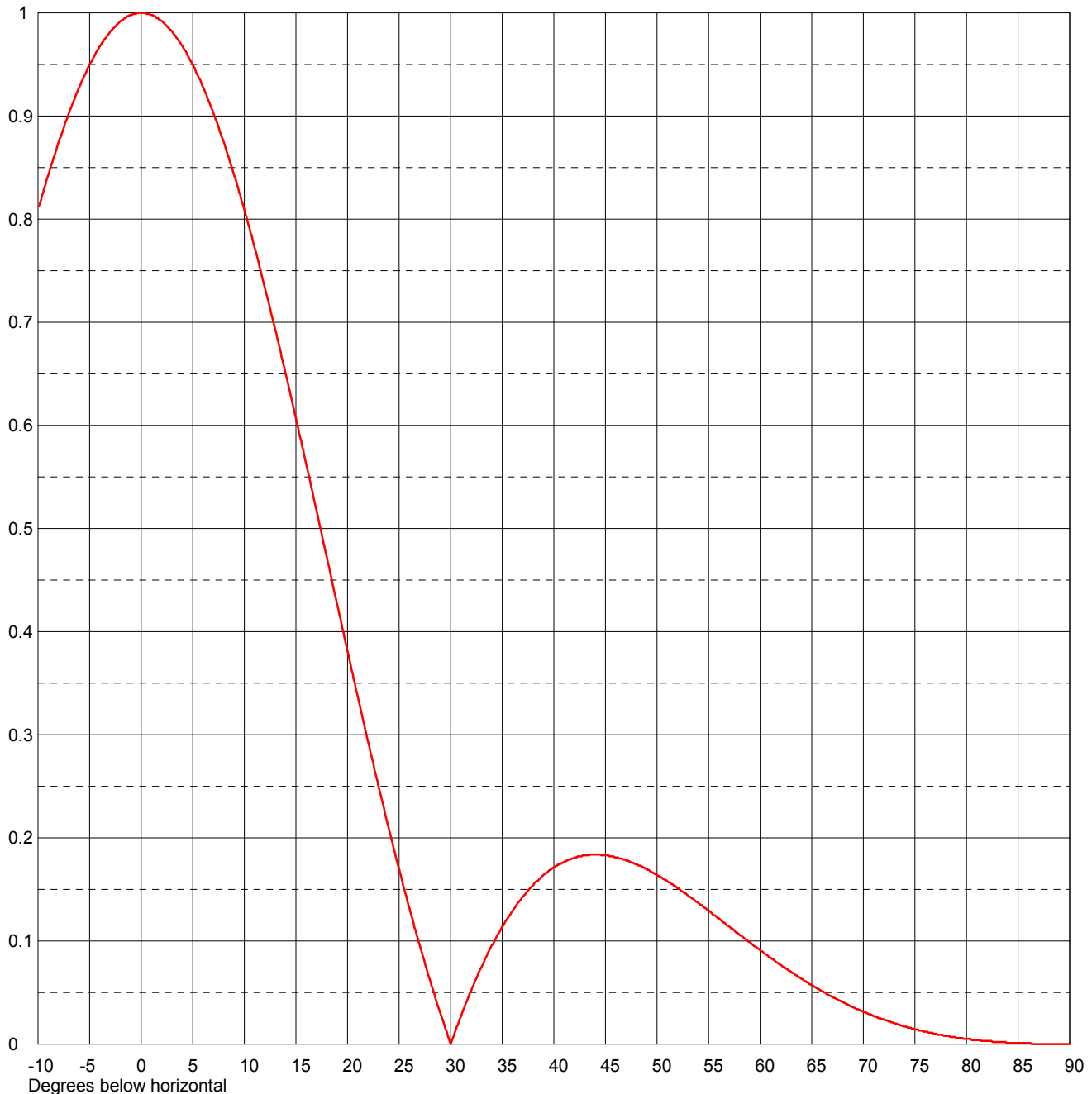
106.50 MHz

Calculated / Measured

Calculated

Drawing #

FE04H5000026000-90



Remarks:

Figure 5

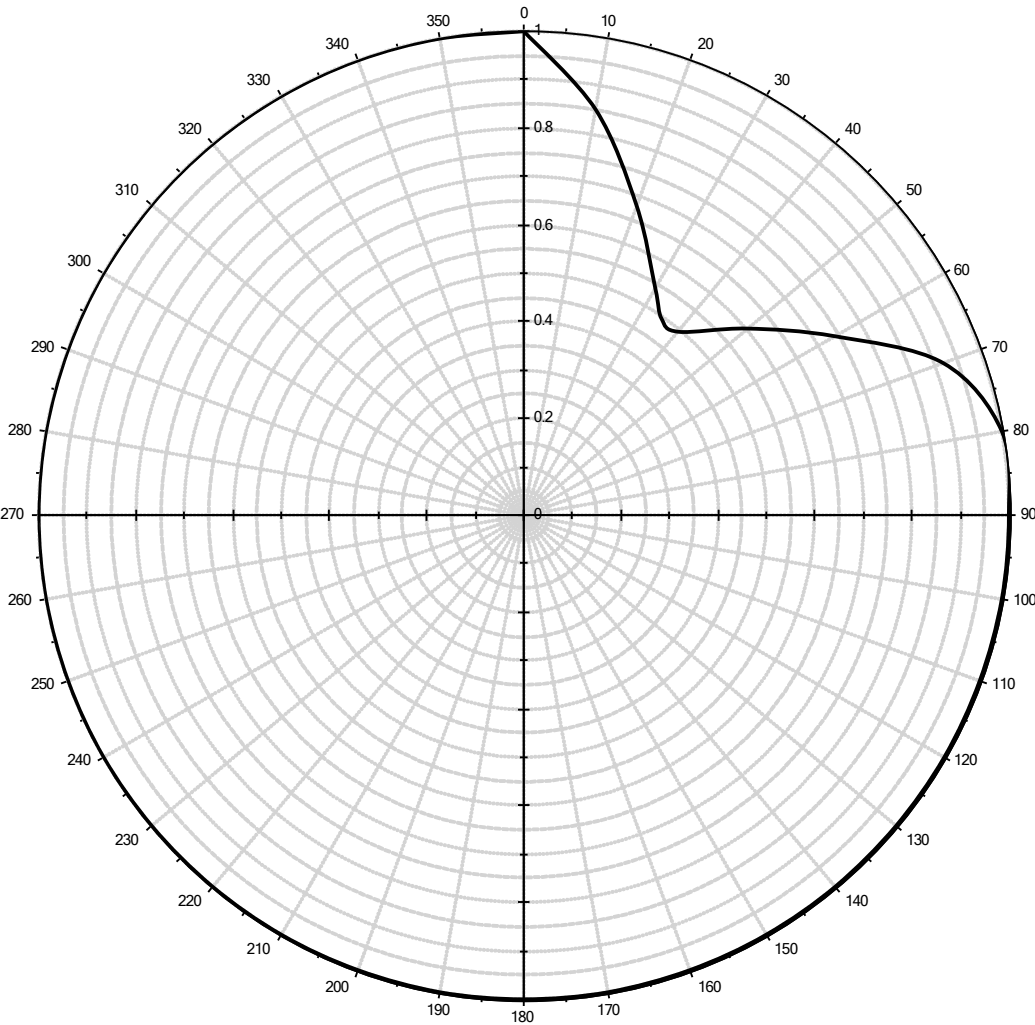
# DA Inquiry

du Treil, Lundin, & Rackley, Inc., Sarasota, Florida



Antenna ID: 800417

**WBMW DIRECTIONAL ANTENNA  
PATTERN ENVELOPE  
MAXIMUM ERP 12.5 KW**



**Note:** display reflects rotation of 0.00°

0° 1.000	60° 0.740	120° 1.000	180° 1.000	240° 1.000	300° 1.000	35° 0.495
10° 0.851	70° 0.920	130° 1.000	190° 1.000	250° 1.000	310° 1.000	
20° 0.680	80° 1.000	140° 1.000	200° 1.000	260° 1.000	320° 1.000	
30° 0.542	90° 1.000	150° 1.000	210° 1.000	270° 1.000	330° 1.000	
40° 0.495	100° 1.000	160° 1.000	220° 1.000	280° 1.000	340° 1.000	
50° 0.600	110° 1.000	170° 1.000	230° 1.000	290° 1.000	350° 1.000	

