

Exhibit 34.1

§73.215 Short-Spaced Contour Protection Studies Toward WRJO(FM) - Eagle River, WI (Max Class Facilities)

WZNL.P CH 232 C3 73.215 N
Lat= 45 49 15.0, Lng= 88 02 30.0
2.55 kW 191.3 M HAAT, 535 M COR
Prot.= 60 dBu, Intef.= 54 dBu

WRJO^ CH 233 C2 BLH19901120KB
Lat= 46 09 57.0, Lng= 89 21 57.0
Max Cls: 50.0 kW 150 M HAAT, 673 M COR
Prot.= 60 dBu, Intef.= 54 dBu

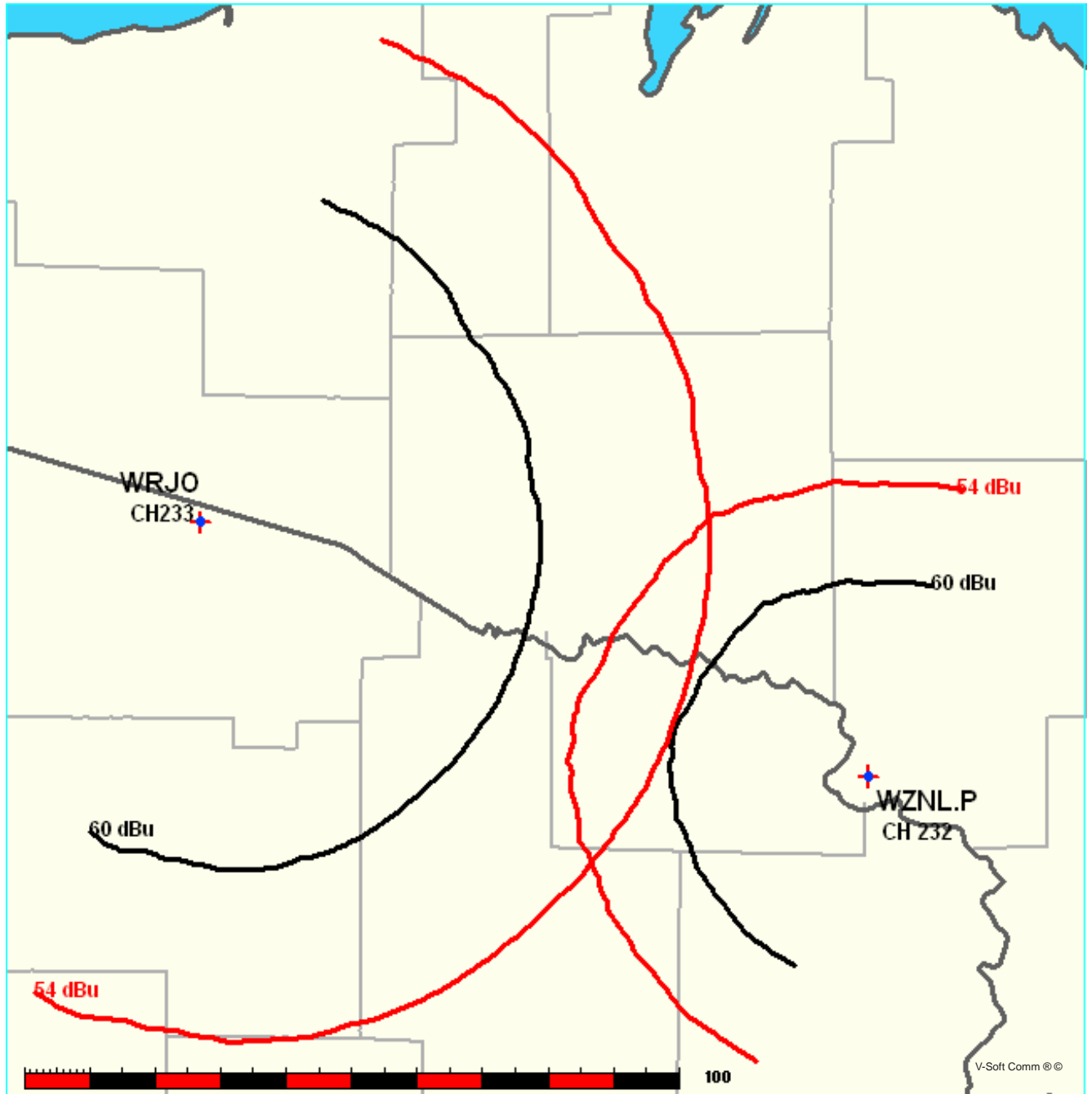


Exhibit 34.1

§73.215 Short-Spaced Contour Protection Studies Toward WRJO(FM) - Eagle River, WI (Max Class Facilities)

06-17-2013

Terrain Data: NED 03 SEC

FMOver Analysis

WZNL.P

Channel = 232C3
Max ERP = 2.55 kW
RCAMSL = 535 M
N. Lat. 45 49 15.0
W. Lng. 88 02 30.0
Protected
60 dBu

