

NEW 286A Sheffield, PA Application

This technical report is submitted as a 301 long form application for the NEW 286A allocation at Sheffield, PA, FCC file no. BSFH-20120106ACD.

NEW 286A Sheffield, PA Allocation Analysis:

Since the NEW 286A facility is within 320 km of the Canadian border, the Canadian FM database was used for a spacing study. Exhibit E-1 shows the NEW 286A facility will be short spaced to several existing facilities. As a result, it is requested the NEW 286A to be designated as a 73.215 facility.

The NEW 286A short spacings to Canadian and domestic U.S. facilities are addressed as follows:

1.) CJED-FM(1) 286B AU-D Niagara Falls, ON Facility I.D. 5477.

The Commission staff confirmed with Industry Canada that this facility does not require protection.

2.) CJED-FM(2) 286B AU-D Niagara Falls, ON Facility I.D. 5477.

Accepted interference overlap to CJED-FM(2) only occurs over U.S. territory and water (exhibit E-2). The theoretical CJED-FM(2) 286B as a maximum class B facility at 50 kW ERP, 150 meters HAAT and nondirectional facility causes allowed interference to the NEW 286A protected contour, but does not reach the Sheffield, PA community of license city boundary (exhibit E-3).

3.) CJED-FM 286A OP-D Niagara Falls, ON Facility I.D. 5477.

The NEW 286A facility does not cause any interference overlap (exhibit E-4). The theoretical CJED-FM 286A as a maximum class A 6 kW ERP, 100 meter HAAT and nondirectional facility has an accepted interference overlap from the NEW 286A over U.S. territory and water (exhibit E-5).

4.) WRKT(FM) 285B1.CP North East, PA Facility I.D. 55063.

WRKT(FM) 285B1.CP is designated as a 73.215 facility. The NEW 286A facility will employ a directional antenna to avoid any interference overlap. A plot (exhibit E-6) and FMOver study (exhibit E-7) show the NEW 286A will not cause any interference overlap.

5.) WQXK(FM) 286B.Lic. Salem, OH Facility I.D. 37548.

WQXK(FM) 286B.Lic. is a Grandfathered class B facility operating at 88 kW ERP. Following the rules in CFR §73.215(b)(2)(iii), the interference to the maximum class B parameters is used. The interference plot (exhibit E-8) and FMOver study (exhibit E-9) show the NEW 286A facility will not cause any interference overlap.

NEW 286A Antenna System:

The facility is to be located on an existing tower, ASR 1232779, at coordinates:

41-47-05N 79-05-06W NAD27.

A three bay PSI full wavelength directional antenna (exhibit E-10) will be mounted at a COR AGL of 59 meters, 593 meters AMSL and operate at an ERP of 6.0 kW. Using the

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CONTOUR program and the FCC 30 second terrain with eight radials, the HAAT is calculated to be 79 meters (exhibit E-11), and the distance to the 60 dBu F(50-50) contour is 25.33 km. The 286A facility will place a 70 dBu F(50-50) contour completely over the Sheffield, PA community of license city boundary (exhibit E-12).

RF Exposure Calculation:

The RF was calculated using the Commission's FMMODEL program. The three bay PSI directional antenna mounted at a COR AGL of 59 meters and 6.0 kW ERP results in an RF of $13.06 \mu\text{W}/\text{cm}^2$ at a distance of 28 meters from the base of the tower, which is well below the $200 \mu\text{W}/\text{cm}^2$ maximum permissible for general public exposure.

Conclusion:

It is submitted the 301 long form application for the Sheffield, PA 286A facility is in full compliance with the Commission rules and policies.



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E-1 NEW 286A Spacing Study

REFERENCE

41 47 05.0 N.

CLASS = A Int = B1

79 05 06.0 W.

Current Spacings to 3rd Adj.

DISPLAY DATES

DATA 05-23-12

SEARCH 05-23-12

----- Channel 286 - 105.1 MHz -----

Call		Channel	Location		Azi	Dist	FCC	Margin
AU9351497	VAC	286A	Sheffield	PA	144.6	9.95	114.5	-104.6
1496398	APP	286A	Sheffield	PA	144.6	9.95	114.5	-104.6
CJED-FM(1	AU -D	286B	Niagara Falls	ON	0.2	144.37	222.5	-78.1*
CJED-FM(2	AU -D	286B	Niagara Falls	ON	355.9	145.75	222.5	-76.8*
CJED-FM	OP -D	286A	Niagara Falls	ON	0.2	144.37	183.5	-39.1*
WRKT	CP -N	285B1	North East	PA	295.9	78.88	95.5	-16.6*
WQXK	LIC	286B	Salem	OH	236.1	177.07	177.5	-0.43*
WOGM-LP	LIC	284L1	Jamestown	NY	342.3	35.22	28.5	6.7
WILQ	LIC	286B	Williamsport	PA	109.7	188.23	177.5	10.7
WKPQ	LIC	287B	Hornell	NY	63.7	129.71	112.5	17.2
WKEG-LP	LIC	284L1	Limestone	NY	54.6	46.07	28.5	17.6
WMKX	LIC-N	288B1	Brookville	PA	178.6	73.56	47.5	26.1
CKQM-FM(2	RE	286C1	Peterborough	ON	12.5	289.64	255.5	34.1
CHOQ-FM	OP -D	286A	Toronto	ON	353.3	221.30	183.5	37.8
CFCA-FM	OP	287C1	Kitchener	ON	325.4	220.26	180.5	39.8
WXMJ	LIC-N	283A	Cambridge Springs	PA	264.6	90.29	30.5	59.8
WMUG-LP	LIC	286L1	Indiana	PA	182.5	129.13	66.5	62.6
CKQM-FM	OP	286B	Peterborough	ON	12.5	289.64	222.5	67.1
WRKY-FM	LIC	285A	Hollidaysburg	PA	158.1	145.60	71.5	74.1
WNBT-FM	LIC	283B	Wellsboro	PA	91.5	143.22	68.5	74.7
CHRE-FM	OP	289B	St Catharines	ON	354.4	146.64	70.5	76.1
R12992	VAC	286B	Peterborough	ON	12.5	289.87	210.5	79.4
WUZZ	LIC	232A	Saegertown	PA	259.7	92.46	9.5	83.0
WNED-FM	LIC	233B	Buffalo	NY	15.3	98.21	14.5	83.7
WGOJ	LIC-Z	288A	Conneaut	OH	274.6	119.27	30.5	88.8
WPGB	LIC-N	284B	Pittsburgh	PA	207.9	164.56	68.5	96.1

* The NEW 286A at Sheffield, PA is to be designated as a 73.215 short spaced facility with respect to these facilities. The attached exhibits show the NEW 286A will not cause any prohibited interference overlap.

