

Exhibit 13.1a Copy of USGS Topographic Map

Existing Tower Site

	Latitude (D M S)	Longitude (D M S)
NAD 27 datum values:	32 34 26.66065	93 44 34.35662
NAD 83 datum values:	32 34 27.20000	93 44 35.00000

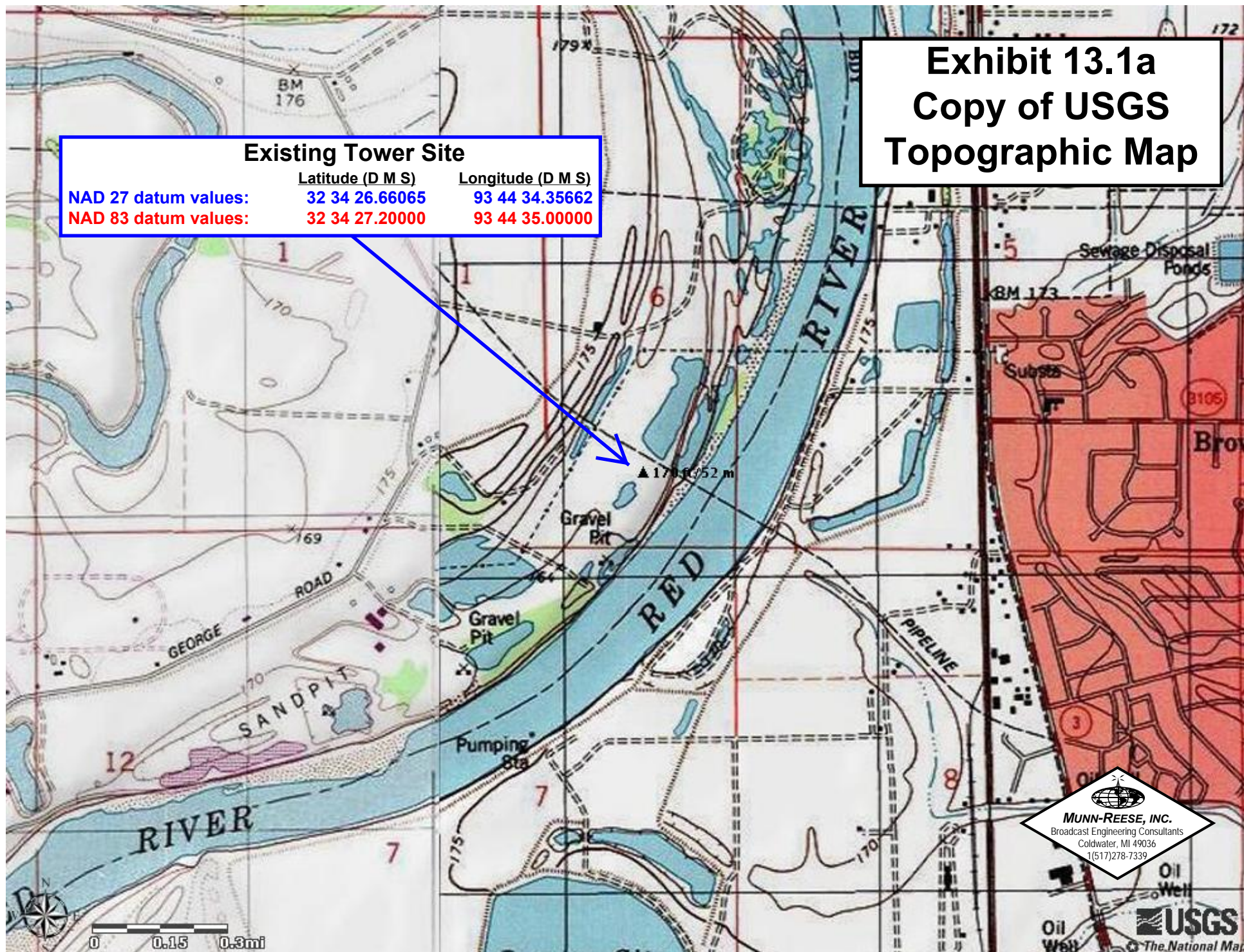


Exhibit 13.1b
Copy of USGS
Aerial Photograph

Existing Tower Site

	<u>Latitude (D M S)</u>	<u>Longitude (D M S)</u>
NAD 27 datum values:	32 34 26.66065	93 44 34.35662
NAD 83 datum values:	32 34 27.20000	93 44 35.00000