WRJO BLH19901120KB
(^ Max Class Parameters)
Channel = 233C2
Max ERP = 50 kW
RCAMSL = 673 M
N. Lat. 46 09 57.0
W. Lng. 89 21 57.0
Interfering
54 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
249.0	002.5500	0166.9	029.3	122.7	050.0000	0157.1	089.6	50.83	
250.0	002.5500	0166.1	029.2	122.4	050.0000	0157.4	089.3	50.95	
251.0	002.5500	0167.3	029.3	122.3	050.0000	0157.6	088.8	51.09	
252.0	002.5500	0168.1	029.3	122.1	050.0000	0157.8	088.3	51.23	
253.0	002.5500	0167.9	029.3	121.9	050.0000	0157.7	088.0	51.34	
254.0	002.5500	0169.0	029.4	121.7	050.0000	0157.8	087.5	51.48	
255.0	002.5500	0169.5	029.5	121.5	050.0000	0157.8	087.1	51.60	
256.0	002.5500	0171.5	029.6	121.4	050.0000	0158.0	086.6	51.76	
257.0	002.5500	0173.9	029.8	121.2	050.0000	0158.1	086.1	51.91	
258.0	002.5500	0177.1	030.1	121.1	050.0000	0158.3	085.6	52.09	
259.0	002.5500	0176.5	030.0	120.8	050.0000	0158.3	085.2	52.19	
260.0	002.5500	0174.4	029.9	120.5	050.0000	0158.3	085.0	52.25	
261.0	002.5500	0172.7	029.7	120.1	050.0000	0158.4	084.8	52.33	
262.0	002.5500	0172.5	029.7	119.9	050.0000	0158.3	084.5	52.42	
263.0	002.5500	0172.9	029.7	119.6	050.0000	0158.1	084.1	52.52	
264.0	002.5500	0173.4	029.8	119.3	050.0000	0157.8	083.8	52.61	
265.0	002.5500	0173.4	029.8	119.0	050.0000	0157.5	083.5	52.69	
266.0	002.5500	0175.1	029.9	118.8	050.0000	0157.4	083.1	52.81	
267.0	002.5500	0176.9	030.1	118.6	050.0000	0157.2	082.6	52.93	
268.0	002.5500	0178.8	030.2	118.3	050.0000	0156.9	082.2	53.04	
269.0	002.5500	0178.8	030.2	118.0	050.0000	0156.6	082.0	53.10	
270.0	002.5500	0178.7	030.2	117.7	050.0000	0156.5	081.7	53.17	
271.0	002.5500	0178.3	030.2	117.3	050.0000	0156.6	081.5	53.24	
272.0	002.5500	0180.5	030.3	117.0	050.0000	0156.5	081.1	53.36	
273.0	002.5500	0183.7	030.6	116.8	050.0000	0156.7	080.7	53.51	
274.0	002.5500	0182.4	030.5	116.4	050.0000	0156.6	080.5	53.55	
275.0	002.5500	0180.3	030.3	116.0	050.0000	0156.8	080.5	53.57	
276.0	002.5500	0178.1	030.2	115.6	050.0000	0156.8	080.5	53.58	
277.0	002.5500	0177.5	030.1	115.2	050.0000	0156.8	080.3	53.62	
278.0	002.5500	0179.5	030.3	114.9	050.0000	0156.6	080.0	53.71	
279.0	002.5500	0181.6	030.4	114.6	050.0000	0156.5	079.7	53.80	
280.0	002.5500	0182.0	030.5	114.2	050.0000	0156.6	079.5	53.86	
281.0	002.5500	0183.0	030.5	113.9	050.0000	0156.3	079.3	53.91	

Exhibit 34.1

§73.215 Short-Spaced Contour Protection Studies Toward WRJO(FM) - Eagle River, WI (Max Class Facilities)

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
282.0	002.5500	0182.8	030.5	113.5	050.0000	0156.1	079.2	53.93
283.0	002.5500	0180.7	030.4	113.1	050.0000	0155.6	079.3	53.89
284.0	002.5500	0182.2	030.5	112.7	050.0000	0155.3	079.1	53.94
285.0	002.5500	0182.2	030.5	112.4	050.0000	0155.3	079.0	53.97
286.0	002.5500	0180.9	030.4	112.0	050.0000	0155.4	079.0	53.97
287.0	002.5500	0178.1	030.2	111.6	050.0000	0155.3	079.2	53.91
288.0	002.5500	0175.7	030.0	111.2	050.0000	0155.2	079.3	53.86
289.0	002.5500	0173.8	029.8	110.8	050.0000	0155.1	079.4	53.82
290.0	002.5500	0170.8	029.6	110.4	050.0000	0154.7	079.7	53.73
291.0	002.5500	0169.7	029.5	110.0	050.0000	0154.5	079.8	53.69
292.0	002.5500	0168.3	029.4	109.7	050.0000	0154.3	079.9	53.65
293.0	002.5500	0167.5	029.3	109.3	050.0000	0154.1	080.0	53.62
294.0	002.5500	0166.6	029.2	108.9	050.0000	0154.3	080.1	53.59
295.0	002.5500	0167.0	029.3	108.6	050.0000	0154.4	080.1	53.59
296.0	002.5500	0167.5	029.3	108.2	050.0000	0154.5	080.1	53.59
297.0	002.5500	0168.3	029.4	107.8	050.0000	0154.3	080.1	53.58
298.0	002.5500	0169.7	029.5	107.5	050.0000	0154.1	080.1	53.58
299.0	002.5500	0170.3	029.5	107.1	050.0000	0154.1	080.1	53.57
300.0	002.5500	0171.3	029.6	106.7	050.0000	0154.1	080.1	53.56
301.0	002.5500	0170.6	029.6	106.4	050.0000	0154.0	080.3	53.50
302.0	002.5500	0168.5	029.4	106.1	050.0000	0153.6	080.6	53.39
303.0	002.5500	0168.7	029.4	105.7	050.0000	0153.0	080.7	53.33
304.0	002.5500	0168.8	029.4	105.4	050.0000	0152.9	080.9	53.28
305.0	002.5500	0168.5	029.4	105.0	050.0000	0153.1	081.1	53.24
306.0	002.5500	0166.8	029.2	104.7	050.0000	0153.4	081.4	53.16
307.0	002.5500	0167.7	029.3	104.4	050.0000	0153.7	081.5	53.13
308.0	002.5500	0166.9	029.3	104.0	050.0000	0153.7	081.7	53.06
309.0	002.5500	0167.5	029.3	103.7	050.0000	0153.7	081.9	53.01
310.0	002.5500	0168.0	029.3	103.4	050.0000	0153.5	082.1	52.94
311.0	002.5500	0167.8	029.3	103.1	050.0000	0153.4	082.3	52.86
312.0	002.5500	0168.0	029.3	102.7	050.0000	0153.5	082.5	52.80
313.0	002.5500	0168.9	029.4	102.4	050.0000	0153.6	082.7	52.75
314.0	002.5500	0170.8	029.6	102.0	050.0000	0153.7	082.8	52.71
315.0	002.5500	0171.8	029.6	101.7	050.0000	0153.6	083.0	52.65
316.0	002.5500	0173.3	029.8	101.4	050.0000	0153.7	083.2	52.60
317.0	002.5500	0174.6	029.9	101.0	050.0000	0153.9	083.4	52.54
318.0	002.5500	0173.9	029.8	100.8	050.0000	0154.2	083.8	52.45
319.0	002.5500	0172.8	029.7	100.5	050.0000	0154.3	084.2	52.34
320.0	002.5500	0172.8	029.7	100.2	050.0000	0154.3	084.5	52.24
321.0	002.5500	0173.2	029.8	100.0	050.0000	0154.2	084.8	52.15
322.0	002.5500	0174.0	029.8	099.7	050.0000	0154.2	085.1	52.06
323.0	002.5500	0172.9	029.7	099.4	050.0000	0154.3	085.5	51.94
324.0	002.5500	0175.4	029.9	099.1	050.0000	0154.1	085.7	51.86
325.0	002.5500	0178.0	030.1	098.7	050.0000	0154.1	085.9	51.80
326.0	002.5500	0179.7	030.3	098.4	050.0000	0154.3	086.2	51.72
327.0	002.5500	0180.8	030.4	098.2	050.0000	0154.3	086.5	51.62