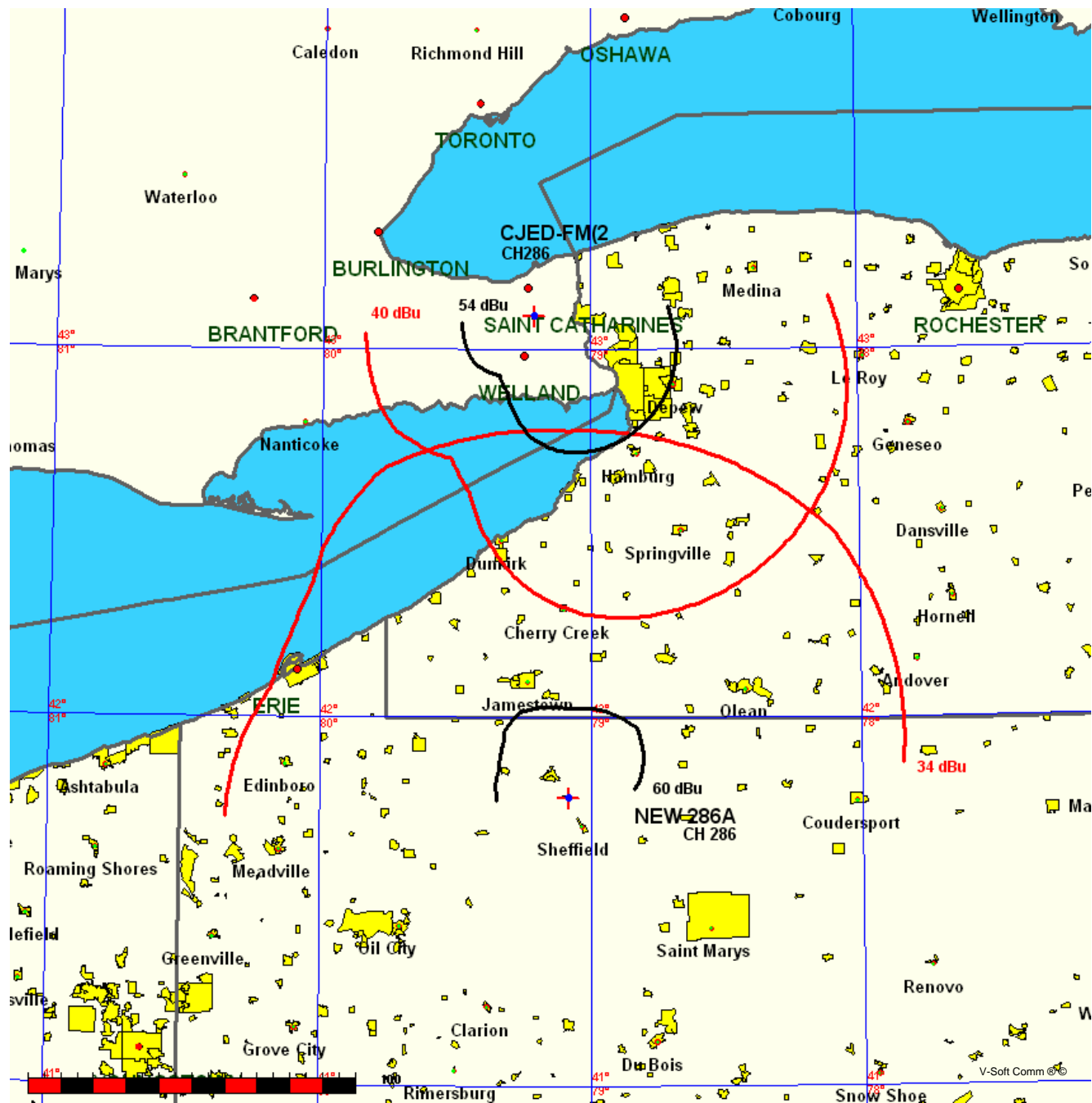
Reference station has protected zone issue: Canada

E-2 NEW 286A Interference Plot to CJED-FM(2) 286B AU-D

FMCommander Single Allocation Study - 05-23-2012 - FCC NGDC 30 Sec
NEW 286A's Overlaps (In= 29.31 km, Out= -6.52 km)

NEW 286A CH 286 A 73.215 Z
Lat= 41 47 05.0, Lng= 79 05 06.0
6.0 kW 79 M HAAT, 593 M COR
Prot.= 60 dBu, Intef.= 34 dBu

CJED-FM(2 CH 286 B DA 5477
Lat= 43 05 37.0, Lng= 79 12 52.0
15.0 kW 127.9 M HAAT, 282 M COR
Prot.= 54 dBu, Intef.= 40 dBu

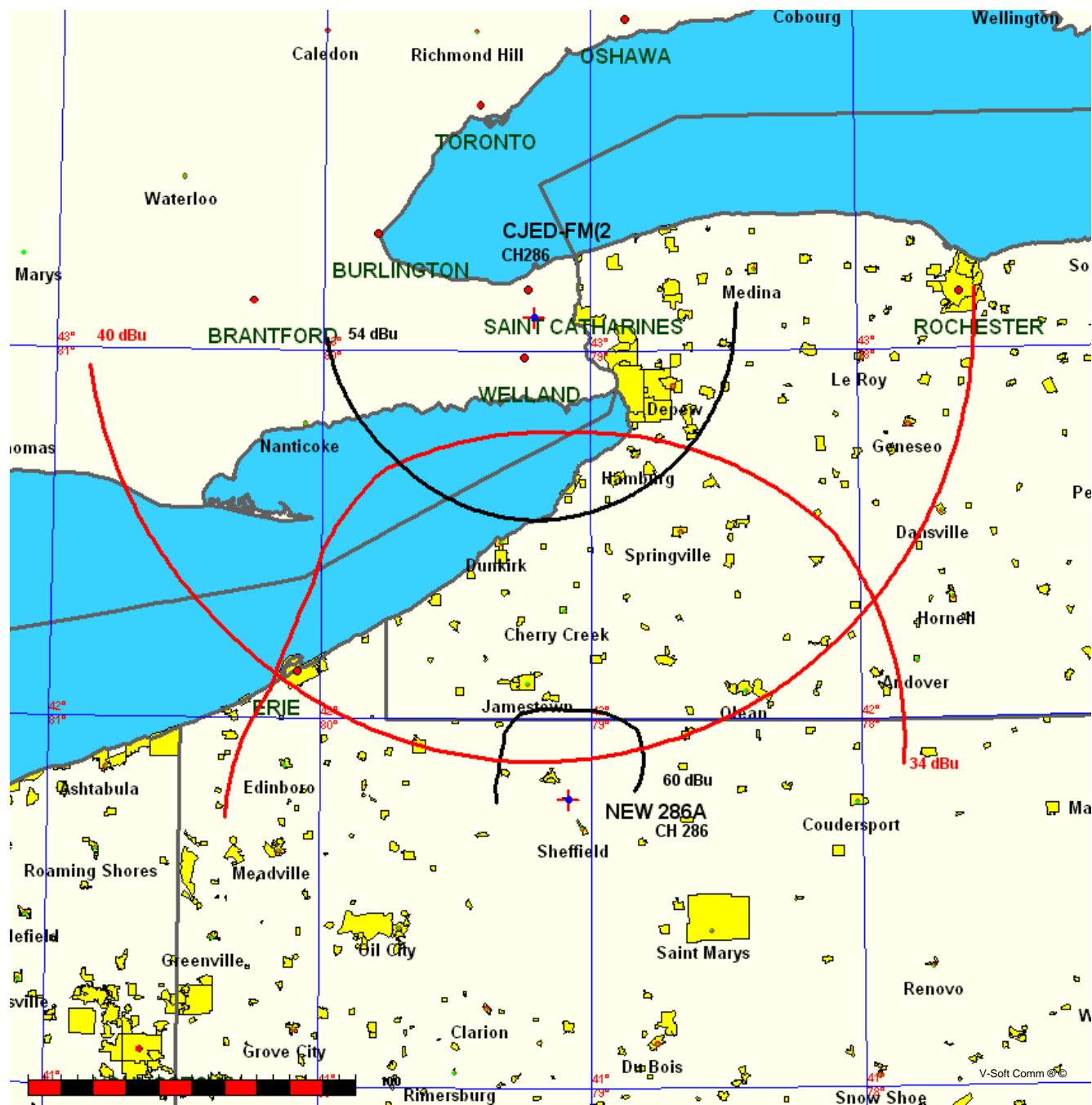


E-3 NEW 286A Interference Plot to CJED-FM(2) 286B AU-D Max. Class

FMCommander Single Allocation Study - 05-23-2012 - FCC NGDC 30 Sec
NEW 286A's Overlaps (In= -15.91 km, Out= -26.58 km)

NEW 286A CH 286 A 73.215 Z
Lat= 41 47 05.0, Lng= 79 05 06.0
6.0 kW 79 M HAAT, 593 M COR
Prot.= 60 dBu, Intef.= 34 dBu

CJED-FM(2) CH 286 B 54.77
Lat= 43 05 37.0, Lng= 79 12 52.0
Max Cls: 50.0 kW 150 M HAAT, 304.1 M COR
Prot.= 54 dBu, Intef.= 40 dBu

