Wind Power GeoPlanner™

AM and FM Radio Report

Heritage Prairie Wind

Prepared on Behalf of
Illinois Generation LLC

February 20, 2024

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A CommScope Company

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1. Introduction

Comsearch analyzed AM and FM radio broadcast stations whose service could potentially be affected by the proposed Heritage Prairie Wind project in Livingston County, Illinois.

2. Summary of Results

Project Information

Name: Heritage Prairie Wind
County: Livingston
State: Illinois

Number of Turbines: 71
Number of MET Towers: 7
Blade Diameter: 163 meters
Hub Height: 113 meters

Figure 1: Area of Interest

AM Radio Analysis

Comsearch found no database records[1] for AM stations within approximately 30 kilometers of the project.

FM Radio Analysis

Comsearch determined that there were eighteen database records for FM stations within a 30-kilometer radius of the Heritage Prairie Wind project, as shown in Table 2 and Figure 2. Sixteen of these stations are currently licensed and operating, three of which are translator stations and two are low power stations that operate with limited range. The closest station is WJEZ, which is currently licensed in Dwight, Illinois, to the west of the project area, 2.17 km from the nearest proposed turbine location.

ID	Call Sign	Status[2]	Service[3]	Frequency (MHz)	Transmit ERP[4] (kW)	Latitude (NAD 83)	Longitude (NAD 83)	Distance to Nearest Turbine (km)
1	WJEZ	LIC	FM	98.9	1.3	41.035028	-88.436167	2.17
2	WGVD-LP	LIC	FL	97.3	0.1	41.097444	-88.435778	4.22
3	WWQC	LIC	FM	107.3	6.0	40.951667	-88.181389	11.96
4	WJDK-FM	LIC	FM	95.7	3.0	41.220028	-88.540889	19.16
5	WBEQ	LIC	FM	90.7	1.45	41.285861	-88.430333	20.34
6	W245CE	LIC	FX	96.9	0.25	41.293083	-88.334500	20.45
7	WCSJ-FM	LIC	FM	103.1	6.0	41.293083	-88.334500	20.45
8	WYKT	LIC	FM	105.5	1.3	41.286417	-88.239778	21.48
9	WRXQ	LIC	FM	100.7	2.45	41.295028	-88.170889	25.13
10	WPJC	LIC	FM	88.3	20.0	40.886389	-88.644722	25.93
11	W208AW	APP	FX	89.3	0.08	40.886389	-88.644722	25.93
12	W208AW	LIC	FX	89.5	0.08	40.886417	-88.644778	25.94
13	WYUR	LIC	FM	103.7	3.6	40.898167	-87.999444	26.94
14	WAGI-LP	LIC	FL	97.5	0.068	41.119361	-87.943111	27.31
15	WEGN	LIC	FM	88.7	5.0	41.207389	-87.972722	28.67
16	WUON	CP	FM	89.3	1.95	41.354722	-88.498611	29.44
17	WUON	LIC	FM	89.3	1.35	41.354750	-88.498694	29.44
18	WCFL	LIC	FM	104.7	50.0	41.354750	-88.498694	29.44

Table 2: FM Radio Stations within 30 km

[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 AM/FM station's FCC license and governed by Comsearch's data license notification and agreement located at http://www.comsearch.com/files/data_license.pdf.

[2] LIC = Licensed and operational station; APP = Application for construction permit; CP=Construction permit granted; CP MOD = Modification of construction permit.

[3] FM = FM broadcast station; FX = FM translator station; FS = FM auxiliary (backup) station; FB = FM booster station, FL = FM low power station.

[4] ERP = Transmit Effective Radiated Power.

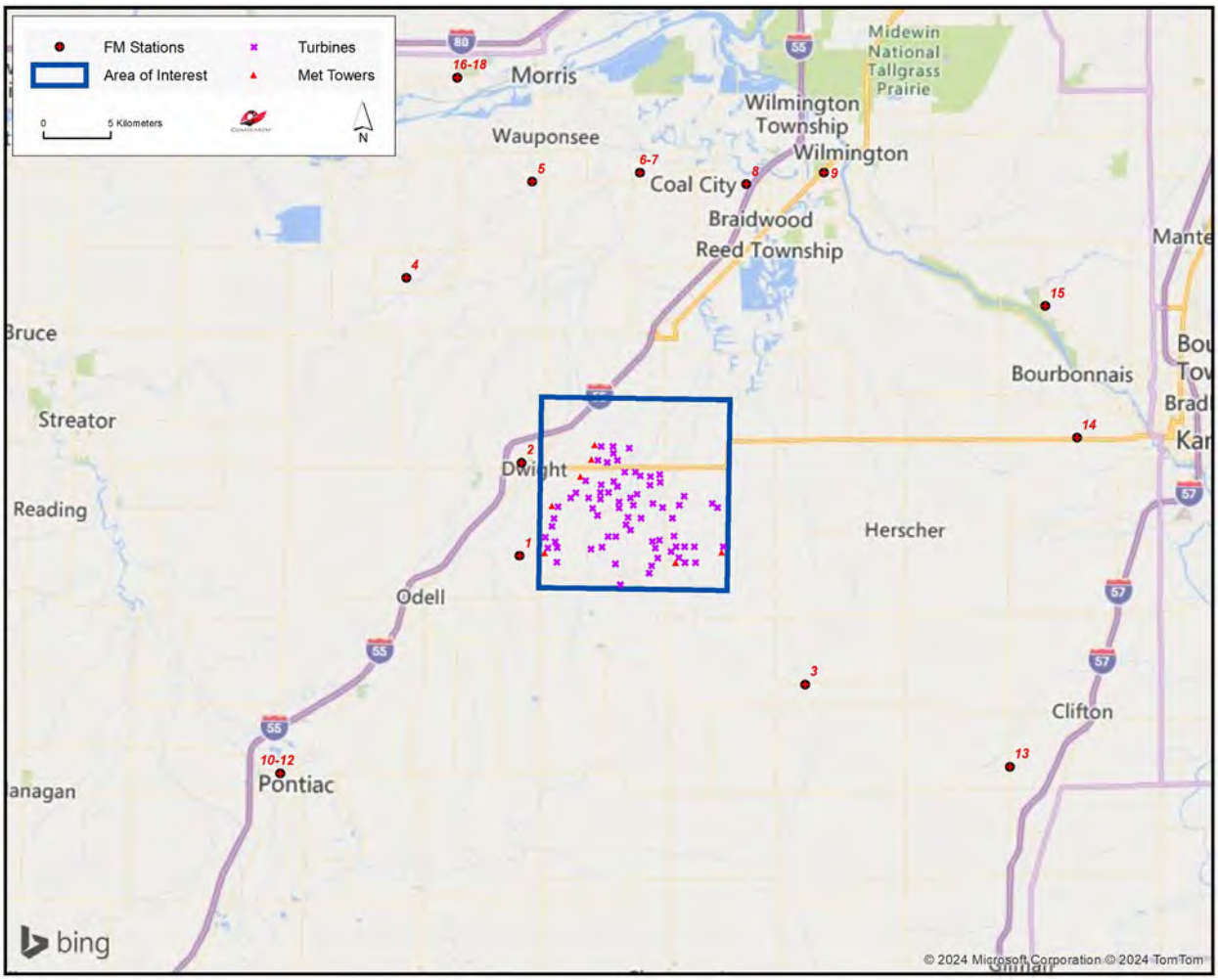

Figure 2: FM Radio Stations within 30 km

3. Impact Assessment

The exclusion distance for AM broadcast stations varies as a function of the antenna type and broadcast frequency. For directional antennas, the exclusion distance is calculated by taking the lesser of 10 wavelengths or 3 kilometers. For non-directional antennas, the exclusion distance is simply equal to 1 wavelength. Potential problems with AM broadcast coverage are only anticipated when AM broadcast stations are located within their respective exclusion distance limit from wind turbine towers. A search radius of 30 km found no AM station records. As there were no stations found within 3 kilometers of the project, which is the maximum possible exclusion distance based on a directional AM antenna broadcasting at 1000 KHz or less, the project should not impact the coverage of local AM stations.

The coverage of FM stations is generally not sensitive to interference due to wind turbines, especially when large objects (e.g., wind turbines) are located in the far field region of the radiating antenna to avoid the risk of distorting its radiation pattern. Station WJEZ would be the nearest FM station to any given turbine at 2.17 km away. At this distance there should be adequate separation to avoid radiation pattern distortion.

4. Recommendations

Since no impact on licensed and operational AM or FM broadcast stations was identified in our analysis, no recommendations or mitigation techniques are required for this project.

