

KTIS.L

Freq: 900 kHz

Class: B

Latitude: 44-59-24 N

Longitude: 092-58-54 W

Power: 25 kW

RMS: 1426.31 mV/m @1km

Towers: 4

AUs: 3

Exhibit 15.1
Present Map M-3
Domestic Allocation
Page 1 of 2

— 5.0 mV/m
— 0.5 mV/m
- - 0.25 mV/m
— 0.025 mV/m

KQLX.C

WHSM.L

WATK.L

KTIS.L

KDHL.L

KJJQ.L

WDLS.L

KJSK.L

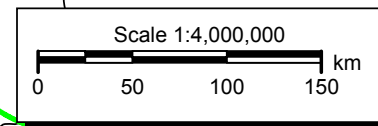


Exhibit 15.1

Present Domestic Map M-3 Allocation Study

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AM Daytime Study

Reference Station:

Call: KTIS.L

Freq: 900 kHz

MINNEAPOLIS, MN, US

Lat: 44-59-24 N

Power: 25.0 kW

Lng: 092-58-54 W

Theo RMS: 1426.31 mV/m @ 1km

of Augmentations: 3

#	Field Ratio	Phase (deg)	Spacing (deg)	Orient (deg)	Height (deg)	Ref Swch	TL Swch	A (deg)	B (deg)	C (deg)	D (deg)
1	1.000	0.0	0.0	0.0	90.0	0	0	0.0	0.0	0.0	0.0
2	0.720	4.0	180.0	35.0	90.0	0	0	0.0	0.0	0.0	0.0
3	0.780	91.5	90.0	125.0	90.0	0	0	0.0	0.0	0.0	0.0
4	0.562	95.5	180.0	35.0	90.0	1	0	0.0	0.0	0.0	0.0

Call	Freq	City	ST	Dist	Azi	In	Out
WHSM.L	910	HAYWARD	WI	157.9	46.1	-1553.00	-656.50
KDHL.L	920	FARIBAULT	MN	84.1	196.0	3.96	3.96
WDLS.L	900	WISCONSIN DE	WI	300.3	121.1	39.01	16.54
KQLX.C	890	LISBON	ND	397.9	292.3	66.46	42.19
WATK.L	900	ANTIGO	WI	301.9	88.9	87.50	47.55
KQLX.L	890	LISBON	ND	397.9	292.3	79.28	51.87
KJJQ.L	910	VOLGA	SD	325.9	254.0	73.22	65.54
KJSK.L	900	COLUMBUS	NE	533.2	220.8	82.34	68.54
KFAL.L	900	FULTON	MO	685.5	173.2	266.55	245.05

Negative values in the "In" and "Out" columns reflect km² areas of Incoming and Outgoing overlap respectively. Positive values reflect linear distance of clearance to the offending contour. In response to FCC attempts to streamline the application process, tabulations of distances to contours and Map M-3 Conductivities for each station have been omitted. These tabulations will be supplied upon request.

Munn-Reese, Inc.

Broadcast Engineering Consultants
Coldwater, MI 49036

KTIS.p

Freq: 900 kHz

Class: B

Latitude: 44-59-24 N

Longitude: 092-58-52 W

Power: 50 kW

RMS: 2021.313 mV/m @1km

Towers: 4

AUs: 0

Exhibit 15.2
Proposed Map M-3
Domestic Allocation
Page 1 of 2

— 5.0 mV/m
— 0.5 mV/m
- - 0.25 mV/m
— 0.025 mV/m

KQLX.C

WHSN.L

WATK.L

KTIS.p

KDHL.L

KJJQ.L

WDLS.L

KJSK.L



MUNN-REESE, INC.

Broadcast Engineering Consultants
Coldwater, MI 49036

1(517)278-7339

Scale 1:4,000,000

0 50 100 150 km

V-Soft Communications LLC ©

Exhibit 15.2

Proposed Domestic Map M-3 Allocation Study

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AM Daytime Study

Reference Station:

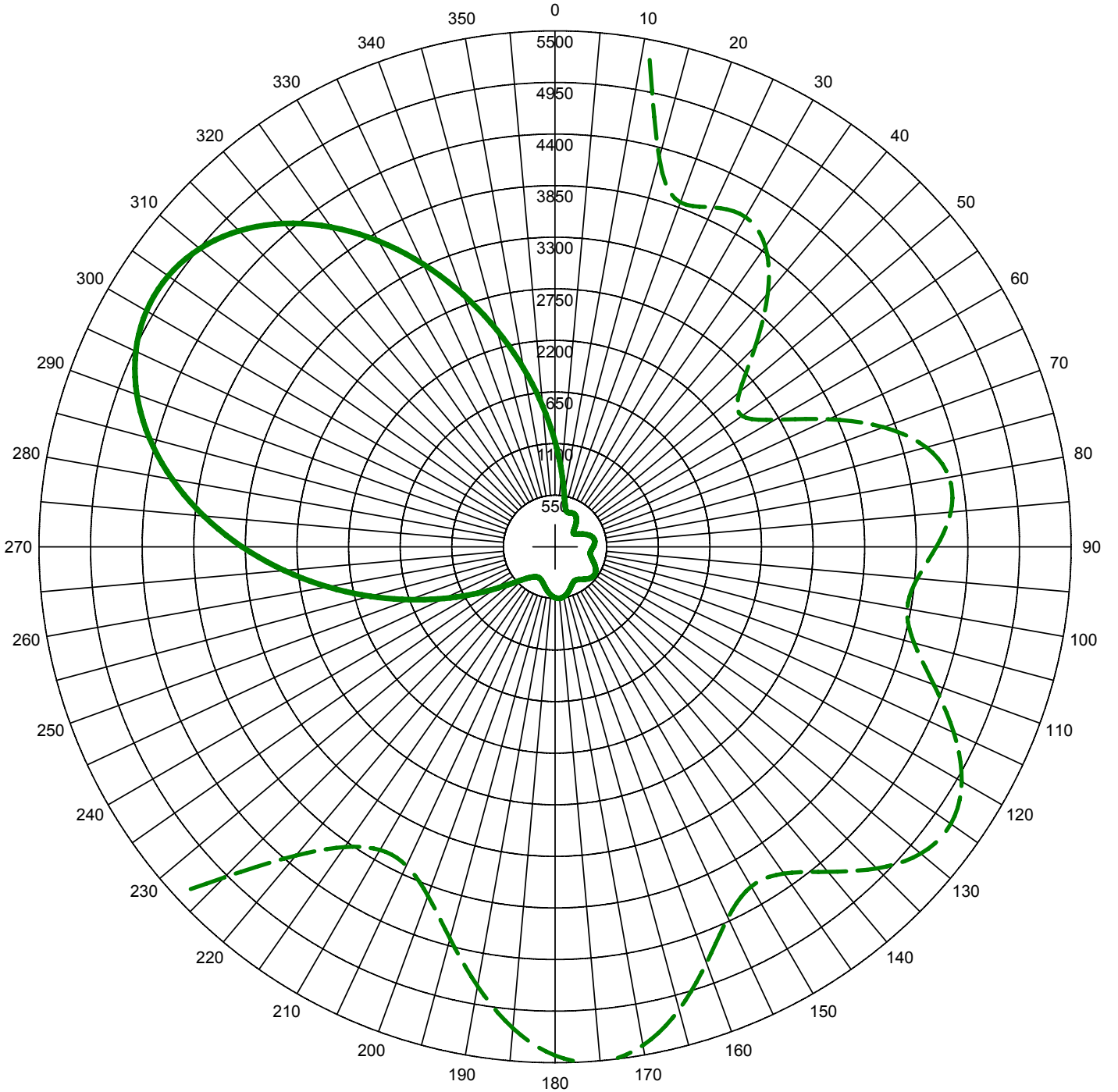
Call: KTIS.p Freq: 900 kHz MINNEAPOLIS, MN, US
 Lat: 44-59-24 N Power: 50.0 kW
 Lng: 092-58-52 W Theo RMS: 2021.31 mV/m @ 1km

#	Field Ratio	Phase (deg)	Spacing (deg)	Orient (deg)	Height (deg)	Ref Swrch	TL Swrch	A (deg)	B (deg)	C (deg)	D (deg)
1	1.205	-7.1	0.0	0.0	90.0	0	0	0.0	0.0	0.0	0.0
2	1.000	0.0	180.0	35.0	90.0	0	0	0.0	0.0	0.0	0.0
3	1.000	87.5	90.0	125.0	90.0	0	0	0.0	0.0	0.0	0.0
4	0.830	94.6	180.0	35.0	90.0	1	0	0.0	0.0	0.0	0.0

Call	Freq	City	ST	Dist	Azi	In	Out
WHSM.L	910	HAYWARD	WI	157.9	46.0	-1545.50	-380.75
KDHL.L	920	FARIBAULT	MN	84.1	196.0	2.02	2.02
WDLS.L	900	WISCONSIN DE	WI	300.3	121.1	34.62	5.30
KQLX.C	890	LISBON	ND	397.9	292.3	48.98	21.87
KQLX.L	890	LISBON	ND	397.9	292.3	61.79	31.54
KJJQ.L	910	VOLGA	SD	326.0	254.0	53.01	37.66
WATK.L	900	ANTIGO	WI	301.9	88.9	84.87	40.61
KJSK.L	900	COLUMBUS	NE	533.3	220.8	81.20	66.55
KFAL.L	900	FULTON	MO	685.5	173.2	269.25	249.48