▲ 170 ft/52 m

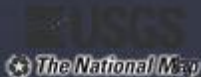


Exhibit 13.2

Vertical Plan of Antenna System

THE SITE IS LOCATED ON GEORGE ROAD, 2.5 KM WEST OF THE "I" INTERSECTION OF GEORGE ROAD & DIXIE SHREVEPORT ROAD; THE CITY OF SHREVEPORT; CADDO COUNTY; THE STATE OF LOUISIANA.

Antenna Structure Registration No.

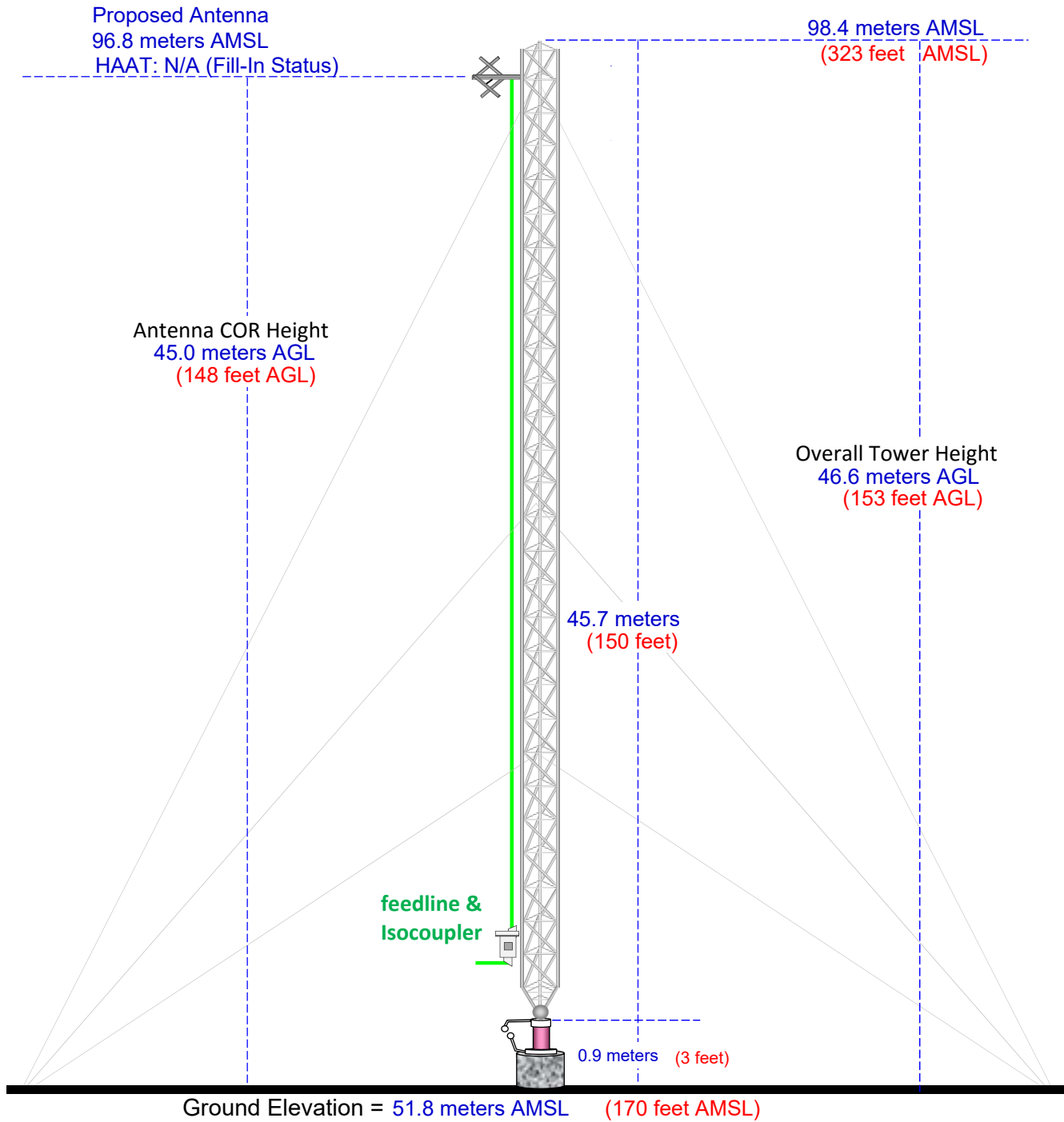
PENDING

Latitude (D M S)

Longitude (D M S)

NAD 27 datum values: 32 34 26.66065 93 44 34.35662

NAD 83 datum values: 32 34 27.20000 93 44 35.00000



Drawing is not to Scale

Munn-Reese, Inc.

Broadcast Engineering Consultants
Coldwater, MI 49036

Proposed 60 dBμ F(50:50) Contour

Exhibit 13.3 Proposed Service Contour Map

CH235D.P
Shreveport, LA
Proposed Operation
Facility ID: 151624
Latitude: 32-34-27 N
Longitude: 093-44-34 W
ERP: 0.25 kW
Channel: 235D (94.9 MHz)
AMSL Height: 97.0 m
Horiz. Pattern: Omni

60 dBμ F(50:50) Contour
Total Population: 61,436
Coverage Area: 221 sq. km

CH235D.P
+

Red Chute

East

Shreveport

Bossier City

NED 03 SEC Terrain Database
US Census 2010 PL Database

Terrain
42 124 m

Scale 1:100,000

0 2 4 6 km

V-Soft Communications LLC ©



Exhibit 13.4

