

Exhibit 13.1 - Copy of Existing Antenna Structure Registration



Registration Detail

Reg Number	1033712	Status	Constructed
File Number	A0585921	Constructed	12/18/1998
EMI	No	Dismantled	
NEPA	No		

Antenna Structure

Structure Type TOWER - Free standing or Guyed Structure used for Commu

Location (in NAD83 Coordinates)

Lat/Long	43-02-49.0 N 087-58-52.0 W	Address	5407 WEST MCKINLEY AVENUE
City, State	MILWAUKEE , WI		
Zip	53208	County	MILWAUKEE
Center of AM Array		Position of Tower in Array	

Heights (meters)

Elevation of Site Above Mean Sea Level	Overall Height Above Ground (AGL)
214.0	141.4
Overall Height Above Mean Sea Level	Overall Height Above Ground w/o Appurtenances
355.4	140.5

Painting and Lighting Specifications

FAA Chapters 3, 4, 5, 13
Paint and Light in Accordance with FAA Circular Number 70/7460-1J

FAA Notification

FAA Study	2007-AGL-7114-OE	FAA Issue Date	02/06/2008
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Owner & Contact Information

FRN	0009180795	Owner Entity Type	
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Owner

Lakefront Communications, LLC
Attention To: Gregory Urbiel
73 Kercheval Avenue, Suite 201
Grosse Pointe Farms , MI 48236

P: (313)886-7070
F:
E: gurbiel@sagacom.com

Contact

Smithwick , Gary S Esq
5028 Wisconsin Avenue, NW Suite 301
Washington , DC 20016

P: (202)363-4050
F:
E: gsmithwick@fccworld.com

Last Action Status

Status	Constructed	Received	02/14/2008
Purpose	Notification	Entered	02/14/2008
Mode	Interactive		

Related Applications

02/14/2008	A0585921 - Notification (NT)
02/07/2008	A0583582 - Modification (MD)
06/24/2005	A0452970 - Admin Update (AU)

Related applications (5)

Comments

Comments

None

History

Date	Event
02/14/2008	Construction Notification Received
02/08/2008	ASR Application receipt email sent: Tower email
02/08/2008	Registration Printed

All History (8)

Automated Letters

02/08/2008	Authorization, Reference
06/27/2005	Authorization, Reference 432649

Exhibit 13.2

Vertical Plant of Antenna System

The site is located at 5407 West McKinley Avenue;
the city of Milwaukee; Milwaukee County; Wisconsin.

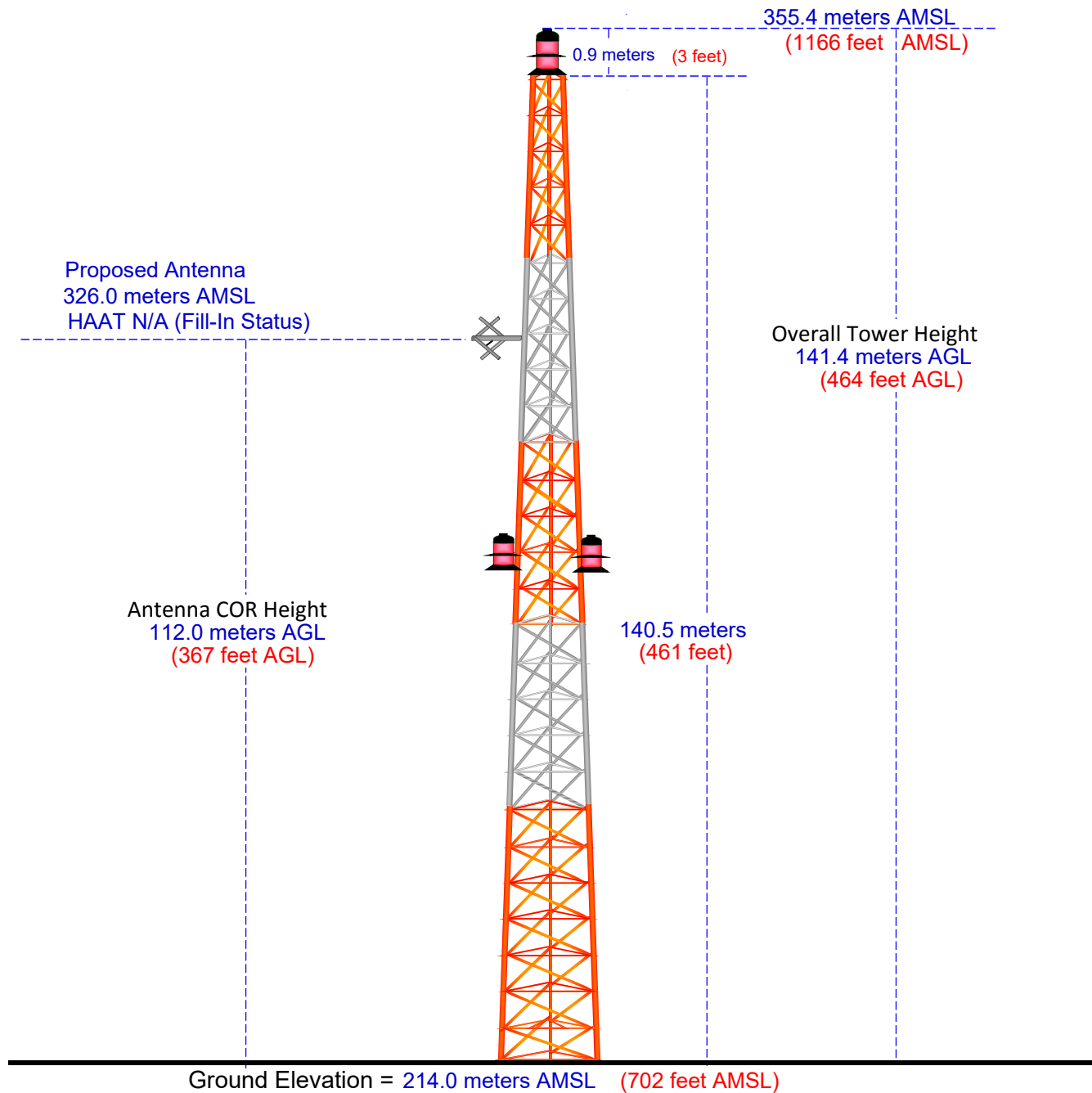
Antenna Structure Registration No.