5. Contact

For questions or information regarding the AM and FM Radio Report, please contact:

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Wind Power GeoPlanner™

Communication Tower Study

Heritage Prairie Wind

Prepared on Behalf of
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February 20, 2024

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1. Introduction

This Communication Tower Study was performed for the Heritage Prairie Wind project in Livingston County, Illinois to identify the tower structures as well as FCC-licensed communication antennas that exist in 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 and antennas 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. Each tower location is identified with a unique ID number associated with detailed structure and contact information provided in a spreadsheet attachment.

Five tower structures and twenty-three communication antennas were identified within the Heritage Prairie Wind project area using the data sources described in our methodology above. Four of the structures found were registered with the FCC. The structures identified contain six of the twenty-three communication antennas. The remaining antennas may be located on a variety of structure types such as guyed towers, monopoles, silos, rooftops or portable structures. The specific type of structure would normally need to be determined by an on-site visit.

Detailed information about the tower structures 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.

[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.

Tower ID	ASR Number	Owner	Structure Height AGL (m)	Latitude (NAD83)	Longitude (NAD83)	Distance the Nearest Turbine (km)
Tower001	1258162	Cellco Partnership	76.2	41.01508333	-88.30491667	1.75
Tower002	N/A	American Towers LLC	54.9	41.06580700	-88.39988900	0.36
Tower003	1278119	SBA Towers III LLC	59.4	41.06758333	-88.28883333	0.67
Tower004	1038194	CTI Towers, Inc.	61.9	41.09208333	-88.41844444	1.48
Tower005	1217162	STC Two, LLC	56.4	41.14072222	-88.36669444	3.48

Table 1: Summary of Tower Structures

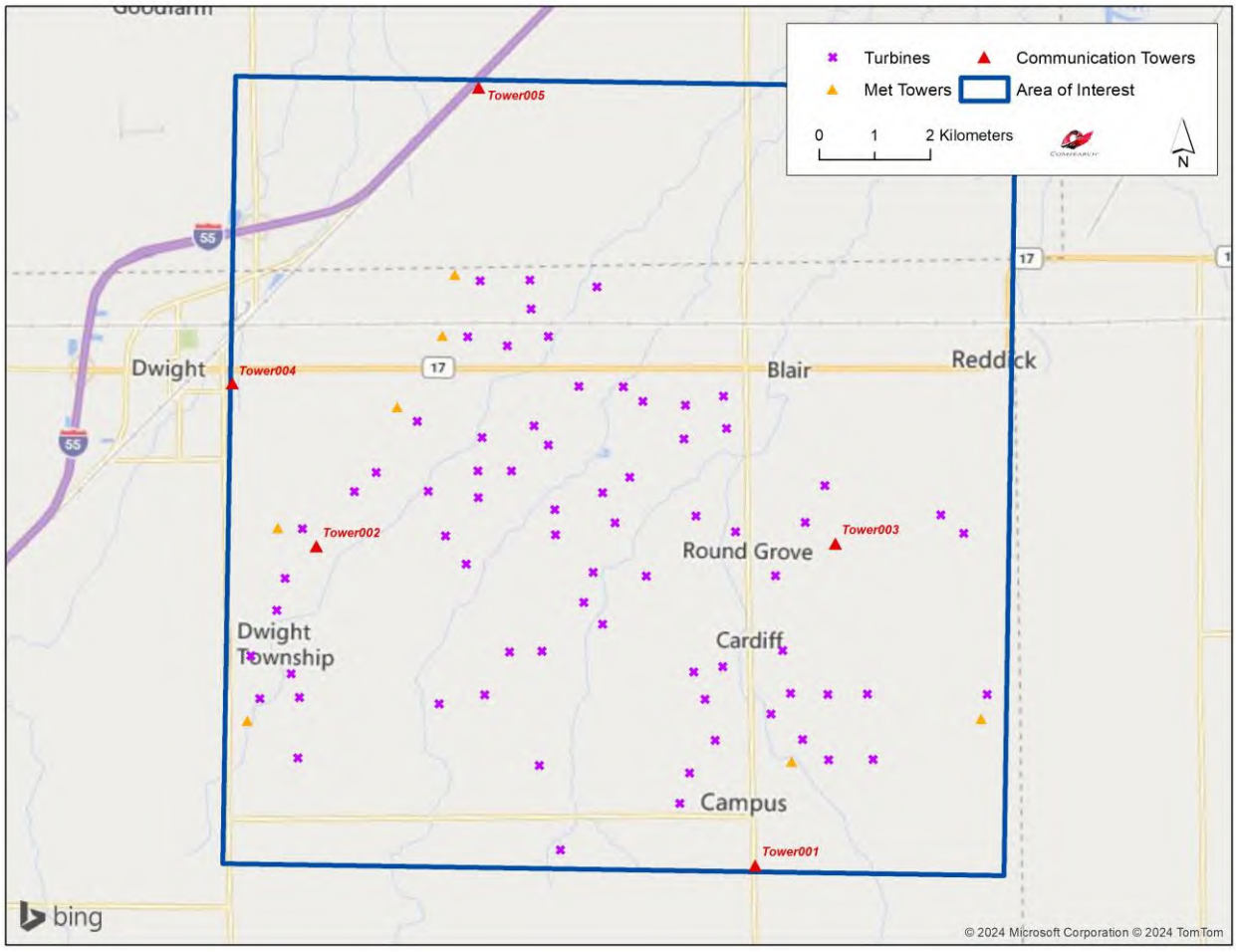

Figure 1: Towers within the Area of Interest

ID	Tower ID	Callsign	Service Type	Licensee	Antenna Height AGL (m)	Latitude (NAD83)	Longitude (NAD83)	Distance the Nearest Turbine (km)
1		WRFW573	Microwave	Surf Air Wireless, LLC	49.0/49.9	41.03661111	-88.30572222	0.46
2		KNJP864	Land Mobile	MASCHING, WILLIAM	58.0	41.03725000	-88.30588889	0.42
3	Tower002	KNKN328	Cellular	AT&T Mobility Spectrum, LLC	50.0/59.7	41.06583333	-88.39988889	0.40
4	Tower003	WQOX523	Microwave	Cellco Partnership - IA/IL/IN/WI	43.28	41.06758333	-88.28883333	0.66
5		KVT268	Land Mobile	ILLINOIS, STATE OF	14.0	41.09030556	-88.41700000	2.68
6	Tower004	WPOV263	Microwave	Vermilion Valley Regional ETSB	30.48	41.09194444	-88.41833333	2.90
7	Tower004	WPGW541	Land Mobile	Vermilion Valley Regional ETSB	45.7	41.09194444	-88.41833333	2.90
8	Tower004	WPFG523	Land Mobile	Vermilion Valley Regional ETSB	30.5	41.09194444	-88.41833333	2.90
9	Tower004	WPFG740	Land Mobile	Vermilion Valley Regional ETSB	30.5	41.09194444	-88.41833333	2.90
10		WQOY493	Land Mobile	AHW LLC	38.0	41.09633333	-88.41727778	3.20
11		WRAX874	Microwave	Olson, Donna J	51.8	41.09916667	-88.34641667	0.41
12		WQHE218	Land Mobile	Norfolk Southern Railway Company	4.1	41.10283333	-88.32827778	1.23
13		WQHE218	Land Mobile	Norfolk Southern Railway Company	4.1	41.10297222	-88.30908333	1.35
14		WQCB489	Land Mobile	Norfolk Southern Railway Company	4.1	41.10297222	-88.30905556	1.35
15		WNYB406	Land Mobile	Norfolk Southern Railway Company	3.1	41.10311111	-88.30850000	1.38
16		WQXW552	Microwave	Surf Air Wireless, LLC	41.4/47.24	41.10358333	-88.30933333	1.41
17		WQCN840	Land Mobile	Norfolk Southern Railway Company	3.1	41.10363889	-88.25225000	3.66
18		KBL646	Land Mobile	RIBER CONSTRUCTION INC	27.0	41.10502778	-88.41727778	3.84
19		WQKU939	Land Mobile	Union Pacific Railroad Company	3.0	41.11111111	-88.40527778	3.33
20		WQNS358	Land Mobile	SEVERSON ENTERPRISES	23.0	41.11391667	-88.30755556	2.57
21		WQTU833	Land Mobile	Aldi Inc	13.4	41.11438889	-88.40861111	3.64
22		WQKU939	Land Mobile	Union Pacific Railroad Company	3.0	41.12222222	-88.39444444	2.80
23		WQKU939	Land Mobile	Union Pacific Railroad Company	3.0	41.12527778	-88.38638889	2.48