Negative values in the "In" and "Out" columns reflect km² areas of Incoming and Outgoing overlap respectively. Positive values reflect linear distance of clearance to the offending contour. In response to FCC attempts to streamline the application process, tabulations of distances to contours and Map M-3 Conductivities for each station have been omitted. These tabulations will be supplied upon request.

Exhibit 15.3 - Proposed Daytime Directional Standard Pattern



Theo RMS: 2021.313 mV/m@1km
Std RMS: 2123.677 mV/m@1km
Q: 70.711 mV/m@1km

Horizontal Plane Standard Pattern

—— Pattern (mV/m @ 1km)
- - - Pattern X10

#	Field Ratio	Phase (deg)	Spacing (deg)	Orient (deg)	Height (deg)	Ref Switch	TL Switch	A (deg)	B (deg)	C (deg)	D (deg)
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1	1.205	-7.1	0.0	0.0	90.0	0	0	0.0	0.0	0.0	0.0
2	1.000	0.0	180.0	35.0	90.0	0	0	0.0	0.0	0.0	0.0
3	1.000	87.5	90.0	125.0	90.0	0	0	0.0	0.0	0.0	0.0
4	0.830	94.6	180.0	35.0	90.0	1	0	0.0	0.0	0.0	0.0

Call: KTIS.p
Freq: 900 kHz
MINNEAPOLIS, MN, US
Lat: 44-59-24 N
Lng: 092-58-52 W
Power: 50.0 kW
Theo RMS: 2021.31 mV/m @ 1km

Munn-Reese, Inc.
Broadcast Engineering Consultants
Coldwater, MI 49036

Exhibit 15.4

Tabulation of Proposed Daytime Directional Standard Pattern

Call: KTIS.p
 Freq: 900 kHz
 MINNEAPOLIS, MN, US
 Lat: 44-59-24 N
 Lng: 092-58-52 W
 Power: 50.0 kW
 Theo RMS: 2021.31 mV/m @ 1km

#	Field Ratio	Phase (deg)	Spacing (deg)	Orient (deg)	Height (deg)	Ref Swch	TL Swch	A (deg)	B (deg)	C (deg)	D (deg)
1	1.205	-7.1	0.0	0.0	90.0	0	0	0.0	0.0	0.0	0.0
2	1.000	0.0	180.0	35.0	90.0	0	0	0.0	0.0	0.0	0.0
3	1.000	87.5	90.0	125.0	90.0	0	0	0.0	0.0	0.0	0.0
4	0.830	94.6	180.0	35.0	90.0	1	0	0.0	0.0	0.0	0.0

Standard Horizontal Plane Pattern

Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)	Azimuth (Deg)	Field (mV/m @1km)
0.0	1121.76	120.0	500.48	240.0	1011.30
5.0	802.02	125.0	514.94	245.0	1302.37
10.0	564.49	130.0	508.82	250.0	1647.56
15.0	429.11	135.0	484.91	255.0	2037.16
20.0	390.64	140.0	452.33	260.0	2458.58
25.0	399.11	145.0	425.29	265.0	2896.87
30.0	405.91	150.0	418.17	270.0	3335.35
35.0	390.82	155.0	436.34	275.0	3756.36
40.0	352.75	160.0	471.98	280.0	4142.18
45.0	301.64	165.0	510.71	285.0	4475.93
50.0	256.80	170.0	539.73	290.0	4742.58
55.0	243.29	175.0	551.15	295.0	4929.76
60.0	270.89	180.0	542.31	300.0	5028.44
65.0	321.60	185.0	515.17	305.0	5033.50
70.0	372.59	190.0	475.60	310.0	4943.97
75.0	409.63	195.0	432.49	315.0	4763.15
80.0	426.47	200.0	396.06	320.0	4498.35
85.0	423.33	205.0	374.96	325.0	4160.58
90.0	406.44	210.0	373.19	330.0	3763.93
95.0	387.60	215.0	390.82	335.0	3324.79
100.0	381.17	220.0	429.69	340.0	2861.01
105.0	396.26	225.0	498.54	345.0	2391.02
110.0	429.70	230.0	611.41	350.0	1933.00
115.0	468.94	235.0	780.53	355.0	1504.37