



CONSULTING COMMUNICATIONS ENGINEERS • EMC TEST LABORATORIES

5844 Hamline Avenue North, Shoreview, MN 55126
651-784-7445 • Fax 651-784-7541

**ENGINEERING EXHIBIT FOR AN
APPLICATION FOR A CONSTRUCTION PERMIT
CHANNEL 231 CLASS A KXLP
RADIOACTIVE, LLC
EAGLE LAKE, MINNESOTA**

CHANNEL 231 3.7 KW (H&V) 121 METERS HAAT

January 12, 2009

Copyright, 2009, Owl Engineering, Inc. Copying of this material by persons, firms or corporations for the purpose of appropriating it for use in competing applications is expressly prohibited. Permission is granted to the FCC or other interested parties to copy all or portions of this material for study purposes only.



OWL ENGINEERING & EMC TEST LABS, INC.

CONSULTING COMMUNICATIONS ENGINEERS - EMC TEST LABORATORIES

5844 Hamline Avenue North, Shoreview, MN 55126
651-784-7445 • Fax 651-784-7541

TABLE OF CONTENTS

Engineering Figure 1	Engineering Statement
Engineering Figure 2	Site Location Map
Engineering Figure 3	Aerial Site Photograph
Engineering Figure 4A	Contour Coverage Map
Engineering Figure 4B	Present & Proposed 70 DBUV Contour
Engineering Figure 5	Present & Proposed 60 DBUV Contour
Engineering Figure 6	KXLP/KIAI Interference Study
Engineering Figure 6A	KXLP/KIAI Interference Contour Map
Engineering Figure 7	KXLP/KIAI Tabulated Contour Data
	Radio Path Plot



OWL ENGINEERING & EMC TEST LABS, INC.

CONSULTING COMMUNICATIONS ENGINEERS • EMC TEST LABORATORIES

5844 Hamline Avenue North, Shoreview, MN 55126
651-784-7445 • Fax 651-784-7541

ENGINEERING STATEMENT

This engineering exhibit, of which this Statement is a part, was prepared in accordance with the Rules and Regulations of the Federal Communications Commission and pursuant to the provisions of Section III-B of FCC Form 301 on behalf of RadioActive, LLC (hereafter “RadioActive”) in support of an application for authority to modify an existing FM broadcast facility operating on channel 231 (94.1MHz) at Eagle Lake, Minnesota. The instant application proposes to change the transmitter location and change the power output and antenna height. The effective radiated power proposed is 3.7 kW, both in the horizontal and vertical plane, and the antenna center of radiation is 121 meters above the average terrain. This power/height combination is an allowable Class A facility permitted under the current rules and regulations.

“RadioActive” proposes to operate from a site uniquely described by the geographic coordinates:

(NAD 27)

N 44° 08' 31" North Latitude

W 94° 00' 06" West Longitude

(NAD 83)

N 44° 08' 30.9" North Latitude

W 94° 00' 06" West Longitude

Engineering Exhibit Figure 1 is a portion of the Mankato West, Minnesota 7.5 minute U.S.G.S. topographic quadrangle map showing the proposed transmitter site.

Because the area is rural, there is not expected to be any problem with blanketing interference. The 115 dBuV signal contour is predicted to have an area of 1.8 square kilometers and the surrounding area is not very populated. There are only 2,495 people located within this contour. The applicant is aware of the provisions of §73.318 of the FCC's Rules and the requirement for satisfying all complaints of blanketing interference that are received within a one-year period. The main studio for the station is presently located in the Mankato, Minnesota area and the 70 dBuV coverage contour encompasses the studio. Therefore, the instant application complies with §73.1125 of the Rules.



COVERAGE CONTOURS

The three-to-sixteen-kilometer average terrain elevations were derived from the NED 3-second topography database. However, the site elevation was determined from the U.S.G.S. 7.5 minute Mankato West, Minnesota topography quadrangle map.

The effective antenna radiation center height for each of the eight standard 45-degree spaced radials was used in conjunction with the F(50,50) metric curves of Figure 1 of § 73.333 of the Rules to determine the distances to the 70 dBuV and 60 dBuV coverage contours

Distance to Contours

DISTANCES TO CONTOURS (Kilometers):

Antenna COR elevation (AMSL): 413 meters Average HAAT: 121 meters

Frequency: 94.1000 MHz

Coordinates: N 44° 8' 31" W 94° 0' 6"

F(50,50) Curves Number of Contours: 2

AZ (degs)	HAAT (m)	ERPd (kW)	CONTOUR LEVELS (dBu):	
0.0	169	3.7000	70.0	60.0
45.0	107	3.7000	18.9	32.2
90.0	105	3.7000	14.7	26.2
135.0	111	3.7000	14.6	26.0
180.0	117	3.7000	15.0	26.6
225.0	123	3.7000	15.4	27.3
270.0	119	3.7000	15.9	27.8
315.0	114	3.7000	15.5	27.4
			15.2	27.0

The contours drawn from the data are depicted on the maps included as Engineering Figure 3. As is readily evident, all of Eagle Lake, Minnesota is included within the proposed 70 dBuV coverage contour as required by the §73.315 (a) of the Rules.

The proposed and existing coverage contours were calculated and are shown in Figures 4 and 4A.

The radial drawn through the principal city is depicted on the profile plot in Engineering Figure 7. This permitted a determination to be made that there are no major obstructions in the intervening path from the transmitter site to the principal community which demonstrates compliance with §73.315 (b) of the Rules.



OWL ENGINEERING & EMC TEST LABS, INC.

CONSULTING COMMUNICATIONS ENGINEERS • EMC TEST LABORATORIES

5844 Hamline Avenue North, Shoreview, MN 55126
651-784-7445 • Fax 651-784-7541

POPULATION AND AREA DATA

Based on the 2000 U.S. Census of Population, the number of persons enclosed by the proposed 60 dBuV coverage contour is 83,501 persons. The population count was made through the employment of a computer program containing a database including the geographic coordinates of the centroids of population groupings. The area within the proposed 60 dBuV coverage contour is 2,420 square kilometers. A computerized integration program determined this area.

Since the proposed facility is co-locating with an existing FM facility (KMSU) and it is already registered with Registration #1256999 no FAA approval is required.

ALLOCATION CONSIDERATIONS

A review of allotments and assignments on channel 231, on the three immediately upper adjacent, the three immediately lower adjacent channels shows that the site proposed would have a predicted short-spaced condition with KIAI in Mason City, Iowa on channel 230. As a result of this short-spaced condition "**RadioActive**" requests processing under Section 73.215 of the rules.

REFERENCE				DISPLAY DATES			
44 08 31.0 N.		CLASS = A		DATA	01-08-09		
94 00 06.0 W.		Current Spacings to 3rd Adj.		SEARCH	01-12-09		
----- Channel 231 - 94.1 MHz -----							
Call	Channel	Location		Azi	Dist	FCC	Margin
KIAI	LIC 230C1	Mason City		IA 145.9	130.3	132.5	-2.2**
KKLN	LIC 231A	Atwater		MN 330.3	119.5	114.5	5.1
WIAL	LIC 231C1	Eau Claire		WI 68.4	217.2	199.5	17.7
KDOM-FM	LIC 232A	Windom		MN 253.6	98.9	71.5	27.4
KSTP-FM	LIC 233C	St. Paul		MN 33.4	123.1	94.5	28.6
KXXR	LIC 229C	Minneapolis		MN 34.0	123.4	94.5	28.9
KNSG	LIC 234C2	Springfield		MN 283.7	108.5	54.5	54.0
KRFO-FM	LIC-N 285A	Owatonna		MN 96.2	66.3	9.5	56.8

*** Short-Spaced condition with KIAI is removed by using contour protection

Figure 5 shows the interference study data and that the instant proposal does not overlap the contours for KIAI. The interference contours for the proposed facility and KIAI were plotted and can be found in Figure 6 and the data was tabulated and can be found in Figure 6A. The data was calculated utilizing the NED 3-second terrain database. Based on the data provided it shows that this instant application complies with §73.215 of the rules.