Proposed vs. Primary Contour & §74.1233(a)(1) Relocation Showing ("250 Mile Window Application")

NED 03 SEC Terrain Database
US Census 2010 PL Database

Present 60 dBu F(50:50) Contour

K287BI.C

§74.1233(a)(1) Relocation Distance: 256 km

CH235D.P
Shreveport, LA
Proposed Operation
Facility ID: 151624
Latitude: 32-34-27 N
Longitude: 093-44-34 W
ERP: 0.25 kW
Channel: 235D (94.9 MHz)
AMSL Height: 97.0 m
Horiz. Pattern: Omni

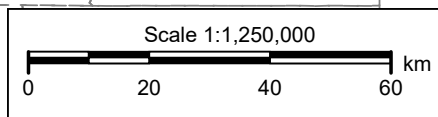
K287BI.C
Dumas, AR
BNPFT20130327AGP
Facility ID: 151624
Latitude: 33-53-44 N
Longitude: 091-29-49 W
ERP: 0.25 kW
Channel: 287D (105.3 MHz)
AMSL Height: 90.0 m
Horiz. Pattern: Omni

Proposed 60 dBu F(50:50) Contour

KIOU(AM)
CH235D.P

2 mV/m Daytime Contour

25 mile AM site Radius



KIOU 1480 kHz
Shreveport, Louisiana
Station Class: D
Region 2 Class: B
Facility ID: 33714
File Number: BL-19810429AD
Fac. Service: AM
Site Location: 32-34-18.0 N 93-44-39.0 W (NAD 27)
Site Location: 32-34-18.5 N 93-44-39.6 W (NAD 83)
Power: 1 kW, Non-Directional
Hours: Daytime
Pattern Type: Theoretical
Towers: 1 Augmentations: 0
Tower Electrical Height: 81.3 Deg; 45.75 meters
RMS Theoretical: 300.63 mV/meter

