

# Wind Power GeoPlanner™

## Off-Air TV Analysis

Eight Point Wind Energy Center



Prepared on Behalf of  
Eight Point Wind, LLC

April 4, 2017



**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 Eight Point Wind Energy Center wind energy project in Steuben 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.

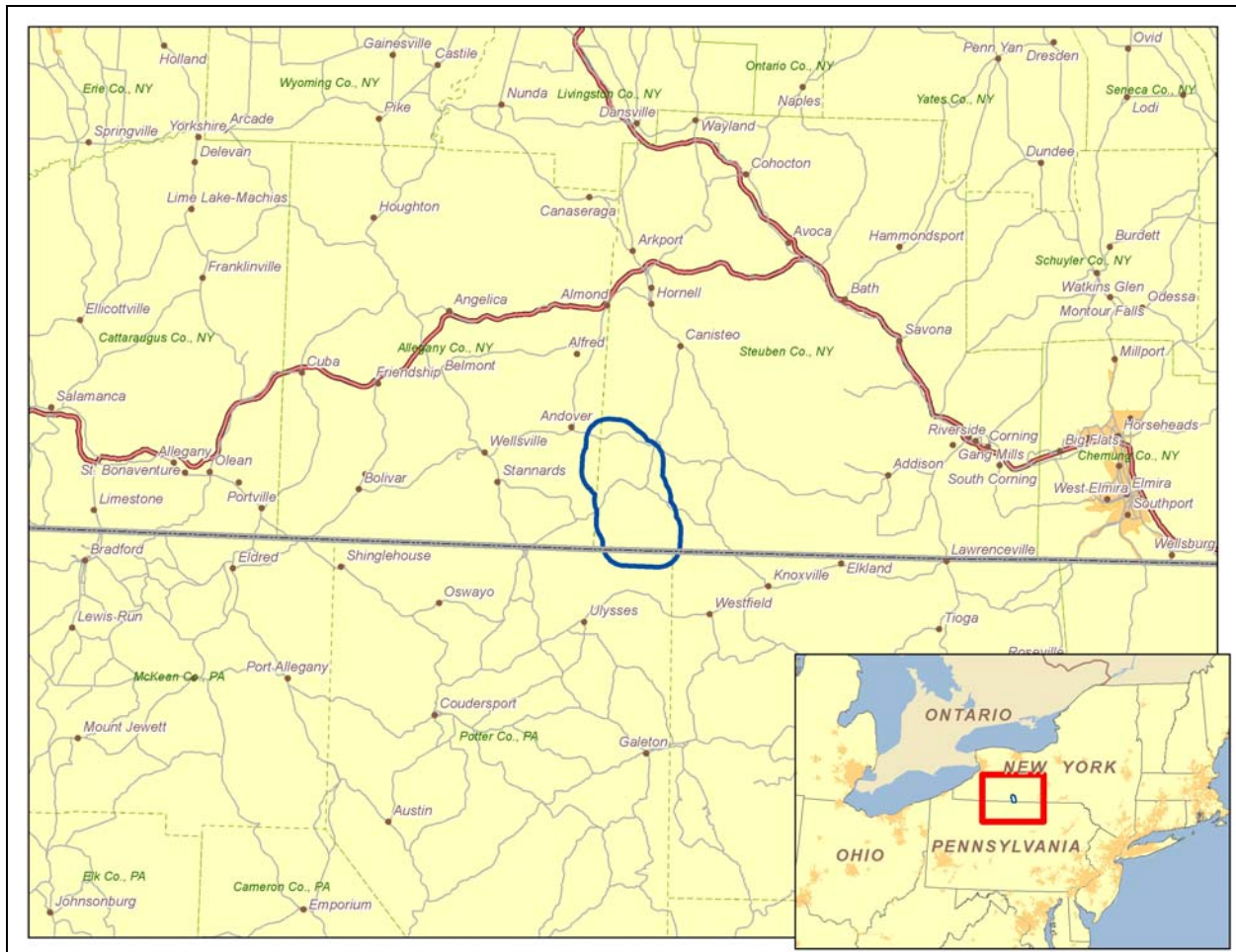
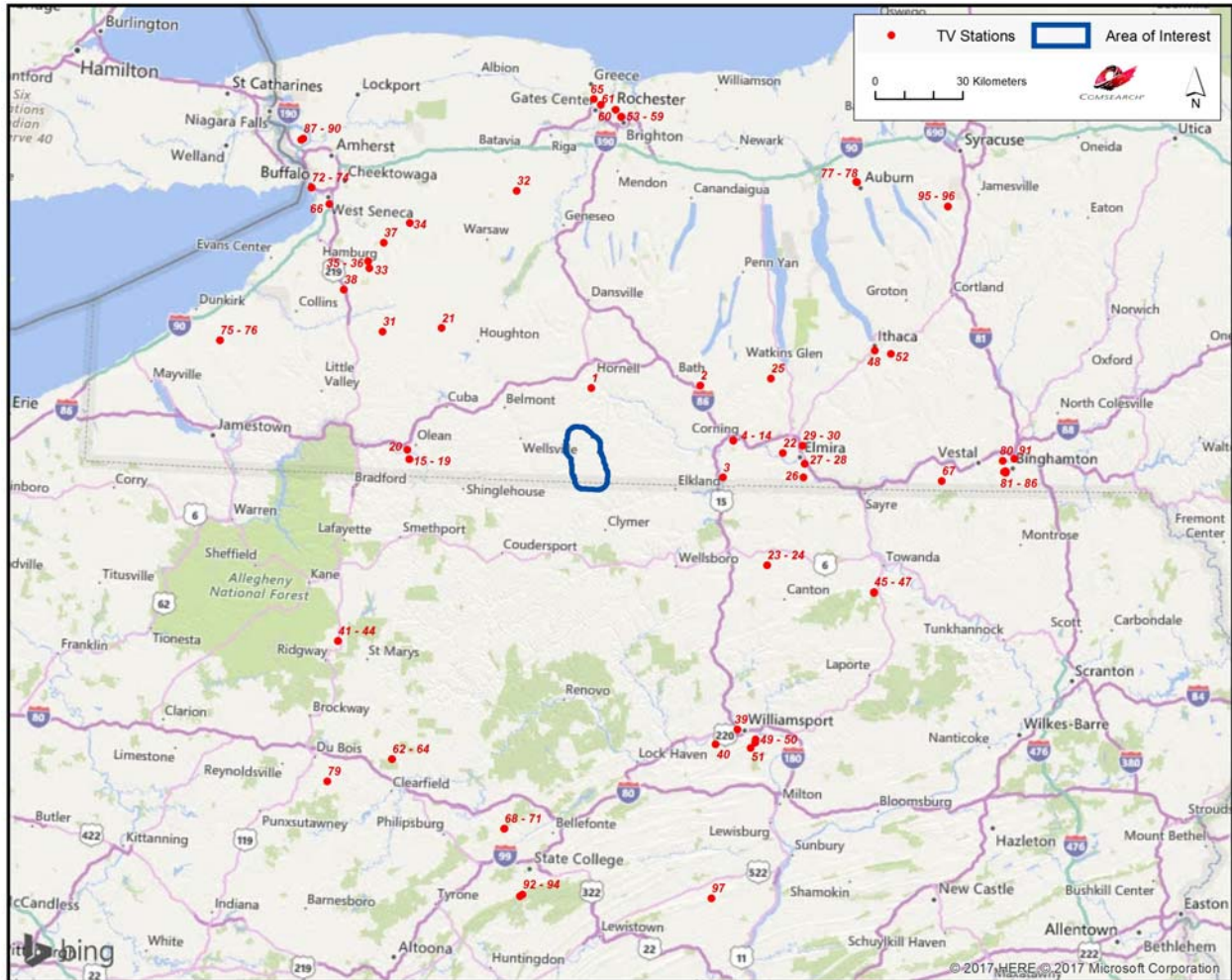


