

Wind Power GeoPlanner™

Off-Air TV Analysis

Cassadaga



Prepared on Behalf of
Cassadaga Wind LLC

February 27, 2015



COMSEARCH
A CommScope Company

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1. Introduction

Off-air television stations broadcast signals from terrestrially-based facilities directly to television receivers. Comsearch identified those off-air stations whose service could potentially be affected by the proposed Cassadaga wind energy project in Chautauqua County, New York. Comsearch then examined the coverage of the stations and the communities in the area that could potentially have degraded television reception due to the location of the proposed wind turbines.

2. Summary of Results

The proposed wind energy project area and local communities are depicted in Figure 1, below.



Figure 1: Wind Farm Project Area and Local Communities

To begin the analysis, Comsearch compiled all off-air television stations¹ within 150 kilometers of the center of the project area of interest (AOI). Appendix A contains a tabular summary of these stations. A plot depicting their locations appears in Figure 2, below.

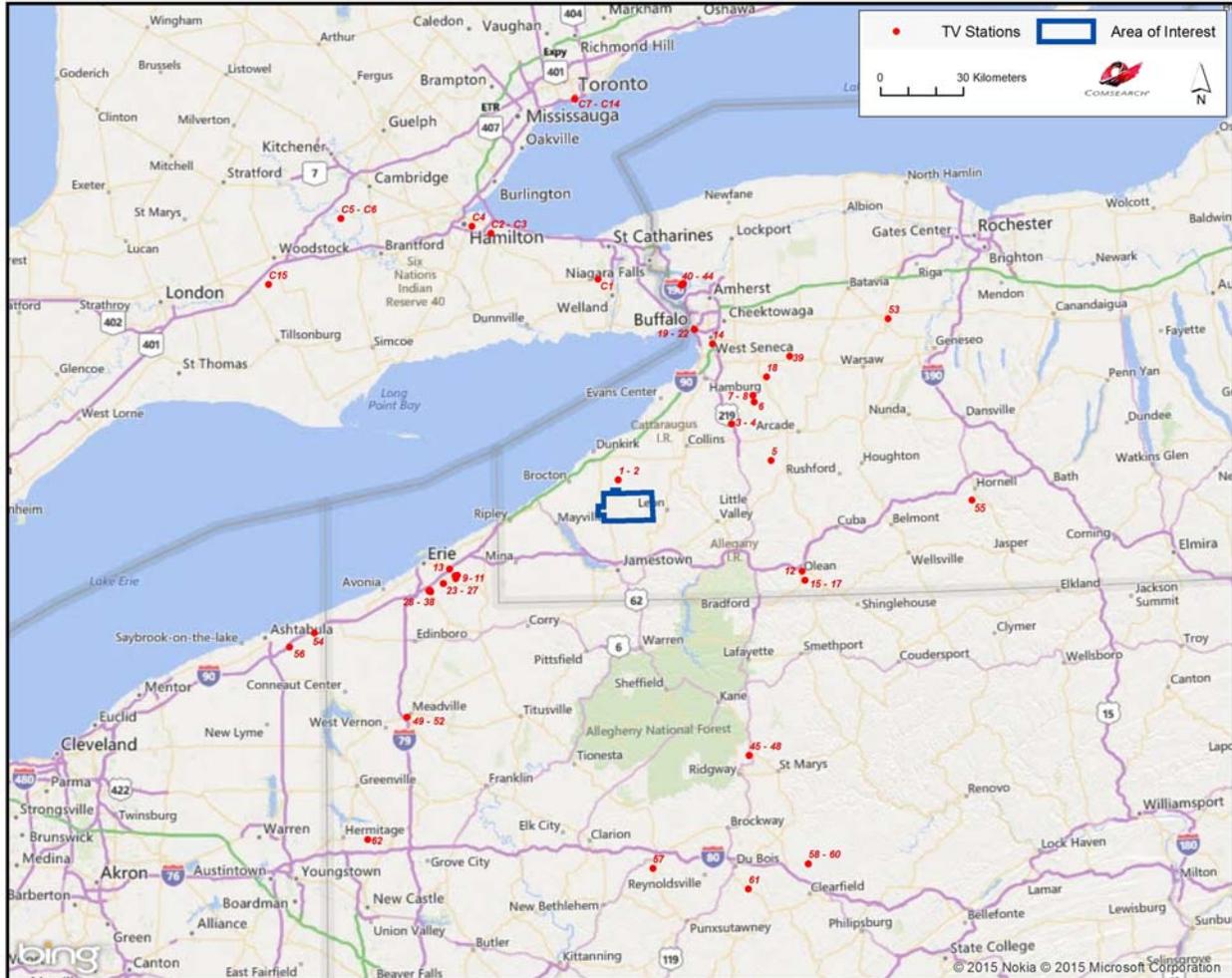


Figure 2: Plot of Off-Air TV Stations within 150 Kilometers of Project Area

TV stations at a distance of 75 kilometers or less are the most likely to provide off-air coverage to the project area and neighboring communities. These stations are listed below in Table 1 and a plot depicting their locations is provided in Figure 3. There are a total of thirty-nine database records for stations within approximately 75 kilometers of the project. Only twenty of

¹ Comsearch makes no warranty as to the accuracy of the data included in this report beyond the date of the report. The data presented in this report is derived from the TV station's FCC license and governed by Comsearch's data license notification and agreement located at http://www.comsearch.com/files/data_license.pdf.

these stations are currently licensed and operational, eight of which are low-power stations or translators. Translator stations are low-power stations that receive signals from distant broadcasters and retransmit the signal to a local audience. These stations serve local audiences and have limited range, which is a function of their transmit power and the height of their transmit antenna.