Exhibit 13.5

Tabulation of Proposed Translator Allocation Study

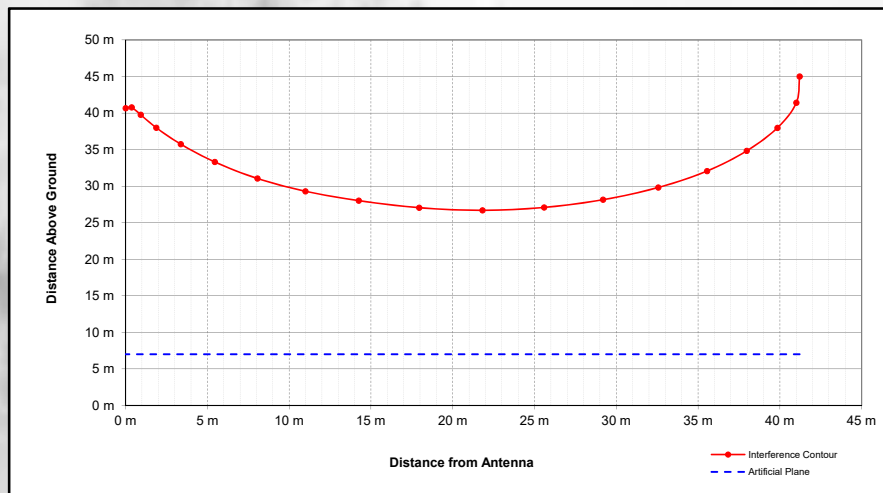
REFERENCE		CH#	235D - 94.9 MHz, Pwr= 0.25 kW, HAAT= 41.3 M, COR= 97 M				Average Protected F(50-50)= 8.31 km		Omni -di rectional		DISPLAY DATES	
32	34	27.0	N.								DATA	04-04-16
93	44	34.0	W.								SEARCH	04-04-16
CH	CALL	TYPE	ANT	AZI	DIST	LAT	PWR(kW)	INT(km)	PRO(km)	*IN*	*OUT*	
CITY		STATE		<--	FILE #	LNG	HAAT(M)	COR(M)	LICENSEE	(Overlap	in km)	
233C0	KRUF	LIC _CY		301.0	20.77	32 40 13.0	100.000	10.8	75.4	1.2	-55.7*<	
Shreveport		LA		120.9	BLH19880314KB	93 55 59.0	334	395	Townsquare Media		Shrevepor	
235C3	KSBH	LIC _CN		147.9	93.61	31 51 34.0	25.000	113.3	38.8	-28.6*<	25.2	
Coushatta		LA		328.2	BLH19921215KB	93 13 00.0	100	141	Ksbh, L.I.C.			
To Channel 235C2	per one-step appli cation				9808031A							
235L1	KXBU-LP	CP _		268.8	59.31	32 33 41.5	0.081		34.6		29.7	
Marshall		TX		88.5	BNPL20131112BKU	94 22 32.2	34	135	East Texas Baptist Univers			
288A	KIMW	CP NCN		98.3	42.06	32 31 07.0	6.000	17.1	5.2	9.5R	32.6M	
Heflin		LA		278.6	BMPED20151221CJV	93 17 59.0	97	158	Calvary Chapel Of Twin Fal			
236C3	KEWL-FM	LIC NC_		326.9	114.87	33 26 15.0	25.000	62.0	40.7	44.1	61.9	
New Boston		TX		146.5	BLH19950714KA	94 25 11.0	99	196	American Medi a Investments			
235C	KHKN	LIC _CY		33.8	251.21	34 26 31.0	100.000	195.4	90.4	47.4	132.9	
Maumelle		AR		214.7	BLH19920326KC	92 13 03.0	562	646	Cc Licenses, LIc			
238D	K238BF	LIC _C_		324.1	69.90	33 04 58.0	0.185	1.0	9.2	60.2	59.6	
Atlanta		TX		143.9	BLFT20090616ACI	94 10 58.0	50	140	Freed Am Corporation			
237C3	KFRO-FM	LIC ZCN		273.6	108.15	32 37 50.0	5.900	3.7	39.1	97.4	67.9	
Gilmer		TX		93.0	BLH19950814KG	94 53 44.0	203	311	Waller Media, LIc			
234D	K234AY	LIC _C_		92.0	99.57	32 32 20.4	0.140	15.2	10.7	76.0	77.0	
Ruston		LA		272.5	BLFT20070823ACL	92 40 51.4	114	189	Houston Christian Broadcas			
289C0	KYKX	LIC NCN		271.5	101.11	32 35 37.0	100.000	17.1	5.2	24.5R	76.6M	
Longview		TX		90.9	BLH19960408KB	94 49 10.0	352	457	Alpha Medi a Li censee LIc			
237C1	KCXY	LIC _CX		39.8	135.03	33 30 14.0	100.000	6.5	54.8	120.2	79.1	
East Camden		AR		220.3	BLH20020806AAE	92 48 38.0	139	188	Radio Works, Inc.			
235L1	KCUS-LP	CP _		294.4	127.91	33 02 34.6	0.100		98.8		95.8	
Pittsburg		TX		113.7	BNPL20131112BDV	94 59 34.2	21	136	Owl Learning Center			
238C1	KAFX-FM	LIC _CN		216.9	161.56	31 24 28.0	100.000	8.1	63.3	145.4	97.2	
Diboll		TX		36.3	BLH19860312KB	94 45 53.0	173	257	Townsquare Medi a Lufkin Li			
236A	NEW	CP NCX		245.9	158.98	31 58 53.0	2.450	46.2	30.7	104.4	116.5	
Jacksonville		TX		65.1	BNPH20151007AFJ	95 16 55.0	160	304	Tomlinson-Ie i s Communi cati			