1033712

Latitude (D M S) Longitude (D M S)

NAD 27 datum values: 43 02 48.95304 87 58 51.68756

NAD 83 datum values: 43 02 49.00000 87 58 52.00000



Ground Elevation = 214.0 meters AMSL (702 feet AMSL)

Drawing is not to Scale

Munn-Reese, Inc.

Broadcast Engineering Consultants
Coldwater, MI 49036

Exhibit 13.3 Proposed Service Contour Map

NED 03 SEC Terrain Database
US Census 2010 PL Database

CH254D.P
Milwaukee, WI
Proposed Operation
Facility ID: 144413
Latitude: 43-02-49 N
Longitude: 087-58-52 W
ERP: 0.099 kW
Channel: 254D (98.7 MHz)
AMSL Height: 326.0 m
Horiz. Pattern: Omni

60 dBμ F(50:50) Contour
Total Population: 725,932
Coverage Area: 362 sq. km

Terrain
175 321 m

Scale 1:135,000
0 2 4 6 km

V-Soft Communications LLC ©

Proposed 60 dBμ F(50:50) Contour

CH254D.P



WJYI 1340 kHz
Milwaukee, Wisconsin
Station Class: C
Region 2 Class: C
Facility ID: 36371
File Number: BL-20080319AED
Site Location: 43-02-49.0 N 87-58-52.0 W (NAD 27)
Site Location: 43-02-49.0 N 87-58-52.3 W (NAD 83)
Power: 1 kW, Non-Directional
Hours: Daytime
Pattern Type: Theoretical
Towers: 1 Augmentations: 0
Tower Electrical Height: 221.2 Degrees; 137.47 meters
RMS Theoretical: 441 mV/meter