CONSULTING COMMUNICATIONS ENGINEERS • EMC TEST LABORATORIES

5844 Hamline Avenue North, Shoreview, MN 55126
651-784-7445 • Fax 651-784-7541

ENVIRONMENTAL IMPACT STATEMENT

The instant proposal is categorically excluded from environmental processing since none of the conditions of §1.1306(b)(2) and (3) would be involved for the following reasons:

- 1) The site proposed is not in or near any location referenced in §1.1306(b)(1) as being of environmental interest.
- 2) The provisions of §1.1306(b)(2) relating to the use of high intensity strobe lighting does not apply since this tower is already utilizing an approved lighting system.
- 3) Compliance to §1.1306(b)(3) regarding human exposure to RF radiation was examined. A search was made about the proposed site coordinates to locate any additional sources of RF radiation and one additional source was found and considered in the calculations. The calculations show that the instant proposal is in compliance with the requirements.

ANSI Power Density Calculations

The proposed antenna will be energized such that it produces an effective radiated power of 3.7 kW from a center of radiation 111 meters above ground level. There is also another FM station located on the tower KMSU.

Using the FCC OET #65 Bulletin the maximum RF Radiation level assuming the combined power levels of KMSU and KXLP the predicted radiation levels are:

STATION	Power Density (uw/cm ²)	% of maximum uncontrolled
KMSU	75.4	6.3
KXLP	20.0	37.7
TOTAL	95.4	44.0

Based on the calculations it was determined that the RF radiation would be only 44% of the uncontrolled limit.

Access to RF circuitry is restricted by a metal fence that surrounds the area that limits access to the public. Signs are posted warning of the potential danger. When persons require access to the site, tower or antenna for maintenance purposes, the transmitter



power will be reduced or completely eliminated to comply with ANSI guidelines. Hence, the conditions of §1.1306(b)(3) would not be involved.

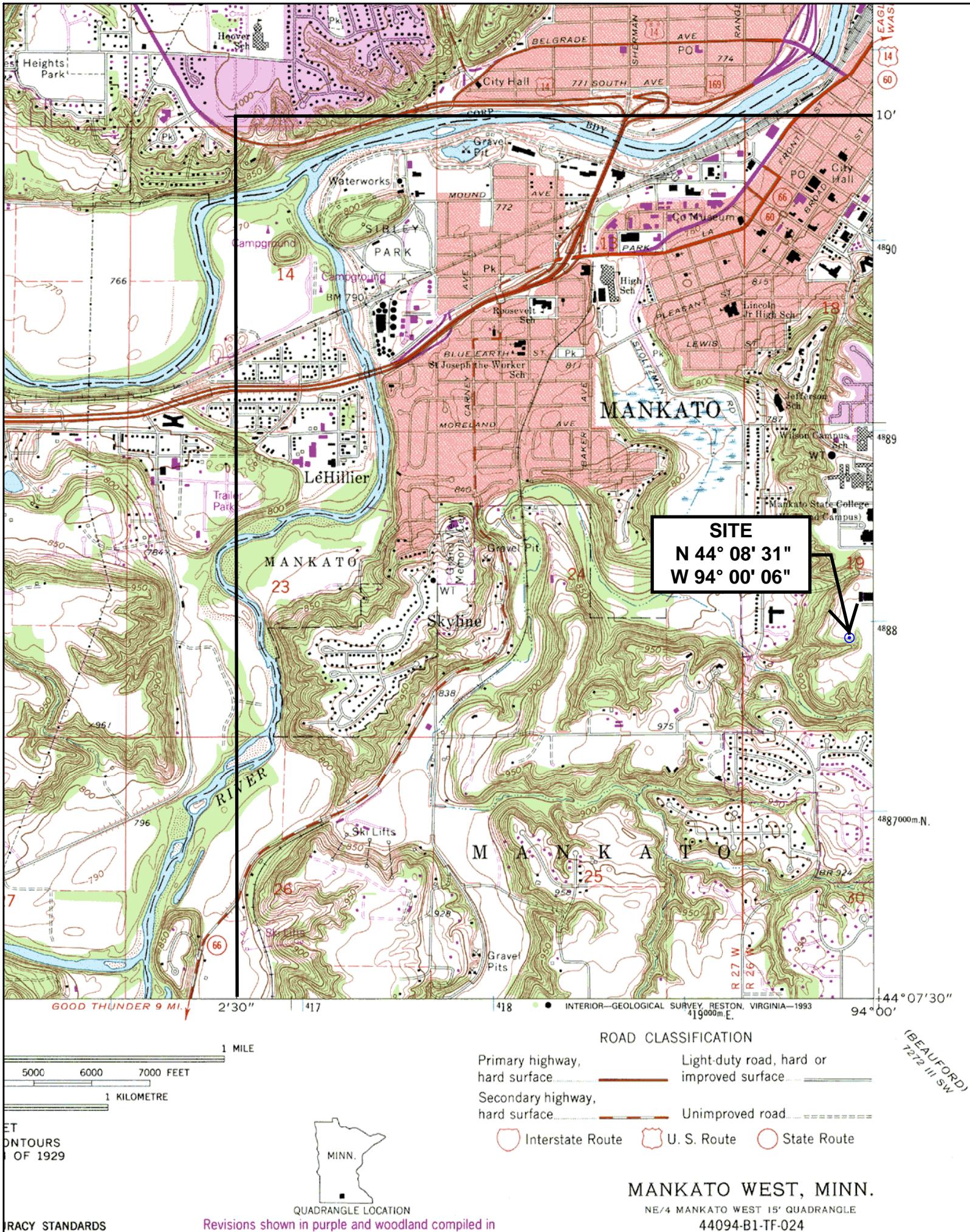
CONCLUSIONS

Based on the engineering studies provided, the following conclusions can be obtained:

- (1) Implementation of the instant proposal will provide Eagle Lake, Minnesota with a full time aural broadcast service.
- (2) 83,501 persons in 2,420 square kilometers would have an available signal strength of 60 dBuV or greater from the proposed construction location.
- (3) All of Eagle Lake, Minnesota would be served with a signal of 70 dBuV or greater from the proposed construction site.
- (4) The proposal is in complete conformance with all technical rules of the Federal Communications Commission.

Garrett G. Lysiak, P.E.