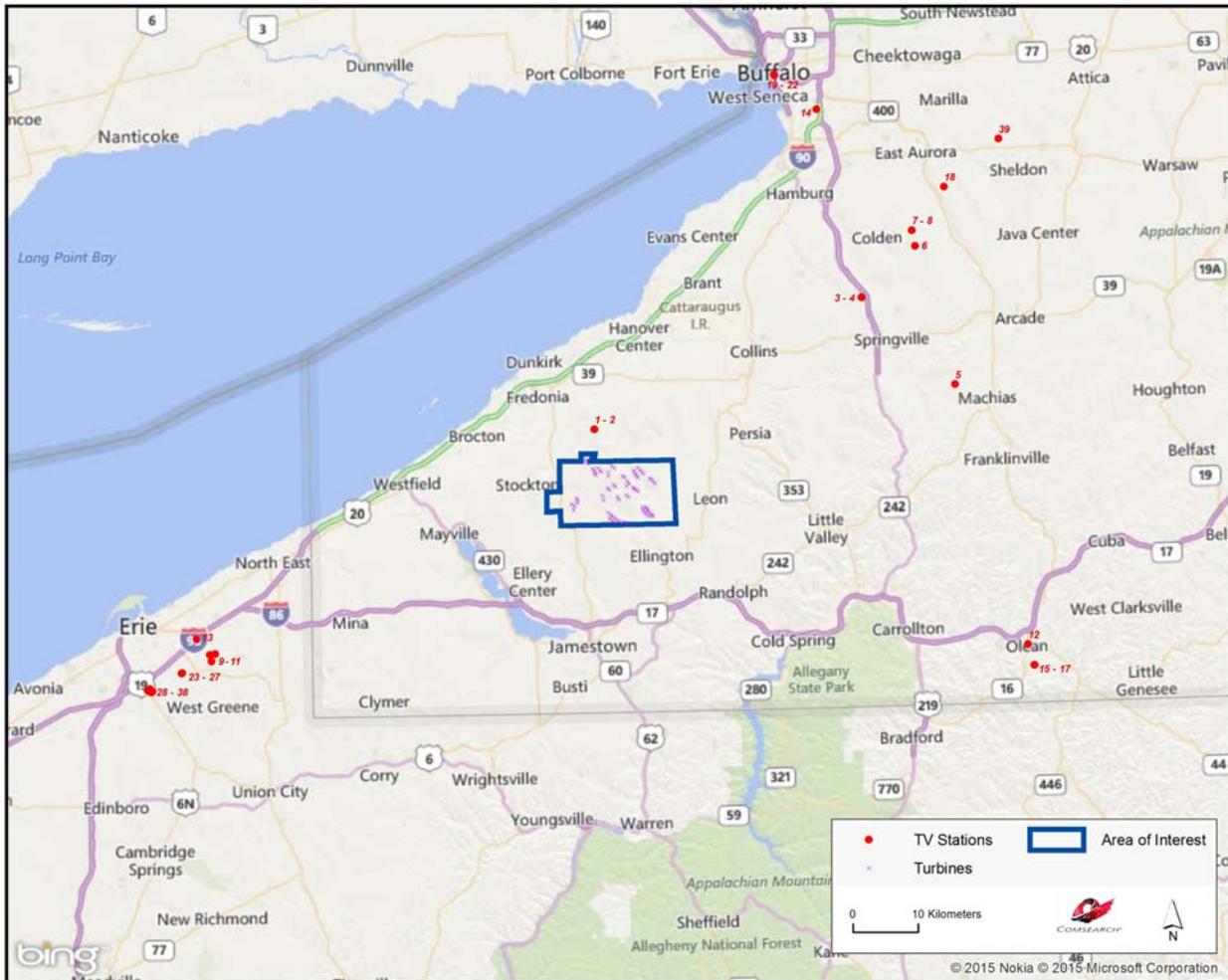


Figure 3: Plot of Off-Air TV Stations within 75 Kilometers of Project Area

ID	Call Sign	Status	Service ²	Channel	Transmit ERP ³ (kW)	Latitude (NAD 27)	Longitude (NAD 27)	Distance to Center of AOI (km)
1	WNYB	LIC	DT	26	243.0	42.393333	-79.228889	4.93
2	WNYB	APP	DT	26	450.0	42.393333	-79.228889	4.93
3	WBBZ-TV	LIC	DT	7	26.9	42.567778	-78.723333	42.82
4	WBBZ-TV	APP	DS	7	26.9	42.567861	-78.722972	42.85
5	WVTT-CD	LIC	DC	34	15.0	42.443611	-78.553056	48.64
6	WKBW-TV	LIC	DT	38	358.0	42.637444	-78.619972	54.30
7	WIVB-TV	LIC	DT	39	790.0	42.659167	-78.625833	55.54
8	WIVB-TV	CP	DX	39	112.0	42.659167	-78.625833	55.54
9	W45EC-D	CP	LD	45	15.0	42.090278	-79.943611	59.57
10	NEW	APP	LD	30	2.5	42.089361	-79.953278	60.35
11	NEW	APP	TX	29	4.0	42.079722	-79.950556	60.53
12	W20AB	LIC	TX	20	12.5	42.080556	-78.430556	60.99
13	W32DH-D	APP	LD	32	1.35	42.111333	-79.977722	61.44