Figure 1: Wind Farm Project Area and Local Communities



To begin the analysis, Comsearch compiled all off-air television stations<sup>1</sup> 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 100 kilometers or less are the most likely to provide off-air coverage to the project area and neighboring communities. These stations are listed in Table 1, below, and a plot depicting their locations is provided in Figure 3. There are a total of thirty-nine database records for stations within approximately 100 kilometers of the limits of the project AOI. Of these stations, only twenty-three are currently licensed and operating, twelve of which are low-power stations or translators. Translator stations are low-power stations that receive

<sup>1</sup> 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](http://www.comsearch.com/files/data_license.pdf).

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.

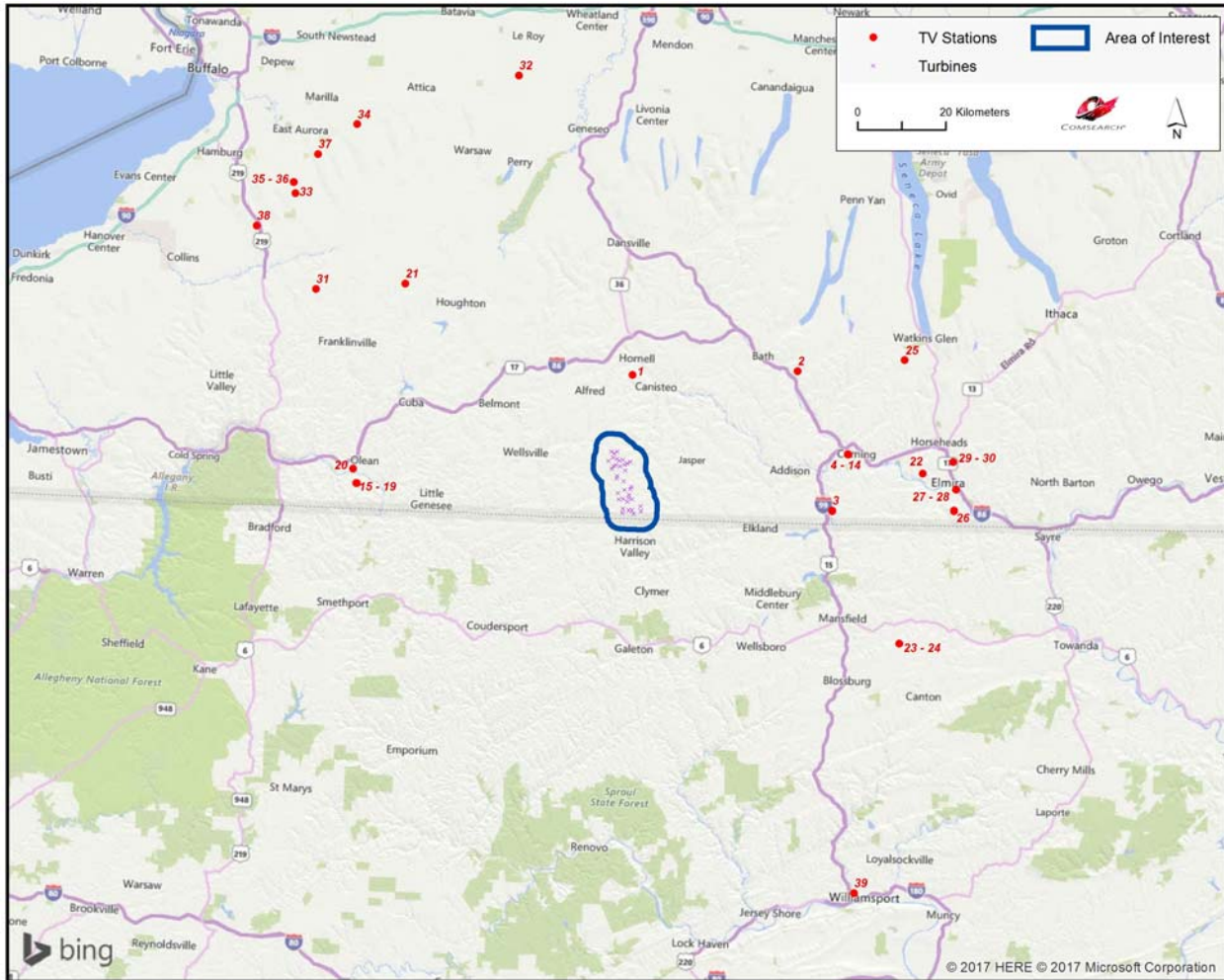


Figure 3: Plot of Off-Air TV Stations within 100 Kilometers of Project Area



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ID	Call Sign	Status	Service <sup>2</sup>	Channel	Transmit ERP <sup>3</sup> (kW)	Latitude (NAD 27)	Longitude (NAD 27)	Distance to Nearest Turbine (km)
1	W16BE-D	LIC	LD	16	0.277	42.292222	-77.674167	17.77
2	W20BL-D	LIC	LD	20	0.593	42.309167	-77.221389	43.16
3	W38FM-D	CP	LD	38	2.0	42.026250	-77.117361	43.20
4	W16DR-D	CP	LD	16	10.0	42.141944	-77.077778	48.41
5	W22ET-D	CP	LD	22	15.0	42.141944	-77.077778	48.41
6	WENY-TV	LIC	DT	36	75.0	42.141944	-77.077778	48.41
7	WJKP-LD	LIC	LD	39	0.314	42.141944	-77.077778	48.41
8	W41DB	LIC	TX	41	7.0	42.141944	-77.077778	48.41
9	W45DZ-D	CP	LD	45	5.0	42.141944	-77.077778	48.41
10	W46EZ-D	CP	LD	46	15.0	42.141944	-77.077778	48.41
11	W50ES-D	CP	LD	50	15.0	42.141944	-77.077778	48.41
12	NEW	APP	LD	51	15.0	42.141944	-77.077778	48.41
13	WSKA	LIC	DT	30	25.0	42.141592	-77.077531	48.42
14	WYDC	LIC	DT	48	7.6	42.141667	-77.077500	48.42