January 12, 2009



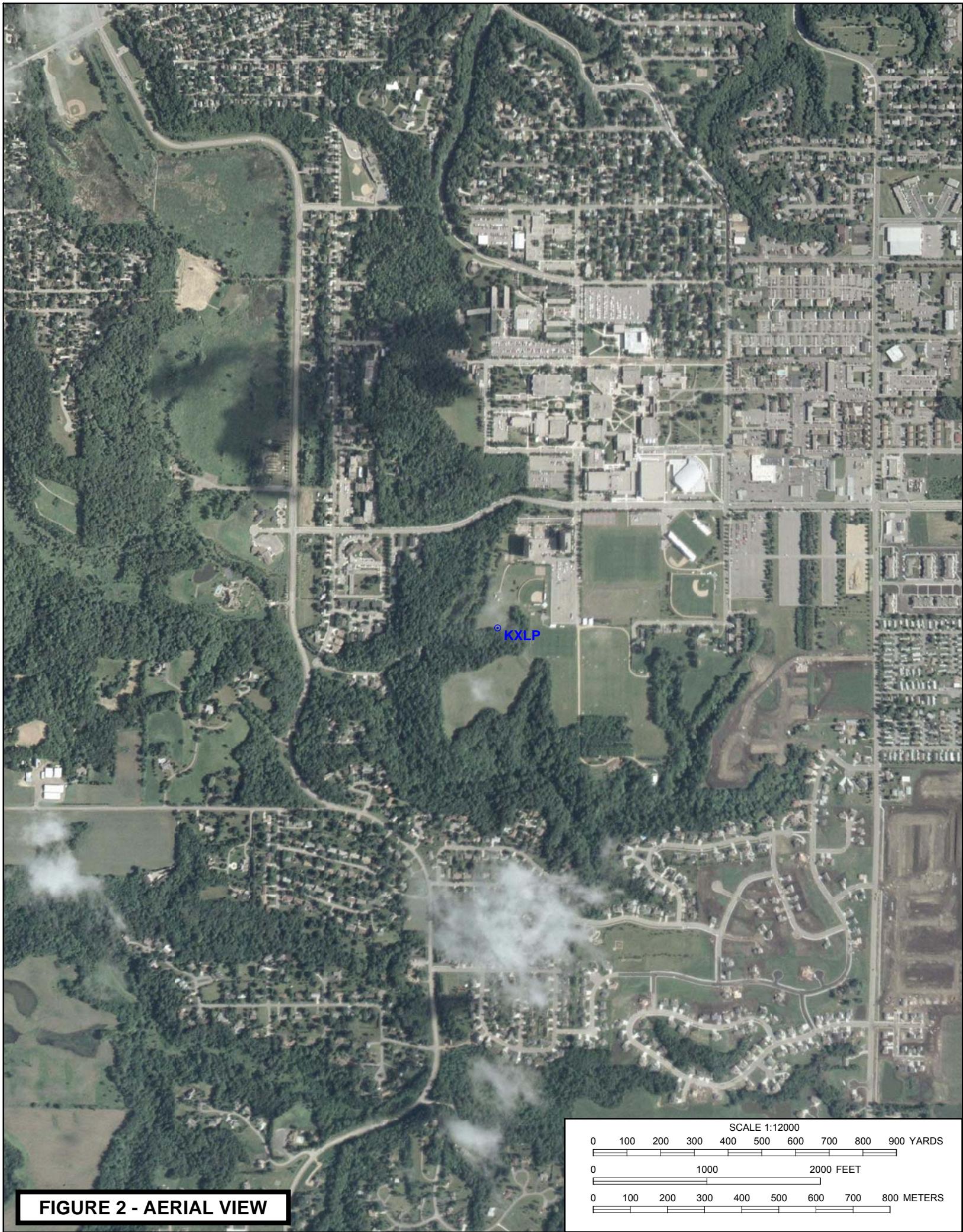
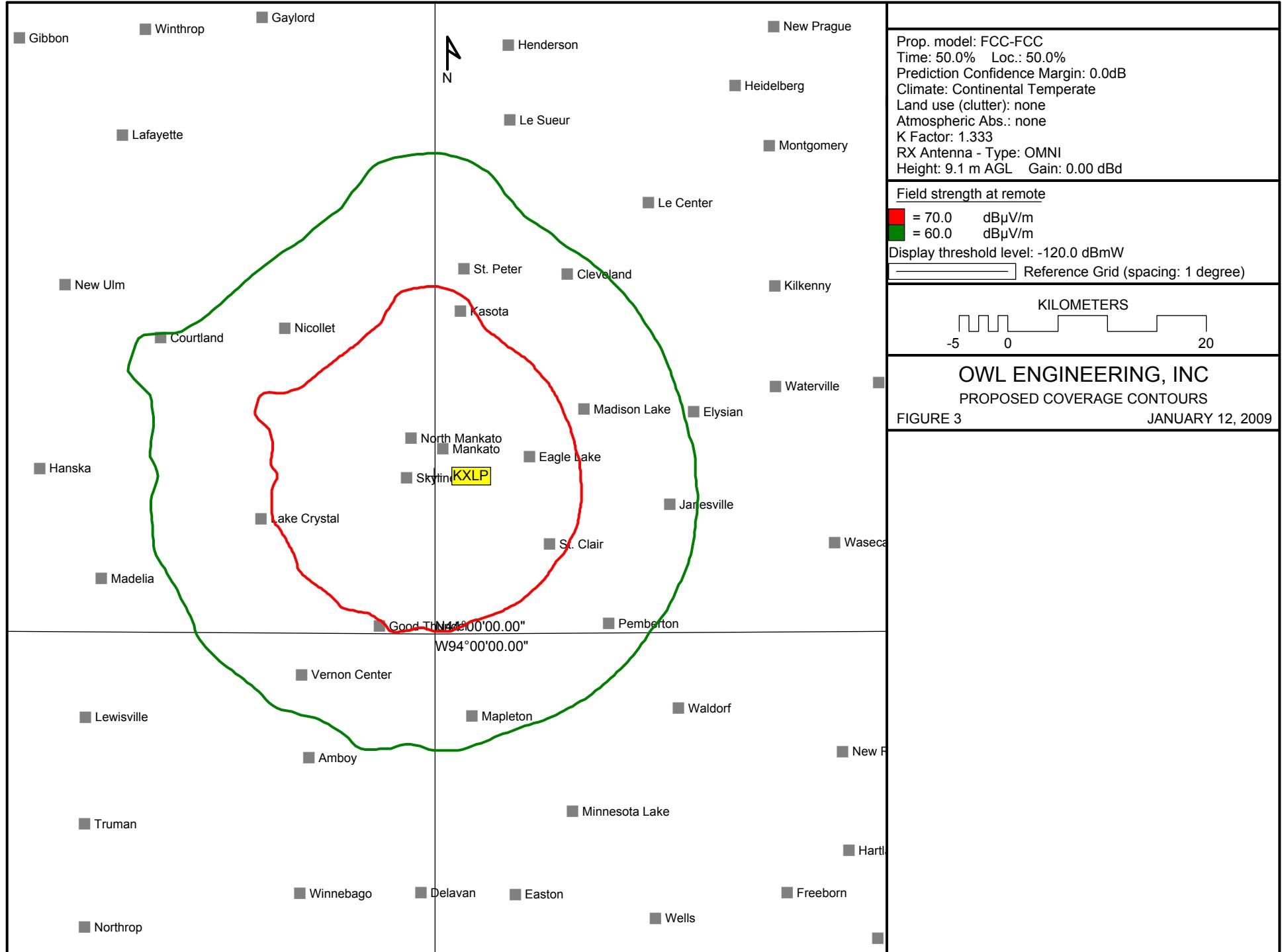
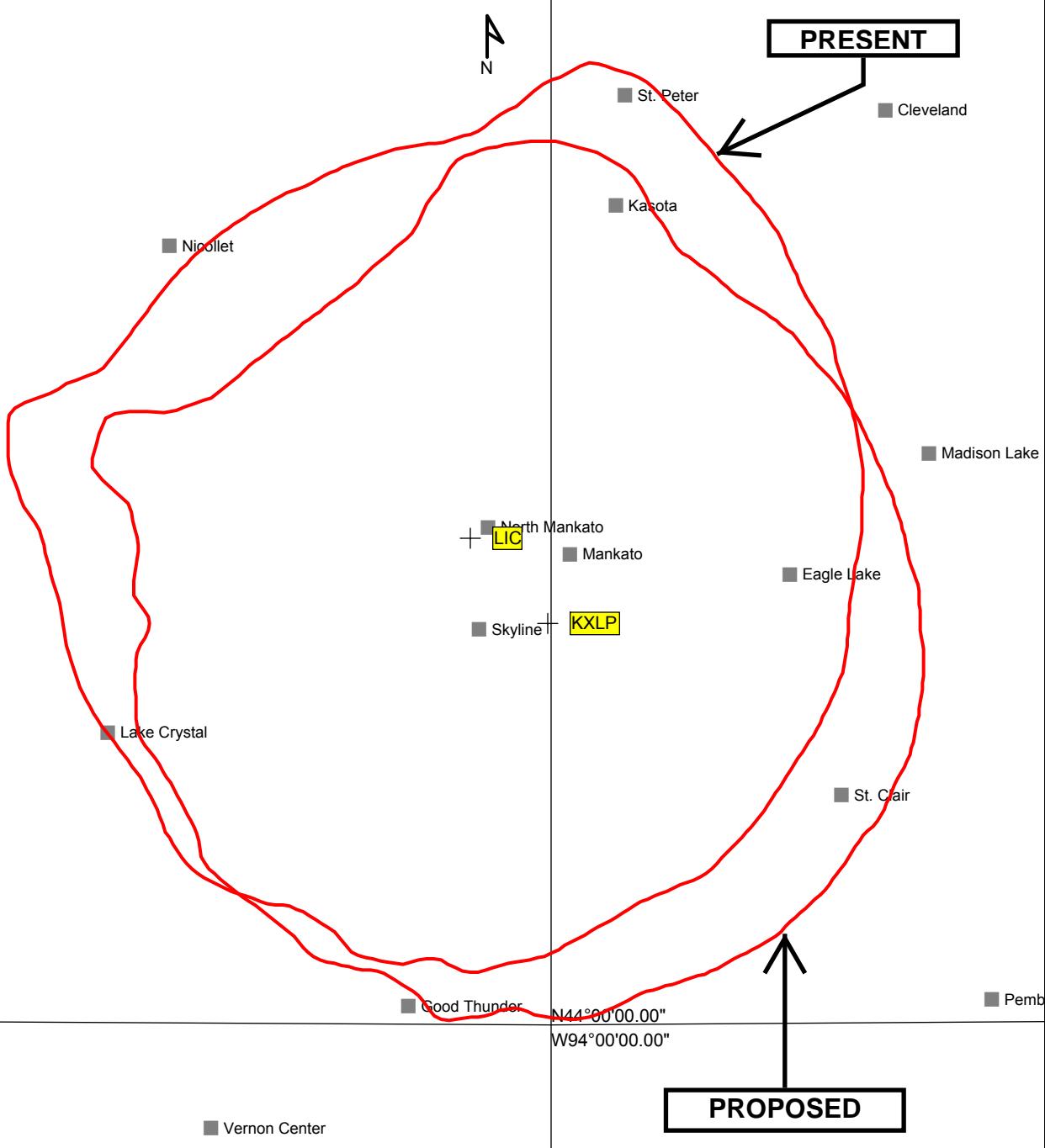


