

# Wind Power GeoPlanner™

## Land Mobile & Emergency Services Report

Baron Wind Farm



Prepared on Behalf of  
Baron Winds LLC

August 31, 2017



**COMSEARCH**  
A CommScope Company

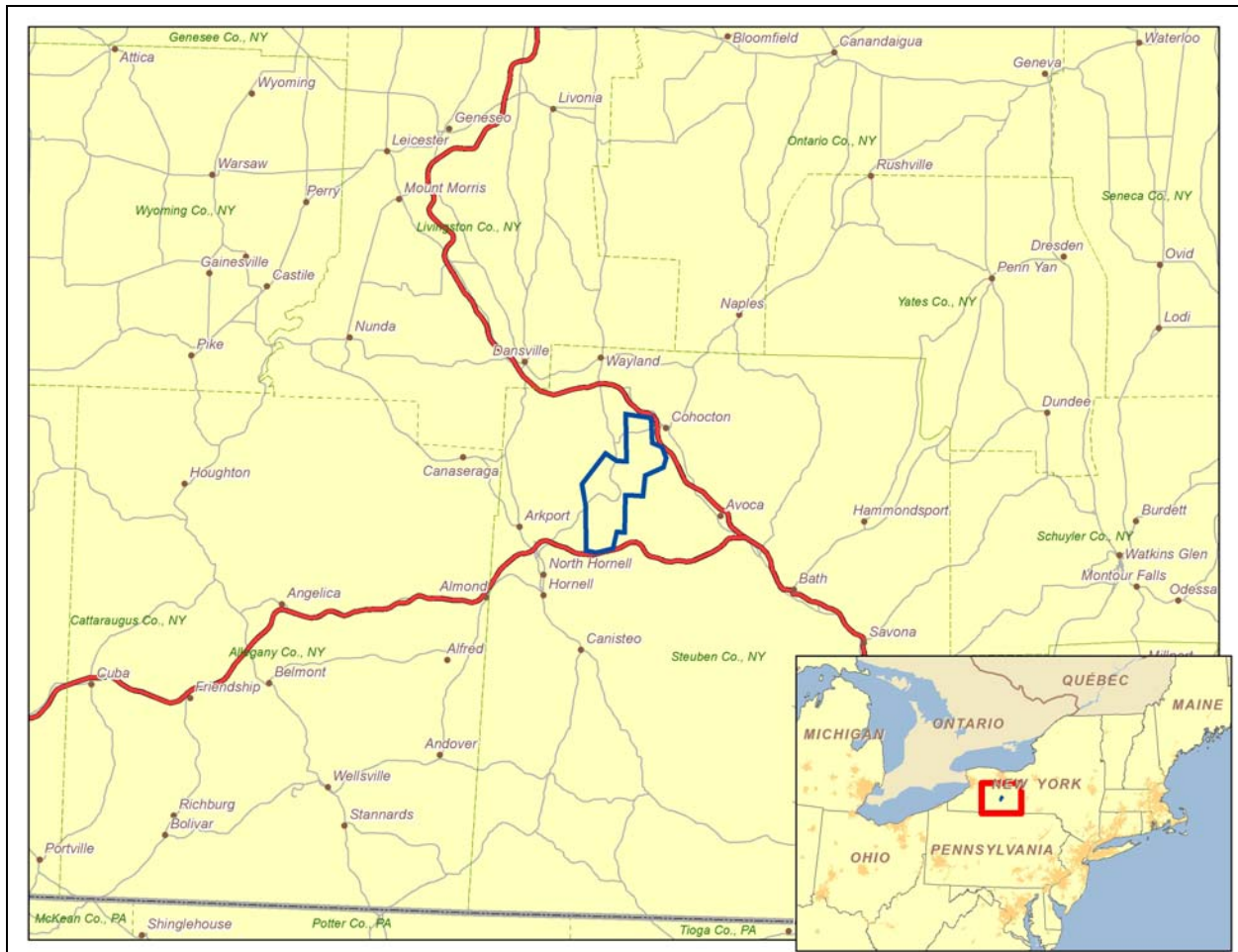


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## 1. Introduction

An assessment of the emergency services in the Baron Wind Farm project area was performed by Comsearch to identify potential impact from the planned turbines. We evaluated the registered frequencies for the following types of first responder entities: police, fire, emergency medical services, emergency management, hospitals, public works, transportation and other state, county, and municipal agencies. We also identified all industrial and business land mobile radio (LMR) systems and commercial E911 operators within the proposed wind energy facility boundaries. This information is useful in the planning stages of the wind energy facility because the data can be used in support of facility communications needs and to evaluate any potential impact on the emergency services provided in that region. An overview of the project area, which is located in Steuben County, New York, appears in Figure 1.



**Figure 1: Area of Interest (AOI)**

## 2. Summary of Results

Our land mobile and emergency services incumbent data<sup>1</sup> was derived from the FCC's Universal Licensing System (ULS) and the FCC's Public Safety & Homeland Security bureau. We identified both site-based licenses as well as regional area-wide licenses designated for public safety use.

### Site-Based Licenses

The site-based licenses were imported into GIS software and geographically mapped relative to the wind energy project area of interest as defined by the customer. Each site on the map was given an ID number and associated with site information in a data table. A depiction of the fixed-site licenses in and around the project area appears in Figure 2.