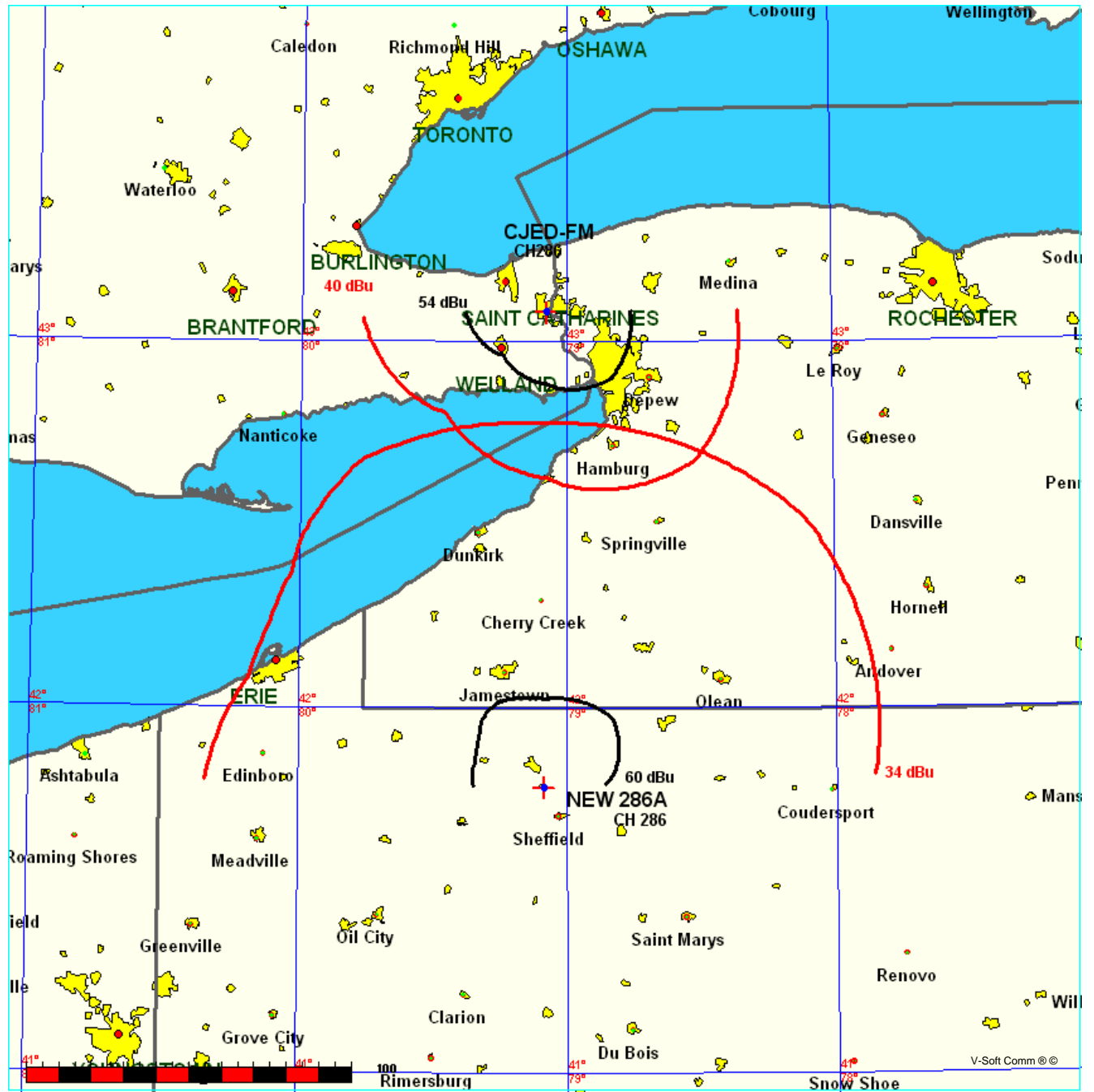


E-4 NEW 286A Interference Plot to CJED-FM 286A OP-D

FMCommander Single Allocation Study - 05-23-2012 - FCC NGDC 30 Sec
NEW 286A's Overlaps (In= 65.94 km, Out= 10.15 km)

NEW 286A CH 286 A 73.215 Z
Lat= 41 47 05.0, Lng= 79 05 06.0
6.0 kW 79 M HAAT, 593 M COR
Prot.= 60 dBu, Intef.= 34 dBu

CJED-FM CH 286 A DA 5477
Lat= 43 05 05.0, Lng= 79 04 45.0
0.705 kW 161 M HAAT, 330.5 M COR
Prot.= 54 dBu, Intef.= 40 dBu