14	WDTB-LP	LIC	TX	39	16.9	42.830556	-78.798333	61.84
15	WVTT-CD	CP	DC	25	3.0	42.051111	-78.420278	62.99
16	W30BW	LIC	TX	30	5.9	42.051111	-78.419722	63.03
17	W30BW	CP	LD	30	1.0	42.051111	-78.419722	63.03
18	WGRZ	LIC	DT	33	480.0	42.718611	-78.563056	63.81
19	WDTB-LP	STA	TX	40	0.004	42.879722	-78.876389	64.21
20	NEW	APP	LD	48	15.0	42.879722	-78.876389	64.21
21	WBXZ-LP	LIC	LD	17	15.0	42.880000	-78.876667	64.23
22	WDTB-LP	CP	LD	29	15.0	42.880000	-78.876667	64.23
23	WSEE-TV	LIC	DT	16	75.0	42.064444	-80.005278	65.37
24	WICU-TV	APP	DT	12	7.8	42.063833	-80.005778	65.43
25	WSEE-TV	APP	DT	16	363.0	42.063833	-80.005778	65.43
26	WICU-TV	LIC	DT	12	5.4	42.063889	-80.005833	65.43
27	NEW	APP	LD	30	1.0	42.063889	-80.005833	65.43
28	DWLEP-LP	APP	TX	9	0.1	42.039167	-80.060833	70.69
29	WLEP-LD	LIC	LD	43	12.0	42.039167	-80.060833	70.69
30	W48CH	LIC	TX	48	10.2	42.038889	-80.062500	70.83