FIGURE 2 - AERIAL VIEW





Prop. model: FCC-FCC Time: 50.0% Loc.: 50.0% Prediction Confidence Margin: 0.0dB Climate: Continental Temperate Land use (clutter): none Atmospheric Abs.: none K Factor: 1.333 RX Antenna - Type: OMNI Height: 9.1 m AGL Gain: 0.00 dBd
Field strength at remote
■ = 70.0 dB μ V/m
Display threshold level: -120.0 dBmW
Reference Grid (spacing: 1 degree)
KILOMETERS -5 0 5
OWL ENGINEERING, INC
PRESENT & PROPOSED CONTOURS
FIGURE 4A
JANUARY 12, 2009

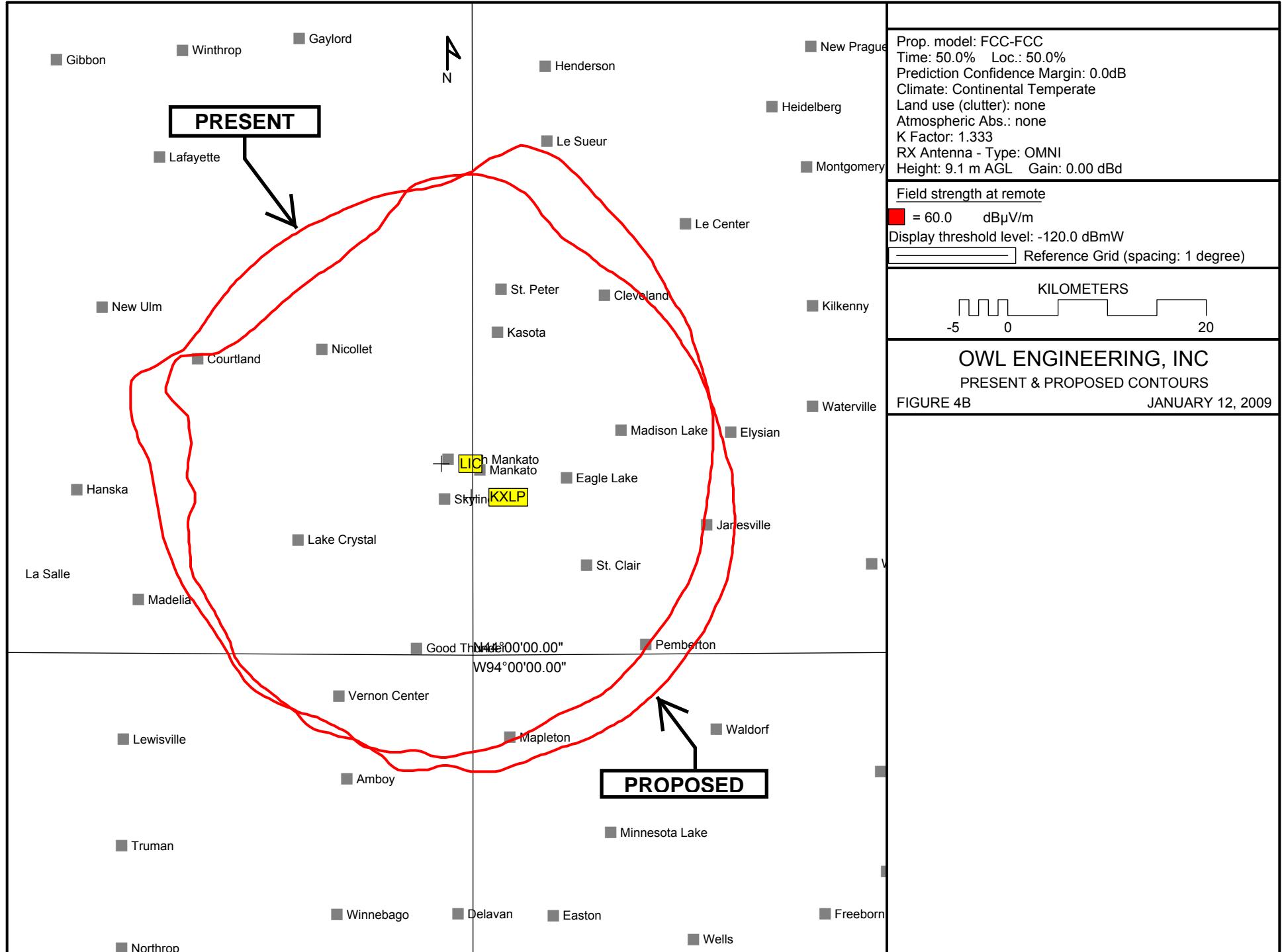


FIGURE 5 - INTERFERENCE STUDY

REFERENCE 44 08 31.0 N. 94 00 06.0 W.	CH# 231A - 94.1 MHz, Pwr= 3.7 kW, HAAT= 120.9 M, COR= 413 M Average Protected F(50-50)= 27.62 km Omni-directional	DISPLAY DATES DATA 01-08-09 SEARCH 01-12-09
CH CITY	CALL STATE	TYPE ANT DIST LAT PWR(kW) INT(km) PRO(km) *IN* *OUT*
CITY	STATE	TYPE ANT DIST LAT LNG PWR(kW) INT(km) PRO(km) *IN* *OUT*
CH CITY	CALL STATE	TYPE ANT DIST LAT LNG PWR(kW) INT(km) PRO(km) LICENSEE *IN* *OUT*
230C1 KIAI^ Mason City	LIC IA	_CN 145.9 130.3 43 10 04.0 100.000 103.4 71.0 0.2 18.5 326.5 BLH19911024KD 93 06 05.0 299 643 Three Eagles Of Lincoln, I
231A KKLN< Atwater	LIC MN	_C_ 330.3 119.5 45 04 24.0 6.000 0.0 0.0 114.5R 5.1M 149.8 BLH20000824AAA 94 45 19.0 100 458 Flagship Broadcasting, Llc
231C1 WIAL< Eau Claire	LIC WI	_CN 68.4 217.2 44 49 48.0 84.000 0.0 0.0 199.5R 17.7M 250.2 BLH19810519AE 91 26 48.0 107 391 Maverick Media Of Eau Clai
232A KDOM-FM< Windom	LIC MN	_CN 253.6 98.9 43 53 06.0 5.700 0.0 0.0 71.5R 27.4M 72.8 BLH19920130KB 95 10 56.0 102 537 Windom Radio, Inc.
233C KSTP-FM< St. Paul	LIC MN	_CY 33.4 123.1 45 03 45.0 100.000 0.0 0.0 94.5R 28.6M 214.0 BMLH19910923KF 93 08 22.0 372 647 Kstp-fm, Llc
229C KXXR< Minneapolis	LIC MN	_CN 34.0 123.4 45 03 30.0 100.000 0.0 0.0 94.5R 28.9M 214.6 BLH19910814KF 93 07 27.0 315 593 Radio License Holding Iii,
234C2 KNSG< Springfield	LIC MN	_CN 283.7 108.5 44 21 54.0 50.000 0.0 0.0 54.5R 54.0M 102.8 BLH19950711KD 95 19 27.0 144 475 Springfield Radio, Inc.
285A KRFO-FM< Owatonna	LIC MN	NCN 96.2 66.3 44 04 29.0 4.700 0.0 0.0 9.5R 56.8M 276.8 BMLH19960111KW 93 10 46.0 53 424 Cumulus Licensing Llc