Table 2: Summary of Communication Antennas

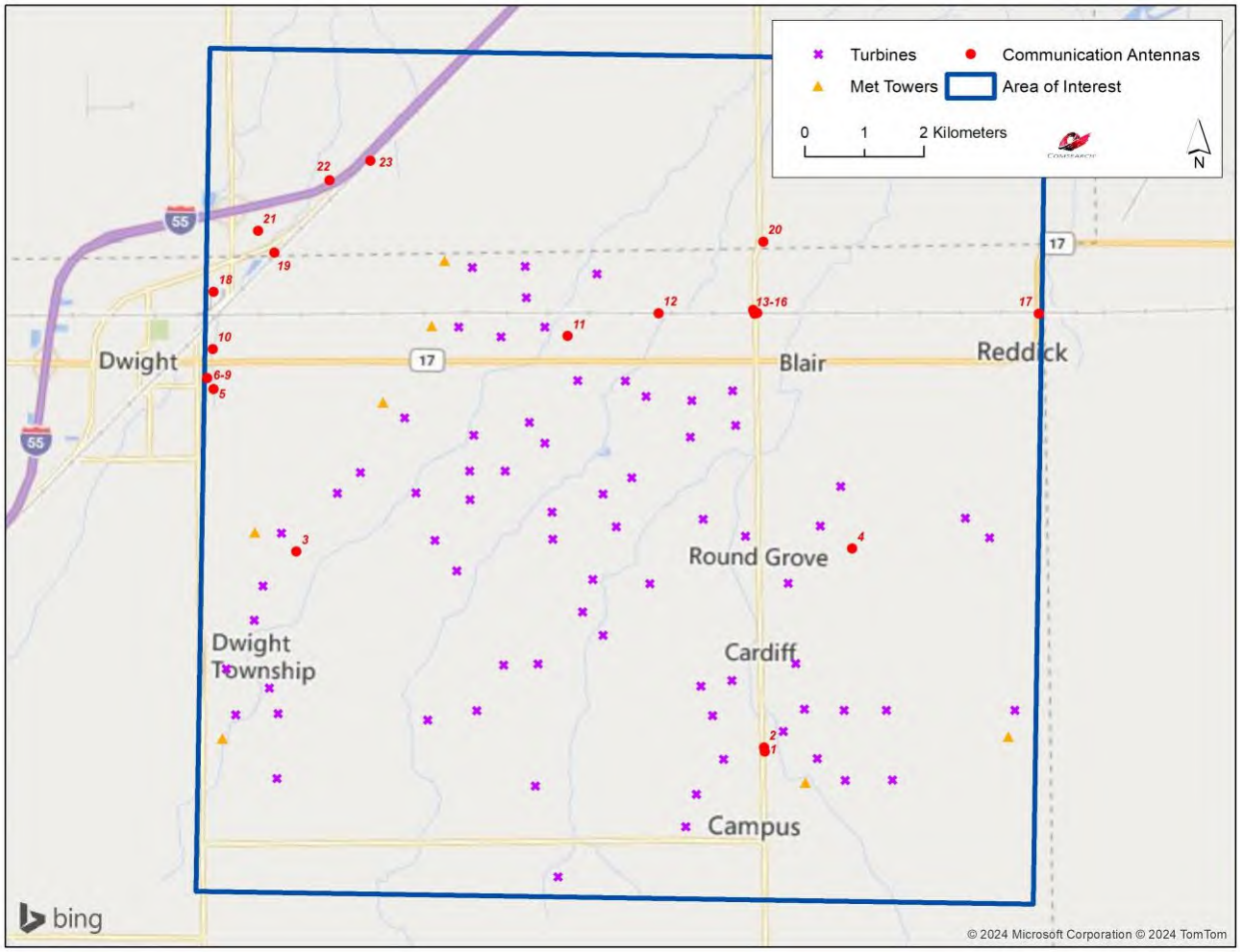

Figure 2: Communication Antennas within the Area of Interest

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 in both the vertical and horizontal planes, the first consideration of separation distance to other structures is clearance of the rotating blades. If the blade radius is 50 meters, then 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 ensure 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 RADAR and microwave systems, line-of-sight (LOS) is used as the criteria for separation distance as well as the physical clearance necessary for the turbine blades. For land mobile, mobile phone, and wireless Internet systems, setback distances are based on FCC interference emissions from electrical devices according to their respective frequency bands.

Finally, the communication tower structures identified herein 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 five tower structures and twenty-three communication antennas within the project area. They are used for microwave, cellular, and land mobile services in the area.

5. Contact Us

For questions or information regarding the Communication Tower Study, please contact:

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Land Mobile & Emergency Services Report

Heritage Prairie Wind

Prepared on Behalf of
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1. Introduction

An assessment of the emergency services in the Heritage Prairie Wind 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 Livingston County, Illinois, appears below in Figure 1.

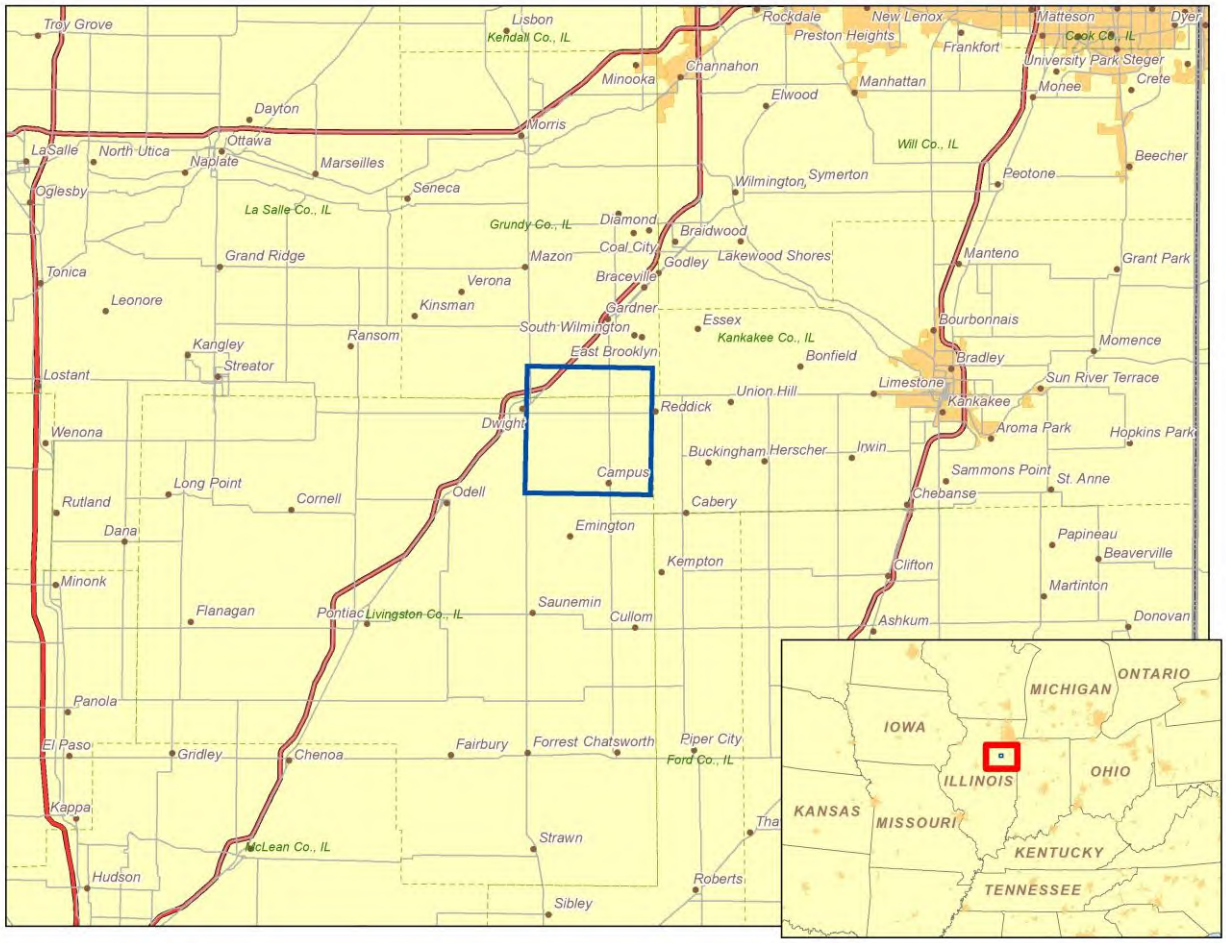

Figure 1: Area of Interest (AOI)

2. Summary of Results

Our land mobile and emergency services incumbent data[1] 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 the project area appears in Figure 2.