Exhibit 34.1

§73.215 Short-Spaced Contour Protection Studies Toward WRJO(FM) - Eagle River, WI (Max Class Facilities)

06-17-2013

Terrain Data: NED 03 SEC

FMOVer Analysis

WRJO BLH19901120KB
(^ Max Class Parameters)
Channel = 233C2
Max ERP = 50 kW
RCAMSL = 673 M
N. Lat. 46 09 57.0
W. Lng. 89 21 57.0
Protected
60 dBu

WZNL.P

Channel = 232C3
Max ERP = 2.55 kW
RCAMSL = 535 M
N. Lat. 45 49 15.0
W. Lng. 88 02 30.0
Interfering
54 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
065.0	050.0000	0142.2	051.1	317.2	002.5500	0174.8	082.0	40.94	
066.0	050.0000	0143.6	051.3	317.2	002.5500	0174.8	081.1	41.24	
067.0	050.0000	0144.5	051.5	317.1	002.5500	0174.7	080.2	41.51	
068.0	050.0000	0144.8	051.5	316.9	002.5500	0174.5	079.3	41.77	
069.0	050.0000	0145.6	051.6	316.7	002.5500	0174.2	078.5	42.04	
070.0	050.0000	0146.1	051.7	316.5	002.5500	0173.9	077.6	42.30	
071.0	050.0000	0146.4	051.7	316.2	002.5500	0173.5	076.8	42.55	
072.0	050.0000	0147.5	051.9	316.0	002.5500	0173.3	075.9	42.82	
073.0	050.0000	0148.2	052.0	315.8	002.5500	0172.9	075.1	43.08	
074.0	050.0000	0148.4	052.0	315.4	002.5500	0172.4	074.3	43.32	
075.0	050.0000	0148.3	052.0	315.1	002.5500	0171.9	073.5	43.55	
076.0	050.0000	0148.9	052.0	314.8	002.5500	0171.5	072.7	43.80	
077.0	050.0000	0147.9	051.9	314.3	002.5500	0171.4	072.0	44.02	
078.0	050.0000	0146.0	051.7	313.7	002.5500	0170.2	071.4	44.16	
079.0	050.0000	0144.0	051.4	313.1	002.5500	0169.1	070.8	44.30	
080.0	050.0000	0143.5	051.3	312.6	002.5500	0168.4	070.1	44.49	
081.0	050.0000	0144.0	051.4	312.2	002.5500	0168.0	069.4	44.71	
082.0	050.0000	0144.4	051.4	311.7	002.5500	0167.9	068.7	44.95	
083.0	050.0000	0145.6	051.6	311.3	002.5500	0167.9	067.9	45.20	
084.0	050.0000	0144.6	051.5	310.7	002.5500	0167.5	067.3	45.37	
085.0	050.0000	0145.8	051.6	310.3	002.5500	0167.7	066.6	45.63	
086.0	050.0000	0148.6	052.0	310.0	002.5500	0168.1	065.7	45.95	
087.0	050.0000	0149.5	052.1	309.4	002.5500	0168.0	065.0	46.18	
088.0	050.0000	0149.4	052.1	308.8	002.5500	0167.2	064.4	46.34	
089.0	050.0000	0150.4	052.2	308.3	002.5500	0166.6	063.7	46.54	
090.0	050.0000	0151.4	052.4	307.7	002.5500	0167.3	063.1	46.80	
091.0	050.0000	0151.8	052.4	307.1	002.5500	0167.8	062.5	47.03	
092.0	050.0000	0152.2	052.5	306.4	002.5500	0166.9	061.9	47.18	
093.0	050.0000	0152.8	052.6	305.7	002.5500	0167.0	061.4	47.38	
094.0	050.0000	0153.6	052.7	305.0	002.5500	0168.5	060.8	47.65	
095.0	050.0000	0153.1	052.6	304.2	002.5500	0168.8	060.4	47.81	
096.0	050.0000	0153.3	052.6	303.5	002.5500	0168.6	059.9	47.97	
097.0	050.0000	0153.9	052.7	302.7	002.5500	0168.6	059.5	48.13	