² Definitions of US service and status codes:

DT – Digital television broadcast station
DS – Digital special temporary authority (STA)
DX – Digital auxiliary station
LD – Low-power digital television broadcast station
TX – Translator station
CA – Class A analog television broadcast station
DC – Class A digital television broadcast station
LIC – Licensed and operational station
CP – Construction permit granted
CP MOD – Modification of construction permit
APP – Application for construction permit, not yet operational
STA – Special temporary authority

³ ERP = Transmit Effective Radiated Power

ID	Call Sign	Status	Service ²	Channel	Transmit ERP ³ (kW)	Latitude (NAD 27)	Longitude (NAD 27)	Distance to Center of AOI (km)
31	W32DH-D	LIC	LD	32	2.07	42.037778	-80.062222	70.85
32	NEW	APP	LD	34	2.0	42.037778	-80.062222	70.85
33	W36EK-D	CP	LD	36	10.0	42.037778	-80.062222	70.85
34	WXTM-LD	CP MOD	LD	47	1.6	42.037778	-80.062222	70.85
35	WQLN	LIC	DT	50	300.0	42.042778	-80.065556	70.90
36	WFXP	LIC	DT	22	850.0	42.040278	-80.069167	71.28
37	WJET-TV	LIC	DT	24	523.0	42.040278	-80.069167	71.28
38	NEW	APP	LD	35	15.0	42.040278	-80.069167	71.28
39	WNYO-TV	LIC	DT	49	198.0	42.782778	-78.457778	74.97

Table 1: Off-Air TV Stations within 75 Kilometers of Project Area

3. Impact Assessment

Twelve of the licensed full-power stations, WNYB, WKBW-TV, WIVB-TV, WGRZ, WSEE-TV, WICU-TV, WQLN, WJET-TV, WNYO-TV, WUTV, WNLO, and WNED-TV, as well as Class C station WVTT-CD, may have their reception disrupted in and around the project, primarily in locations on the opposite side of the project area, relative to the station antennas.

Communities and homes to the south and east of the project may have degraded reception of station WNYB, which is located just north of the project area, after the wind turbines are installed. Similarly, stations WKBW-TV, WIVB-TV, WGRZ, WNYO-TV, WUTV, and WNLO, which broadcast from northeast of the project area, may have diminished reception in communities directly to the south and the west. In the case of station WVTT-CD, which also broadcasts from the northeast, disruption is likely to be limited to the eastern portion of the project, where the station's contour overlaps with the project area. Any disruption of Buffalo-based station WNED-TV will be confined to the northern portion of the project area due to the station's more limited range.

The reception of stations WSEE-TV, WICU-TV, WQLN, and WJET-TV, all based out of Erie, to the southwest of the Cassadaga project, may be degraded in the southern and western portions of the project area. For WICU-TV in particular, the station's contour overlaps with a larger part of project area and extends beyond the eastern limit. Thus its reception may be impacted in the area immediately east of the project as well.

4. Recommendations

Both cable service and direct broadcast satellite service will be unaffected by the presence of the wind turbine facility and may be offered to those residents who can show that their off-air TV reception has been disrupted by the presence of the wind turbines after they are installed.