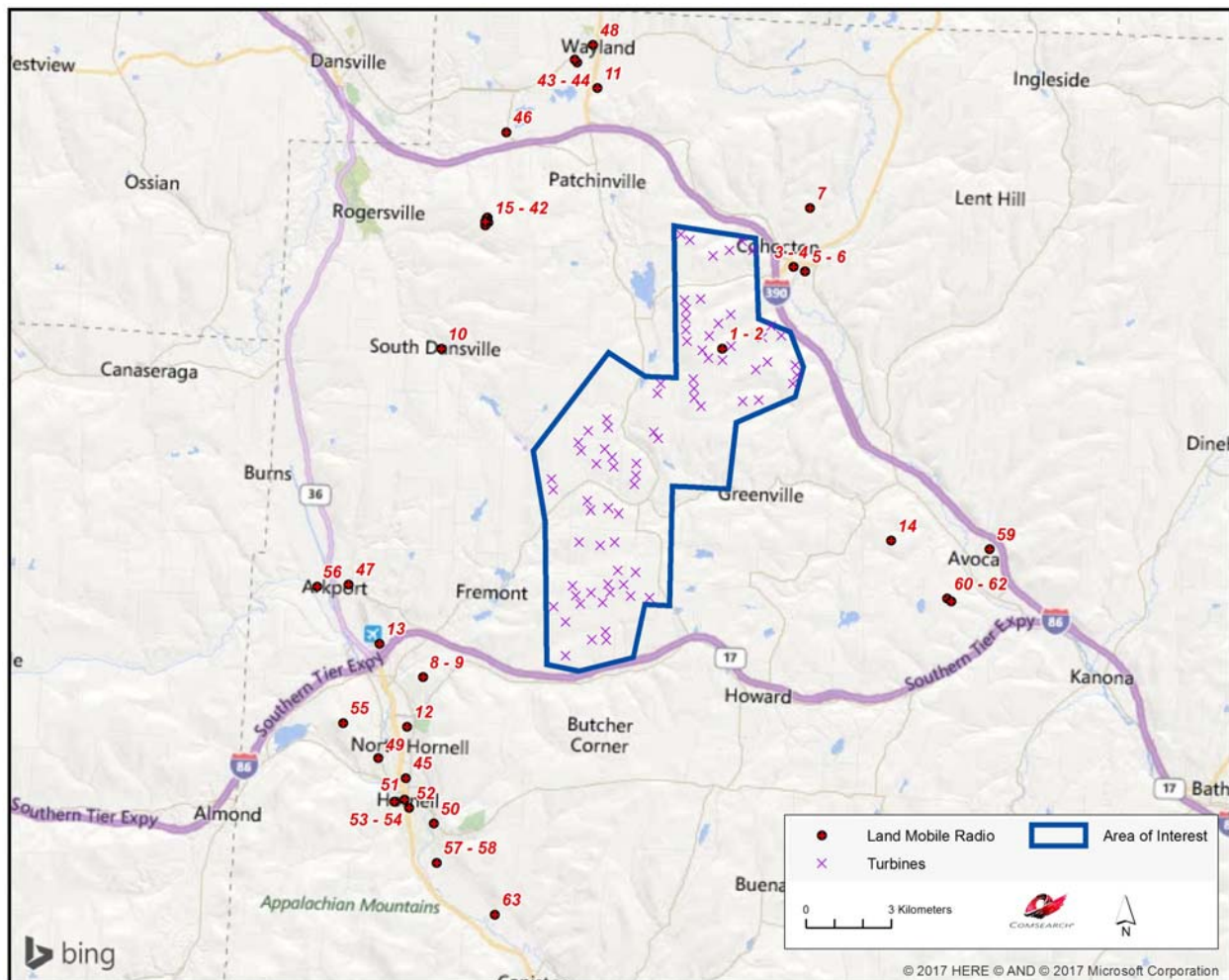


Figure 2: Land Mobile & Emergency Service Sites in Area of Interest

Figure 2 identifies sixty-three site-based licenses in and around the Baron Wind Farm project area of interest. Specific information about these sites is provided in Table 1.

ID	Call Sign	Frequency Band (MHz)	Licensee	Antenna Height AGL (m)	Latitude (NAD83)	Longitude (NAD83)	Distance to Nearest Turbine (km)
1	KED916	150-174	New York State Division of State Police	24.0	42.473111	-77.532778	0.32
2	KED916	25-50, 150-174	New York State Division of State Police	36.0	42.473111	-77.532778	0.32
3	WSN393	150-174	Livonia, Avon & Lakeville R.R. Corp.	12.1	42.499722	-77.503333	1.54
4	WSN393	150-174	Livonia, Avon & Lakeville R.R. Corp.	12.7	42.499722	-77.503333	1.54
5	KCX948	25-50	Cohocton, Village of	16.0	42.498389	-77.498333	1.98
6	KEC902	25-50	Steuben, County of	19.0	42.498389	-77.498333	1.98
7	WPTF683	800/900	NPCR, Inc.	80.8	42.518611	-77.496944	2.51
8	WQOS995	450-470	Hornell Area Transit	38.1	42.365917	-77.656722	5.09