NED 03 SEC Terrain Database
US Census 2010 PL Database

Exhibit 13.4 Proposed vs. Primary Contour & §74.1233(a)(1) Waiver Showing

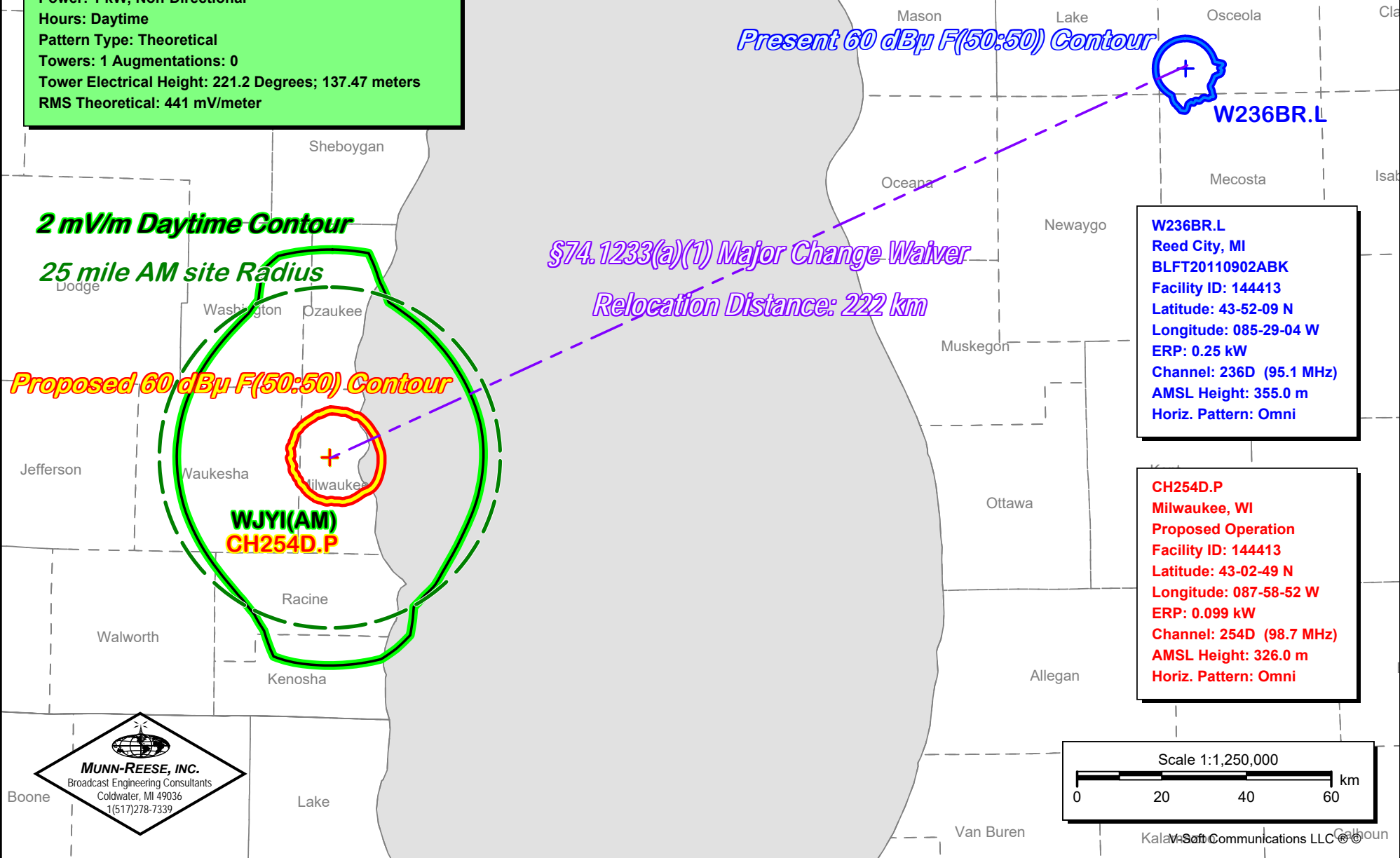


Exhibit 13.5

Tabulation of Proposed Allocation

Mentor Partners, Inc.											
REFERENCE		CH# 254D - 98.7 MHz, Pwr= 0.099 kw, HAAT= 109.7 M, COR= 326 M							DISPLAY DATES		
43 02 49.0 N.		Average Protected F(50-50)= 10.76 km							DATA 10-26-15		
87 58 52.0 W.		Omni-directional							SEARCH 10-28-15		
CH	CALL	TYPE	ANT	AZI	DIST	LAT	PWR(kw)	INT(km)	PRO(km)	*IN*	*OUT*
CITY		STATE		<--	FILE #	LNG	HAAT(M)	COR(M)	LICENSEE	(Overlap	in km)
256B	WMYX-FM	LIC _CN		209.9	13.00	42 56 44.0	50.000	6.0	65.4	-2.8<	-53.8*<
Milwaukee		WI		29.9	BMLH19860225KC	88 03 39.0	137	377	Entercom License, Llc		
252A	WJMR-FM	LIC _C		0.0	0.00	43 02 49.0	4.900	2.8	29.5	-13.9*<	-30.1*<
Menomonee Falls		WI		0.0	BLH20001213ACF	87 58 52.0	111	330	Lakefront Communications,		
254A	WMDC	LIC ZCN		314.7	61.97	43 26 17.0	6.000	81.0	23.9	-29.0*<	4.8
Mayville		WI		134.4	BLH19981026KF	88 31 35.0	100	393	Radio Plus, Inc.		
254B	WFMT	LIC NC_		167.6	132.92	41 52 44.0	6.000	133.2	69.4	-10.8*<	13.0
Chicago		IL		347.8	BMLH20090415AAX	87 38 08.0	470	651	Window To The World Commun		
251D	W251BU	CP _C_		161.8	39.36	42 42 38.0	0.055	0.5	5.3	27.9	33.4
Racine		WI		341.9	BNPFT20130829AHE	87 49 49.0	46	245	Sister Grace, Inc.		
251B	WMGN	LIC _CX		265.8	114.09	42 57 46.0	36.000	6.2	66.8	98.6	46.0
Madison		WI		84.8	BLH20061121ABB	89 22 47.0	176	463	Mid-west Management, Inc.		
255A	WEMP	LIC _CX		9.4	105.64	43 59 03.0	6.000	41.9	27.1	52.7	62.5
Two Rivers		WI		189.6	BLH20131210BQU	87 45 55.0	89	310	Seehafer Broadcasting Corp		
254A	WLDN	LIC _CX		51.6	157.72	43 55 01.0	5.500	88.4	30.0	57.5	87.8
Ludington		MI		232.7	BLH20131230AMF	86 26 12.0	104	296	Synergy Lakeshore Licenses		
253B1	WXXQ	LIC _CN		232.8	139.59	42 16 48.0	11.000	57.9	44.6	72.7	79.9
Freeport		IL		51.9	BLH19990125KF	89 19 59.0	150	395	Townsquare Media Rockford		
254L1	WVMO-LP	LIC _		271.4	110.36	43 03 48.8	0.100			82.7	74.6
Monona		WI		90.5	BLL20150818ACM	89 20 22.2	19	295	City Of Monona		
251A	WLKN	LIC NC_		9.4	105.64	43 59 03.0	5.800	2.6	26.9	91.9	78.1
Cleveland		WI		189.6	BLH19991025AET	87 45 55.0	89	310	Seehafer Broadcasting Corp		
253C1	WQLH	LIC _CN		356.0	178.07	44 38 41.0	100.000	88.7	59.0	78.5	103.4
Green Bay		WI		175.9	BMLH19910422KJ	88 08 13.0	152	367	Cumulus Licensing Llc		
254A	WFRG	LIC _CX		89.7	185.65	43 01 57.0	2.750	84.2	29.2	89.3	115.4