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 = 2, Co to 3rd adjacent.
Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, _= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)
"<<" = Station meets FCC minimum distance spacing for its class.
"<>" = Contour Overlap
^ = Power and antenna height 'Max classed' as per Sec 73.215 protection requirements

FIGURE 6 - KXLP/KIAI INTERFERENCE CONTOURS

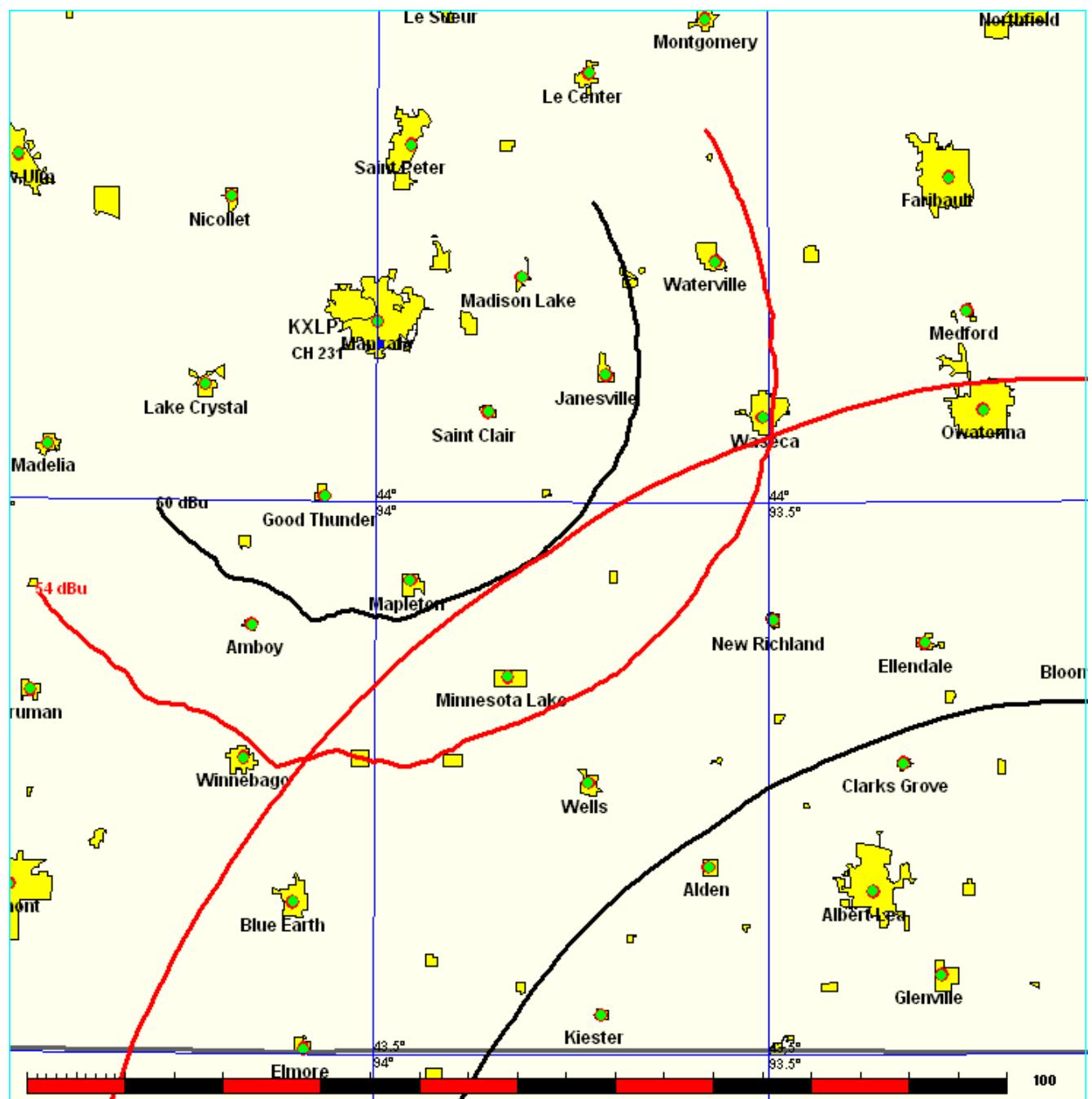




Figure 6A – Tabulated KXLP/KIAI Interference Data

NED 03 SEC Terrain Data

FMOver Analysis

KXLP
Channel = 231A
Max ERP = 3.7 kW
RCAMSL = 413 M
N. Lat. 44 08 31.0
W. Long. 94 00 06.0
Protected
60 dBuV

KIAI BLH19911024KD
Channel = 230C1
Max ERP = 100 kW
RCAMSL = 643 M
N. Lat. 43 10 04.0
W. Long. 93 06 05.0
Interfering
54 dBuV

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBuV)	IX (km)
086.0	003.7000	0107.3	026.2	337.4	100.0000	0288.3	119.5	49.98	
087.0	003.7000	0106.9	026.2	337.3	100.0000	0288.3	119.0	50.07	
088.0	003.7000	0106.7	026.2	337.2	100.0000	0288.3	118.6	50.17	
089.0	003.7000	0106.2	026.1	337.1	100.0000	0288.3	118.2	50.26	
090.0	003.7000	0105.5	026.0	337.0	100.0000	0288.2	117.8	50.34	
091.0	003.7000	0106.1	026.1	336.9	100.0000	0288.2	117.4	50.44	
092.0	003.7000	0107.7	026.3	336.9	100.0000	0288.2	116.9	50.55	
093.0	003.7000	0108.2	026.3	336.8	100.0000	0288.2	116.5	50.65	
094.0	003.7000	0109.1	026.4	336.8	100.0000	0288.2	116.0	50.76	
095.0	003.7000	0109.7	026.5	336.7	100.0000	0288.1	115.6	50.86	
096.0	003.7000	0109.8	026.5	336.6	100.0000	0288.1	115.2	50.95	
097.0	003.7000	0109.6	026.5	336.5	100.0000	0288.1	114.8	51.04	
098.0	003.7000	0109.3	026.5	336.3	100.0000	0288.0	114.4	51.13	
099.0	003.7000	0109.7	026.5	336.2	100.0000	0288.0	114.0	51.23	
100.0	003.7000	0110.1	026.5	336.1	100.0000	0288.0	113.6	51.33	
101.0	003.7000	0110.7	026.6	336.0	100.0000	0288.0	113.2	51.43	
102.0	003.7000	0111.6	026.7	335.9	100.0000	0288.0	112.7	51.54	
103.0	003.7000	0112.9	026.8	335.8	100.0000	0288.0	112.3	51.65	
104.0	003.7000	0113.3	026.9	335.7	100.0000	0288.0	111.9	51.75	
105.0	003.7000	0113.0	026.8	335.5	100.0000	0288.0	111.5	51.84	
106.0	003.7000	0111.9	026.7	335.3	100.0000	0288.1	111.3	51.92	
107.0	003.7000	0110.9	026.6	335.1	100.0000	0288.1	111.0	51.99	
108.0	003.7000	0111.6	026.7	335.0	100.0000	0288.1	110.6	52.09	
109.0	003.7000	0111.9	026.7	334.8	100.0000	0288.2	110.2	52.19	
110.0	003.7000	0112.7	026.8	334.7	100.0000	0288.2	109.8	52.30	
111.0	003.7000	0113.3	026.9	334.5	100.0000	0288.3	109.5	52.40	
112.0	003.7000	0113.5	026.9	334.3	100.0000	0288.3	109.1	52.49	
113.0	003.7000	0113.5	026.9	334.2	100.0000	0288.4	108.8	52.58	
114.0	003.7000	0112.9	026.8	334.0	100.0000	0288.4	108.6	52.65	
115.0	003.7000	0112.9	026.8	333.8	100.0000	0288.4	108.3	52.73	
116.0	003.7000	0113.0	026.8	333.6	100.0000	0288.5	108.0	52.81	
117.0	003.7000	0113.0	026.8	333.4	100.0000	0288.5	107.7	52.89	
118.0	003.7000	0113.6	026.9	333.2	100.0000	0288.5	107.4	52.99	
119.0	003.7000	0113.2	026.9	333.0	100.0000	0288.5	107.2	53.05	
120.0	003.7000	0111.1	026.7	332.7	100.0000	0288.5	107.1	53.07	
121.0	003.7000	0109.9	026.5	332.4	100.0000	0288.5	107.0	53.11	
122.0	003.7000	0109.4	026.5	332.2	100.0000	0288.5	106.8	53.17	
123.0	003.7000	0109.0	026.4	332.0	100.0000	0288.5	106.6	53.22	
124.0	003.7000	0108.9	026.4	331.8	100.0000	0288.3	106.4	53.27	
125.0	003.7000	0109.6	026.5	331.6	100.0000	0288.1	106.1	53.35	