9	WQRQ652	150-174	Hornell Department of Public Works	38.0	42.365917	-77.656722	5.09
10	KAN685	25-50	South Dansville Volunteer Fire Dept.	11.0	42.470333	-77.653333	5.86
11	WQLD751	450-470	Gunlocke Corp.	13.7	42.554694	-77.589833	5.95
12	WQXT791	450-470	Mobiletech Communications	8.5	42.350028	-77.662778	6.13
13	KEA335	25-50	New York State Electric & Gas Corp.	15.0	42.376167	-77.675833	6.29
14	WQHN494	25-50	El Paso - Tennessee Gas Pipeline	21.3	42.413833	-77.458083	6.52
15	WPTL768	150-174	The Pfeiffer Group	87.4	42.510917	-77.634806	6.81
16	WQDI250	25-50	Dansville Central School District	20.0	42.510917	-77.634806	6.81
17	KEA535	150-174	Livingston, County of	20.0	42.512500	-77.635278	6.86
18	KEA535	150-174	Livingston, County of	48.7	42.512500	-77.635278	6.86
19	KEI205	150-174	Livingston, County of	48.7	42.512500	-77.635278	6.86
20	WPPG508	450-470	Livingston, County of	48.7	42.512500	-77.635278	6.86
21	WPTG637	800/900	NPCR, Inc.	57.9	42.512500	-77.635278	6.86