15	W20AB	CP	TX	20	0.1	42.051028	-78.419694	57.35
16	W20AB	APP	TX	20	0.1	42.051028	-78.419694	57.35
17	W30BW	LIC	TX	30	5.9	42.051111	-78.419722	57.35
18	W30BW	CP	LD	30	1.0	42.051111	-78.419722	57.35
19	WVTT-CD	CP	DC	25	3.0	42.051111	-78.420278	57.39
20	W20AB	LIC	TX	20	12.5	42.080556	-78.430556	57.92
21	W30BW	CP MOD	LD	30	3.5	42.461603	-78.307486	60.24
22	WETM-TV	LIC	DT	18	45.0	42.106111	-76.871389	64.31
23	W20CP-D	LIC	LD	20	1.15	41.759444	-76.925278	65.68
24	W26CV-D	LIC	LD	26	0.098	41.759444	-76.925278	65.68
25	-	CP	LD	40	0.1	42.336861	-76.927806	66.33
26	W28DO-D	LIC	LD	28	0.76	42.031944	-76.783889	70.83
27	W59DG	CP	LD	32	15.0	42.074722	-76.779722	71.43
28	W59DG	LIC	TX	59	7.7	42.074722	-76.779722	71.43
29	W26BF	LIC	TX	26	1.09	42.130833	-76.789167	71.47
30	W26BF	APP	LD	26	15.0	42.130833	-76.788889	71.50
31	WVTT-CD	LIC	DC	34	15.0	42.443611	-78.553056	76.43
32	WPXJ-TV	LIC	DT	23	455.0	42.895000	-78.015556	87.87
33	WKBW-TV	LIC	DT	38	358.0	42.637444	-78.619972	92.49

<sup>2</sup> Definitions of service and status codes:

- DT – Digital television broadcast station
- LD – Low-power digital television broadcast station
- TX – Translator station
- DC – Class A digital television broadcast station
- DX – Digital auxiliary (backup) facility
- LIC – Licensed and operational station
- CP – Construction permit granted
- CP MOD – Modification of construction permit
- APP – Application for construction permit, not yet operational

<sup>3</sup> ERP = Transmit Effective Radiated Power



ID	Call Sign	Status	Service <sup>2</sup>	Channel	Transmit ERP <sup>3</sup> (kW)	Latitude (NAD 27)	Longitude (NAD 27)	Distance to Nearest Turbine (km)
34	WNYO-TV	LIC	DT	49	198.0	42.782778	-78.457778	93.94
35	WIVB-TV	LIC	DT	39	790.0	42.659167	-78.625833	94.34
36	WIVB-TV	CP	DX	39	112.0	42.659167	-78.625833	94.34
37	WGRZ	LIC	DT	33	480.0	42.718611	-78.563056	94.71
38	WBBZ-TV	LIC	DT	7	26.9	42.567778	-78.723333	95.30
39	W20AD-D	LIC	LD	20	0.056	41.248056	-77.032778	99.04