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= West 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 the existence of a §74.1204(d) Second/Third Adjacent Channel Given Interference Waiver Request toward KRUF(FM) - Shreveport, LA (CH233C0) as noted in **Exhibit 13.6**. Protection has been based on the worst case calculated 128.6 dBμ F(50:10) Interference Contour, corresponding to the worst case 88.6 dBμ F(50:50) Protected Contour. Protection has been demonstrated through the attached downward radiation study. Full protection will be afforded the facility as the interference area will not reach the ground nor a seven meter artificial plane representing a standard two story home 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 also been included in **Exhibit 13.7**.

Yellow Highlighted Text denotes the existence of a §74.1204(d) Second/Third Adjacent Channel Given Interference Waiver Request toward KRUF(FM) - Shreveport, LA (CH233C0) as noted in **Exhibit 13.6**. Protection has been based on the worst case calculated 128.6 dBμ F(50:10) Interference Contour, corresponding to the worst case 88.6 dBμ F(50:50) Protected Contour. Protection has been demonstrated through the attached downward radiation study. Full protection will be afforded the facility as the interference area will not reach the ground nor a seven meter artificial plane representing a standard two story home 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 also been included in **Exhibit 13.7**.

+
KRUF.L



Proposed Antenna: 1 Bay Nicom BKG77-1 (One Bay Fully Spaced) Proposed Power: 0.25 kW Antenna Height AGL: 45 meters Interference Contour: 128.6 dBμ f(50:10) Artificial Ground Plane Height: 7 meters Distance (Free Space) Equation: $= (10^{((106.92 - \{desired\ dB\mu\} + \{ERP\ in\ dB\mu\}) / 20))} * 1000$ Field Strength (dBμ) Equation: $= 106.92 - (20 * (\log_{10}(\text{DistMeters} / 1000))) + \{ERP\ in\ dB\mu\}$								
Depression	Antenna	ERP	ERP	Distance	Distance	Field Strength	Distance	Field Strength
Angle	Relative			from Ant.	from Ant.	in dBμ @	from Ant.	in dBμ @
Below	Field	in kW	in dBk	to Interference	to Interference	Artificial Plane	to Ground Level	Ground Level