Grand Rapids		MI		271.3	BMLH20050714ABA	85 41 47.0	150	378	Townsquare Media Of Grand		
255C0	WVCX	LIC _C_		295.0	219.21	43 51 10.0	100.000	103.5	71.1	106.3	134.9
Tomah		WI		113.3	BMLED20020128ABE	90 27 36.0	300	645	Vcy America, Inc.		
252D	W252AW	LIC DC_		196.2	118.88	42 01 10.0	0.085	0.5	9.5	108.2	108.7
Chicago		IL		15.9	BLFT20150916ADU	88 22 59.0		388	Juan Alberto Ayala		
255L1	WAXT-LP	LIC _		73.4	139.50	43 23 33.0	0.054			117.9	115.3
Whitehall		MI		254.6	BLL20140520AFS	86 19 33.0	41	237	White Lake Broadcasters, I		
254A	NEW	CP _CX		252.2	223.17	42 24 16.0	3.500	88.5	31.6	125.4	161.1
Asbury		IA		70.5	BNPED20140908AEV	90 34 12.0	133	392	Canton Seventh-day Adventi		

Terrain database is NED 03.SEC , R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM
 Contour distances are on direct line to and from reference station. Reference zone= East Zone, Co to 3rd adjacent.
 All separation margins (if shown) include rounding.
 Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, _= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)
 "*"affixed to 'IN' or 'OUT' values = site inside restricted contour.
 < = Contour Overlap
 Reference station has protected zone issue: AM tower

Yellow Highlighted Text denotes a §74.1204(d) Second/Third Adjacent Channel Given Interference Waiver Request as noted in **Exhibit(s) 13.6**. Full protection will be afforded all allocation concerns as the worst case calculated interference contour will not reach the ground nor a seven meter artificial plane representing a standard two story building when taking into account the downward radiation characteristics of the antenna as supplied by the antenna manufacturer. A copy of the antenna manufacturer specifications has been included in **Exhibit 13.7**.

Exhibit 13.6

\$74.1204(d) 2nd and/or 3rd Adjacent Channel Given Interference Waiver Request

CH254D.P
Milwaukee, WI
Proposed Operation
Facility ID: 144413
Latitude: 43-02-49 N
Longitude: 087-58-52 W
ERP: 0.099 kW
Channel: 254D (98.7 MHz)
AMSL Height: 326.0 m
Horiz. Pattern: Omni

WJMR-FM.L
Menomonee Falls, WI
BLH20001213ACF
Facility ID: 26222
Latitude: 43-02-49 N
Longitude: 087-58-52 W
ERP: 4.90 kW
Channel: 252A (98.3 MHz)
AMSL Height: 330.0 m
Horiz. Pattern: Omni

WMYX-FM.L
Milwaukee, WI
BMLH19860225KC
Facility ID: 27029
Latitude: 42-56-44 N
Longitude: 088-03-39 W
ERP: 50.00 kW
Channel: 256B (99.1 MHz)
AMSL Height: 377.0 m
Horiz. Pattern: Omni