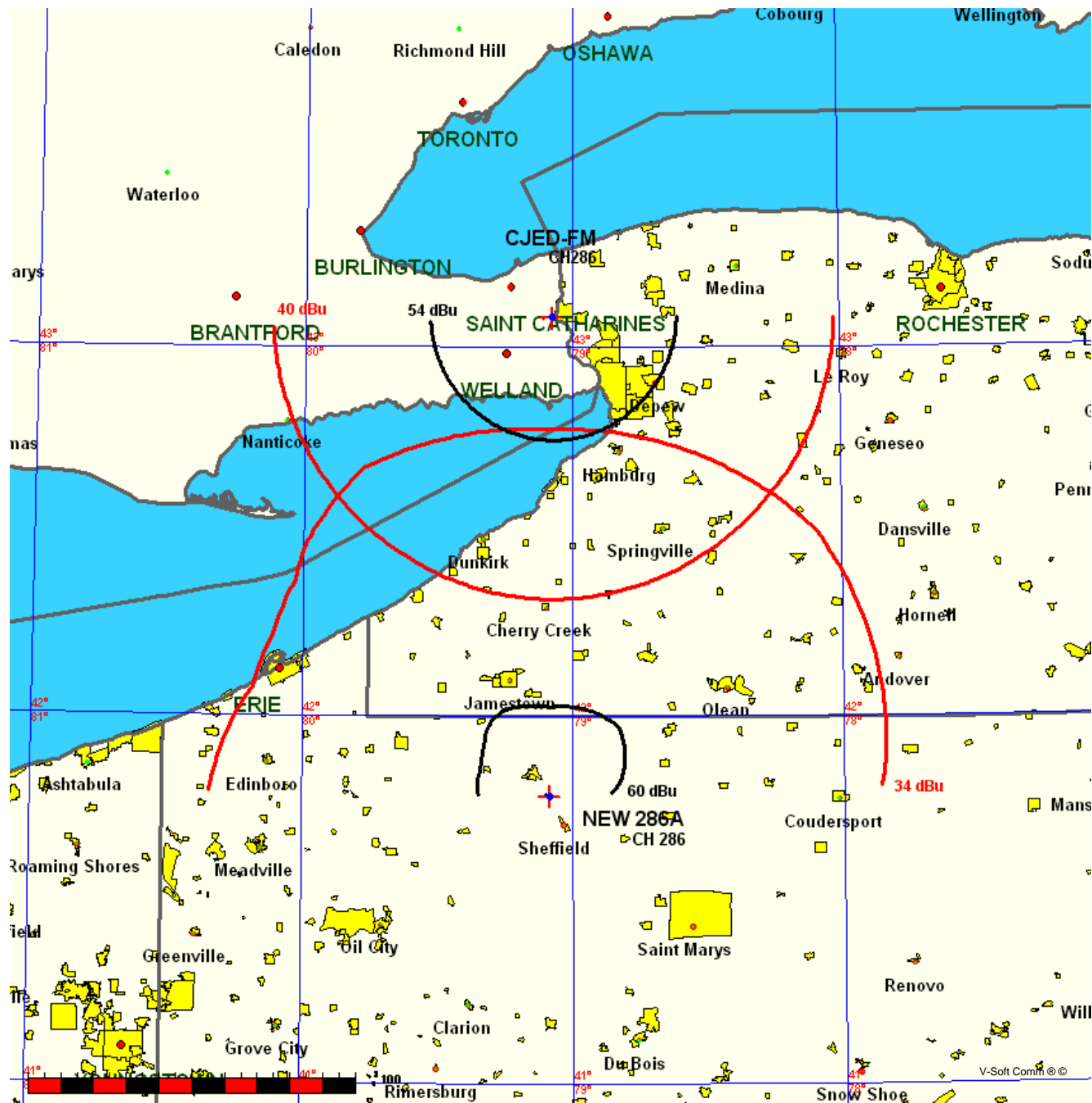


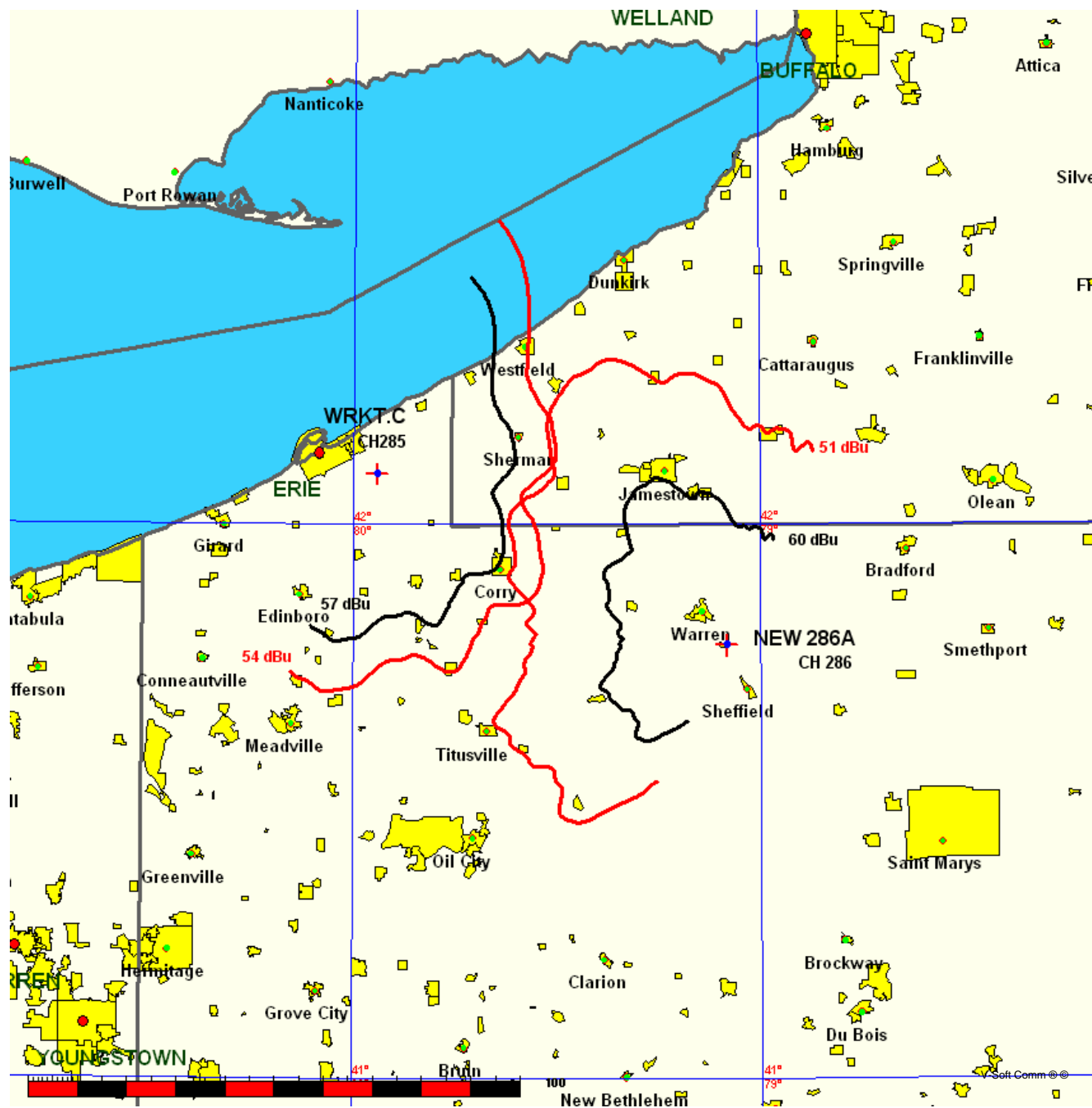
E-5 NEW 286A Interference Plot to CJED-FM 286A OP-D Max. Class

FMCommander Single Allocation Study - 05-24-2012 - FCC NGDC 30 Sec
NEW 286A's Overlaps (In= 32.17 km, Out= -3.31 km)

NEW 286A CH 286 A 73.215 Z
Lat= 41 47 05.0, Lng= 79 05 06.0
6.0 kW 79 M HAAT, 593 M COR
Prot.= 60 dBu, Intef.= 34 dBu

CJED-FM^ CH 286 A 5477
Lat= 43 05 05.0, Lng= 79 04 45.0
Max Cls: 6.0 kW 100 M HAAT, 269.5 M COR
Prot.= 54 dBu, Intef.= 40 dBu





E-7 NEW 286A FMOver Analysis to WRKT(FM) 285B1 CP

Terrain Data: FCC NGDC 30 Sec

WRKT-C BPH20110509AAL

NEW 286A

Channel = 285B1
Max ERP = 4.5 kW
RCAMSL = 516 M
N. Lat. 42 05 25.0
W. Lng. 79 56 37.0
Protected
57 dBu

Channel = 286A
Max ERP = 6 kW
RCAMSL = 593 M
N. Lat. 41 47 05.0
W. Lng. 79 05 06.0
Interfering
51 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
055.0	004.5000	0083.3	028.4	316.7	004.1188	0130.8	069.4	44.92	
056.0	004.5000	0081.2	028.1	316.3	004.0720	0128.1	068.9	44.87	
057.0	004.5000	0079.6	027.8	316.1	004.0325	0125.8	068.5	44.84	
058.0	004.5000	0078.6	027.7	315.8	004.0030	0124.1	068.1	44.86	
059.0	004.5000	0078.0	027.6	315.7	003.9792	0122.8	067.6	44.91	
060.0	004.5000	0077.5	027.5	315.5	003.9564	0121.6	067.2	44.96	
061.0	004.5000	0077.1	027.4	315.3	003.9344	0120.5	066.7	45.02	
062.0	004.5000	0077.0	027.4	315.2	003.9154	0119.6	066.3	45.09	
063.0	004.5000	0077.0	027.4	315.1	003.8984	0118.8	065.8	45.17	
064.0	004.5000	0077.1	027.4	315.0	003.8816	0118.1	065.4	45.26	
065.0	004.5000	0077.2	027.4	314.8	003.8646	0117.4	064.9	45.35	
066.0	004.5000	0077.5	027.5	314.7	003.8483	0116.8	064.5	45.44	
067.0	004.5000	0077.9	027.5	314.6	003.8333	0116.3	064.0	45.54	
068.0	004.5000	0078.5	027.6	314.5	003.8209	0115.9	063.5	45.67	
069.0	004.5000	0079.2	027.8	314.4	003.8097	0115.6	063.0	45.80	
070.0	004.5000	0079.9	027.9	314.3	003.7963	0115.2	062.5	45.92	
071.0	004.5000	0080.6	028.0	314.2	003.7806	0114.8	062.1	46.05	
072.0	004.5000	0081.3	028.1	314.1	003.7657	0114.6	061.6	46.18	
073.0	004.5000	0081.8	028.2	313.9	003.7439	0114.2	061.1	46.30	
074.0	004.5000	0081.8	028.2	313.7	003.7140	0114.0	060.7	46.40	
075.0	004.5000	0081.6	028.1	313.4	003.6782	0113.9	060.3	46.50	
076.0	004.5000	0081.4	028.1	313.1	003.6411	0114.2	059.9	46.61	
077.0	004.5000	0081.4	028.1	312.9	003.6073	0114.7	059.5	46.75	
078.0	004.5000	0081.3	028.1	312.6	003.5690	0115.5	059.1	46.90	
079.0	004.5000	0081.1	028.1	312.3	003.5289	0116.6	058.7	47.05	
080.0	004.5000	0081.0	028.1	312.0	003.4908	0117.8	058.3	47.21	
081.0	004.5000	0081.1	028.1	311.7	003.4533	0119.0	058.0	47.38	
082.0	004.5000	0080.9	028.0	311.3	003.4090	0120.5	057.6	47.53	
083.0	004.5000	0080.5	028.0	311.0	003.3624	0122.0	057.3	47.68	
084.0	004.5000	0080.5	028.0	310.6	003.3195	0123.2	056.9	47.82	
085.0	004.5000	0080.2	027.9	310.3	003.2734	0124.4	056.6	47.95	
086.0	004.5000	0079.5	027.8	309.8	003.2374	0125.5	056.4	48.06	
087.0	004.5000	0077.8	027.5	309.3	003.2253	0126.7	056.2	48.15	