<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 land mobile 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)

ID	Call Sign	Frequency Band (MHz)	Licensee	Antenna Height AGL (m)	Latitude (NAD83)	Longitude (NAD83)	Distance to Nearest Turbine (km)
22	WQAJ376	800/900	Nextel of New York, Inc.	57.9	42.512500	-77.635278	6.86
23	WPUJ923	450-470	Clearcom, Inc.	59.4	42.512222	-77.635556	6.88
24	KEA335	25-50	New York State Electric & Gas Corp.	55.0	42.511167	-77.635833	6.90
25	KEB394	150-174	Steuben, County of	46.0	42.511167	-77.635833	6.90
26	KEB394	150-174	Steuben, County of	56.3	42.511167	-77.635833	6.90
27	KED548	25-50	Steuben County Emergency Services	41.0	42.511167	-77.635833	6.90
28	WNKM682	450-470	Pfeiffer, Terry L	30.0	42.511167	-77.635833	6.90
29	WPKV895	800/900	Steuben, County of	41.0	42.511167	-77.635833	6.90
30	WPWZ931	150-174	Steuben, County of	51.8	42.511167	-77.635833	6.90
31	WPXA430	25-50	Steuben, County of	59.7	42.511167	-77.635833	6.90
32	WPXB731	150-174	Steuben, County of	51.8	42.511167	-77.635833	6.90
33	WPYC262	25-50	Steuben County	59.0	42.511167	-77.635833	6.90
34	KNEY983	25-50	Dansville Central School District	20.0	42.510000	-77.636111	6.92
35	WPBY732	800/900	Nextel of New York, Inc.	91.0	42.510056	-77.636111	6.92
36	WPMN760	150-174	Pfeiffer, Terry L	87.0	42.510056	-77.636111	6.92
37	WPMW543	150-174	Pfeiffer, Terry L	87.0	42.510056	-77.636111	6.92
38	WPPW879	150-174	Pfeiffer, Terry L	87.0	42.510056	-77.636111	6.92
39	WQQV659	150-174	Steuben, County of	42.6	42.511111	-77.636111	6.92
40	WQRF718	150-174	Steuben, County of	42.6	42.511111	-77.636111	6.92
41	WQRH377	150-174	Steuben, County of	42.6	42.511111	-77.636111	6.92
42	WQRH572	150-174	Steuben, County of	42.6	42.511111	-77.636111	6.92
43	WQWF910	450-470	Wayland Cohocton Schools	11.9	42.562694	-77.598778	7.10
44	WQWF910	72-76	Wayland Cohocton Schools	8.2	42.563500	-77.599944	7.22
45	WQXT791	450-470	Mobiletech Communications	8.5	42.333667	-77.662639	7.10

ID	Call Sign	Frequency Band (MHz)	Licensee	Antenna Height AGL (m)	Latitude (NAD83)	Longitude (NAD83)	Distance to Nearest Turbine (km)
46	WNBN231	25-50	Steuben County Office of Emergency Svcs.	11.0	42.539778	-77.628333	7.15
47	WQML307	450-470	Arkport Central School	12.0	42.394694	-77.689778	7.28
48	KRB996	150-174	Wayland, Village of	12.0	42.568389	-77.592222	7.38
49	WNVA970	450-470	G S T Boces	10.6	42.339806	-77.674694	7.53
50	WQXT791	450-470	Mobiletech Communications	8.5	42.319500	-77.650167	7.54
51	WQXT791	450-470	Mobiletech Communications	8.5	42.326861	-77.663000	7.63
52	KEA220	150-174	Hornell, City of	38.0	42.324250	-77.660833	7.70
53	KEA220	150-174	Hornell, City of	47.2	42.326083	-77.667278	7.94
54	WPGZ896	150-174	Hornell, City of	44.2	42.326083	-77.667278	7.94
55	WQCM436	800/900	NPCR, Inc.	45.4	42.350556	-77.690278	8.20
56	WQIW780	450-470	H.P. Hood, LLC	15.2	42.393667	-77.703139	8.37
57	KEA442	150-174	Norfolk Southern Railway Company	31.0	42.307028	-77.648333	8.62
58	KEA442	150-174	Norfolk Southern Railway Company	36.0	42.307028	-77.648333	8.62
59	WPMG258	450-470	Pfeiffer, Terry L	10.0	42.411944	-77.415861	9.06
60	WPRX810	800/900	NPCR, Inc.	46.0	42.395917	-77.433306	9.32
61	WPMG258	150-174	Pfeiffer, Terry L	87.0	42.395083	-77.431639	9.48
62	WPMG258	450-470	Pfeiffer, Terry L	87.0	42.395083	-77.431639	9.48
63	KEA442	150-174	Norfolk Southern Railway Company	43.0	42.291167	-77.622778	9.48