Exhibit 34.1

§73.215 Short-Spaced Contour Protection Studies Toward WRJO(FM) - Eagle River, WI (Max Class Facilities)

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
098.0	050.0000	0154.4	052.8	301.9	002.5500	0168.5	059.0	48.29
099.0	050.0000	0154.1	052.7	301.1	002.5500	0170.6	058.7	48.50
100.0	050.0000	0154.2	052.7	300.2	002.5500	0171.3	058.4	48.66
101.0	050.0000	0154.0	052.7	299.4	002.5500	0170.8	058.1	48.74
102.0	050.0000	0153.7	052.7	298.5	002.5500	0169.9	057.9	48.78
103.0	050.0000	0153.4	052.6	297.6	002.5500	0168.9	057.7	48.80
104.0	050.0000	0153.7	052.7	296.7	002.5500	0168.1	057.4	48.86
105.0	050.0000	0153.1	052.6	295.8	002.5500	0167.4	057.3	48.86
106.0	050.0000	0153.4	052.6	294.9	002.5500	0167.1	057.2	48.92
107.0	050.0000	0154.1	052.7	294.0	002.5500	0166.6	056.9	48.97
108.0	050.0000	0154.4	052.8	293.1	002.5500	0167.4	056.8	49.06
109.0	050.0000	0154.2	052.7	292.1	002.5500	0168.0	056.8	49.10
110.0	050.0000	0154.4	052.8	291.2	002.5500	0169.5	056.7	49.19
111.0	050.0000	0155.2	052.9	290.3	002.5500	0170.6	056.7	49.28
112.0	050.0000	0155.4	052.9	289.3	002.5500	0172.5	056.7	49.36
113.0	050.0000	0155.5	052.9	288.4	002.5500	0175.3	056.7	49.48
114.0	050.0000	0156.4	053.0	287.5	002.5500	0177.1	056.7	49.57
115.0	050.0000	0156.7	053.1	286.5	002.5500	0179.4	056.8	49.63
116.0	050.0000	0156.8	053.1	285.6	002.5500	0181.8	057.0	49.68
117.0	050.0000	0156.5	053.0	284.7	002.5500	0182.2	057.2	49.62
118.0	050.0000	0156.6	053.0	283.8	002.5500	0182.3	057.4	49.55
119.0	050.0000	0157.5	053.2	282.9	002.5500	0180.5	057.5	49.41
120.0	050.0000	0158.4	053.3	282.0	002.5500	0182.9	057.7	49.45
121.0	050.0000	0158.3	053.3	281.1	002.5500	0183.3	058.0	49.35
122.0	050.0000	0157.7	053.2	280.3	002.5500	0182.2	058.4	49.15
123.0	050.0000	0157.1	053.1	279.5	002.5500	0182.1	058.9	48.98
124.0	050.0000	0157.5	053.2	278.6	002.5500	0180.6	059.2	48.79
125.0	050.0000	0156.6	053.0	277.9	002.5500	0179.4	059.7	48.55
126.0	050.0000	0156.7	053.1	277.1	002.5500	0177.6	060.2	48.31
127.0	050.0000	0157.4	053.1	276.3	002.5500	0178.0	060.6	48.18
128.0	050.0000	0157.4	053.1	275.6	002.5500	0178.6	061.1	48.03
129.0	050.0000	0157.2	053.1	274.9	002.5500	0180.8	061.6	47.94
130.0	050.0000	0157.4	053.2	274.1	002.5500	0182.5	062.1	47.83
131.0	050.0000	0157.9	053.2	273.4	002.5500	0182.5	062.6	47.65
132.0	050.0000	0158.4	053.3	272.7	002.5500	0183.8	063.2	47.52
133.0	050.0000	0158.4	053.3	272.1	002.5500	0181.1	063.8	47.19
134.0	050.0000	0156.9	053.1	271.6	002.5500	0179.1	064.5	46.85
135.0	050.0000	0156.1	053.0	271.1	002.5500	0178.3	065.2	46.58
136.0	050.0000	0156.8	053.1	270.5	002.5500	0178.4	065.8	46.38
137.0	050.0000	0157.0	053.1	269.9	002.5500	0178.6	066.5	46.17
138.0	050.0000	0156.9	053.1	269.4	002.5500	0178.8	067.2	45.94
139.0	050.0000	0157.9	053.2	268.8	002.5500	0178.9	067.8	45.73
140.0	050.0000	0157.7	053.2	268.3	002.5500	0179.1	068.6	45.49
141.0	050.0000	0158.0	053.2	267.8	002.5500	0178.6	069.3	45.23
142.0	050.0000	0157.9	053.2	267.4	002.5500	0177.8	070.1	44.94
143.0	050.0000	0157.5	053.2	267.0	002.5500	0177.0	070.9	44.64

Exhibit 34.2

§73.215 Short-Spaced Contour Protection Studies Toward WUPK(FM) - Marquette, MI (Present Class Facilities)

