Wind Power GeoPlanner™

Communication Tower Study

Jericho Rise Wind Farm LLC

Prepared on Behalf of
EDP Renewables

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Table of Contents

1. Introduction

Our communication tower study was performed for the Jericho Wind Farm in Franklin County, New York to identify all communication signal towers, and their owners, within the project area. This information is useful in the planning stages of the wind energy facilities to identify turbine setbacks and to prevent disruption to the services provided by the tenants on the towers. This data can be used in support of the wind energy facilities communications needs in addition to avoiding any potential impact to the current communications services provided in the region.

2. Summary of Results

The communication towers in the study area were derived from a variety of sources including the FCC's Antenna Structure Registration (ASR) database, Universal Licensing System (ULS), national and regional tower owner databases, and the local planning and zoning boards. The data[1] was imported into GIS software and the structures mapped in the wind energy area of interest.

Five active communication antennas were identified within Jericho Rise Wind Farm LLC project area using the data sources described in our methodology above. The communication antennas are all located on a lattice tower structure within an electrical substation at the intersection of Hartnett Road and Rt. 33 near the western border of the project area (see Figure 2).

Detailed information about the tower structure and communication antennas is provided in Table 1 and Table 2 including location coordinates, structure height above ground level, and owner-operator name[2].

A discussion of turbine setback distances is provided in section three.

Tower ID	ASR Number	Owner	Structure Height AGL (m)	City	Latitude (NAD83)	Longitude (NAD83)
Tower001	N/A	New York Power Authority	unknown	Chateaugay, NY	44.889222	-74.117944

Table 1: Summary of Tower Structures

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

[2] Please note that this report analyzes all known operators on the towers from data sources available to Comsearch. Unidentified operators may exist on the towers due to unlicensed or federal government systems, mobile phone operators with proprietary locations, erroneous data on the FCC license, and other factors beyond our control.