Table 1: Off-Air TV Stations within 100 Kilometers of Project Area

### 3. Impact Assessment

Based on a contour analysis of the licensed stations within 100 kilometers of the Eight Point Wind Energy Center wind energy project, it was determined that six of the full-power digital stations, identified below in Table 2, may have their reception disrupted in and around the project. The areas primarily affected would include TV service locations within 10 kilometers of the wind energy project that have clear line-of-sight (LOS) to a proposed wind turbine but not to the respective station. After the wind turbines are installed, communities and homes in these locations may have degraded reception of these stations. This is due to multipath interference caused by signal scattering as TV signals are reflected by the rotating wind turbine blades and mast.

ID	Call Sign	Status	Service <sup>4</sup>	Channel	Transmit ERP <sup>5</sup> (kW)	Latitude (NAD 27)	Longitude (NAD 27)	Distance to Nearest Turbine (km)
6	WENY-TV	LIC	DT	36	75.0	42.141944	-77.077778	48.41
13	WSKA	LIC	DT	30	25.0	42.141592	-77.077531	48.42
14	WYDC	LIC	DT	48	7.6	42.141667	-77.077500	48.42
22	WETM-TV	LIC	DT	18	45.0	42.106111	-76.871389	64.31
33	WKBW-TV	LIC	DT	38	358.0	42.637444	-78.619972	92.49
35	WIVB-TV	LIC	DT	39	790.0	42.659167	-78.625833	94.34

Table 2: Licensed Off-Air TV Stations Subject to Degradation

<sup>4</sup> Definitions of service and status codes:  
DT – Digital television broadcast station  
LIC – Licensed and operational station

<sup>5</sup> ERP = Transmit Effective Radiated Power

## **4. Recommendations**

While TV signals are reflected by wind turbines, which can cause multipath interference to the TV receiver, modern digital TV receivers have undergone significant improvements to mitigate the effects of signal scattering. When used in combination with a directional antenna, it becomes even less likely that signal scattering from wind farms will cause interference to digital TV reception.

Nevertheless, signal scattering could still impact certain areas currently served by the TV station mentioned above, especially those that would have line-of-sight to at least one wind turbine but not to the station antenna. In the unlikely event that interference is observed in any of the TV service areas, it is recommended that a high-gain directional antenna be used, preferably outdoors, and oriented towards the signal origin in order to mitigate the interference.

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
Title:	Account Manager
Company:	Comsearch
Address:	19700 Janelia Farm Blvd., Ashburn, VA 20147
Telephone:	703-726-5650
Fax:	703-726-5595
Email:	dfinney@comsearch.com
Web site:	www.comsearch.com



## Appendix A

ID	Call Sign	Status	Service <sup>6</sup>	Channel	Transmit ERP <sup>7</sup> (kW)	Latitude (NAD 27)	Longitude (NAD 27)	Distance to Nearest Turbine (km)
1	W16BE-D	LIC	LD	16	0.277	42.292222	-77.674167	17.77
2	W20BL-D	LIC	LD	20	0.593	42.309167	-77.221389	43.16
3	W38FM-D	CP	LD	38	2.0	42.026250	-77.117361	43.20
4	W16DR-D	CP	LD	16	10.0	42.141944	-77.077778	48.41
5	W22ET-D	CP	LD	22	15.0	42.141944	-77.077778	48.41
6	WENY-TV	LIC	DT	36	75.0	42.141944	-77.077778	48.41
7	WJKP-LD	LIC	LD	39	0.314	42.141944	-77.077778	48.41
8	W41DB	LIC	TX	41	7.0	42.141944	-77.077778	48.41
9	W45DZ-D	CP	LD	45	5.0	42.141944	-77.077778	48.41
10	W46EZ-D	CP	LD	46	15.0	42.141944	-77.077778	48.41
11	W50ES-D	CP	LD	50	15.0	42.141944	-77.077778	48.41
12	NEW	APP	LD	51	15.0	42.141944	-77.077778	48.41
13	WSKA	LIC	DT	30	25.0	42.141592	-77.077531	48.42
14	WYDC	LIC	DT	48	7.6	42.141667	-77.077500	48.42
15	W20AB	CP	TX	20	0.1	42.051028	-78.419694	57.35
16	W20AB	APP	TX	20	0.1	42.051028	-78.419694	57.35
17	W30BW	LIC	TX	30	5.9	42.051111	-78.419722	57.35
18	W30BW	CP	LD	30	1.0	42.051111	-78.419722	57.35
19	WVTT-CD	CP	DC	25	3.0	42.051111	-78.420278	57.39
20	W20AB	LIC	TX	20	12.5	42.080556	-78.430556	57.92
21	W30BW	CP MOD	LD	30	3.5	42.461603	-78.307486	60.24
22	WETM-TV	LIC	DT	18	45.0	42.106111	-76.871389	64.31
23	W20CP-D	LIC	LD	20	1.15	41.759444	-76.925278	65.68
24	W26CV-D	LIC	LD	26	0.098	41.759444	-76.925278	65.68
25	-	CP	LD	40	0.1	42.336861	-76.927806	66.33
26	W28DO-D	LIC	LD	28	0.76	42.031944	-76.783889	70.83
27	W59DG	CP	LD	32	15.0	42.074722	-76.779722	71.43