Sovereign Communications, LLC

FMCommander Single Allocation Study - 06-17-2013 - NED 03 SEC
WZNL.P's Overlaps (In= 27.33 km, Out= 20.95 km)

WZNL.P CH 232 C3 73.215 N
Lat= 45 49 15.0, Lng= 88 02 30.0
2.55 kW 191.3 M HAAT, 535 M COR
Prot.= 60 dBu, Intef.= 54 dBu

WUPK CH 231 A 73.215 N BLH20040528AJW
Lat= 46 30 51.0, Lng= 87 28 58.0
4.4 kW 116 M HAAT, 454 M COR
Prot.= 60 dBu, Intef.= 54 dBu

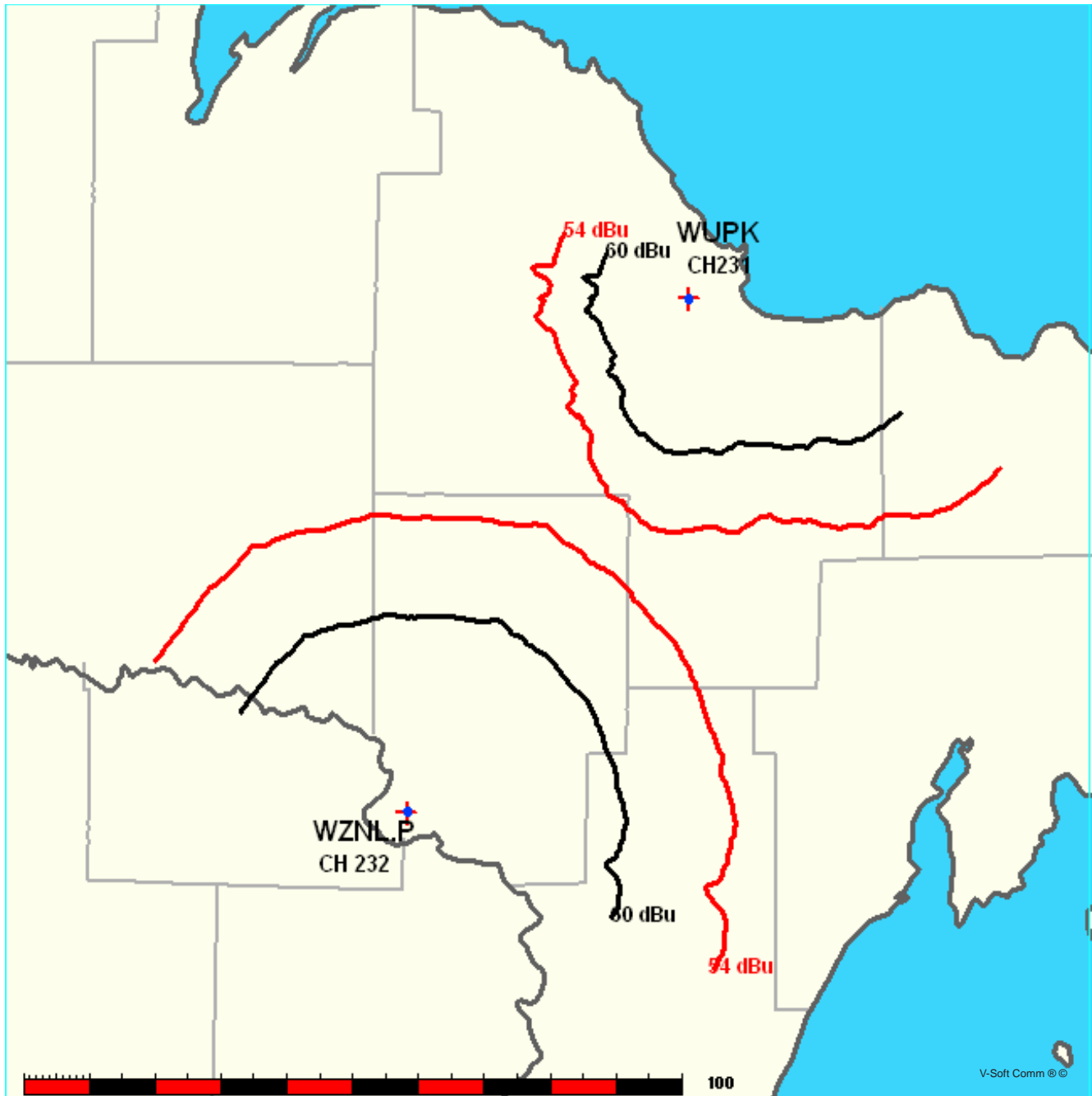


Exhibit 34.2

§73.215 Short-Spaced Contour Protection Studies Toward WUPK(FM) - Marquette, MI (Present Class Facilities)

06-17-2013

Terrain Data: NED 03 SEC

FMOver Analysis

WZNL.P

WUPK BLH20040528AJW

Channel = 232C3
Max ERP = 2.55 kW
RCAMSL = 535 M
N. Lat. 45 49 15.0
W. Lng. 88 02 30.0
Protected
60 dBu