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
088.0	004.5000	0076.2	027.3	308.7	003.2132	0127.9	056.1	48.24
089.0	004.5000	0074.5	027.0	308.2	003.2012	0129.3	056.0	48.34
090.0	004.5000	0072.2	026.6	307.6	003.1877	0131.2	056.0	48.42
091.0	004.5000	0069.5	026.2	306.9	003.1737	0133.4	056.1	48.49
092.0	004.5000	0066.9	025.7	306.3	003.1599	0135.7	056.2	48.56
093.0	004.5000	0064.3	025.3	305.7	003.1464	0137.9	056.3	48.62
094.0	004.5000	0062.4	025.0	305.1	003.1347	0139.6	056.4	48.68
095.0	004.5000	0060.7	024.7	304.6	003.1233	0141.2	056.4	48.74
096.0	004.5000	0058.9	024.4	304.1	003.1119	0142.7	056.4	48.78
097.0	004.5000	0057.1	024.1	303.5	003.1002	0144.1	056.6	48.80
098.0	004.5000	0055.6	023.8	303.0	003.0893	0145.4	056.6	48.82
099.0	004.5000	0054.8	023.7	302.6	003.0797	0146.3	056.6	48.87
100.0	004.5000	0054.9	023.7	302.2	003.0714	0147.1	056.4	48.96
101.0	004.5000	0055.6	023.8	301.8	003.0641	0147.5	056.2	49.08
102.0	004.5000	0056.8	024.0	301.5	003.0572	0147.9	055.8	49.23
103.0	004.5000	0058.3	024.3	301.2	003.0502	0148.2	055.4	49.38
104.0	004.5000	0060.0	024.6	300.9	003.0431	0148.5	055.0	49.55
105.0	004.5000	0062.2	025.0	300.5	003.0359	0148.7	054.5	49.72
106.0	004.5000	0064.6	025.4	300.2	003.0286	0148.7	054.0	49.90
107.0	004.5000	0067.0	025.8	299.8	003.0285	0148.3	053.6	50.06
108.0	004.5000	0068.9	026.1	299.4	003.0373	0147.5	053.2	50.19
109.0	004.5000	0070.7	026.4	299.0	003.0465	0146.2	052.8	50.27
110.0	004.5000	0072.3	026.6	298.5	003.0562	0144.3	052.5	50.32
111.0	004.5000	0074.2	026.9	298.1	003.0663	0141.8	052.1	50.34
112.0	004.5000	0075.8	027.2	297.6	003.0768	0138.5	051.8	50.29
113.0	004.5000	0077.1	027.4	297.0	003.0878	0134.6	051.6	50.20
114.0	004.5000	0078.5	027.6	296.5	003.0991	0130.8	051.3	50.11
115.0	004.5000	0079.9	027.9	296.0	003.1107	0127.0	051.1	50.02
116.0	004.5000	0081.6	028.1	295.4	003.1226	0123.8	050.8	49.97
117.0	004.5000	0083.8	028.5	294.9	003.1350	0121.0	050.5	49.96
118.0	004.5000	0086.2	028.9	294.3	003.1480	0118.7	050.1	49.99
119.0	004.5000	0088.6	029.3	293.6	003.1615	0116.6	049.8	50.02
120.0	004.5000	0090.6	029.6	293.0	003.1753	0114.6	049.5	50.02
121.0	004.5000	0092.0	029.8	292.4	003.1891	0112.8	049.4	49.98
122.0	004.5000	0092.9	029.9	291.7	003.2029	0111.0	049.3	49.90
123.0	004.5000	0093.9	030.1	291.1	003.2168	0109.2	049.3	49.82
124.0	004.5000	0095.1	030.3	290.5	003.2310	0107.8	049.2	49.76
125.0	004.5000	0096.3	030.5	289.8	003.2643	0106.9	049.2	49.77
126.0	004.5000	0097.2	030.6	289.2	003.3447	0106.7	049.2	49.85
127.0	004.5000	0097.6	030.7	288.6	003.4226	0106.2	049.3	49.88
128.0	004.5000	0097.7	030.7	288.0	003.4985	0105.6	049.5	49.87
129.0	004.5000	0097.7	030.7	287.4	003.5732	0104.8	049.7	49.83
130.0	004.5000	0097.4	030.6	286.8	003.6439	0103.2	049.9	49.70
131.0	004.5000	0096.0	030.4	286.4	003.7044	0101.2	050.3	49.47
132.0	004.5000	0093.8	030.1	286.0	003.7531	0099.0	050.9	49.16
133.0	004.5000	0091.0	029.6	285.7	003.7929	0097.0	051.5	48.82
134.0	004.5000	0088.1	029.2	285.5	003.8275	0095.2	052.1	48.48
135.0	004.5000	0085.2	028.7	285.2	003.8581	0093.5	052.8	48.14
136.0	004.5000	0082.4	028.3	285.0	003.8869	0091.9	053.4	47.81
137.0	004.5000	0080.0	027.9	284.8	003.9173	0090.2	054.0	47.49
138.0	004.5000	0078.1	027.6	284.5	003.9508	0088.4	054.5	47.19