<sup>6</sup> Definitions of service and status codes:

TV – Analog television broadcast station  
 DT – Digital television broadcast station  
 DS – Digital special temporary authority (STA)  
 LP – Low power analog television broadcast station  
 LD – Low power digital television broadcast station  
 CA – Class A analog television broadcast station  
 DC – Class A digital television broadcast station  
 DX – Digital auxiliary (backup) facility  
 TX – Translator 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 transmit authorization, usually granted by FCC for temporary operation

<sup>7</sup> ERP = Transmit Effective Radiated Power



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29	W26BF	LIC	TX	26	1.09	42.130833	-76.789167	71.47
30	W26BF	APP	LD	26	15.0	42.130833	-76.788889	71.50
31	WVTT-CD	LIC	DC	34	15.0	42.443611	-78.553056	76.43
32	WPXJ-TV	LIC	DT	23	455.0	42.895000	-78.015556	87.87
33	WKBW-TV	LIC	DT	38	358.0	42.637444	-78.619972	92.49
34	WNYO-TV	LIC	DT	49	198.0	42.782778	-78.457778	93.94
35	WIVB-TV	LIC	DT	39	790.0	42.659167	-78.625833	94.34
36	WIVB-TV	CP	DX	39	112.0	42.659167	-78.625833	94.34
37	WGRZ	LIC	DT	33	480.0	42.718611	-78.563056	94.71
38	WBBZ-TV	LIC	DT	7	26.9	42.567778	-78.723333	95.30
39	W20AD-D	LIC	LD	20	0.056	41.248056	-77.032778	99.04
40	WQMY	LIC	DT	29	50.0	41.200278	-77.120278	100.30
41	W17DU-D	CP	LD	17	1.0	41.482222	-78.683889	101.43
42	W19EI-D	CP	LD	19	1.0	41.482222	-78.683889	101.43
43	W21DO-D	CP	LD	21	1.0	41.482222	-78.683889	101.43
44	W28EO-D	CP	LD	28	1.0	41.482222	-78.683889	101.43
45	W25AQ-D	LIC	LD	25	3.6	41.683056	-76.483056	102.82
46	W10CP-D	LIC	LD	10	0.066	41.681111	-76.481944	102.99
47	W15CO-D	LIC	LD	15	0.034	41.681111	-76.481944	102.99
48	W16AX-D	LIC	DC	16	1.7	42.429694	-76.496917	103.19
49	W09DB-D	LIC	DC	9	0.75	41.218806	-76.957528	105.10
50	WVIA-TV	LIC	LD	51	0.121	41.208806	-76.958639	105.99
51	W33DZ-D	CP	LD	33	15.0	41.191389	-76.976944	106.84
52	W07BJ	LIC	TX	7	0.016	42.420833	-76.429444	108.13
53	WUHF	LIC	DT	28	320.0	43.134722	-77.585278	111.58
54	WAWW-LP	LIC	TX	20	25.8	43.135278	-77.585278	111.64
55	WHSW-LP	LIC	TX	36	16.0	43.135278	-77.585278	111.64
56	WHAM-TV	LIC	DT	13	18.0	43.135278	-77.584167	111.65
57	WXXI-TV	LIC	DT	16	236.6	43.135278	-77.584167	111.65
58	WHEC-TV	LIC	DT	10	18.1	43.135556	-77.583889	111.68
59	WROC-TV	LIC	DT	45	1000.0	43.135556	-77.583889	111.68
60	WGCE-CD	APP	DC	25	15.0	43.156389	-77.608611	113.82
61	WBGT-CD	LIC	DC	46	15.0	43.170222	-77.673167	115.09
62	WPSU-TV	LIC	DT	15	810.0	41.122222	-78.441611	116.92
63	WPSU-TV	LIC	DD	15	810.0	41.122222	-78.441667	116.92
64	WPSU-TV	LIC	DD	15	810.0	41.122222	-78.441667	116.92
65	WGCE-CD	LIC	DC	25	4.0	43.187222	-77.702500	116.95
66	WDTB-LD	LIC	TX	39	16.9	42.830556	-78.798333	117.35
67	W59DG	CP	LD	38	3.0	42.029167	-76.209444	118.39
68	WHVL-LD	CP	LD	27	15.0	40.919444	-77.974444	123.49
69	WHVL-LP	LIC	TX	29	11.7	40.919444	-77.974444	123.49