Channel = 231A
Max ERP = 4.4 kW
RCAMSL = 454 M
N. Lat. 46 30 51.0
W. Lng. 87 28 58.0
Interfering
54 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
346.0	002.5500	0166.9	029.2	226.0	004.4000	0040.0	069.8	39.34	
347.0	002.5500	0168.0	029.3	225.8	004.4000	0040.1	069.3	39.45	
348.0	002.5500	0168.6	029.4	225.6	004.4000	0040.6	068.8	39.60	
349.0	002.5500	0169.4	029.4	225.4	004.4000	0040.8	068.4	39.72	
350.0	002.5500	0169.3	029.4	225.2	004.4000	0040.7	068.0	39.80	
351.0	002.5500	0169.3	029.4	224.9	004.4000	0040.5	067.5	39.87	
352.0	002.5500	0171.4	029.6	224.8	004.4000	0040.5	067.0	39.97	
353.0	002.5500	0172.1	029.7	224.6	004.4000	0040.2	066.6	40.04	
354.0	002.5500	0172.0	029.7	224.3	004.4000	0039.6	066.2	40.06	
355.0	002.5500	0171.3	029.6	223.9	004.4000	0038.8	065.8	40.06	
356.0	002.5500	0170.2	029.5	223.6	004.4000	0038.9	065.5	40.14	
357.0	002.5500	0169.1	029.4	223.2	004.4000	0039.2	065.2	40.24	
358.0	002.5500	0168.0	029.3	222.8	004.4000	0039.6	064.9	40.34	
359.0	002.5500	0166.5	029.2	222.4	004.4000	0039.9	064.6	40.43	
000.0	002.5500	0165.9	029.2	222.1	004.4000	0040.3	064.3	40.54	
001.0	002.5500	0166.2	029.2	221.7	004.4000	0040.7	064.0	40.66	
002.0	002.5500	0165.9	029.2	221.4	004.4000	0040.8	063.7	40.74	
003.0	002.5500	0168.0	029.3	221.1	004.4000	0040.9	063.2	40.85	
004.0	002.5500	0168.2	029.4	220.7	004.4000	0041.5	062.9	41.00	
005.0	002.5500	0168.2	029.4	220.4	004.4000	0041.7	062.6	41.08	
006.0	002.5500	0168.2	029.4	220.0	004.4000	0041.7	062.3	41.16	
007.0	002.5500	0169.1	029.4	219.6	004.4000	0041.7	062.0	41.24	
008.0	002.5500	0170.4	029.5	219.3	004.4000	0041.4	061.6	41.28	
009.0	002.5500	0171.3	029.6	218.9	004.4000	0041.3	061.3	41.35	
010.0	002.5500	0172.4	029.7	218.5	004.4000	0041.0	061.0	41.39	
011.0	002.5500	0173.1	029.8	218.1	004.4000	0041.7	060.7	41.55	
012.0	002.5500	0174.3	029.8	217.7	004.4000	0042.2	060.4	41.69	
013.0	002.5500	0175.9	030.0	217.3	004.4000	0041.9	060.0	41.74	
014.0	002.5500	0177.0	030.1	216.8	004.4000	0041.6	059.7	41.77	
015.0	002.5500	0177.4	030.1	216.4	004.4000	0042.0	059.5	41.87	
016.0	002.5500	0178.5	030.2	215.9	004.4000	0043.8	059.2	42.15	
017.0	002.5500	0179.1	030.2	215.5	004.4000	0045.6	059.0	42.42	
018.0	002.5500	0179.8	030.3	215.0	004.4000	0047.4	058.8	42.68	
019.0	002.5500	0181.0	030.4	214.5	004.4000	0049.2	058.6	42.95	

MUNN-REESE, INC.

Broadcast Engineering Consultants
COLDWATER, MI 49036

Exhibit 34.2

§73.215 Short-Spaced Contour Protection Studies Toward WUPK(FM) - Marquette, MI (Present Class Facilities)