Horizon				Contour	Artificial Plane			
0°	1.000	0.250	-6.02	41.21 m	infinite	---	---	---
-5°	0.999	0.250	-6.03	41.17 m	436.00 m	108.10 dBμ	516.32 m	106.63 dBμ
-10°	0.982	0.241	-6.18	40.47 m	218.83 m	113.94 dBμ	259.14 m	112.47 dBμ
-15°	0.954	0.228	-6.43	39.31 m	146.82 m	117.15 dBμ	173.87 m	115.69 dBμ
-20°	0.918	0.211	-6.76	37.83 m	111.10 m	119.24 dBμ	131.57 m	117.77 dBμ
-25°	0.872	0.190	-7.21	35.93 m	89.92 m	120.63 dBμ	106.48 m	119.16 dBμ
-30°	0.818	0.167	-7.77	33.71 m	76.00 m	121.54 dBμ	90.00 m	120.07 dBμ
-35°	0.758	0.144	-8.43	31.23 m	66.25 m	122.07 dBμ	78.46 m	120.60 dBμ
-40°	0.691	0.119	-9.23	28.47 m	59.12 m	122.25 dBμ	70.01 m	120.79 dBμ
-45°	0.616	0.095	-10.23	25.38 m	53.74 m	122.09 dBμ	63.64 m	120.62 dBμ
-50°	0.538	0.072	-11.40	22.17 m	49.61 m	121.80 dBμ	58.74 m	120.14 dBμ
-55°	0.465	0.054	-12.67	19.16 m	46.39 m	120.92 dBμ	54.93 m	119.45 dBμ
-60°	0.391	0.038	-14.18	16.11 m	43.88 m	119.90 dBμ	51.96 m	118.43 dBμ
-65°	0.313	0.024	-16.11	12.90 m	41.93 m	118.36 dBμ	49.65 m	116.89 dBμ
-70°	0.239	0.014	-18.45	9.85 m	40.44 m	116.33 dBμ	47.89 m	114.86 dBμ
-75°	0.176	0.008	-21.11	7.25 m	39.34 m	113.91 dBμ	46.59 m	112.44 dBμ
-80°	0.129	0.004	-23.81	5.32 m	38.59 m	111.38 dBμ	45.69 m	109.91 dBμ
-85°	0.103	0.003	-25.76	4.24 m	38.15 m	109.53 dBμ	45.17 m	108.06 dBμ
-90°	0.105	0.003	-25.60	4.33 m	38.00 m	109.73 dBμ	45.00 m	108.26 dBμ

Exhibit 13.6

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

NED 03 SEC Terrain Database
US Census 2010 PL Database

KRUF.L
Shreveport, LA
BLH19880314KB
Facility ID: 60265
Latitude: 32-40-13 N
Longitude: 093-55-59 W
ERP: 100.00 kW
Channel: 233C0 (94.5 MHz)
AMSL Height: 395.0 m
Horiz. Pattern: Omni

CH235D.P
Shreveport, LA
Proposed Operation
Facility ID: 151624
Latitude: 32-34-27 N
Longitude: 093-44-34 W
ERP: 0.25 kW
Channel: 235D (94.9 MHz)
AMSL Height: 97.0 m
Horiz. Pattern: Omni

KRUF.L - 88.6 F(50:50)dBμ Contour

CH235D.P

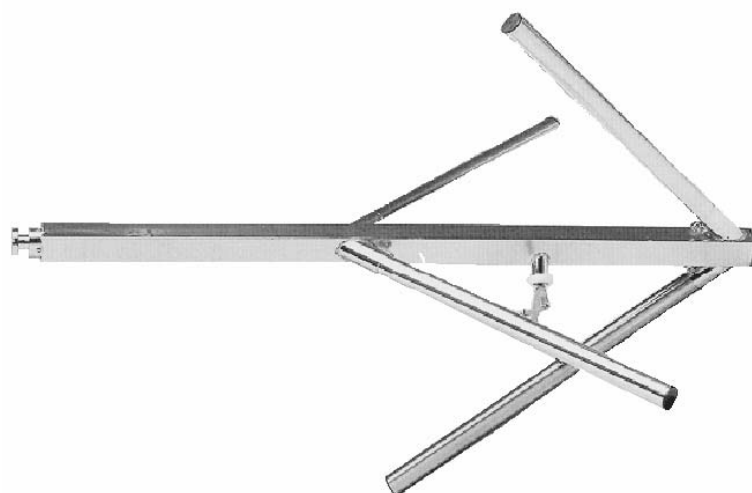
Terrain
43 119 m

Scale 1:100,000

0 2 4 6 km



Exhibit 13.7 - 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 - Manufacturer's Vertical Radiation Pattern Data