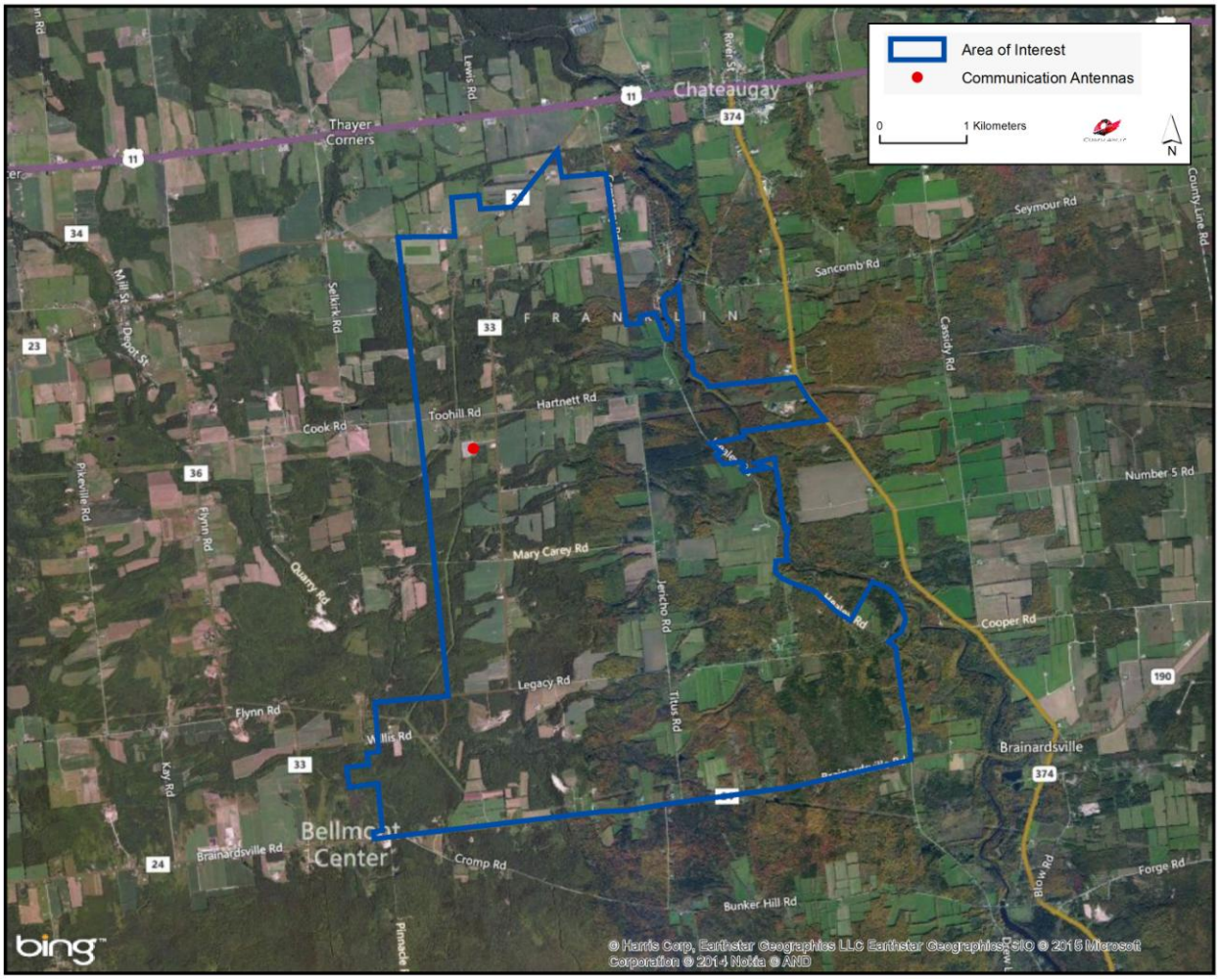

Figure 1: Communication Antennas within the Area of Interest

ID	Tower	Callsign	Service Type	Licensee	Antenna Height AGL (m)	Latitude (NAD83)	Longitude (NAD83)
1	Tower001	WNEV804	Microwave	New York Power Authority	43.6	44.889222	-74.117944
2	Tower001	WNEV804	Microwave	New York Power Authority	54.9	44.889222	-74.117944
3	Tower001	WNEV804	Microwave	New York Power Authority	40.8	44.889222	-74.117944
4	Tower001	WQJN401	Land Mobile Radio	FRANKLIN, COUNTY OF	48.8	44.889222	-74.117944
4	Tower001	WQKH388	Land Mobile Radio	FRANKLIN, COUNTY OF	48.8	44.889222	-74.117944

Table 2: Summary of Communication Antennas

Figure 2: Aerial View of Tower in Substation Facing South

3. Discussion of Separation Distances

In planning the wind energy turbine locations, a conservative approach would dictate not locating any turbines in close proximity to existing tower structures to avoid any possible impact to the communications services provided by the structures. Reasonable distance between communication towers and wind turbine towers is a function of two things: (1) the physical turning radius of the wind turbine blades and (2) the characteristics of the communication systems on the communication tower.

Since wind turbine blades can rotate 360º, the first consideration of separation distance to other structures is clearance of the blades. If the blade radius is 50 meters, than a separation distance greater than 50 meters is necessary. From a practical standpoint, a setback distance greater than the maximum height of the turbine is necessary to insure a "fall" safety zone in the unlikely event of a turbine tower failure. Setback requirements for "fall" safety are typically specified by the local zoning ordinances.

The separation distance required based on the characteristics of the communication systems will vary depending on the type(s) of communication antennas located on the tower. For example, AM, FM and TV communication antennas should be separated by distances that allow for normal coverage. For FM and TV stations, the separation distances can be as great as 4 kilometers and for AM stations 3.2 kilometers. For land mobile and mobile phone systems, setback distances are based on FCC interference emissions from electrical devices in the land mobile and mobile telephone frequency bands.

Finally, the tower structures identified could be a potential benefit in support of communications network needs for the wind energy facility. An example would be the implementation of a Supervisory Control and Data Acquisition (SCADA) system that monitors and provides communications access to the wind energy facility.

4. Conclusions

Our study identified one tower structure and five active communication antennas within the project area. They are used for a variety of wireless services including microwave and land mobile. Detailed impact assessments should be performed for each service type.

5. Contact Us

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