5. Contact

For questions or information regarding the Off-Air TV Analysis, please contact:

Contact person: Denise Finney
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Email: dfinney@comsearch.com
Web site: www.comsearch.com

Appendix A

ID	Call Sign	Status	Service ⁴	Channel	Transmit ERP ⁵ (kW)	Latitude (NAD 27)	Longitude (NAD 27)	Distance to Center of AOI (km)
1	WNYB	LIC	DT	26	243.0	42.393333	-79.228889	4.93
2	WNYB	APP	DT	26	450.0	42.393333	-79.228889	4.93
3	WBBZ-TV	LIC	DT	7	26.9	42.567778	-78.723333	42.82
4	WBBZ-TV	APP	DS	7	26.9	42.567861	-78.722972	42.85
5	WVTT-CD	LIC	DC	34	15.0	42.443611	-78.553056	48.64
6	WKBW-TV	LIC	DT	38	358.0	42.637444	-78.619972	54.30
7	WIVB-TV	LIC	DT	39	790.0	42.659167	-78.625833	55.54
8	WIVB-TV	CP	DX	39	112.0	42.659167	-78.625833	55.54
9	W45EC-D	CP	LD	45	15.0	42.090278	-79.943611	59.57
10	NEW	APP	LD	30	2.5	42.089361	-79.953278	60.35
11	NEW	APP	TX	29	4.0	42.079722	-79.950556	60.53
12	W20AB	LIC	TX	20	12.5	42.080556	-78.430556	60.99
13	W32DH-D	APP	LD	32	1.35	42.111333	-79.977722	61.44
14	WDTB-LP	LIC	TX	39	16.9	42.830556	-78.798333	61.84
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18	WGRZ	LIC	DT	33	480.0	42.718611	-78.563056	63.81
19	WDTB-LP	STA	TX	40	0.004	42.879722	-78.876389	64.21
20	NEW	APP	LD	48	15.0	42.879722	-78.876389	64.21
21	WBXZ-LP	LIC	LD	17	15.0	42.880000	-78.876667	64.23
22	WDTB-LP	CP	LD	29	15.0	42.880000	-78.876667	64.23
23	WSEE-TV	LIC	DT	16	75.0	42.064444	-80.005278	65.37
24	WICU-TV	APP	DT	12	7.8	42.063833	-80.005778	65.43
25	WSEE-TV	APP	DT	16	363.0	42.063833	-80.005778	65.43
26	WICU-TV	LIC	DT	12	5.4	42.063889	-80.005833	65.43
27	NEW	APP	LD	30	1.0	42.063889	-80.005833	65.43
28	DWLEP-LP	APP	TX	9	0.1	42.039167	-80.060833	70.69

⁴ Definitions of service and status codes :
DT – Digital television broadcast station
DS – Digital special temporary authority (STA)
DX – Digital auxiliary station
LD – Low-power digital television broadcast station
TX – Translator station
CA – Class A analog television broadcast station
DC – Class A digital television broadcast station
LIC – Licensed and operational station
CP – Construction permit granted
CP MOD – Modification of construction permit
APP – Application for construction permit, not yet operational
STA – Special Temporary Authority