Date: 29/04/2013

BKG77SINGLE.PRJ

TX station: BKG77-1

Site name:

Frequency: 100.00 MHz

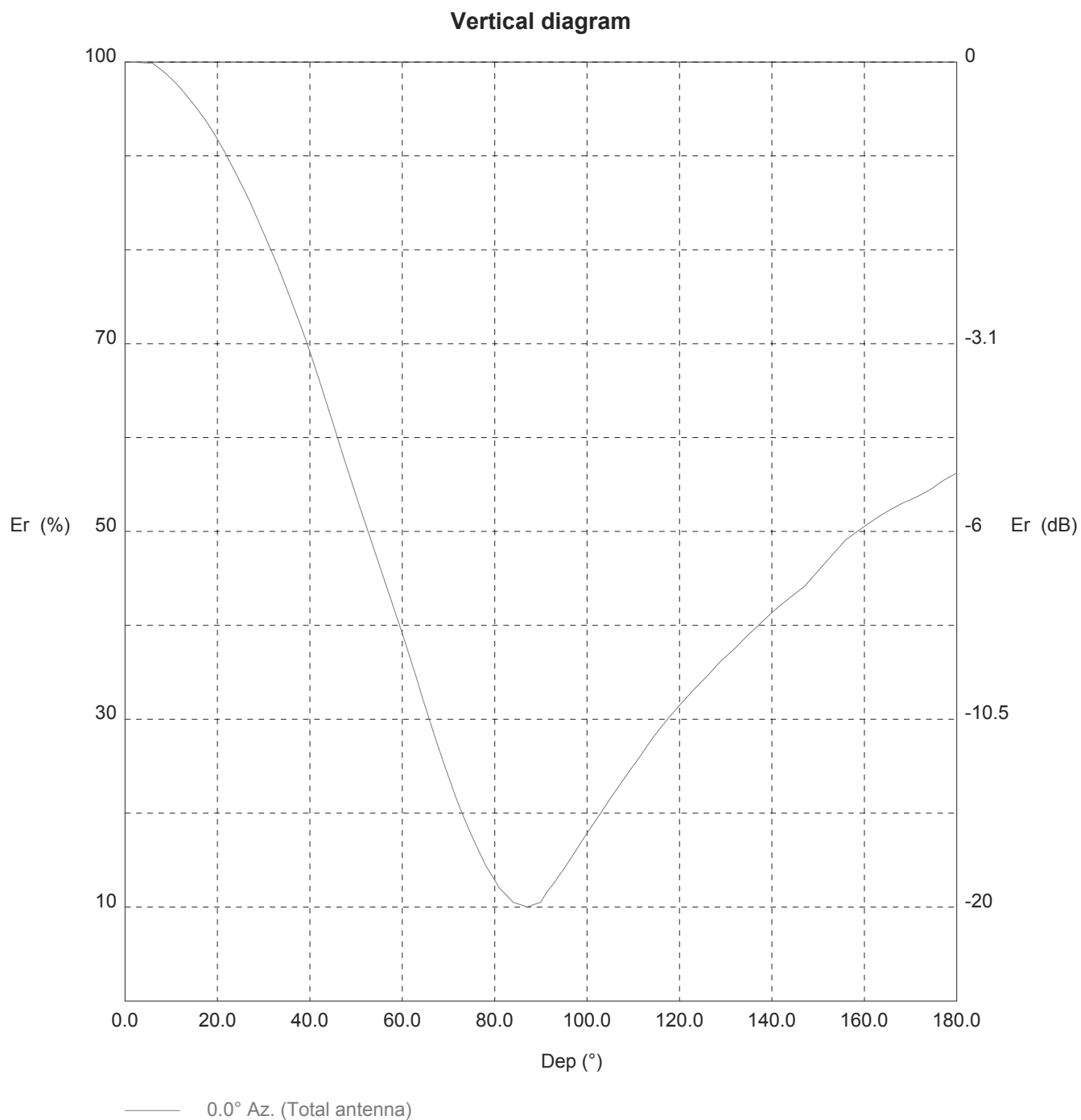


Exhibit 13.7 - Manufacturer's Vertical Radiation Pattern Data



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