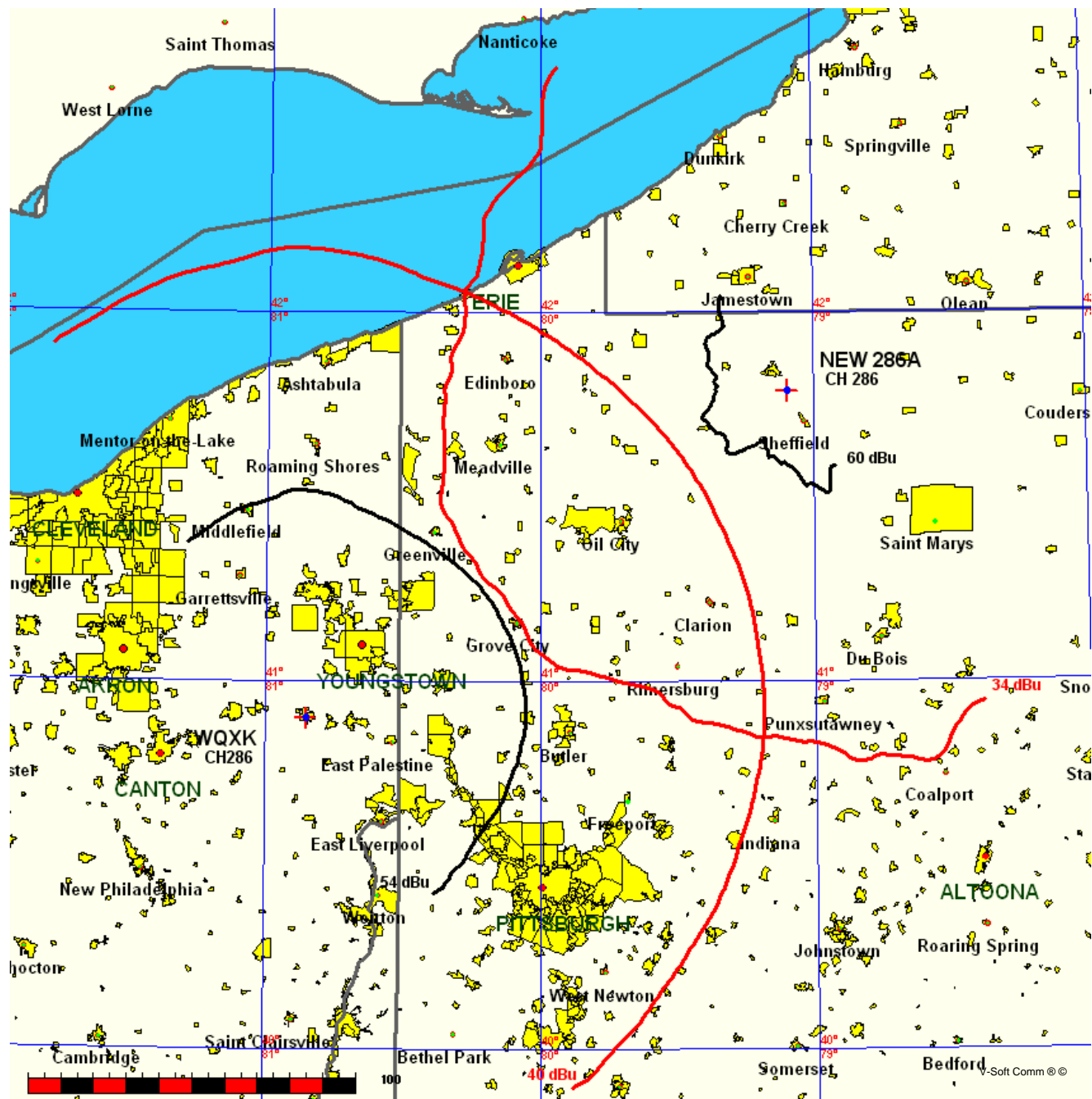
Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
139.0	004.5000	0076.8	027.4	284.2	003.9908	0086.1	055.0	46.90
140.0	004.5000	0076.7	027.3	283.9	004.0443	0083.4	055.3	46.64
141.0	004.5000	0078.0	027.6	283.3	004.1175	0080.4	055.4	46.43
142.0	004.5000	0079.9	027.9	282.7	004.2002	0077.3	055.5	46.25
143.0	004.5000	0081.2	028.1	282.2	004.2743	0074.8	055.6	46.06
144.0	004.5000	0081.9	028.2	281.8	004.3398	0072.6	055.9	45.86
145.0	004.5000	0083.0	028.4	281.3	004.4104	0070.2	056.1	45.66
146.0	004.5000	0084.8	028.6	280.7	004.4919	0067.7	056.2	45.48
147.0	004.5000	0086.8	029.0	280.1	004.5779	0065.9	056.4	45.36
148.0	004.5000	0088.4	029.2	279.6	004.6508	0065.2	056.6	45.30
149.0	004.5000	0089.5	029.4	279.1	004.7131	0064.7	056.9	45.23
150.0	004.5000	0090.7	029.6	278.6	004.7772	0064.2	057.1	45.16
151.0	004.5000	0092.9	029.9	278.0	004.8564	0063.9	057.4	45.14
152.0	004.5000	0095.9	030.4	277.3	004.9497	0064.6	057.5	45.23
153.0	004.5000	0098.8	030.9	276.7	005.0420	0065.9	057.7	45.36
154.0	004.5000	0101.2	031.2	276.1	005.1248	0065.5	058.0	45.32
155.0	004.5000	0103.7	031.6	275.5	005.2078	0064.4	058.2	45.21
156.0	004.5000	0106.8	032.1	274.8	005.3007	0062.3	058.5	45.03
157.0	004.5000	0109.8	032.5	274.2	005.3904	0059.7	058.8	44.80
158.0	004.5000	0111.5	032.7	273.7	005.4551	0058.2	059.2	44.60
159.0	004.5000	0111.5	032.7	273.5	005.4889	0057.6	059.7	44.41
160.0	004.5000	0110.2	032.6	273.4	005.4969	0057.4	060.3	44.23
161.0	004.5000	0107.9	032.2	273.5	005.4845	0057.7	061.0	44.06
162.0	004.5000	0104.4	031.7	273.8	005.4476	0058.4	061.7	43.89
163.0	004.5000	0100.0	031.0	274.2	005.3909	0059.7	062.4	43.75
164.0	004.5000	0095.4	030.3	274.6	005.3290	0061.6	063.2	43.63
165.0	004.5000	0091.5	029.7	275.0	005.2768	0062.9	063.9	43.50
166.0	004.5000	0088.5	029.2	275.2	005.2428	0063.7	064.5	43.36
167.0	004.5000	0086.4	028.9	275.4	005.2225	0064.2	065.1	43.22
168.0	004.5000	0085.2	028.7	275.4	005.2193	0064.2	065.6	43.08
169.0	004.5000	0085.0	028.7	275.3	005.2311	0064.0	066.1	42.94
170.0	004.5000	0085.4	028.8	275.1	005.2561	0063.4	066.6	42.80
171.0	004.5000	0086.2	028.9	274.9	005.2841	0062.8	067.1	42.66
172.0	004.5000	0086.7	029.0	274.8	005.3084	0062.1	067.5	42.51
173.0	004.5000	0087.3	029.1	274.6	005.3310	0061.5	068.0	42.36
174.0	004.5000	0087.2	029.0	274.5	005.3396	0061.3	068.5	42.22

E-8 NEW 286A Interference Plot to WQXK(FM) 286B Max. Class

FMCommander Single Allocation Study - 05-23-2012 - FCC NGDC 30 Sec
NEW 286A's Overlaps (In= 12.42 km, Out= 2.56 km)

NEW 286A CH 286 A 73.215 Z
Lat= 41 47 05.0, Lng= 79 05 06.0
6.0 kW 79 M HAAT, 593 M COR
Prot.= 60 dBu, Intef.= 34 dBu

WQXK^ CH 286 B BLH20000410ACM
Lat= 40 53 08.0, Lng= 80 49 55.0
Max Cls: 50.0 kW 150 M HAAT, 508 M COR
Prot.= 54 dBu, Intef.= 40 dBu



E-9 NEW 286A FMOver Analysis to WQXK(FM) 286B Max. Class

Terrain Data: FCC NGDC 30 Sec

WQXK BLH20000410ACM
(^ Max Class Parameters)
Channel = 286B
Max ERP = 50 kW
RCAMSL = 508 M
N. Lat. 40 53 08.0
W. Lng. 80 49 55.0
Protected
54 dBu

NEW 286A
Channel = 286A
Max ERP = 6 kW
RCAMSL = 593 M
N. Lat. 41 47 05.0
W. Lng. 79 05 06.0
Interfering
34 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	IX (km)
355.0	050.0000	0172.6	067.8	258.5	006.0000	0067.8	154.8	25.25	
356.0	050.0000	0175.7	068.1	258.6	006.0000	0067.7	153.7	25.45	
357.0	050.0000	0177.6	068.3	258.6	006.0000	0067.7	152.4	25.67	
358.0	050.0000	0177.9	068.4	258.5	006.0000	0067.8	151.3	25.88	
359.0	050.0000	0178.0	068.4	258.4	006.0000	0068.0	150.1	26.09	
000.0	050.0000	0177.1	068.3	258.3	006.0000	0068.3	148.9	26.30	
001.0	050.0000	0176.1	068.2	258.1	006.0000	0068.6	147.8	26.51	
002.0	050.0000	0175.0	068.1	258.0	006.0000	0069.0	146.7	26.73	
003.0	050.0000	0173.9	067.9	257.8	006.0000	0069.4	145.6	26.94	
004.0	050.0000	0172.4	067.8	257.6	006.0000	0069.9	144.5	27.16	
005.0	050.0000	0170.9	067.6	257.4	006.0000	0070.4	143.4	27.37	
006.0	050.0000	0169.6	067.5	257.2	006.0000	0070.9	142.3	27.59	
007.0	050.0000	0168.0	067.3	257.0	006.0000	0071.6	141.3	27.81	
008.0	050.0000	0165.9	067.1	256.7	006.0000	0072.4	140.3	28.02	
009.0	050.0000	0163.6	066.8	256.4	006.0000	0073.5	139.3	28.24	
010.0	050.0000	0161.3	066.5	256.1	006.0000	0074.6	138.4	28.46	
011.0	050.0000	0158.9	066.2	255.8	006.0000	0075.9	137.4	28.68	
012.0	050.0000	0156.3	065.9	255.4	006.0000	0077.3	136.6	28.90	
013.0	050.0000	0153.3	065.5	255.1	006.0000	0078.8	135.7	29.11	
014.0	050.0000	0150.3	065.1	254.7	006.0000	0080.5	134.9	29.32	
015.0	050.0000	0148.2	064.8	254.3	006.0000	0082.2	134.1	29.53	
016.0	050.0000	0147.2	064.7	254.0	006.0000	0083.7	133.2	29.76	
017.0	050.0000	0146.6	064.6	253.7	006.0000	0085.2	132.3	29.98	
018.0	050.0000	0145.9	064.5	253.4	006.0000	0087.0	131.5	30.20	
019.0	050.0000	0145.2	064.4	253.1	006.0000	0088.7	130.6	30.42	
020.0	050.0000	0144.8	064.3	252.8	006.0000	0090.3	129.7	30.64	
021.0	050.0000	0144.6	064.3	252.4	006.0000	0091.5	128.9	30.84	
022.0	050.0000	0144.4	064.3	252.1	006.0000	0092.3	128.0	31.02	
023.0	050.0000	0143.9	064.2	251.7	006.0000	0092.8	127.2	31.18	
024.0	050.0000	0143.2	064.1	251.4	006.0000	0092.9	126.5	31.32	
025.0	050.0000	0142.3	064.0	251.0	006.0000	0092.5	125.8	31.44	
026.0	050.0000	0141.7	063.9	250.6	006.0000	0091.7	125.1	31.54	
027.0	050.0000	0141.4	063.9	250.2	006.0000	0090.6	124.3	31.63	