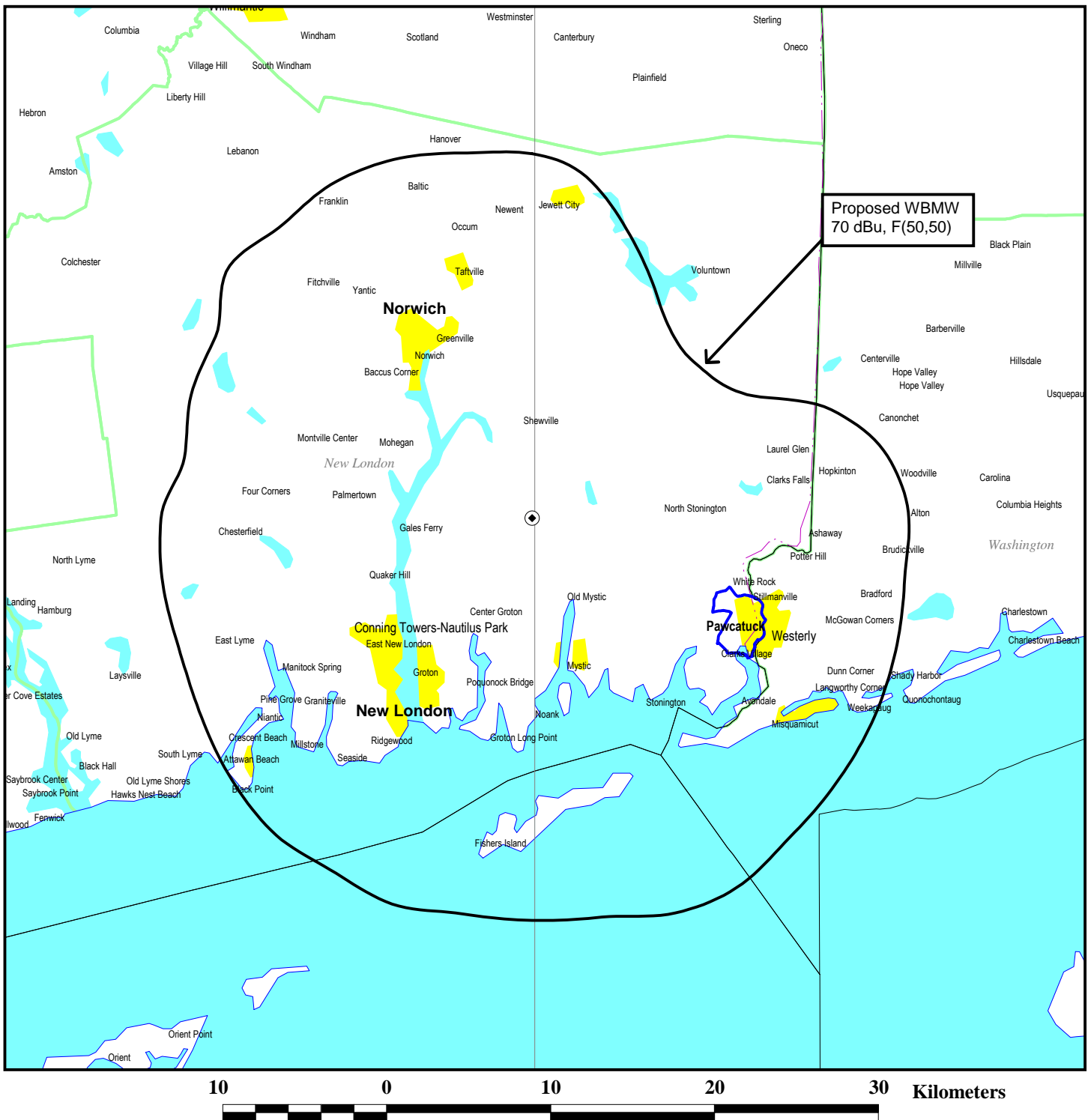
Antenna Make: DLR

Standard Pattern:

Antenna Model: WBMW

Last Change Date:

Figure 6



**COMPLIANCE WITH SECTION 73.315**

STATION WBMW  
PAWCATUCK, CONNECTICUT  
CH 293B1 12.5 KW (DA) 141 M

du Treil, Lundin & Rackley, Inc. Sarasota, Florida