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBU)
020.0	002.5500	0182.7	030.5	214.1	004.4000	0050.2	058.3	43.12
021.0	002.5500	0184.5	030.7	213.6	004.4000	0051.2	058.1	43.30
022.0	002.5500	0187.0	030.8	213.1	004.4000	0051.7	057.8	43.45
023.0	002.5500	0190.0	031.1	212.6	004.4000	0052.4	057.4	43.61
024.0	002.5500	0193.9	031.4	212.1	004.4000	0053.0	057.0	43.79
025.0	002.5500	0197.0	031.7	211.6	004.4000	0053.4	056.7	43.93
026.0	002.5500	0198.9	031.8	211.0	004.4000	0054.4	056.5	44.09
027.0	002.5500	0197.7	031.7	210.5	004.4000	0055.5	056.6	44.19
028.0	002.5500	0195.0	031.5	209.9	004.4000	0055.4	056.8	44.12
029.0	002.5500	0193.7	031.4	209.4	004.4000	0055.9	056.9	44.14
030.0	002.5500	0190.6	031.1	208.8	004.4000	0056.8	057.1	44.15
031.0	002.5500	0189.6	031.1	208.3	004.4000	0057.6	057.2	44.20
032.0	002.5500	0191.8	031.2	207.7	004.4000	0058.1	057.1	44.29
033.0	002.5500	0191.0	031.2	207.2	004.4000	0059.8	057.2	44.40
034.0	002.5500	0193.0	031.3	206.6	004.4000	0060.3	057.1	44.47
035.0	002.5500	0189.8	031.1	206.1	004.4000	0060.5	057.4	44.40
036.0	002.5500	0188.7	031.0	205.6	004.4000	0060.0	057.6	44.29
037.0	002.5500	0190.4	031.1	205.0	004.4000	0061.5	057.6	44.43
038.0	002.5500	0190.5	031.1	204.5	004.4000	0063.2	057.7	44.54
039.0	002.5500	0191.0	031.2	204.0	004.4000	0064.2	057.8	44.59
040.0	002.5500	0193.0	031.3	203.4	004.4000	0065.1	057.8	44.67
041.0	002.5500	0194.7	031.5	202.9	004.4000	0066.1	057.8	44.74
042.0	002.5500	0195.9	031.6	202.3	004.4000	0066.4	057.9	44.74
043.0	002.5500	0194.6	031.5	201.8	004.4000	0065.6	058.2	44.58
044.0	002.5500	0194.4	031.4	201.3	004.4000	0065.9	058.4	44.53
045.0	002.5500	0194.5	031.5	200.9	004.4000	0065.9	058.6	44.47
046.0	002.5500	0192.5	031.3	200.4	004.4000	0066.2	059.0	44.37
047.0	002.5500	0191.5	031.2	200.0	004.4000	0065.9	059.3	44.25
048.0	002.5500	0190.4	031.1	199.6	004.4000	0065.6	059.7	44.13
049.0	002.5500	0191.1	031.2	199.1	004.4000	0065.6	059.9	44.06
050.0	002.5500	0191.2	031.2	198.6	004.4000	0066.6	060.2	44.06
051.0	002.5500	0191.3	031.2	198.2	004.4000	0067.9	060.4	44.07
052.0	002.5500	0191.0	031.2	197.8	004.4000	0068.1	060.8	43.99
053.0	002.5500	0190.6	031.1	197.4	004.4000	0068.3	061.1	43.90
054.0	002.5500	0193.0	031.3	196.9	004.4000	0069.1	061.3	43.91
055.0	002.5500	0195.8	031.6	196.3	004.4000	0070.0	061.4	43.93
056.0	002.5500	0196.9	031.6	195.9	004.4000	0069.4	061.7	43.80
057.0	002.5500	0197.1	031.7	195.5	004.4000	0069.7	062.1	43.72
058.0	002.5500	0199.0	031.8	195.0	004.4000	0070.4	062.3	43.70
059.0	002.5500	0198.3	031.8	194.7	004.4000	0071.1	062.8	43.62
060.0	002.5500	0197.9	031.7	194.4	004.4000	0071.7	063.2	43.55
061.0	002.5500	0197.4	031.7	194.0	004.4000	0072.5	063.6	43.48
062.0	002.5500	0198.9	031.8	193.6	004.4000	0073.1	063.9	43.43
063.0	002.5500	0198.7	031.8	193.3	004.4000	0073.3	064.4	43.33
064.0	002.5500	0197.3	031.7	193.1	004.4000	0073.5	064.9	43.20
065.0	002.5500	0197.1	031.7	192.8	004.4000	0074.0	065.3	43.11

Exhibit 34.2

§73.215 Short-Spaced Contour Protection Studies Toward WUPK(FM) - Marquette, MI (Present Class Facilities)

06-17-2013

Terrain Data: NED 03 SEC

FMOver Analysis

WUPK BLH20040528AJW

WZNL.P

Channel = 231A

Max ERP = 4.4 kW

RCAMSL = 454 M

N. Lat. 46 30 51.0

W. Lng. 87 28 58.0

Protected

60 dBu

Channel = 232C3

Max ERP = 2.55 kW

RCAMSL = 535 M

N. Lat. 45 49 15.0

W. Lng. 88 02 30.0

Interfering

54 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
164.0	004.4000	0076.0	023.2	041.9	002.5500	0195.9	073.8	44.45	
165.0	004.4000	0076.6	023.3	041.7	002.5500	0195.7	073.4	44.57	
166.0	004.4000	0076.8	023.3	041.6	002.5500	0195.4	073.1	44.68	
167.0	004.4000	0077.5	023.4	041.5	002.5500	0195.2	072.7	44.79	
168.0	004.4000	0078.8	023.6	041.4	002.5500	0195.2	072.3	44.94	
169.0	004.4000	0079.5	023.7	041.3	002.5500	0195.1	071.9	45.06	
170.0	004.4000	0079.3	023.7	041.1	002.5500	0194.8	071.6	45.15	
171.0	004.4000	0078.4	023.5	040.8	002.5500	0194.3	071.3	45.21	
172.0	004.4000	0077.3	023.4	040.5	002.5500	0193.4	071.1	45.24	
173.0	004.4000	0075.8	023.2	040.1	002.5500	0192.9	071.0	45.27	
174.0	004.4000	0074.5	023.0	039.8	002.5500	0193.0	070.8	45.33	
175.0	004.4000	0074.4	023.0	039.6	002.5500	0192.5	070.5	45.41	
176.0	004.4000	0073.8	022.9	039.3	002.5500	0191.5	070.3	45.44	
177.0	004.4000	0074.2	022.9	039.1	002.5500	0191.1	070.0	45.52	
178.0	004.4000	0074.9	023.0	038.9	002.5500	0190.9	069.6	45.63	
179.0	004.4000	0074.9	023.0	038.6	002.5500	0191.1	069.4	45.72	
180.0	004.4000	0075.4	023.1	038.4	002.5500	0190.8	069.1	45.81	
181.0	004.4000	0075.5	023.1	038.2	002.5500	0190.5	068.8	45.89	
182.0	004.4000	0076.1	023.2	037.9	002.5500	0190.5	068.5	45.99	
183.0	004.4000	0077.2	023.4	037.7	002.5500	0190.1	068.2	46.10	
184.0	004.4000	0077.0	023.3	037.4	002.5500	0190.1	067.9	46.17	
185.0	004.4000	0076.8	023.3	037.1	002.5500	0190.2	067.7	46.24	
186.0	004.4000	0076.9	023.3	036.9	002.5500	0190.5	067.5	46.32	
187.0	004.4000	0077.0	023.3	036.6	002.5500	0190.3	067.3	46.38	
188.0	004.4000	0076.5	023.3	036.2	002.5500	0189.3	067.2	46.39	
189.0	004.4000	0076.6	023.3	035.9	002.5500	0188.7	067.0	46.43	
190.0	004.4000	0076.7	023.3	035.6	002.5500	0188.3	066.8	46.48	
191.0	004.4000	0075.1	023.1	035.2	002.5500	0188.7	066.8	46.49	
192.0	004.4000	0074.9	023.0	034.9	002.5500	0190.2	066.7	46.59	
193.0	004.4000	0073.7	022.9	034.5	002.5500	0192.4	066.7	46.68	
194.0	004.4000	0072.6	022.7	034.2	002.5500	0193.3	066.7	46.72	
195.0	004.4000	0070.4	022.4	033.8	002.5500	0191.7	066.8	46.60	
196.0	004.4000	0069.5	022.3	033.4	002.5500	0190.7	066.9	46.56	

MUNN-REESE, INC.