Figure 6A – Tabulated KXLP/KIAI Interference Data (Continued)

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)		Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBuV)	IX (km)
126.0	003.7000	0109.9	026.5		331.4	100.0000	0287.9	105.9	53.41	
127.0	003.7000	0110.2	026.6		331.1	100.0000	0287.6	105.7	53.47	
128.0	003.7000	0111.0	026.6		330.9	100.0000	0287.3	105.4	53.53	
129.0	003.7000	0111.7	026.7		330.7	100.0000	0287.0	105.2	53.60	
130.0	003.7000	0111.9	026.7		330.5	100.0000	0286.7	105.0	53.64	
131.0	003.7000	0112.0	026.7		330.2	100.0000	0286.3	104.8	53.68	
132.0	003.7000	0111.9	026.7		330.0	100.0000	0285.9	104.7	53.71	
133.0	003.7000	0112.2	026.8		329.7	100.0000	0285.5	104.5	53.75	
134.0	003.7000	0111.7	026.7		329.5	100.0000	0285.1	104.4	53.76	
135.0	003.7000	0111.5	026.7		329.2	100.0000	0284.8	104.3	53.78	
136.0	003.7000	0111.5	026.7		329.0	100.0000	0284.6	104.2	53.80	
137.0	003.7000	0111.6	026.7		328.7	100.0000	0284.3	104.1	53.83	
138.0	003.7000	0111.4	026.7		328.5	100.0000	0284.0	104.1	53.84	
139.0	003.7000	0111.4	026.7		328.2	100.0000	0283.6	104.0	53.85	
140.0	003.7000	0111.4	026.7		328.0	100.0000	0283.2	103.9	53.86	
141.0	003.7000	0111.2	026.7		327.7	100.0000	0282.9	103.9	53.86	
142.0	003.7000	0112.8	026.8		327.5	100.0000	0282.7	103.7	53.92	
143.0	003.7000	0113.1	026.9		327.2	100.0000	0282.5	103.6	53.93	
144.0	003.7000	0113.8	026.9		327.0	100.0000	0282.5	103.5	53.96	
145.0	003.7000	0112.7	026.8		326.7	100.0000	0282.5	103.6	53.93	
146.0	003.7000	0112.2	026.8		326.5	100.0000	0282.6	103.6	53.92	
147.0	003.7000	0111.7	026.7		326.2	100.0000	0282.7	103.7	53.91	
148.0	003.7000	0111.9	026.7		325.9	100.0000	0282.9	103.7	53.91	
149.0	003.7000	0111.7	026.7		325.7	100.0000	0283.0	103.7	53.90	
150.0	003.7000	0111.0	026.6		325.4	100.0000	0283.2	103.8	53.88	
151.0	003.7000	0111.1	026.6		325.2	100.0000	0283.4	103.9	53.87	
152.0	003.7000	0110.9	026.6		324.9	100.0000	0283.7	104.0	53.86	
153.0	003.7000	0111.0	026.6		324.7	100.0000	0283.9	104.0	53.84	
154.0	003.7000	0110.6	026.6		324.4	100.0000	0284.1	104.1	53.82	
155.0	003.7000	0110.4	026.6		324.2	100.0000	0284.4	104.2	53.79	
156.0	003.7000	0111.1	026.6		323.9	100.0000	0284.6	104.3	53.79	
157.0	003.7000	0110.8	026.6		323.7	100.0000	0284.7	104.4	53.75	
158.0	003.7000	0111.0	026.6		323.4	100.0000	0284.9	104.5	53.73	
159.0	003.7000	0111.0	026.6		323.2	100.0000	0285.0	104.6	53.70	
160.0	003.7000	0110.8	026.6		323.0	100.0000	0285.3	104.8	53.66	
161.0	003.7000	0111.0	026.6		322.7	100.0000	0285.5	104.9	53.63	
162.0	003.7000	0111.4	026.7		322.5	100.0000	0285.7	105.0	53.60	
163.0	003.7000	0110.9	026.6		322.2	100.0000	0285.9	105.2	53.55	
164.0	003.7000	0111.1	026.6		322.0	100.0000	0286.1	105.4	53.50	
165.0	003.7000	0111.1	026.6		321.8	100.0000	0286.3	105.6	53.46	
166.0	003.7000	0111.5	026.7		321.5	100.0000	0286.4	105.7	53.41	
167.0	003.7000	0111.6	026.7		321.3	100.0000	0286.5	105.9	53.36	
168.0	003.7000	0112.3	026.8		321.1	100.0000	0286.7	106.1	53.32	
169.0	003.7000	0114.8	027.0		320.8	100.0000	0286.9	106.0	53.33	
170.0	003.7000	0116.4	027.2		320.5	100.0000	0287.1	106.1	53.31	
171.0	003.7000	0117.2	027.3		320.3	100.0000	0287.3	106.3	53.27	
172.0	003.7000	0119.0	027.4		320.0	100.0000	0287.6	106.4	53.24	
173.0	003.7000	0121.5	027.7		319.7	100.0000	0287.8	106.5	53.23	
174.0	003.7000	0122.4	027.8		319.5	100.0000	0287.9	106.7	53.17	
175.0	003.7000	0122.7	027.8		319.3	100.0000	0288.1	107.0	53.10	



OWL ENGINEERING & EMC TEST LABS, INC.