**Table 1: Land Mobile & Emergency Service Sites in Area of Interest**

## Area-Wide Licenses

The regional area-wide licenses were compiled from FCC data sources and identified for each county in the wind energy project area. The Baron Wind Farm project is located in Steuben County, New York, part of Public Safety Region #55, which contains all of the counties in the Western New York. The regional public safety operations are overseen by the entity listed below.

**Steven C. Sharpe**

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The chairperson for Region #55 serves as the representative for all public safety entities in the area and is responsible for coordinating current and future public safety use in the wireless spectrum. In the bands licensed by the FCC for area-wide first responders, which include 220 MHz, 700 MHz, 800 MHz and 4.9 GHz, as well as the traditional Part 90 public safety pool of frequencies, twenty-seven licenses were found for the State of New York and eleven for the County of Steuben (see Table 2). These area-wide licenses are designated for mobile use only.

ID	Licensee	Area of Operation	Frequency Band (MHz)
1	Addison, Village of	Countywide: Steuben	150-174
2	American National Red Cross	Statewide: New York	25-50, 450-470
3	Bath, Village of	Countywide: Steuben	150-174
4	Bergen Volunteer Fire Department	Statewide: New York	150-174
5	Canisteo, Village of	Countywide: Steuben	150-174
6	Central Islip Hauppauge Volunteer Ambulance, Inc.	Statewide: New York	150-174
7	Corning City Police Department	Countywide: Steuben	150-174
8	Erie, County of	Statewide: New York	25-50, 150-174, 421-430, 450-470
9	Massasauga Search and Rescue, Inc.	Statewide: New York	150-174
10	National Ski Patrol System, Inc.	Statewide: New York	150-174
11	New York, City of	Statewide: New York	450-470, 800/900, 4940-4990



ID	Licensee	Area of Operation	Frequency Band (MHz)
12	New York City Police Department	Statewide: New York	150-174
13	New York, State of	Statewide: New York	0-10, 25-50, 150-174, 220-222, 450-470, 800/900, 4940-4990
14	New York State Department of Corrections and Community Supervision	Statewide: New York	150-174, 450-470, 4940-4990
15	New York State Department of Environmental Conservation Office for Public Protection	Statewide: New York	25-50, 150-174
16	New York State Department of Health Bureau of Emergency Medical Services	Statewide: New York	25-50, 150-174, 450-470
17	New York State Department of Labor	Statewide: New York	150-174
18	New York State Department of Transportation	Statewide: New York	0-10, 4940-4990
19	New York State Division of State Police	Statewide: New York	150-174, 450-470, 2450-2500, 800/900, 4940-4990
20	New York State Emergency Management Office	Statewide: New York	25-50, 150-174
21	New York State Office of Parks, Recreation and Historic Preservation (OPRHP)	Statewide: New York	450-470
22	New York State OPRHP – Albany Region	Statewide: New York	150-174
23	New York State OPRHP – Long Island Region	Statewide: New York	150-174
24	New York State OPRHP – Niagara Region	Statewide: New York	150-174
25	Niagara Frontier Search and Rescue	Statewide: New York	150-174
26	Northeast Mobile Search and Rescue, Inc.	Statewide: New York	150-174
27	Northeastern Forest Fire Protection Compact	Statewide: New York	25-50, 150-174
28	Ossining, Village of	Statewide: New York	25-50, 450-470
29	Painted Post, Village of	Countywide: Steuben	150-174
30	Savona, Village of	Countywide: Steuben	25-50
31	Steuben, County of	Countywide: Steuben	25-50, 150-174, 450-470, 4940-4990
32	Steuben County Emergency Services	Countywide: Steuben	25-50
33	Triborough Bridge and Tunnel Authority	Statewide: New York	4940-4990
34	Urbana, Town of	Countywide: Steuben	450-470