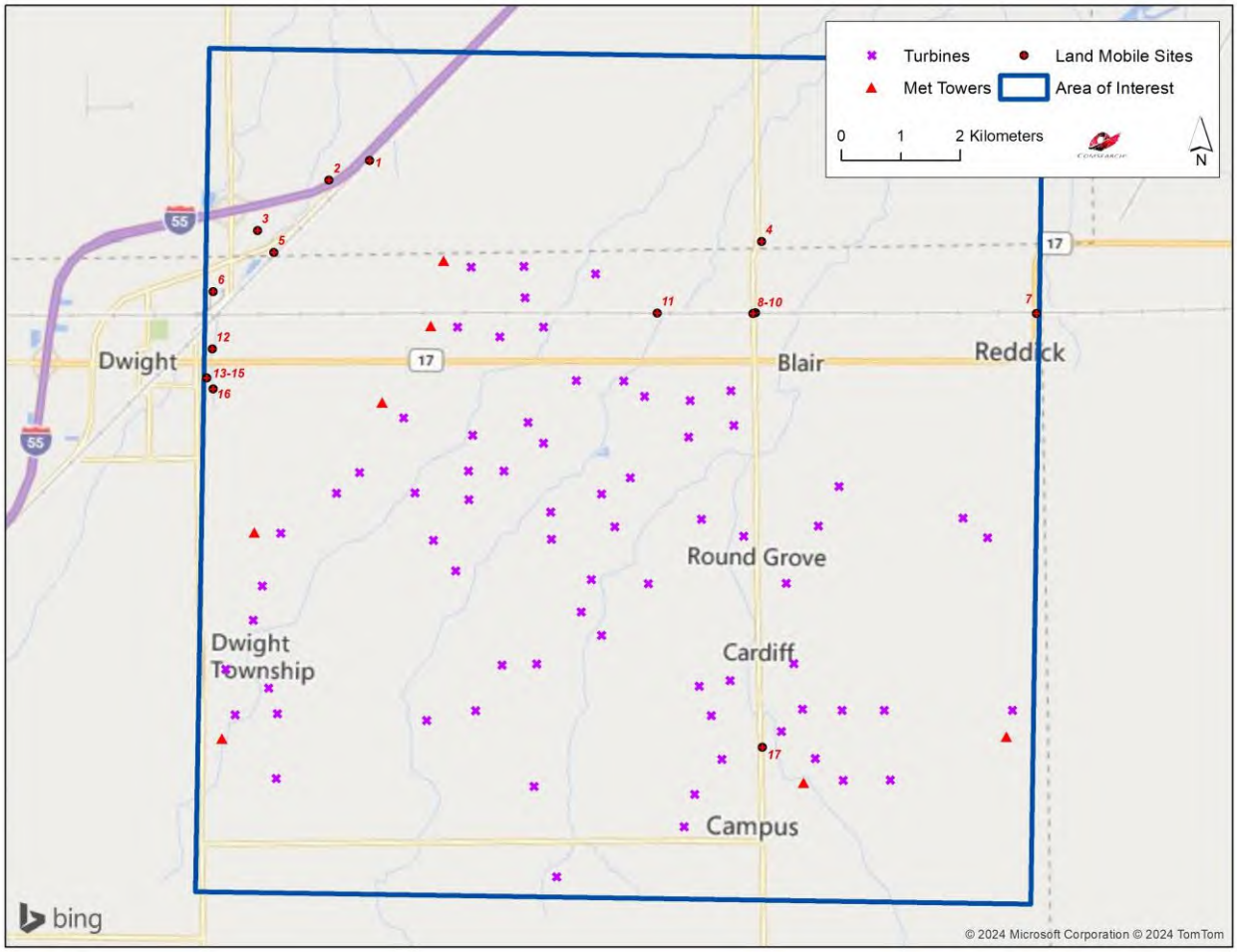

Figure 2: Land Mobile & Emergency Service Sites in Area of Interest

[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 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

Figure 2 identifies seventeen site-based licenses in the Heritage Prairie Wind 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	WQKU939	150-174	Union Pacific Railroad Company	3.0	41.125278	-88.386389	2.48
2	WQKU939	150-174	Union Pacific Railroad Company	3.0	41.122222	-88.394444	2.80
3	WQTU833	450-470	Aldi Inc	13.4	41.114389	-88.408611	3.64
4	WQNS358	150-174	SEVERSON ENTERPRISES	23.0	41.113917	-88.307556	2.57
5	WQKU939	150-174	Union Pacific Railroad Company	3.0	41.111111	-88.405278	3.33
6	KBL646	150-174	RIBER CONSTRUCTION INC	27.0	41.105028	-88.417278	3.84
7	WQCN840	150-174	Norfolk Southern Railway Company	3.1	41.103639	-88.252250	3.66
8	WNYB406	150-174	Norfolk Southern Railway Company	3.1	41.103111	-88.308500	1.38
9	WQCB489	150-174	Norfolk Southern Railway Company	4.1	41.102972	-88.309056	1.35
10	WQHE218	150-174	Norfolk Southern Railway Company	4.1	41.102972	-88.309083	1.35
11	WQHE218	150-174	Norfolk Southern Railway Company	4.1	41.102833	-88.328278	1.23
12	WQOY493	450-470	AHW LLC	38.0	41.096333	-88.417278	3.20
13	WPFG523	450-470	Vermilion Valley Regional ETSB	30.5	41.091944	-88.418333	2.90
14	WPFG740	450-470	Vermilion Valley Regional ETSB	30.5	41.091944	-88.418333	2.90
15	WPGW541	450-470	Vermilion Valley Regional ETSB	45.7	41.091944	-88.418333	2.90
16	KVT268	450-470	ILLINOIS, STATE OF	14.0	41.090306	-88.417000	2.68
17	KNJP864	450-470	MASCHING, WILLIAM	58.0	41.037250	-88.305889	0.42

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

Mobile Licenses

In addition to the fixed-site licenses above, 664 mobile licenses defined by center point and radius were found to intersect the Heritage Prairie Wind project area. Appendix A contains a tabular summary of these stations.

Area-Wide Licenses

The regional area-wide licenses were compiled from FCC data sources and identified for each county intersected by the wind energy project area. The Heritage Prairie Wind project is located in Livingston County, Illinois, part of Public Safety Region #13, which contains all the counties in Illinois, excluding the greater Chicago metropolitan area. The regional public safety operations are overseen by the entity listed below.

William J. Carter
Chairperson, Public Safety Region #13
Phone: 312-814-5208
Mobile: 312-793-7267
Email: wizard61@hotmail.com

The chairperson for Region #13 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, fifty-two licenses were found for the State of Illinois and three for the County of Livingston (see Table 2). These area-wide licenses are designated for mobile use only.

ID	Licensee	Area of Operation	Frequency Band (MHz)
1	ADVANCED MEDICAL TRANSPORT OF CENTRAL ILLINOIS	Statewide: IL	150-174
2	ALEXIS NORTH HENDERSON AMBULANCE SERVICE	Statewide: IL	150-174
3	AMERICAN MEDICAL RESPONSE INC	Statewide: IL	150-174, 450-470
4	American National Red Cross	Statewide: IL	25-50
5	Beecher Fire Protection District	Statewide: IL	150-174
6	Buncombe Fire Department	Statewide: IL	150-174
7	BUNKER HILL, CITY OF	Statewide: IL	150-174
8	CARLINVILLE, CITY OF	Statewide: IL	150-174
9	CAVE EASTERN FIRE PROTECTION DISTRICT	Statewide: IL	150-174
10	CHARLESTON, CITY OF	Statewide: IL	150-174