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
028.0	050.0000	0141.4	063.9	249.8	006.0000	0089.3	123.6	31.72
029.0	050.0000	0141.1	063.8	249.4	006.0000	0087.8	122.9	31.79
030.0	050.0000	0140.8	063.8	249.0	006.0000	0086.4	122.2	31.86
031.0	050.0000	0140.8	063.8	248.5	006.0000	0085.4	121.5	31.94
032.0	050.0000	0141.3	063.9	248.1	006.0000	0084.6	120.8	32.04
033.0	050.0000	0141.9	063.9	247.7	006.0000	0084.3	120.1	32.15
034.0	050.0000	0142.1	064.0	247.3	006.0000	0084.1	119.5	32.25
035.0	050.0000	0142.1	064.0	246.8	006.0000	0084.2	118.9	32.36
036.0	050.0000	0142.1	064.0	246.4	006.0000	0084.5	118.3	32.47
037.0	050.0000	0142.4	064.0	245.9	006.0000	0084.9	117.8	32.58
038.0	050.0000	0142.6	064.0	245.4	006.0000	0085.3	117.2	32.69
039.0	050.0000	0143.1	064.1	244.9	006.0000	0085.4	116.7	32.79
040.0	050.0000	0143.9	064.2	244.5	006.0000	0084.9	116.1	32.87
041.0	050.0000	0144.8	064.3	244.0	006.0000	0084.1	115.5	32.94
042.0	050.0000	0145.8	064.5	243.5	006.0000	0083.0	115.0	33.00
043.0	050.0000	0146.8	064.6	243.0	006.0000	0081.7	114.5	33.05
044.0	050.0000	0147.5	064.7	242.4	006.0000	0080.5	114.0	33.09
045.0	050.0000	0148.2	064.8	241.9	006.0000	0079.5	113.6	33.13
046.0	050.0000	0149.1	064.9	241.4	006.0000	0078.8	113.2	33.19
047.0	050.0000	0150.2	065.1	240.8	006.0000	0078.6	112.8	33.25
048.0	050.0000	0151.4	065.3	240.3	006.0000	0078.7	112.4	33.33
049.0	050.0000	0152.7	065.4	239.7	006.0000	0078.9	112.0	33.41
050.0	050.0000	0153.8	065.6	239.2	006.0000	0078.9	111.7	33.47
051.0	050.0000	0155.0	065.7	238.6	006.0000	0078.5	111.4	33.51
052.0	050.0000	0156.1	065.9	238.0	006.0000	0077.3	111.1	33.52
053.0	050.0000	0157.0	066.0	237.4	006.0000	0075.6	110.9	33.50
054.0	050.0000	0157.9	066.1	236.8	006.0000	0073.3	110.7	33.46
055.0	050.0000	0158.7	066.2	236.2	006.0000	0070.9	110.6	33.40
056.0	050.0000	0159.4	066.3	235.6	006.0000	0068.8	110.5	33.34
057.0	050.0000	0160.0	066.4	235.0	006.0000	0067.6	110.5	33.31
058.0	050.0000	0160.5	066.4	234.4	006.0000	0067.3	110.5	33.30
059.0	050.0000	0160.8	066.4	233.8	006.0000	0067.8	110.5	33.30
060.0	050.0000	0161.0	066.5	233.2	006.0000	0068.8	110.6	33.32
061.0	050.0000	0161.1	066.5	232.6	006.0000	0069.8	110.8	33.32
062.0	050.0000	0161.0	066.5	232.0	006.0000	0070.6	111.0	33.31
063.0	050.0000	0160.9	066.5	231.4	006.0000	0070.8	111.2	33.27
064.0	050.0000	0160.9	066.5	230.9	006.0000	0070.8	111.5	33.22
065.0	050.0000	0161.1	066.5	230.3	006.0000	0070.4	111.8	33.16
066.0	050.0000	0161.7	066.5	229.7	006.0000	0070.2	112.0	33.11
067.0	050.0000	0162.4	066.6	229.1	006.0000	0070.5	112.3	33.07
068.0	050.0000	0163.3	066.7	228.6	006.0000	0071.4	112.6	33.05
069.0	050.0000	0164.1	066.8	228.0	006.0000	0073.1	112.9	33.05
070.0	050.0000	0164.8	066.9	227.4	006.0000	0075.4	113.3	33.06
071.0	050.0000	0165.4	067.0	226.9	006.0000	0077.9	113.7	33.07
072.0	050.0000	0165.9	067.1	226.3	006.0000	0080.4	114.1	33.07
073.0	050.0000	0166.3	067.1	225.8	006.0000	0082.5	114.6	33.05
074.0	050.0000	0166.7	067.1	225.3	006.0000	0084.0	115.2	33.01
075.0	050.0000	0167.1	067.2	224.8	006.0000	0084.9	115.7	32.94
076.0	050.0000	0167.4	067.2	224.3	006.0000	0085.2	116.3	32.85
077.0	050.0000	0167.5	067.2	223.8	006.0000	0085.1	116.9	32.73
078.0	050.0000	0167.3	067.2	223.3	006.0000	0084.6	117.6	32.60