Terrain
177 296 m

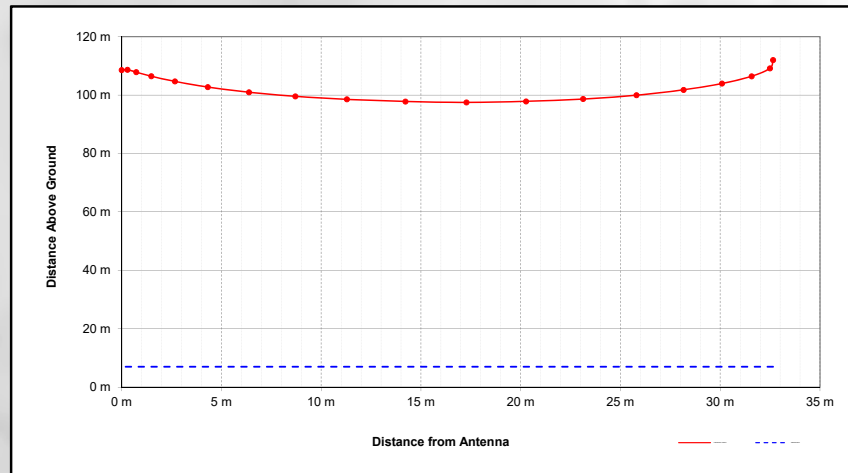
Scale 1:70,078

0 1 2 3 km

WMYX-FM.L - 86.6 F(50:50)dBμ Contour

WJMR-FM.L - 0.0 F(50:50)dBμ Contour

CH254D.P
WJMR-FM.L

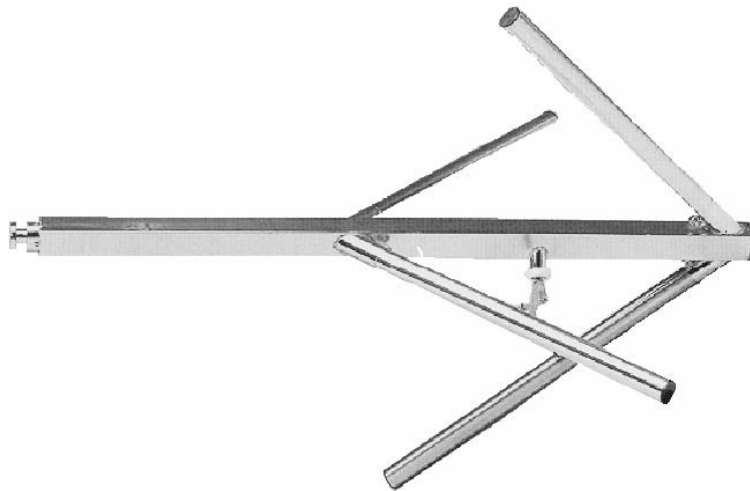


Proposed Antenna: 1 Bay Nicom BKG77-1 (One Bay Fully Spaced)									
Proposed Power:		0.099 kW							
Antenna Height AGL:		112 meters							
Interference Contour:		126.6 dBu f(50:10)							
Artificial Ground Plane Height:		7 meters							
Distance (Free Space) Equation: $\approx (10^{((106.92 - [\text{desired dBu}] + [\text{ERP in dBk}]) / 20)}) * 1000$									
Field Strength (dBu) Equation: $\approx 106.92 - (20 * (\text{LOG} 10([\text{DistMeters}] / 1000))) + [\text{ERP in dBk}]$									
Depression	Antenna		Distance				Field Strength		
Angle	Relative	ERP	ERP	to Ant.	Distance	Field Strength	Distance	Field Strength	
Below	Relative	in kW	In dBk	to Interference	from Ant. to	in dBu @	from Ant.	in dBu @	
Horizon	Field			Contour	Artificial Plane	Artificial Plane	to Ground Level	Ground Level	
0°	1.000	0.099	-10.04	32.65 m	infinite	---	---	---	
-5°	0.999	0.099	-10.05	32.61 m	1204.74 m	95.25 dBu	1285.06 m	94.69 dBu	
-10°	0.982	0.095	-10.20	32.06 m	604.67 m	101.09 dBu	644.98 m	100.53 dBu	
-15°	0.954	0.090	-10.45	31.14 m	405.69 m	104.30 dBu	432.73 m	103.74 dBu	
-20°	0.918	0.083	-10.79	29.97 m	307.00 m	106.39 dBu	327.47 m	105.83 dBu	
-25°	0.872	0.075	-11.23	28.47 m	248.45 m	107.78 dBu	265.01 m	107.22 dBu	
-30°	0.818	0.066	-11.79	26.70 m	210.00 m	108.69 dBu	224.00 m	108.13 dBu	
-35°	0.758	0.057	-12.45	24.74 m	183.06 m	109.22 dBu	195.27 m	108.66 dBu	
-40°	0.691	0.047	-13.25	22.56 m	163.35 m	109.40 dBu	174.24 m	108.84 dBu	
-45°	0.616	0.038	-14.25	20.11 m	148.49 m	109.23 dBu	158.39 m	108.67 dBu	
-50°	0.538	0.029	-15.43	17.56 m	137.07 m	108.75 dBu	146.21 m	108.19 dBu	
-55°	0.465	0.021	-16.69	15.18 m	128.18 m	108.07 dBu	136.73 m	107.51 dBu	
-60°	0.391	0.015	-18.20	12.76 m	121.24 m	107.05 dBu	129.33 m	106.49 dBu	
-65°	0.313	0.010	-20.13	10.22 m	115.85 m	105.51 dBu	123.58 m	104.95 dBu	
-70°	0.239	0.006	-22.48	7.80 m	111.74 m	103.48 dBu	119.19 m	102.92 dBu	
-75°	0.176	0.003	-25.13	5.75 m	108.70 m	101.06 dBu	115.95 m	100.50 dBu	
-80°	0.129	0.002	-27.83	4.21 m	106.62 m	98.53 dBu	113.73 m	97.97 dBu	
-85°	0.103	0.001	-29.79	3.36 m	105.40 m	96.68 dBu	112.43 m	96.12 dBu	
-90°	0.105	0.001	-29.62	3.43 m	105.00 m	96.88 dBu	112.00 m	96.32 dBu	