CONSULTING COMMUNICATIONS ENGINEERS • EMC TEST LABORATORIES

5844 Hamline Avenue North, Shoreview, MN 55126
651-784-7445 • Fax 651-784-7541

Figure 6A – Tabulated KXLP/KIAI Interference Data (Continued)

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBuV)	IX (km)
176.0	003.7000	0125.2	028.0	319.0	100.0000	0288.4	107.1	53.08	
177.0	003.7000	0124.5	027.9	318.8	100.0000	0288.6	107.4	52.98	
178.0	003.7000	0122.5	027.8	318.7	100.0000	0288.7	107.9	52.86	
179.0	003.7000	0120.2	027.6	318.5	100.0000	0288.8	108.3	52.73	
180.0	003.7000	0119.3	027.5	318.4	100.0000	0288.9	108.7	52.62	
181.0	003.7000	0120.4	027.6	318.2	100.0000	0289.0	109.0	52.56	
182.0	003.7000	0119.0	027.4	318.0	100.0000	0289.0	109.4	52.44	
183.0	003.7000	0118.0	027.3	317.9	100.0000	0289.0	109.8	52.33	
184.0	003.7000	0116.8	027.2	317.8	100.0000	0289.0	110.2	52.22	
185.0	003.7000	0115.4	027.1	317.7	100.0000	0289.0	110.7	52.10	
186.0	003.7000	0114.3	027.0	317.5	100.0000	0289.0	111.1	51.99	
187.0	003.7000	0115.5	027.1	317.3	100.0000	0289.0	111.4	51.91	
188.0	003.7000	0117.1	027.3	317.1	100.0000	0289.0	111.6	51.84	
189.0	003.7000	0119.8	027.5	316.9	100.0000	0289.1	111.9	51.79	
190.0	003.7000	0123.0	027.8	316.6	100.0000	0289.2	112.1	51.74	
191.0	003.7000	0124.8	028.0	316.4	100.0000	0289.2	112.4	51.66	
192.0	003.7000	0128.1	028.3	316.1	100.0000	0289.3	112.6	51.60	
193.0	003.7000	0131.9	028.6	315.8	100.0000	0289.3	112.8	51.55	
194.0	003.7000	0133.8	028.8	315.6	100.0000	0289.3	113.2	51.47	
195.0	003.7000	0131.4	028.6	315.6	100.0000	0289.3	113.7	51.33	
196.0	003.7000	0128.6	028.3	315.6	100.0000	0289.3	114.3	51.20	
197.0	003.7000	0125.0	028.0	315.6	100.0000	0289.3	114.9	51.06	
198.0	003.7000	0121.8	027.7	315.6	100.0000	0289.3	115.4	50.93	
199.0	003.7000	0119.5	027.5	315.6	100.0000	0289.3	115.9	50.80	
200.0	003.7000	0118.0	027.3	315.6	100.0000	0289.3	116.4	50.69	
201.0	003.7000	0117.2	027.3	315.5	100.0000	0289.3	116.9	50.58	
202.0	003.7000	0116.5	027.2	315.5	100.0000	0289.3	117.4	50.48	
203.0	003.7000	0115.8	027.1	315.4	100.0000	0289.3	117.8	50.37	
204.0	003.7000	0115.0	027.0	315.4	100.0000	0289.3	118.3	50.27	
205.0	003.7000	0114.8	027.0	315.3	100.0000	0289.4	118.7	50.17	
206.0	003.7000	0114.5	027.0	315.3	100.0000	0289.4	119.2	50.07	



CONSULTING COMMUNICATIONS ENGINEERS • EMC TEST LABORATORIES

5844 Hamline Avenue North, Shoreview, MN 55126
651-784-7445 • Fax 651-784-7541

Figure 6A – Tabulated KXLP/KIAI Interference Data (Continued)

NED 03 SEC Terrain Data

KIAI BLH19911024KD
Channel = 230C1
Max ERP = 100 kW
RCAMSL = 643 M
N. Lat. 43 10 04.0
W. Long. 93 06 05.0
Protected
60 dBuV

KXLP
Channel = 231A
Max ERP = 3.7 kW
RCAMSL = 413 M
N. Lat. 44 08 31.0
W. Long. 94 00 06.0
Interfering
54 dBuV

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
267.0	100.0000	0298.9	072.3	179.8	003.7000	0119.3	112.0	32.62	
268.0	100.0000	0298.2	072.2	179.8	003.7000	0119.3	110.8	32.86	
269.0	100.0000	0298.2	072.2	179.8	003.7000	0119.3	109.5	33.11	
270.0	100.0000	0298.3	072.3	179.8	003.7000	0119.3	108.2	33.37	
271.0	100.0000	0297.9	072.2	179.8	003.7000	0119.3	107.0	33.63	
272.0	100.0000	0298.2	072.2	179.8	003.7000	0119.3	105.7	33.90	
273.0	100.0000	0298.1	072.2	179.7	003.7000	0119.3	104.5	34.18	
274.0	100.0000	0297.5	072.2	179.7	003.7000	0119.3	103.2	34.46	
275.0	100.0000	0297.1	072.2	179.6	003.7000	0119.4	101.9	34.76	
276.0	100.0000	0297.7	072.2	179.6	003.7000	0119.4	100.7	35.05	
277.0	100.0000	0298.2	072.2	179.5	003.7000	0119.5	099.4	35.36	
278.0	100.0000	0299.1	072.3	179.4	003.7000	0119.5	098.2	35.68	
279.0	100.0000	0299.5	072.3	179.3	003.7000	0119.6	096.9	36.00	
280.0	100.0000	0298.7	072.3	179.2	003.7000	0119.9	095.7	36.33	
281.0	100.0000	0298.5	072.3	179.0	003.7000	0120.2	094.5	36.66	
282.0	100.0000	0298.0	072.2	178.8	003.7000	0120.7	093.2	37.01	
283.0	100.0000	0297.6	072.2	178.6	003.7000	0121.2	092.0	37.36	
284.0	100.0000	0297.1	072.2	178.4	003.7000	0121.7	090.8	37.72	
285.0	100.0000	0298.7	072.3	178.3	003.7000	0122.0	089.6	38.08	
286.0	100.0000	0302.0	072.5	178.2	003.7000	0122.2	088.3	38.44	
287.0	100.0000	0303.5	072.7	178.0	003.7000	0122.5	087.0	38.81	
288.0	100.0000	0303.2	072.6	177.7	003.7000	0122.9	085.9	39.17	
289.0	100.0000	0301.5	072.5	177.3	003.7000	0123.4	084.7	39.52	
290.0	100.0000	0301.2	072.5	177.0	003.7000	0124.6	083.6	39.90	
291.0	100.0000	0302.0	072.5	176.7	003.7000	0125.1	082.4	40.27	
292.0	100.0000	0300.4	072.4	176.2	003.7000	0125.3	081.3	40.60	
293.0	100.0000	0299.0	072.3	175.8	003.7000	0125.0	080.2	40.90	
294.0	100.0000	0298.0	072.2	175.3	003.7000	0123.6	079.1	41.15	
295.0	100.0000	0297.3	072.2	174.8	003.7000	0122.4	078.1	41.41	
296.0	100.0000	0296.9	072.1	174.3	003.7000	0122.3	077.0	41.72	
297.0	100.0000	0296.6	072.1	173.8	003.7000	0122.6	075.9	42.05	
298.0	100.0000	0296.2	072.1	173.2	003.7000	0122.0	074.9	42.32	
299.0	100.0000	0295.5	072.0	172.6	003.7000	0120.6	073.9	42.55	
300.0	100.0000	0294.3	071.9	172.0	003.7000	0118.9	073.0	42.75	
301.0	100.0000	0293.4	071.9	171.3	003.7000	0117.6	072.0	42.96	
302.0	100.0000	0292.5	071.8	170.6	003.7000	0116.9	071.1	43.20	
303.0	100.0000	0291.8	071.7	169.9	003.7000	0116.3	070.2	43.44	
304.0	100.0000	0291.3	071.7	169.2	003.7000	0115.3	069.4	43.66	
305.0	100.0000	0291.1	071.7	168.5	003.7000	0113.6	068.5	43.83	



Figure 6A – Tabulated KXLP/KIAI Interference Data (Continued)