ID	Call Sign	Status	Service <sup>6</sup>	Channel	Transmit ERP <sup>7</sup> (kW)	Latitude (NAD 27)	Longitude (NAD 27)	Distance to Nearest Turbine (km)
70	WHVL-LP	LIC	TX	29	11.7	40.919444	-77.974444	123.49
71	WHVL-LD	LIC	LD	27	15.0	40.919361	-77.974417	123.50
72	WBXZ-LP	LIC	LD	17	15.0	42.880000	-78.876667	125.79
73	WDTB-LD	CP	LD	29	15.0	42.880000	-78.876667	125.79
74	WDTB-LD	LIC	LD	29	15.0	42.880056	-78.876639	125.79
75	WNYB	LIC	DT	26	243.0	42.393333	-79.228889	127.33
76	WNYB	APP	DT	26	450.0	42.393333	-79.228889	127.33
77	WNDR-LP	LIC	TX	6	1.45	42.951944	-76.586667	128.99
78	WNDR-LD	CP	LD	31	15.0	42.951389	-76.584722	129.06
79	WJAC-TV	LIC	LD	26	0.7	41.045278	-78.703056	136.57
80	WBPN-LD	CP MOD	LD	23	0.08	42.093889	-75.957500	139.45
81	WBNG-TV	LIC	DT	7	34.0	42.058611	-75.951667	139.78
82	WSKG-TV	LIC	DT	42	50.0	42.061111	-75.945833	140.27
83	WICZ-TV	LIC	DT	8	7.9	42.056111	-75.944167	140.40
84	WBPN-LP	LIC	TX	10	0.004	42.056111	-75.943889	140.42
85	WBGH-CD	LIC	DC	20	0.04	42.060750	-75.943389	140.48
86	WIVT	LIC	DT	34	345.0	42.060833	-75.943333	140.48
87	WNLO	LIC	DT	32	1000.0	43.030000	-78.920833	139.79
88	WNED-TV	LIC	DT	43	156.0	43.030000	-78.920833	139.79
89	WUTV	LIC	DT	14	1000.0	43.025556	-78.928611	139.89
90	WBNF-CD	LIC	DC	15	15.0	43.025556	-78.928611	139.89
91	WXXW-LP	LIC	TX	6	0.016	42.100000	-75.908889	143.51
92	W42DG-D	LIC	LD	42	15.0	40.717778	-77.891111	144.55
93	W36BE-D	LIC	LD	36	0.205	40.717500	-77.891667	144.59
94	WPSU-TV	LIC	DD	15	48.0	40.712992	-77.900278	145.17
95	WSYT	LIC	DT	19	621.0	42.880556	-76.200000	148.06
96	WNYS-TV	LIC	DT	44	680.0	42.880556	-76.200000	148.06
97	W16CO-D	LIC	LD	16	6.0	40.722500	-77.122778	149.77

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