ID	Licensee	Area of Operation	Frequency Band (MHz)
35	Wayland, Village of	Countywide: Steuben	150-174
36	Wayne Fire District	Countywide: Steuben	25-50
37	Western New York Search Dogs, Inc.	Statewide: New York	150-174
38	Woodbury, Town of	Statewide: New York	4940-4990

**Table 2: Regional Licenses**

### E911 Operators

Wireless operators are granted area-wide licenses from the FCC to deploy their cellular networks, which often include handsets with E911 capabilities. Since mobile phone market boundaries differ from service to service, we disaggregated the carriers' licensed areas down to the county level. We have identified the type of service for each carrier in Steuben County, New York in Table 3.

Mobile Phone Carrier	Service <sup>2</sup>
AT&T	AWS, Cellular, PCS, WCS, 700 MHz
Blue Wireless	PCS
DISH Network	AWS, 700 MHz
Northstar Wireless	AWS
SNR Wireless	AWS
Sprint	PCS
T-Mobile	AWS, PCS, 700 MHz
Verizon	AWS, Cellular, PCS, 700 MHz

**Table 3: Mobile Phone Carriers in Area of Interest with E911 Service**

<sup>2</sup> AWS: Advanced Wireless Service at 1.7/2.1 GHz  
CELL: Cellular Service at 800 MHz  
PCS: Personal Communication Service at 1.9 GHz  
WCS: Wireless Communications Service at 2.3 GHz  
700 MHz: Lower 700 MHz Service

### **3. Impact Assessment**

The first responder, industrial/business land mobile sites, area-wide public safety, and commercial E-911 communications as described in this report are typically unaffected by the presence of wind turbines, and we do not anticipate any significant harmful effect to these services in the Baron Wind Farm project area. Although each of these services operates in different frequency ranges and provides different types of service including voice, video and data applications, there is commonality among these different networks in regards to the impact of wind turbines on their service. Each of these networks is designed to operate reliably in a non-line-of-sight (NLOS) environment. Many land mobile systems are designed with multiple base transmitter stations covering a large geographic area with overlap between adjacent transmitter sites in order to provide handoff between cells. Therefore, any signal blockage caused by the wind turbines does not materially degrade the reception because the end user is likely receiving signals from multiple transmitter locations. Additionally, the frequencies of operation for these services have characteristics that allow the signal to propagate through wind turbines. As a result, very little, if any, change in their coverage should occur when the wind turbines are installed.

When planning the wind energy turbine locations in the area of interest, a conservative approach would dictate not locating any turbines within 77.5 meters of land mobile fixed-base stations to avoid any possible impact to the communications services provided by these stations. This distance is based on FCC interference emissions from electrical devices in the land mobile frequency bands. As long as the turbines are located more than 77.5 meters from the land mobile stations, they will meet the setback distance criteria for FCC interference emissions in the land mobile bands.

### **4. Recommendations**

In the event that a public safety entity believes its coverage has been compromised by the presence of the wind energy facility, it has many options to improve its signal coverage to the area through optimization of a nearby base station or even adding a repeater site. Utility towers, meteorological towers or even the turbine towers within the wind project area can serve as the platform for a base station or repeater site.



## **5. Contact**

For questions or information regarding the Land Mobile & Emergency Services Report, please contact:

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