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)		Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBuV)	IX (km)
306.0	100.0000	0291.4	071.7		167.7	003.7000	0111.7	067.6	43.99	
307.0	100.0000	0291.3	071.7		166.9	003.7000	0111.6	066.8	44.24	
308.0	100.0000	0291.0	071.7		166.0	003.7000	0111.5	066.1	44.47	
309.0	100.0000	0291.0	071.7		165.2	003.7000	0111.2	065.3	44.69	
310.0	100.0000	0291.3	071.7		164.3	003.7000	0111.1	064.6	44.92	
311.0	100.0000	0291.4	071.7		163.4	003.7000	0110.9	063.9	45.13	
312.0	100.0000	0291.1	071.7		162.4	003.7000	0111.6	063.2	45.37	
313.0	100.0000	0290.5	071.6		161.4	003.7000	0111.1	062.7	45.54	
314.0	100.0000	0290.1	071.6		160.4	003.7000	0110.9	062.1	45.71	
315.0	100.0000	0289.5	071.5		159.3	003.7000	0110.9	061.6	45.88	
316.0	100.0000	0289.3	071.5		158.2	003.7000	0111.0	061.1	46.05	
317.0	100.0000	0289.1	071.5		157.1	003.7000	0110.7	060.7	46.19	
318.0	100.0000	0289.0	071.5		156.0	003.7000	0111.1	060.3	46.35	
319.0	100.0000	0288.4	071.5		154.9	003.7000	0110.4	060.0	46.43	
320.0	100.0000	0287.6	071.4		153.7	003.7000	0110.7	059.7	46.54	
321.0	100.0000	0286.7	071.3		152.5	003.7000	0110.9	059.5	46.62	
322.0	100.0000	0286.1	071.3		151.3	003.7000	0111.1	059.3	46.70	
323.0	100.0000	0285.2	071.2		150.1	003.7000	0111.0	059.2	46.73	
324.0	100.0000	0284.5	071.1		148.9	003.7000	0111.7	059.2	46.80	
325.0	100.0000	0283.6	071.1		147.7	003.7000	0112.0	059.2	46.82	
326.0	100.0000	0282.8	071.0		146.5	003.7000	0111.8	059.2	46.80	
327.0	100.0000	0282.5	071.0		145.3	003.7000	0112.4	059.2	46.82	
328.0	100.0000	0283.3	071.0		144.1	003.7000	0113.8	059.2	46.91	
329.0	100.0000	0284.6	071.1		142.9	003.7000	0113.0	059.2	46.86	
330.0	100.0000	0286.0	071.3		141.7	003.7000	0112.2	059.2	46.80	
331.0	100.0000	0287.4	071.4		140.5	003.7000	0111.4	059.3	46.72	
332.0	100.0000	0288.5	071.5		139.3	003.7000	0111.5	059.5	46.67	
333.0	100.0000	0288.5	071.5		138.1	003.7000	0111.4	059.8	46.56	
334.0	100.0000	0288.4	071.5		137.0	003.7000	0111.6	060.1	46.45	
335.0	100.0000	0288.1	071.4		135.9	003.7000	0111.5	060.5	46.30	
336.0	100.0000	0288.0	071.4		134.8	003.7000	0111.6	061.0	46.15	
337.0	100.0000	0288.2	071.4		133.7	003.7000	0112.0	061.4	46.01	
338.0	100.0000	0288.5	071.5		132.6	003.7000	0112.2	061.9	45.86	
339.0	100.0000	0288.5	071.5		131.6	003.7000	0111.9	062.5	45.65	
340.0	100.0000	0288.8	071.5		130.6	003.7000	0112.0	063.0	45.47	
341.0	100.0000	0288.9	071.5		129.6	003.7000	0111.8	063.6	45.25	
342.0	100.0000	0289.3	071.5		128.6	003.7000	0111.4	064.3	45.02	
343.0	100.0000	0290.1	071.6		127.7	003.7000	0110.8	064.9	44.78	
344.0	100.0000	0290.8	071.7		126.7	003.7000	0110.0	065.6	44.52	
345.0	100.0000	0292.0	071.7		125.8	003.7000	0109.9	066.3	44.30	
346.0	100.0000	0293.4	071.9		124.9	003.7000	0109.6	067.0	44.06	
347.0	100.0000	0294.4	071.9		124.1	003.7000	0109.0	067.8	43.79	
348.0	100.0000	0295.3	072.0		123.3	003.7000	0108.9	068.6	43.54	
349.0	100.0000	0295.6	072.0		122.5	003.7000	0109.1	069.5	43.28	
350.0	100.0000	0296.3	072.1		121.8	003.7000	0109.6	070.4	43.04	
351.0	100.0000	0297.0	072.1		121.1	003.7000	0109.9	071.3	42.78	
352.0	100.0000	0297.0	072.1		120.4	003.7000	0110.4	072.3	42.52	
353.0	100.0000	0296.2	072.1		119.8	003.7000	0111.5	073.3	42.27	
354.0	100.0000	0295.5	072.0		119.3	003.7000	0112.7	074.3	42.02	
355.0	100.0000	0295.3	072.0		118.8	003.7000	0113.4	075.4	41.75	
356.0	100.0000	0295.3	072.0		118.2	003.7000	0113.6	076.4	41.45	



Figure 6A – Tabulated KXLP/KIAI Interference Data (Continued)

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)		Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBuV)	IX (km)
357.0	100.0000	0294.8	072.0		117.8	003.7000	0113.6	077.5	41.14	
358.0	100.0000	0294.1	071.9		117.3	003.7000	0113.5	078.6	40.81	
359.0	100.0000	0293.5	071.9		116.9	003.7000	0112.9	079.8	40.46	
000.0	100.0000	0292.7	071.8		116.5	003.7000	0112.7	080.9	40.12	
001.0	100.0000	0291.9	071.7		116.2	003.7000	0113.0	082.1	39.80	
002.0	100.0000	0291.3	071.7		115.8	003.7000	0113.0	083.2	39.48	
003.0	100.0000	0291.1	071.7		115.5	003.7000	0113.0	084.4	39.15	
004.0	100.0000	0291.4	071.7		115.2	003.7000	0112.9	085.5	38.81	
005.0	100.0000	0291.4	071.7		114.9	003.7000	0112.8	086.7	38.48	
006.0	100.0000	0291.5	071.7		114.6	003.7000	0112.8	087.9	38.15	
007.0	100.0000	0291.6	071.7		114.3	003.7000	0112.8	089.1	37.82	
008.0	100.0000	0291.1	071.7		114.1	003.7000	0112.9	090.3	37.49	
009.0	100.0000	0290.6	071.6		113.9	003.7000	0113.0	091.5	37.16	
010.0	100.0000	0290.1	071.6		113.7	003.7000	0113.1	092.7	36.84	
011.0	100.0000	0289.5	071.5		113.6	003.7000	0113.3	093.9	36.52	
012.0	100.0000	0288.7	071.5		113.4	003.7000	0113.4	095.2	36.20	
013.0	100.0000	0288.5	071.5		113.3	003.7000	0113.4	096.4	35.88	
014.0	100.0000	0288.3	071.4		113.2	003.7000	0113.5	097.6	35.57	
015.0	100.0000	0288.4	071.5		113.1	003.7000	0113.5	098.9	35.27	
016.0	100.0000	0287.8	071.4		113.0	003.7000	0113.5	100.1	34.97	
017.0	100.0000	0286.8	071.3		112.9	003.7000	0113.6	101.4	34.68	
018.0	100.0000	0286.0	071.3		112.9	003.7000	0113.6	102.6	34.39	
019.0	100.0000	0285.2	071.2		112.9	003.7000	0113.6	103.8	34.11	
020.0	100.0000	0284.7	071.1		112.8	003.7000	0113.6	105.1	33.84	
021.0	100.0000	0284.4	071.1		112.8	003.7000	0113.6	106.3	33.58	
022.0	100.0000	0283.9	071.1		112.8	003.7000	0113.7	107.6	33.32	
023.0	100.0000	0283.4	071.0		112.8	003.7000	0113.6	108.8	33.06	
024.0	100.0000	0282.9	071.0		112.8	003.7000	0113.6	110.1	32.81	
025.0	100.0000	0282.2	070.9		112.9	003.7000	0113.6	111.3	32.57	
026.0	100.0000	0281.8	070.9		112.9	003.7000	0113.6	112.5	32.34	
027.0	100.0000	0282.0	070.9		112.9	003.7000	0113.6	113.8	32.11	