⁵ ERP = Transmit Effective Radiated Power

ID	Call Sign	Status	Service ⁴	Channel	Transmit ERP ⁵ (kW)	Latitude (NAD 27)	Longitude (NAD 27)	Distance to Center of AOI (km)
29	WLEP-LD	LIC	LD	43	12.0	42.039167	-80.060833	70.69
30	W48CH	LIC	TX	48	10.2	42.038889	-80.062500	70.83
31	W32DH-D	LIC	LD	32	2.07	42.037778	-80.062222	70.85
32	NEW	APP	LD	34	2.0	42.037778	-80.062222	70.85
33	W36EK-D	CP	LD	36	10.0	42.037778	-80.062222	70.85
34	WXTM-LD	CP MOD	LD	47	1.6	42.037778	-80.062222	70.85
35	WQLN	LIC	DT	50	300.0	42.042778	-80.065556	70.90
36	WFXP	LIC	DT	22	850.0	42.040278	-80.069167	71.28
37	WJET-TV	LIC	DT	24	523.0	42.040278	-80.069167	71.28
38	NEW	APP	LD	35	15.0	42.040278	-80.069167	71.28
39	WNYO-TV	LIC	DT	49	198.0	42.782778	-78.457778	74.97
40	WUTV	LIC	DT	14	1000.0	43.025556	-78.928611	78.48
41	WBNF-CD	APP	LD	15	4.6	43.025556	-78.928611	78.48
42	WBNF-CD	LIC	DC	15	15.0	43.025556	-78.928611	78.48
43	WNLO	LIC	DT	32	1000.0	43.030000	-78.920833	79.11
44	WNED-TV	LIC	DT	43	156.0	43.030000	-78.920833	79.11
45	W17DU-D	CP	LD	17	1.0	41.482222	-78.683889	94.85
46	W19EI-D	CP	LD	19	1.0	41.482222	-78.683889	94.85
47	W21DO-D	CP	LD	21	1.0	41.482222	-78.683889	94.85
48	W28EO-D	CP	LD	28	1.0	41.482222	-78.683889	94.85
49	W52BO	CP	LD	28	15.0	41.627778	-80.170833	104.17
50	W52BO	LIC	TX	52	5.7	41.627778	-80.170833	104.17
51	W52BO	APP	TX	46	0.057	41.627500	-80.170556	104.18
52	W52BO	APP	TX	44	21.6	41.627500	-80.170833	104.19
53	WPXJ-TV	LIC	DT	23	455.0	42.895000	-78.015556	111.00
54	W48CH	CP	LD	48	4.0	41.905556	-80.571111	115.46
55	W16BE-D	LIC	LD	16	0.277	42.292222	-77.674167	119.09
56	DW64AK	CP	LD	39	12.0	41.860833	-80.679722	125.68
57	W45BT-D	LIC	LD	45	6.32	41.119722	-79.114444	126.81
58	WPSU-TV	LIC	DD	15	810.0	41.122222	-78.441667	139.59
59	WPSU-TV	LIC	DD	15	810.0	41.122222	-78.441667	139.59
60	WPSU-TV	LIC	DT	15	810.0	41.122222	-78.441611	139.59
61	WJAC-TV	LIC	LD	26	0.7	41.045278	-78.703056	140.49
62	W52BO	CP	LD	46	1.92	41.228056	-80.345000	147.26

Table A: Off-Air TV Stations within 150 Kilometers of Project Area

ID	Call Sign	Status	Class ⁶	Channel	Transmit ERP (kW)	Latitude (NAD 83)	Longitude (NAD 83)	Distance to Center of AOI (km)
C1	CKVP-DT	OP	R	42	5.0	43.051667	-79.300833	78.01
C2	CHCH-DT	OP	R	15	132.0	43.207500	-79.774167	104.57
C3	CITS-DT	OP	R	36	473.0	43.207500	-79.774167	104.57
C4	CHCJ-DT	OP	R	35	390.0	43.231667	-79.859167	110.02
C5	CIII-DT(1)	AU	R	17	165.0	43.260833	-80.443889	140.86
C6	CICO-DT-28	OP	R	28	20.2	43.261389	-80.444722	140.95
C7	CITY-DT	OP	R	44	21.0	43.642500	-79.387222	143.98
C8	CFTO-DT	OP	R	9	10.8	43.642500	-79.387222	143.98
C9	CJMT-DT	OP	R	40	19.5	43.642500	-79.387222	143.98
C10	CBLT-DT(1)	AU	R	20	106.9	43.642500	-79.387222	143.98
C11	CFMT-DT	OP	R	47	22.2	43.642500	-79.387222	143.98
C12	CBLFT-DT(1)	AU	R	25	106.2	43.642500	-79.387222	143.98
C13	CICA-DT	OP	R	19	106.5	43.642500	-79.387222	143.98
C14	CIII-DT-41	OP	R	41	100.0	43.642500	-79.387222	143.98
C15	CITY-DT-2	OP	R	31	20.0	43.046111	-80.767778	146.76

Table A-2: Off-Air TV Stations within 150 Kilometers of Project Area (Canada)

⁶ Definitions of class and status codes:
R – Regular VHF Television Broadcast Station
OP – Licensed and operational station
AU – Authorized, not yet fully operational