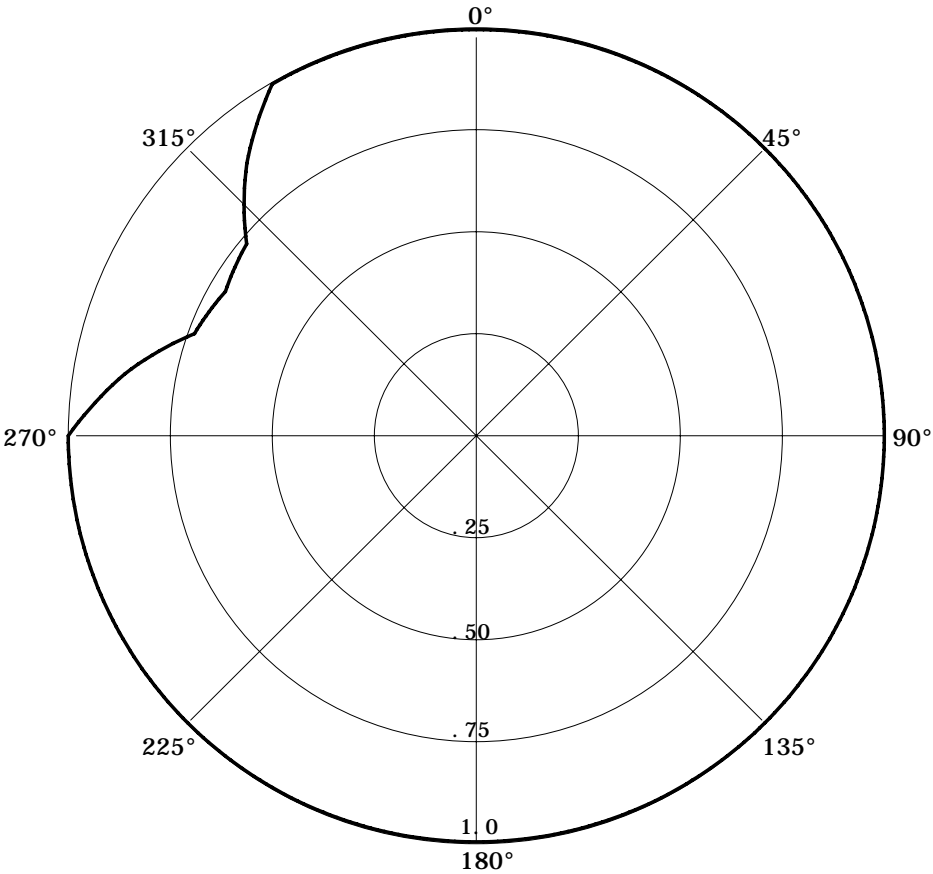
Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
079.0	050.0000	0167.1	067.2	222.8	006.0000	0084.0	118.3	32.45
080.0	050.0000	0166.9	067.2	222.4	006.0000	0083.3	119.1	32.30
081.0	050.0000	0167.1	067.2	222.0	006.0000	0082.7	119.8	32.16
082.0	050.0000	0167.4	067.2	221.5	006.0000	0082.1	120.5	32.01
083.0	050.0000	0167.8	067.3	221.1	006.0000	0081.4	121.3	31.86
084.0	050.0000	0168.1	067.3	220.7	006.0000	0080.8	122.0	31.70
085.0	050.0000	0168.1	067.3	220.3	006.0000	0080.0	122.9	31.53
086.0	050.0000	0168.1	067.3	219.9	006.0000	0079.2	123.7	31.35
087.0	050.0000	0168.2	067.3	219.5	006.0000	0078.3	124.6	31.17
088.0	050.0000	0168.2	067.3	219.2	006.0000	0077.2	125.5	30.97
089.0	050.0000	0168.2	067.3	218.9	006.0000	0075.9	126.4	30.76
090.0	050.0000	0168.2	067.3	218.5	006.0000	0074.5	127.3	30.55
091.0	050.0000	0168.2	067.3	218.2	006.0000	0072.8	128.2	30.32
092.0	050.0000	0167.5	067.2	217.9	006.0000	0071.3	129.2	30.08
093.0	050.0000	0166.9	067.2	217.7	006.0000	0069.7	130.2	29.83
094.0	050.0000	0166.4	067.1	217.4	006.0000	0068.1	131.2	29.58
095.0	050.0000	0165.3	067.0	217.2	006.0000	0066.6	132.3	29.33
096.0	050.0000	0164.0	066.8	217.0	006.0000	0065.4	133.4	29.08
097.0	050.0000	0162.4	066.6	216.8	006.0000	0064.3	134.5	28.83
098.0	050.0000	0160.8	066.4	216.6	006.0000	0063.4	135.6	28.59
099.0	050.0000	0159.9	066.3	216.5	006.0000	0062.3	136.7	28.35
100.0	050.0000	0159.4	066.3	216.3	006.0000	0061.3	137.8	28.11
101.0	050.0000	0159.0	066.2	216.1	006.0000	0060.3	138.8	27.88
102.0	050.0000	0158.4	066.2	215.9	006.0000	0059.6	139.9	27.64
103.0	050.0000	0157.4	066.0	215.8	006.0000	0059.0	141.0	27.41
104.0	050.0000	0156.2	065.9	215.7	006.0000	0058.5	142.2	27.18
105.0	050.0000	0154.8	065.7	215.6	006.0000	0058.1	143.3	26.96
106.0	050.0000	0153.9	065.6	215.5	006.0000	0057.7	144.4	26.73
107.0	050.0000	0153.4	065.5	215.4	006.0000	0057.3	145.5	26.51
108.0	050.0000	0153.2	065.5	215.3	006.0000	0056.9	146.6	26.30
109.0	050.0000	0153.1	065.5	215.1	006.0000	0056.5	147.8	26.08
110.0	050.0000	0153.2	065.5	215.0	006.0000	0056.1	148.9	25.86
111.0	050.0000	0153.3	065.5	214.9	006.0000	0055.8	150.0	25.65
112.0	050.0000	0153.2	065.5	214.8	006.0000	0055.5	151.1	25.44
113.0	050.0000	0152.6	065.4	214.8	006.0000	0055.3	152.2	25.23
114.0	050.0000	0151.7	065.3	214.7	006.0000	0055.2	153.4	25.02

E-10 NEW 286A Directional Antenna Pattern

RMS(V) = .973

Graph is Relative Field

Azi	Field	dBk	kW
000	1.000	07.782	6.000
010	1.000	07.782	6.000
020	1.000	07.782	6.000
030	1.000	07.782	6.000
040	1.000	07.782	6.000
050	1.000	07.782	6.000
060	1.000	07.782	6.000
070	1.000	07.782	6.000
080	1.000	07.782	6.000
090	1.000	07.782	6.000
100	1.000	07.782	6.000
110	1.000	07.782	6.000
120	1.000	07.782	6.000
130	1.000	07.782	6.000
140	1.000	07.782	6.000
150	1.000	07.782	6.000
160	1.000	07.782	6.000
170	1.000	07.782	6.000
180	1.000	07.782	6.000
190	1.000	07.782	6.000
200	1.000	07.782	6.000
210	1.000	07.782	6.000
220	1.000	07.782	6.000
230	1.000	07.782	6.000
240	1.000	07.782	6.000
250	1.000	07.782	6.000
260	1.000	07.782	6.000
270	1.000	07.782	6.000
280	0.875	06.622	4.594
290	0.735	05.107	3.241
300	0.710	04.807	3.025
310	0.735	05.107	3.241
320	0.875	06.622	4.594
330	1.000	07.782	6.000
340	1.000	07.782	6.000
350	1.000	07.782	6.000



E-11 NEW 286A HAAT Calculation

N. Lat. = 414705.0 W. Lng. = 790506.0
HAAT and Distance to Contour,
FCC, FM 2-10 Mi, 51 pts Method - FCC 30 SEC

Azi. AV EL HAAT dBk 60-F5

000	506.1	86.9	7.78	26.48
045	482.7	110.3	7.78	29.61
090	551.6	41.4	7.78	18.62
135	518.3	74.7	7.78	24.68
180	534.8	58.2	7.78	22.15
225	509.5	83.5	7.78	25.99
270	534.1	58.9	7.78	22.27
315	475.2	117.8	5.90	27.63

Ave El= 514.04 M HAAT= 78.96 M AMSL= 593 M

NEW 286A
Latitude: 41-47-05 N
Longitude: 079-05-06 W
ERP: 6.00 kW
Channel: 286
Frequency: 105.1 MHz
AMSL Height: 593.0 m
Elevation: 534.0 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: None

NEW 286A
70 dBu F(50-50) Contour

Sheffield, PA
NEW 286A Community of License
2010 U.S. Census City Boundary

Scale 1:250,000
0 3 6 9 km

(c) Copyright 2012, Anderson Associates

Latitude: 41-47-05 N
Longitude: 079-05-06 W
ERP: 6.00 kW
Channel: 286
Frequency: 105.1 MHz
AMSL Height: 593.0 m
Elevation: 534.0 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: None

Clarendon

E-13 NEW 286A Tower ASR

ASR Registration Search

Registration 1232779

 [Map Registration](#)

Registration Detail

Reg Number	1232779	Status	Constructed
File Number	A0270370	Constructed	06/20/2002
FAA Study	01-aea-2864-oe	EMI	No
FAA Issue Date	11/15/2001	NEPA	No

Antenna Structure

Structure Type TOWER - Free standing or Guyed Structure used for Communications Purposes

Location (in NAD83 Coordinates)

Lat/Long	41-47-05.7 N 079-05-05.0 W	Weaver Street
City, State	Clarendon , PA	
Center of AM Array		

Heights (meters)

Elevation of Site Above Mean Sea Level	Overall Height Above Ground (AGL)
534.0	78.6
Overall Height Above Mean Sea Level	Overall Height Above Ground w/o Appurtenances
612.6	75.6

Painting and Lighting Specifications

FAA Chapters 4, 8, 12

Paint and Light in Accordance with FAA Circular Number 70/7460-1K

Owner & Contact Information

FRN	0005793351	Licensee ID	L00296049
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Owner

SBA Properties, Inc
5900 Broken Sound Parkway NW
Boca Raton , FL 33487

P: (561)995-7670
E: eroach@sbsite.com

Contact

P:
E:

Last Action Status

Status	Constructed	Received	06/21/2002
Purpose	Notification	Entered	06/21/2002
Mode	Interactive		

Related Applications

06/21/2002	A0270370 - Notification (NT)
03/05/2002	A0249387 - New (NE)

Comments

Comments

No