WMYX-FM.L +

A \$74.1204(d) Second and/or Third Adjacent Channel Given Interference Waiver Request toward WMYX-FM.L - Milwaukee, WI (CH256B) and WJMR-FM.L - Menomonee Falls, WI (CH252A) has been made here-in. Full protection will be afforded each facility based on a calculated 126.6 dBμ F(50:10) Interference area. Interference will not reach the ground nor a seven meter artificial plane (representing a standard two story building) when taking into account the downward radiation characteristics of the antenna. The \$74.1204(d) waiver request has been included in **Exhibit 13.6**. A copy of the antenna manufacturer's vertical radiation pattern has been included in **Exhibit 13.7**.

Exhibit 13.7 - Copy of Manufacturer's Vertical Radiation Pattern Data



NICOM
BKG77

Low Power

**Broadband
FM Circular
Polarization
Antenna
*Antena de
FM Banda Ancha
Polarizacion Circular***

This antenna, constructed completely of stainless steel, offers circular polarization for better coverage especially in urban areas. In order to facilitate and decrease shipping costs, this model is simple to break down and reassemble when ready to be installed. It is insulated with Teflon, and with the appropriate connector has a maximum input of 0.5 kw.

Esta antena, fabricada completamente de acero inoxidable, le ofrece polarización circular para mejor alcance, especialmente en zonas urbanas. Para facilitar y disminuir los costos de transportación, este modelo es fácil de desarmar y volver a montar tan pronto que la quiera instalar. Está aislada con Teflon, y con el conector apropiado tiene una entrada máxima de 0.5 kw.



TECHNICAL SPECIFICATIONS (per bay)

Antenna type	circular polarization dipole	Front-to-back ratio	3 dB
Frequency range	87.5 - 108 MHz	Lightening protection	all parts grounded
Bandwidth	500 kHz max	Max wind velocity	119 mph (190 km/h)
Impedance	50 ohms	Wind load	8 Lbs (3.6 kg)
Connectors	N type (0.5 kw)	Wind surface	0.3 ft ² (0.04 m ²)
Power rating	500 Watts max	Materials (external)	stainless steel
VSWR	< 1.1:1	Mounting	from 2" to 4"
Polarization	vertical and horizontal	Weight	7.7 Lbs (3.5 kg)
Gain	- 3 dBd (referred to half-wave dipole)	Dimensions	58"×32"×32" (1450×800×800mm)
H plane	omnidirectional ±1.5 dB (with a 4" mast)	Packing	72"×6"×6" (1500×152×152mm)
V plane	omnidirectional ±3 dB (with a 4" mast)		

Exhibit 13.7 - Copy of Manufacturer's Vertical Radiation Pattern Data



Date: 29/04/2013

BKG77SINGLE.PRJ

TX station: BKG77-1

Site name:

Frequency: 100.00 MHz

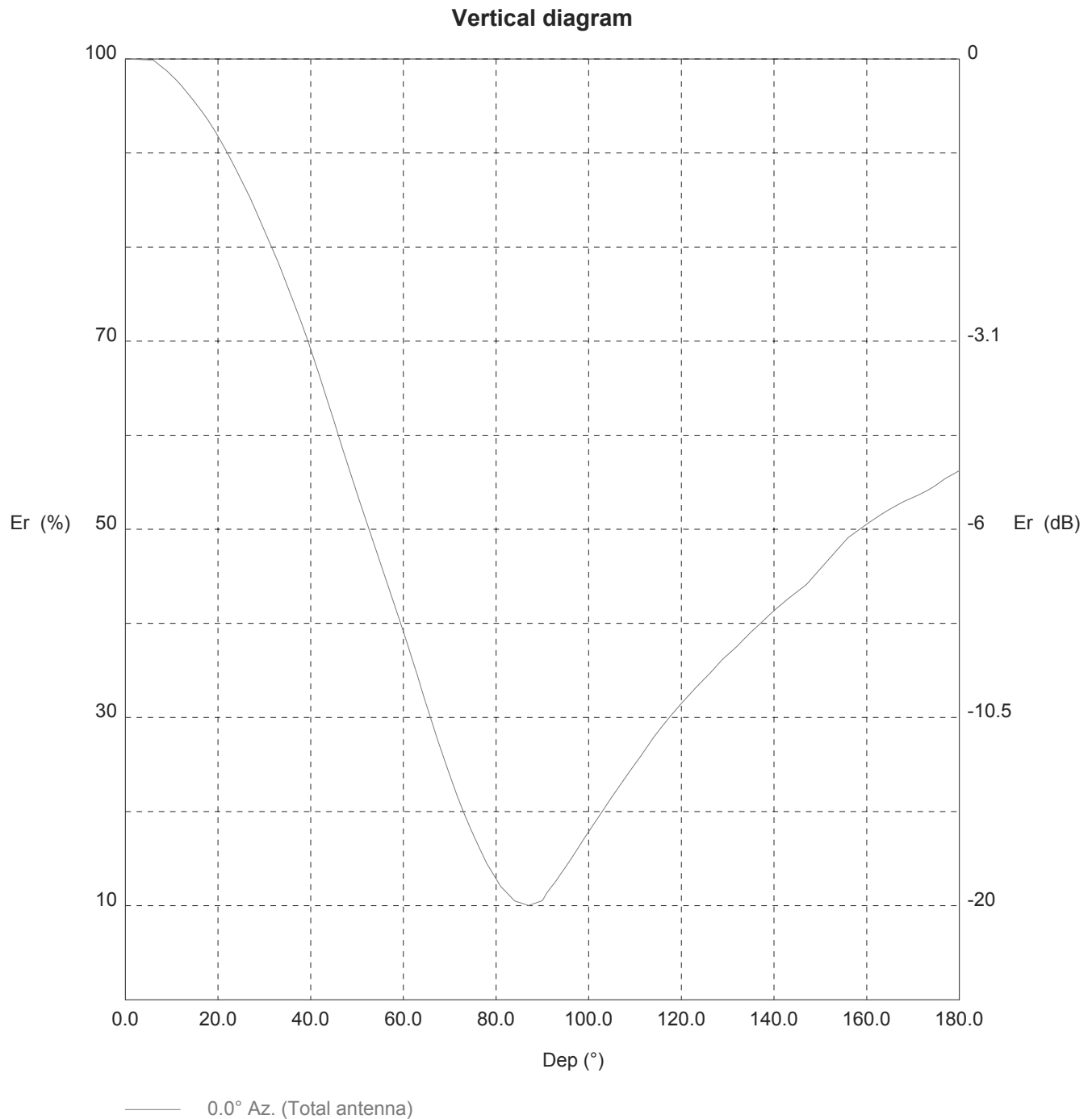


Exhibit 13.7 - Copy of Manufacturer's Vertical Radiation Pattern Data



Date: 29/04/2013

BKG77SINGLE.PRJ

TX station: BKG77-1

Site name:

Frequency: 100.00 MHz

Vertical diagram at an azimuth of 0° degrees

Dep (°)	Er (%)	ERP (W)	Dep (°)	Er (%)	ERP (W)	Dep (°)	Er (%)	ERP (W)
0.0	100.0	373.6	60.0	39.1	57.2	120.0	31.5	37.0
1.0	100.0	373.5	61.0	37.6	52.8	121.0	32.0	38.3
2.0	100.0	373.4	62.0	36.1	48.6	122.0	32.6	39.6
3.0	99.9	373.3	63.0	34.5	44.6	123.0	33.1	41.0
4.0	99.9	373.1	64.0	32.9	40.5	124.0	33.6	42.2
5.0	99.9	372.9	65.0	31.3	36.6	125.0	34.1	43.5
6.0	99.9	372.8	66.0	29.7	33.0	126.0	34.6	44.7
7.0	99.5	369.9	67.0	28.2	29.8	127.0	35.2	46.2
8.0	99.1	367.0	68.0	26.8	26.8	128.0	35.7	47.6
9.0	98.7	364.1	69.0	25.3	23.9	129.0	36.2	49.1
10.0	98.2	360.5	70.0	23.9	21.3	130.0	36.7	50.3
11.0	97.7	356.9	71.0	22.5	18.9	131.0	37.1	51.5
12.0	97.2	353.3	72.0	21.1	16.6	132.0	37.6	52.7
13.0	96.6	348.9	73.0	19.9	14.8	133.0	38.1	54.1
14.0	96.0	344.5	74.0	18.8	13.2	134.0	38.6	55.6
15.0	95.4	340.1	75.0	17.6	11.6	135.0	39.1	57.0
16.0	94.7	335.4	76.0	16.6	10.2	136.0	39.5	58.4
17.0	94.1	330.8	77.0	15.5	9.0	137.0	40.0	59.7
18.0	93.4	326.1	78.0	14.5	7.8	138.0	40.4	61.1
19.0	92.6	320.4	79.0	13.7	7.0	139.0	40.9	62.5
20.0	91.8	314.7	80.0	12.9	6.2	140.0	41.4	63.9
21.0	91.0	309.1	81.0	12.0	5.4	141.0	41.8	65.3
22.0	90.0	302.7	82.0	11.5	5.0	142.0	42.2	66.5
23.0	89.1	296.5	83.0	11.0	4.5	143.0	42.6	67.8
24.0	88.1	290.3	84.0	10.5	4.1	144.0	43.0	69.0
25.0	87.2	283.8	85.0	10.3	4.0	145.0	43.4	70.3
26.0	86.2	277.4	86.0	10.2	3.9	146.0	43.8	71.6
27.0	85.2	271.1	87.0	10.0	3.7	147.0	44.1	72.8
28.0	84.0	263.9	88.0	10.2	3.9	148.0	44.7	74.7
29.0	82.9	256.8	89.0	10.4	4.0	149.0	45.3	76.5
30.0	81.8	249.8	90.0	10.5	4.1	150.0	45.8	78.4
31.0	80.6	242.9	91.0	11.4	4.8	151.0	46.4	80.3
32.0	79.5	236.1	92.0	12.0	5.4	152.0	46.9	82.3
33.0	78.3	229.3	93.0	12.7	6.0	153.0	47.5	84.3
34.0	77.1	222.0	94.0	13.4	6.7	154.0	48.0	86.2
35.0	75.8	214.7	95.0	14.1	7.4	155.0	48.6	88.2
36.0	74.5	207.6	96.0	14.8	8.2	156.0	49.1	90.2
37.0	73.2	200.4	97.0	15.6	9.1	157.0	49.5	91.5
38.0	71.9	193.3	98.0	16.4	10.0	158.0	49.8	92.8
39.0	70.6	186.3	99.0	17.1	11.0	159.0	50.2	94.1
40.0	69.1	178.6	100.0	17.9	11.9	160.0	50.5	95.4
41.0	67.6	170.9	101.0	18.6	12.9	161.0	50.9	96.8
42.0	66.1	163.5	102.0	19.3	13.9	162.0	51.2	98.1
43.0	64.6	156.0	103.0	20.1	15.0	163.0	51.5	99.2
44.0	63.1	148.7	104.0	20.8	16.2	164.0	51.8	100.4
45.0	61.6	141.6	105.0	21.5	17.3	165.0	52.1	101.6
46.0	60.0	134.4	106.0	22.3	18.5	166.0	52.4	102.7
47.0	58.4	127.5	107.0	23.0	19.7	167.0	52.7	103.7
48.0	56.8	120.7	108.0	23.7	21.0	168.0	53.0	104.8
49.0	55.3	114.4	109.0	24.4	22.2	169.0	53.2	105.7
50.0	53.8	108.2	110.0	25.1	23.5	170.0	53.4	106.5
51.0	52.3	102.2	111.0	25.7	24.8	171.0	53.6	107.4
52.0	50.8	96.6	112.0	26.5	26.2	172.0	53.9	108.4
53.0	49.4	91.1	113.0	27.2	27.6	173.0	54.1	109.4
54.0	47.9	85.8	114.0	27.9	29.0	174.0	54.4	110.5
55.0	46.5	80.7	115.0	28.5	30.4	175.0	54.7	111.9
56.0	45.0	75.7	116.0	29.2	31.8	176.0	55.1	113.3
57.0	43.6	71.0	117.0	29.8	33.1	177.0	55.4	114.7
58.0	42.1	66.2	118.0	30.4	34.4	178.0	55.7	115.9
59.0	40.6	61.6	119.0	30.9	35.7	179.0	56.0	117.0