Broadcast Engineering Consultants
COLDWATER, MI 49036

Exhibit 34.2

§73.215 Short-Spaced Contour Protection Studies Toward WUPK(FM) - Marquette, MI (Present Class Facilities)

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBU)
197.0	004.4000	0068.9	022.2	033.1	002.5500	0190.8	066.8	46.57
198.0	004.4000	0068.1	022.1	032.7	002.5500	0191.0	066.8	46.58
199.0	004.4000	0065.7	021.7	032.4	002.5500	0191.3	067.1	46.51
200.0	004.4000	0065.9	021.7	032.0	002.5500	0191.7	067.0	46.56
201.0	004.4000	0066.1	021.8	031.7	002.5500	0192.1	066.9	46.61
202.0	004.4000	0065.8	021.7	031.4	002.5500	0191.0	066.8	46.57
203.0	004.4000	0065.8	021.7	031.1	002.5500	0189.7	066.8	46.54
204.0	004.4000	0064.1	021.5	030.7	002.5500	0189.3	067.0	46.46
205.0	004.4000	0061.7	021.1	030.4	002.5500	0189.2	067.3	46.35
206.0	004.4000	0060.3	020.9	030.1	002.5500	0190.3	067.5	46.34
207.0	004.4000	0060.0	020.9	029.8	002.5500	0191.5	067.5	46.38
208.0	004.4000	0057.9	020.5	029.4	002.5500	0192.7	067.8	46.32
209.0	004.4000	0056.8	020.3	029.1	002.5500	0193.4	068.0	46.29
210.0	004.4000	0055.5	020.1	028.8	002.5500	0193.8	068.2	46.23
211.0	004.4000	0054.6	019.9	028.6	002.5500	0194.3	068.4	46.19
212.0	004.4000	0053.1	019.7	028.3	002.5500	0194.3	068.7	46.09
213.0	004.4000	0052.0	019.4	028.0	002.5500	0195.0	068.9	46.04
214.0	004.4000	0050.3	019.1	027.8	002.5500	0195.4	069.3	45.93
215.0	004.4000	0047.4	018.5	027.5	002.5500	0195.8	069.9	45.73
216.0	004.4000	0043.6	017.7	027.4	002.5500	0196.5	070.8	45.47
217.0	004.4000	0041.7	017.2	027.2	002.5500	0197.2	071.3	45.34
218.0	004.4000	0041.9	017.3	026.9	002.5500	0197.8	071.3	45.36
219.0	004.4000	0041.3	017.1	026.7	002.5500	0198.1	071.5	45.30
220.0	004.4000	0041.7	017.2	026.5	002.5500	0198.8	071.5	45.35
221.0	004.4000	0041.0	017.1	026.3	002.5500	0199.1	071.7	45.28
222.0	004.4000	0040.4	016.9	026.1	002.5500	0199.0	071.9	45.20
223.0	004.4000	0039.4	016.7	025.9	002.5500	0198.7	072.2	45.09
224.0	004.4000	0038.9	016.5	025.7	002.5500	0198.3	072.4	45.00
225.0	004.4000	0040.6	016.9	025.4	002.5500	0197.6	072.2	45.07
226.0	004.4000	0040.0	016.8	025.2	002.5500	0197.3	072.4	44.98
227.0	004.4000	0040.4	016.9	025.0	002.5500	0196.9	072.4	44.96
228.0	004.4000	0040.3	016.9	024.8	002.5500	0196.3	072.5	44.89
229.0	004.4000	0040.2	016.9	024.6	002.5500	0195.5	072.7	44.82
230.0	004.4000	0036.3	015.9	024.7	002.5500	0195.9	073.6	44.51
231.0	004.4000	0034.2	015.4	024.6	002.5500	0195.8	074.2	44.32
232.0	004.4000	0034.5	015.5	024.4	002.5500	0195.0	074.3	44.27
233.0	004.4000	0034.3	015.4	024.3	002.5500	0194.4	074.4	44.19
234.0	004.4000	0030.2	014.6	024.4	002.5500	0194.9	075.3	43.91
235.0	004.4000	0027.8	014.5	024.3	002.5500	0194.4	075.5	43.84
236.0	004.4000	0022.5	014.5	024.1	002.5500	0194.0	075.6	43.78
237.0	004.4000	0016.8	014.5	023.9	002.5500	0193.8	075.8	43.73
238.0	004.4000	0013.6	014.5	023.8	002.5500	0193.7	075.9	43.68
239.0	004.4000	0015.7	014.5	023.6	002.5500	0193.3	076.1	43.62
240.0	004.4000	0018.5	014.5	023.5	002.5500	0192.6	076.2	43.54
241.0	004.4000	0018.8	014.5	023.3	002.5500	0191.8	076.4	43.45
242.0	004.4000	0015.8	014.5	023.2	002.5500	0190.8	076.5	43.37