ID	Licensee	Area of Operation	Frequency Band (MHz)
11	City of Chicago Heights Police Department	Statewide: IL	4940-4990
12	CLAY, COUNTY OF	Statewide: IL	150-174
13	Deaconess regional Healthcare Services Illinois, Inc	Statewide: IL	150-174
14	DOWNERS GROVE, VILLAGE OF	Statewide: IL	150-174, 450-470
15	EVERGREEN PARK, VILLAGE OF	Statewide: IL	150-174
16	Farina, Village of	Statewide: IL	150-174
17	GALESBURG HOSPITALS AMBULANCE SERVICE	Statewide: IL	150-174
18	GALVA, CITY OF	Statewide: IL	150-174
19	GLENDALE HEIGHTS, VILLAGE OF	Statewide: IL	150-174
20	Illinois Law Enforcement Alarm System	Statewide: IL	0-10
21	ILLINOIS LAW ENFORCEMENT ALARM SYSTEM (ILEAS)	Statewide: IL	25-50, 150-174, 450-470, 800/900
22	Illinois State Toll Highway Authority	Statewide: IL	0-10, 450-470, 800/900, 4940-4990
23	Illinois, State of	Statewide: IL	0-10, 25-50, 150-174, 406-413, 421-430, 450-470, 769-775/799-805, 800/900, 2450-2500
24	Illinois, State of Department of Transportation	Statewide: IL	0-10, 25-50, 150-174
25	JERSEY, COUNTY OF SHERIFF DEPARTMENT	Statewide: IL	150-174
26	JOHNSON COUNTY 9 1 1 ETSB	Statewide: IL	150-174
27	Lakeside EMS, LLC	Statewide: IL	150-174
28	LIVINGSTON COUNTY SHERIFF'S DEPT	Countywide: LIVINGSTON, IL	450-470, 800/900
29	Maine Township Emergency Management Agency	Statewide: IL	25-50, 150-174
30	MEDICONE MEDICAL RESPONSE	Statewide: IL	150-174
31	METAMORA, CITY OF	Statewide: IL	150-174
32	MIDLOTHIAN, VILLAGE OF	Statewide: IL	150-174
33	MORGAN COUNTY ESDA	Statewide: IL	150-174
34	MOUNT ZION FIRE PROTECTION DISTRICT	Statewide: IL	150-174

ID	Licensee	Area of Operation	Frequency Band (MHz)
35	MURPHYSBORO, CITY OF	Statewide: IL	150-174
36	MUTUAL AID BOX ALARM SYSTEM - IL	Statewide: IL	25-50, 150-174, 450-470
37	NATIONAL SKI PATROL SYSTEM INC	Statewide: IL	150-174
38	ONEIDA WATAGA FIRE PROTECTION DISTRICT	Statewide: IL	150-174
39	ORION FIRE PROTECTION DISTRICT	Statewide: IL	150-174
40	PARATECH AMBULANCE SERVICE INC	Statewide: IL	150-174
41	PATOKA FIRE PROTECTION DIST IL	Statewide: IL	150-174
42	RuralMed, LLC	Statewide: IL	150-174
43	Search And Rescue Mutual Aid (SARMA)	Statewide: IL	150-174
44	SOUTH EAST LIVINGSTON COUNTY AMBULANCE SERVICE, INC.	Countywide: LIVINGSTON, IL	150-174
45	SOUTH HOLLAND, VILLAGE OF	Statewide: IL	150-174
46	Stickney, Village of	Statewide: IL	150-174
47	Superior Air Ground Ambulance Inc.	Statewide: IL	150-174
48	TUSCARORA FIRE PROTECTION DISTRICT	Statewide: IL	150-174
49	United Life Care Ambulance Service Inc	Statewide: IL	150-174
50	United Medical Response, LLC	Statewide: IL	150-174
51	Vermilion Valley Regional ETSB	Countywide: LIVINGSTON, IL	150-174, 450-470
52	Village of University Park	Statewide: IL	150-174
53	WAYNE COUNTY AMBULANCE SERVICE	Statewide: IL	150-174
54	WEST CITY, VILLAGE OF	Statewide: IL	150-174
55	WILLIAMSFIELD FIRE PROTECTION DIST	Statewide: IL	150-174

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 Livingston County, Illinois, in Table 3.

Mobile Phone Carrier	Service[2]
AT&T	700 MHz, AWS, Cellular, PCS, WCS
DISH Network	700 MHz, AWS
MTCO Communications	Cellular
T-Mobile	700 MHz, AWS, PCS
US Cellular	700 MHz
Verizon	700 MHz, AWS, PCS

Table 3: Mobile Phone Carriers in Area of Interest with E911 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 Heritage Prairie Wind 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 with regard 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

[2] 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

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:

Contact person:	David Meyer
Title:	Senior Manager
Company:	Comsearch
Address:	21515 Ridgetop Circle, Suite 300, Sterling, VA 20166
Telephone:	703-726-5656
Fax:	703-726-5595
Email:	David.Meyer@CommScope.com
Web site:	www.comsearch.com

Appendix A

ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
1	WNWK609	450-470	2-WAY ELECTRONICS COMMUNICATIONS	120.0	41.542528	-87.037528
2	WRKP470	800/900	A BEEP LLC	88.0	41.565833	-88.062222
3	WPKU637	470-512	A BEEP, LLC	48.0	41.496417	-88.298944
4	WPMR376	450-470	A BEEP, LLC	32.0	41.122778	-87.893056
5	WPVQ487	450-470	A BEEP, LLC	32.0	41.318083	-88.634806
6	WPWW500	470-512	A BEEP, LLC	48.0	41.496417	-88.298944
7	WPYT234	150-174	A BEEP, LLC	40.0	41.496417	-88.298944
8	WQEI309	470-512	A BEEP, LLC	48.0	41.473056	-88.049694
9	WQHF981	470-512	A BEEP, LLC	48.0	41.304167	-88.175833
10	WQHJ429	450-470	A BEEP, LLC	32.0	41.304167	-88.175833
11	WQIH430	450-470	A Beep, LLC	32.0	41.304167	-88.175833
12	WQJD698	450-470	A BEEP, LLC	32.0	41.122778	-87.893056
13	WQKI908	470-512	A BEEP, LLC	48.0	41.496417	-88.298944
14	WRKP473	800/900	A BEEP, LLC	113.0	42.020000	-88.483611
15	WRKP743	800/900	A BEEP, LLC	88.0	41.565861	-88.062222
16	WRMF907	470-512	A BEEP, LLC	48.0	41.473056	-88.049694
17	WRXJ532	150-174	ABILITY TRANSPORTATION INC	64.0	41.445722	-88.206167
18	WRZH646	150-174	Abry, Jim	40.0	41.020000	-88.563611
19	WRBM329	800/900	ADDISON FIRE PROTECTION DISTRICT	113.0	41.914972	-88.002722
20	WRAT773	800/900	Addison, Village of	113.0	41.987667	-88.016583
21	WRAT773	800/900	Addison, Village of	113.0	41.913833	-88.014861
22	WRAT773	800/900	Addison, Village of	113.0	41.821361	-87.972667
23	WRAT773	800/900	Addison, Village of	113.0	41.730278	-87.969278

ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
24	WQXQ636	450-470	AEROPRES CORPORATION	48.0	41.387833	-88.300139
25	WQXQ636	450-470	AEROPRES CORPORATION	48.0	41.415111	-87.983361
26	WPAJ404	450-470	AFFILIATED CUSTOMER SERVICE	121.0	41.797528	-87.954778
27	WQNP347	450-470	AHW LLC	32.0	41.093694	-88.460944
28	WQOX297	450-470	AHW LLC	32.0	41.158194	-88.652028
29	WQOX540	450-470	AHW LLC	32.0	41.142694	-88.275556
30	WQOX540	450-470	AHW LLC	32.0	41.104583	-88.004111
31	WQOY493	450-470	AHW LLC	32.0	41.374528	-88.612000
32	WQOY493	450-470	AHW LLC	32.0	41.096333	-88.417278
33	WQOY493	450-470	AHW LLC	32.0	41.106778	-88.147583
34	WRUJ587	450-470	Air Products & Chemicals, Inc	32.0	41.413056	-88.328889
35	KB70306	450-470	ALARM DETECTION SYSTEMS INC	113.0	41.779750	-88.295917
36	KCX586	25-50	ALARM DETECTION SYSTEMS INC	113.0	41.779750	-88.296194
37	WNCG283	450-470	ALARM DETECTION SYSTEMS, INC.	112.0	41.779750	-88.296194
38	WPKN431	450-470	ALARM DETECTION SYSTEMS, INC.	120.0	41.780306	-88.296750
39	WPXK705	450-470	Alarm Detection Systems, Inc.	120.0	41.625361	-87.728417
40	WQTU833	450-470	Aldi Inc	13.0	41.114389	-88.408611
41	WPKT892	150-174	ALLEN TOWNSHIP FIRE PROTECTION DISTRICT	24.0	41.158361	-88.651444
42	WPPA619	450-470	ALLIANCE PIPELINE L P	32.0	41.411139	-88.298111
43	WQSE530	450-470	ALLIANCE SPECIALTY TRADES INC	80.0	41.672333	-88.074694
44	WPED653	450-470	ALPHA PRIME WIRELESS COMMUNICATIONS	113.0	41.530306	-87.805056
45	WPIX671	800/900	Ameren Services Company	113.0	40.791972	-89.619806
46	WPLY438	800/900	Ameren Services Company	113.0	41.063083	-89.585639
47	WPMP607	800/900	Ameren Services Company	113.0	40.794194	-89.198417

ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
48	WNXH406	450-470	American National Red Cross	80.0	41.307500	-88.146111
49	WPFZ494	150-174	AMITY, TOWNSHIP OF	32.0	40.988917	-88.740333
50	WQLV439	450-470	Andy Wurm Tire & Wheel Co Inc	320.0	38.740667	-90.304083
51	WNMQ237	450-470	AQUA LAND COMMUNICATIONS INC	120.7	41.614361	-87.188528
52	WNMQ237	450-470	AQUA LAND COMMUNICATIONS INC	120.7	41.522778	-87.024444
53	KD23109	150-174	Archer Daniels Midland Company	121.0	41.357250	-88.421167
54	WPPX534	150-174	Archer Daniels Midland Company	113.0	41.313361	-89.198139
55	WRJH392	150-174	B&B Ag. Products, Inc.	40.0	40.856667	-88.806667
56	WQRC450	150-174	BCS LLC	40.0	40.744222	-88.623139
57	WPMZ946	450-470	BEARDSLEY, CRAIG L	250.0	41.694194	-87.687556
58	WQYG630	150-174	BERG FARMS	80.0	41.501111	-88.386667
59	WQXF713	450-470	BERGLUND CONSTRUCTION COMPANY	120.0	41.844694	-87.957639
60	WQFB702	25-50, 150-174, 450-470, 470-512, 800/900	B-K ELECTRIC INC	300.0	39.713278	-90.722639
61	KBB386	150-174	BNSF RAILWAY CO.	40.0	41.278361	-88.290139
62	KNCT660	150-174	BNSF Railway Co.	40.0	41.157167	-88.657833
63	WPWJ813	150-174	BNSF Railway Co.	32.0	41.399944	-88.147278
64	WPWJ813	150-174	BNSF Railway Co.	40.0	41.388417	-88.146167
65	WQOW598	150-174	BNSF Railway Co.	40.0	41.401694	-88.150306
66	WQOW598	150-174	BNSF Railway Co.	40.0	41.399583	-88.147028
67	WQLB828	150-174	BOUCHER, MATTHEW	40.0	41.118056	-88.500000
68	WRCH516	150-174	BOURBONNAIS ELEMENTARY SCHOOL DIST 53	40.0	41.179806	-87.891972
69	WNHE649	450-470	BOURBONNAIS, TOWNSHIP OF	32.0	41.122250	-87.950056
70	WQLC444	800/900	BP Products North America Inc.	113.0	41.650611	-87.506861

ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
71	WQLC444	800/900	BP Products North America Inc.	113.0	41.658389	-87.491611
72	WQLC444	800/900	BP Products North America Inc.	113.0	41.677583	-87.483306
73	WQAY427	150-174	BRACEVILLE VOLUNTEER FIRE DEPARTMENT	40.0	41.224194	-88.264222
74	WPEY520	150-174	BRADLE, ROGER	72.0	40.729194	-89.135083
75	WPPV420	150-174	BRAIDWOOD FIRE DEPARTMENT INC	16.0	41.264472	-88.230611
76	WPPV420	150-174	BRAIDWOOD FIRE DEPARTMENT INC	32.0	41.404361	-88.117583
77	WNNM518	150-174	BRAIDWOOD, CITY OF	19.0	41.264472	-88.230611
78	WPRI457	150-174	BRAIDWOOD, CITY OF	25.0	41.264194	-88.227000
79	WQUP972	150-174	BRESSNER, JEFF	45.0	40.877250	-88.772556
80	WPEM984	150-174	Bressner, Roger	40.0	40.886139	-88.672833
81	KB91386	450-470	BRINK'S INCORPORATED	121.0	41.874472	-87.639500
82	KD24524	450-470	BRINK'S INCORPORATED	121.0	41.950028	-88.066750
83	KD28608	450-470	BRINK'S INCORPORATED	121.0	40.695028	-89.592611
84	KD28612	450-470	BRINK'S INCORPORATED	121.0	41.783361	-89.191750
85	KD28613	450-470	BRINK'S INCORPORATED	121.0	40.783361	-88.250056
86	KD28616	450-470	BRINK'S INCORPORATED	121.0	41.566694	-87.500028
87	WQPC633	150-174	BROUGHTON, TOWNSHIP OF	15.0	40.958333	-88.358056
88	KNIA629	150-174	BROWN, GARY DBA G & J FARMS INC	32.0	40.820306	-88.383944
89	KZZ283	150-174	BUCKLEY FIRE PROTECTION DISTRICT	64.0	40.600028	-88.038917
90	KNDS826	150-174	CABERY AREA FIRE PROTECTION DISTRICT	32.0	40.995583	-88.206722
91	WPAW276	450-470	CAILTEUX, KENNETH	80.0	40.375306	-87.875306
92	WPEC498	450-470	CAILTEUX, KENNETH	80.0	40.930306	-87.932250
93	WPLD691	450-470	CAILTEUX, KENNETH J	32.0	41.016972	-87.904750
94	WQLP696	450-470	Cargill, Incorporated	32.0	41.354861	-88.425778
95	WQLP696	150-174	Cargill, Incorporated	40.0	41.354861	-88.425778

ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
96	WQLP696	450-470	Cargill, Incorporated	32.0	41.390528	-88.145222
97	WQLP696	150-174	Cargill, Incorporated	40.0	41.390528	-88.145222
98	WQNN319	150-174, 450-470, 470-512	CBS BROADCASTING INC.	100.0	41.883694	-87.629306
99	WPPZ694	150-174	CENTRAL UNIT 4 SCHOOL DISTRICT	32.0	41.016972	-87.904750
100	WRXE455	450-470	CERENITI DATASENSE NETWORKS	5.0	41.101250	-88.423639
101	KST435	150-174	CHEBANSE AG SERVICE INC	48.0	40.998917	-87.909750
102	WQWA212	450-470	CHELLINO CRANE	120.0	41.875722	-87.645500
103	KSI382	150-174	CHENOA COMMUNITY FIRE PROTECTION DISTRICT	40.0	40.741111	-88.710000
104	KUI731	150-174	CHENOA, CITY OF	40.0	40.743083	-88.715333
105	KZV881	150-174, 450-470	CHENOA, CITY OF	40.0	40.741111	-88.710000
106	WQTY827	450-470	CHEXX SYSTEMS	80.0	41.608583	-88.457306
107	WNAJ329	800/900	CHICAGO, CITY OF	113.0	41.977306	-87.904139
108	WQNZ370	150-174	CHIEF REDI-MIX,INC.	40.0	40.882778	-88.619444
109	WNWK651	150-174	Christensen, Ron D	121.0	41.082250	-86.856417
110	WQVD946	800/900	CITY COLLEGES OF CHICAGO	113.0	41.878000	-87.673639
111	WQVD946	800/900	CITY COLLEGES OF CHICAGO	113.0	41.780250	-87.643861
112	WNDW413	800/900	City of Chicago - Office of Public Safety Administration	113.0	41.885556	-87.620833
113	WNDV931	800/900	City of Naperville	121.0	41.878917	-87.636167
114	WNNL334	800/900	City of Naperville	121.0	41.878917	-87.636167
115	WQWP711	150-174	CL FARMS	40.0	41.320417	-88.773194
116	WQVA715	450-470	CLARK, BRENT A	32.0	40.960944	-88.601417
117	WQCV973	450-470	COAL CITY CUSD #1	32.0	41.288000	-88.300000
118	WNUF574	150-174	COAL CITY, VILLAGE OF	48.0	41.281694	-88.284222
119	WRE646	150-174, 450-470	COAL CITY, VILLAGE OF	24.0	41.281694	-88.285056

ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
120	WRKW464	450-470	Code Red Safety & Rental, LLC	32.0	41.414556	-88.184750
121	WPGE359	450-470	COLLEGE OF DU PAGE	121.0	41.843361	-88.083389
122	WRMP283	800/900	Commonwealth Edison Company	113.0	41.919722	-88.429500
123	WRMP283	800/900	Commonwealth Edison Company	113.0	41.981667	-88.242778
124	WRMP752	800/900	Commonwealth Edison Company	113.0	41.687250	-88.477556
125	WRMP752	800/900	Commonwealth Edison Company	113.0	42.051139	-87.754500
126	WRMP758	800/900	Commonwealth Edison Company	113.0	41.880556	-88.751389
127	WRMP758	800/900	Commonwealth Edison Company	113.0	41.388333	-88.281111
128	WRMP758	800/900	Commonwealth Edison Company	113.0	41.624167	-87.932222
129	WRMP758	800/900	Commonwealth Edison Company	113.0	41.208889	-87.913333
130	WRMP758	800/900	Commonwealth Edison Company	113.0	41.985278	-87.655556
131	WRMT870	800/900	Commonwealth Edison Company	113.0	41.041667	-88.765000
132	WRMT870	800/900	Commonwealth Edison Company	113.0	41.894722	-88.045556
133	WRMZ768	800/900	Commonwealth Edison Company	113.0	41.719444	-89.067222
134	WRMZ768	800/900	Commonwealth Edison Company	113.0	41.008056	-88.265833
135	WRMZ768	800/900	Commonwealth Edison Company	113.0	41.761972	-87.767250
136	WRMZ768	800/900	Commonwealth Edison Company	113.0	41.881583	-87.630583
137	WRMZ768	800/900	Commonwealth Edison Company	113.0	41.429167	-87.592222
138	WRMZ768	800/900	Commonwealth Edison Company	113.0	41.716139	-87.543917
139	WQWZ925	450-470	CONSOLIDATED DISTRIBUTION CORPORATION	24.0	41.340139	-88.210528
140	WQWZ925	450-470	CONSOLIDATED DISTRIBUTION CORPORATION	24.0	41.340139	-88.210500
141	WQOC703	450-470	Consolidated Grain & Barge	32.0	41.093694	-88.461000
142	WNCL915	216-220	Constellation Energy Generation, LLC	121.0	41.298361	-88.434778
143	WNCL915	216-220	Constellation Energy Generation, LLC	121.0	41.981417	-88.243139
144	WNPK678	800/900	Constellation Energy Generation, LLC	113.0	41.389750	-88.270333

ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
145	WNWY533	150-174, 450-470	Constellation Energy Generation, LLC	20.0	41.242528	-88.229500
146	WQCH324	150-174	Constellation Energy Generation, LLC	40.0	41.298889	-88.419722
147	WQHI515	450-470	Constellation Energy Generation, LLC	32.0	41.242528	-88.229500
148	WNNS514	800/900	COOK DUPAGE TRANSPORTATION COMPANY INC	113.0	41.937222	-88.124722
149	WNNS514	800/900	COOK DUPAGE TRANSPORTATION COMPANY INC	113.0	41.966139	-87.943889
150	WNNS514	800/900	COOK DUPAGE TRANSPORTATION COMPANY INC	113.0	41.878917	-87.636167
151	WNNS514	800/900	COOK DUPAGE TRANSPORTATION COMPANY INC	113.0	41.895861	-87.622556
152	WNNS514	800/900	COOK DUPAGE TRANSPORTATION COMPANY INC	113.0	41.553889	-87.371111
153	WQEL763	800/900	COOK DUPAGE TRANSPORTATION INC	113.0	41.512500	-88.255556
154	WQEL763	800/900	COOK DUPAGE TRANSPORTATION INC	113.0	41.708611	-87.783889
155	WQEL763	800/900	COOK DUPAGE TRANSPORTATION INC	113.0	41.620833	-87.681944
156	WQEL763	800/900	COOK DUPAGE TRANSPORTATION INC	113.0	41.878917	-87.636167
157	WPFV399	150-174	COOLEY, H MICHAEL	97.0	40.738917	-87.311972
158	KTE868	150-174	CORN BELT ENERGY CORPORATION	80.0	40.417667	-88.906500
159	WRAD322	450-470	Costco Wholesale	32.0	41.389917	-88.437417
160	WQZR562	450-470	Costco Wholesale Corporation	32.0	41.393556	-88.423861
161	WQSK637	150-174	CSX Transportation Inc	40.0	41.319667	-88.610278
162	WQSK637	150-174	CSX Transportation Inc	40.0	41.417444	-88.319806
163	KW8774	150-174	CULLOM FIRE PROTECTION DISTRICT	48.0	40.878917	-88.255333
164	KXH634	150-174	CULLOM FIRE PROTECTION DISTRICT	32.0	40.878917	-88.255333
165	WRCQ810	150-174	Custer Fire Protection District	32.0	41.248667	-88.135194
166	WPGQ917	450-470	D & I ELECTRONICS, INC.	121.0	41.564750	-88.219778
167	KVM538	150-174	DANFORTH, TOWNSHIP OF	64.0	40.824472	-87.976972

ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
168	WPNV723	150-174	DE PATIS, DARIN	40.0	40.916972	-87.806972
169	WPDT431	450-470	DEFENBAUGH, ANN	64.0	41.088917	-88.688389
170	WQSB645	150-174	DIEMER, DALE D	40.0	40.945556	-88.453333
171	WQGX719	450-470	DMC SECURITY SERVICES, INC.	80.0	41.625361	-87.728417
172	WPES847	25-50	DU PAGE, COUNTY OF	105.0	41.865861	-88.146472
173	WQTF323	150-174	DUFFY, STEVE	40.0	40.902472	-88.716833
174	WRAS761	450-470	Duffy-Baier-Snedecor Ambulance Service, LLC	32.0	40.881167	-88.628417
175	KNAB580	150-174	DUNELAND SCHOOL CORPORATION	121.0	41.581139	-87.045583
176	KSR490	800/900	DURHAM SCHOOL SERVICES	113.0	41.878917	-87.636167
177	WQWH629	450-470	DWIGHT TOWNSHIP HIGH SCHOOL DISTRICT 230	32.0	41.087167	-88.427111
178	KZZ342	150-174	DWIGHT, VILLAGE OF	16.0	41.092528	-88.429500
179	WPMN729	150-174	DWIGHT, VILLAGE OF	40.0	41.092528	-88.429500
180	WNKP742	150-174, 450-470	EASTERN ILLINI ELECTRIC COOPERATIVE	129.0	40.453083	-88.103111
181	KD42341	150-174	EASTERN MARSHALL COUNTY EMS	80.0	41.050028	-89.049250
182	WREQ921	450-470	EDF RENEWABLES	32.0	40.967278	-88.197361
183	WRFQ852	450-470	EDF Renewables Services, Inc.	32.0	40.967389	-88.171222
184	WRFR876	450-470	EDF Renewables Services, Inc.	32.0	41.014417	-88.031000
185	WQWN981	450-470	EDP RENEWABLES - TOP CROP WIND FARM	32.0	41.141917	-88.504111
186	KNIG682	150-174	Elliot, Randall	72.0	40.993083	-87.972278
187	KSG895	150-174	ELMHURST-CHICAGO STONE COMPANY	80.0	41.836139	-88.539250
188	KSG895	150-174	ELMHURST-CHICAGO STONE COMPANY	80.0	41.717250	-88.086167
189	WRJY591	150-174	ELWOOD FIRE PROTECTION DISTRICT	40.0	41.383556	-88.116750
190	WREM265	150-174	EMINGTON - CAMPUS FIRE PROTECTION DISTRICT	40.0	41.024889	-88.307944
191	KD3809	450-470	Enbridge Energy Company, Inc.	80.0	41.639444	-88.045278
192	KD3809	450-470	Enbridge Energy Company, Inc.	80.0	41.348889	-87.400556

ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
193	WQRD828	450-470	Enbridge Energy Company, Inc.	32.0	40.945111	-88.646000
194	WPHA781	800/900	ENERSTAR POWER COMPANY	113.0	41.301417	-88.953139
195	KC27732	450-470	ENTERCOM LICENSE, LLC	100.0	41.878917	-87.636167
196	WQUU475	450-470	ENTERCOM LICENSE, LLC	100.0	41.878889	-87.635917
197	KQT706	450-470	Equistar Chemicals, LP	32.0	41.413083	-88.331167
198	WNJF872	150-174, 450-470	Equistar Chemicals, LP	48.0	41.413083	-88.331167
199	WRVB270	150-174	Erschen, Frank	40.0	40.951667	-88.735278
200	WPIK959	450-470	ESP Wireless Technology Group, Inc	113.0	41.496417	-88.298944
201	WQRD737	150-174	ESSEX FIRE PROTECTION DIST	32.0	41.177278	-88.187083
202	WQQX430	25-50	ESSEX FIRE PROTECTION DISTRICT	16.0	41.169750	-88.186167
203	WQTG511	150-174	ESSEX, TOWNSHIP OF	32.0	41.173611	-88.195000
204	WPBE333	150-174, 450-470	ESSEX, VILLAGE OF	8.0	41.176417	-88.193944
205	WRKU312	800/900	Estate of Terry J Mack	113.0	41.610278	-88.439167
206	WQDX913	150-174	EXXON COMMUNICATIONS COMPANY	32.0	41.414194	-88.184778
207	WQVE754	450-470	FAIRBURY FIRE PROTECTION DISTRICT	32.0	40.747056	-88.518194
208	WRKP469	800/900	FBA Corporation	88.0	41.565833	-88.062222
209	WRKP469	800/900	FBA Corporation	113.0	41.878917	-87.636167
210	WRVH880	800/900	FBA Corporation	113.0	41.496417	-88.298944
211	WRVH880	800/900	FBA Corporation	113.0	41.565833	-88.062222
212	KB78213	450-470	FCA US LLC	120.7	41.874472	-87.639500
213	WQTN610	150-174	FEHR, DARREN	40.0	40.982194	-88.644861
214	KAN885	800/900	First Student Inc	113.0	41.895861	-87.622556
215	KNGL509	800/900	First Student Inc	98.0	41.863917	-88.113944
216	KSF842	150-174	FIRST STUDENT INC	40.0	41.238639	-88.830083
217	WNVE333	800/900	First Student Inc	113.0	41.922250	-88.751750

ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
218	WPXG762	150-174	First Student Inc	40.0	41.131194	-87.830333
219	WNZW397	150-174	FORD, COUNTY OF Ford 911	40.0	40.758361	-88.191694
220	WQNZ372	150-174	FORREST REDI- MIX,INC.	40.0	40.737500	-88.416667
221	WQPP891	150-174	FOX, BRODY	121.0	40.497167	-87.417083
222	WQTL950	150-174	FOX, RICH	40.0	40.991250	-88.412917
223	WPWY702	800/900	Francis Ms., Bini	113.0	40.180861	-88.317833
224	WRAM333	150-174	FREEDOM EMS LLC	64.0	41.310972	-88.138250
225	WNUF738	450-470	FROELICH, GENE:FROELICH, MARK E DBA F TROOP FARMS	32.0	40.807528	-88.155611
226	WPKL271	450-470	FSS Technologies, L.L.C.	120.0	41.755583	-87.956444
227	WPKL974	150-174	Gardner Fire Protection District	40.0	41.183361	-88.305889
228	WREN957	450-470	GARDNER SOUTH WILMINGTON HIGH SCHOOL DISTRICT 73	8.0	41.193722	-88.305972
229	WNKQ387	450-470	GARY DIETRICH FARMS	48.0	41.028361	-87.819750
230	WRAI201	450-470	Gavilon Fertilizer	32.0	41.315806	-88.657861
231	WRWS668	450-470	GCS SUPPLY, LLC.	80.0	41.701389	-88.008889
232	WNQT248	25-50	GODLEY PARK DISTRICT	32.0	41.233361	-88.246444
233	WNSK382	800/900	GRAINCO FS INC	48.0	41.496417	-88.298944
234	WPGH577	450-470	GRAINLAND COOPERATIVE	80.0	40.744472	-89.134806
235	WQZU398	150-174	GRAND RIDGE GRADE SCHOOL	40.0	41.237778	-88.835556
236	WQMI710	470-512	GRAY TELEVISION LICENSEE, LLC	270.0	41.528639	-90.573444
237	WRKX844	800/900	GREENPORT PROPERTIES, LLC	88.0	41.565833	-88.062222
238	WPZW710	150-174, 450-470	GREMLEY & BIEDERMANN	160.0	41.962500	-87.732500
239	KC25310	450-470	GRUNDY COUNTY BROADCASTERS, INC.	48.3	41.293083	-88.334500
240	WPMX444	150-174	Grundy County E T S B	30.0	41.307528	-88.414778
241	WPMH798	150-174, 450-470	GRUNDY COUNTY E.T.S.B.	40.0	41.307500	-88.414722
242	WPOY799	150-174	GRUNDY COUNTY E.T.S.B.	40.0	41.358639	-88.422556

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243	WPUI945	800/900	GRUNDY COUNTY E.T.S.B.	40.0	41.285861	-88.430333
244	WQBY987	800/900	GRUNDY COUNTY E.T.S.B.	40.0	41.285861	-88.430333
245	WNWF904	450-470	Grundy County ETSB	29.0	41.307500	-88.414722
246	WQJZ345	800/900	GRUNDY COUNTY ETSB	35.0	41.285861	-88.430333
247	KGL514	25-50	GRUNDY, COUNTY OF	32.0	41.371139	-88.432833
248	KGL583	25-50, 150-174	GRUNDY, COUNTY OF	32.0	41.371139	-88.432833
249	WPEP959	25-50	GRUNDY, COUNTY OF	113.0	41.371139	-88.432833
250	WQRJ756	150-174	GTC SPECTRUM CORPORATION	40.0	41.395306	-88.297278
251	WPPD445	150-174	GUNDERSEN LUTHERAN MEDICAL CENTER	600.0	43.794417	-91.249583
252	WQUU959	150-174	HAAS, JEREMY	40.0	40.850000	-88.663889
253	WPBS287	450-470	Hagenbuch Hag, Henry	64.0	41.454194	-88.961750
254	WRMB900	150-174	HALEY BROTHERS FARMS LLC	40.0	40.919000	-88.091556
255	WPGV881	150-174	HAMSTRA, GARY	121.0	41.173639	-87.179194
256	KSU993	150-174	Haney, Daryl	56.0	40.755583	-88.691722
257	WNPY659	450-470	Haney, Daryl	56.0	40.734194	-88.789222
258	WNBS407	450-470	HANSEN, DONALD	56.0	40.576694	-88.243111
259	WPZZ858	450-470	Hardee's Food Systems, LLC	121.0	40.138556	-87.630333
260	WQZB989	450-470	HARFORD FARMS	30.0	41.241694	-88.425889
261	WRKR329	150-174	Harms, Paul E	40.0	40.803250	-88.439528
262	WPGX814	150-174	HARMS, RONALD J	48.0	41.023917	-88.894528
263	WRNS818	150-174	Harrison, David	40.0	40.704167	-88.658889
264	WQKZ728	150-174	HARTMAN, JOHN	48.0	40.686111	-88.484722
265	WQI355	150-174	HELENA AGRI-ENTERPRISES, LLC	121.0	41.002250	-89.132028
266	WPEY269	150-174	HERITAGE FS INC	121.0	40.572250	-88.247278
267	WPEY269	150-174	HERITAGE FS INC	121.0	40.569167	-88.247111

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268	WPEY269	150-174	HERITAGE FS INC	121.0	40.750583	-87.996694
269	WPEY269	150-174	HERITAGE FS INC	121.0	40.768917	-87.922528
270	WPEY269	150-174	HERITAGE FS INC	121.0	40.555306	-87.885306
271	WPEY269	150-174	HERITAGE FS INC	121.0	40.538361	-87.680861
272	WQTU608	150-174	HERITAGE FS INC	40.0	40.743611	-87.998333
273	WPGV644	150-174	Heritage FS, Inc.	40.0	40.818500	-88.289250
274	WPGV644	150-174	Heritage FS, Inc.	80.0	41.241694	-87.633361
275	WPWF314	450-470	HERSCHER COMMUNITY UNIT SCHOOL DIST. #2	32.0	41.049889	-88.096111
276	WNSP531	150-174	HITCHINGS, MELVIN	121.0	40.889472	-87.117250
277	KUL525	150-174	Hodel Brothers Farms	80.0	40.774194	-89.192861
278	WRKP330	450-470	Hoffman Transportation	32.0	41.261306	-88.276611
279	KC25111	450-470	HOLY FAMILY COMMUNICATIONS, INC	402.0	40.766167	-83.837167
280	WQYN709	450-470	Hoosier Energy Rural Electric Cooperative, Inc.	32.0	40.931500	-88.655472
281	WNFU757	150-174	HUSTEDT, CHRISTOPHER R	56.0	41.418083	-88.444500
282	WQHN319	150-174	IFFT, MATTHEW D	80.0	40.752778	-88.325000
283	KDM489	150-174	ILLINOIS CENTRAL RAILROAD COMPANY	40.0	41.130028	-87.858389
284	KGJ580	150-174	ILLINOIS CENTRAL RAILROAD COMPANY	40.0	40.787250	-87.988361
285	KQU228	150-174	ILLINOIS CENTRAL RAILROAD COMPANY	40.0	41.128639	-87.864500
286	WNHW924	150-174	ILLINOIS CENTRAL RAILROAD COMPANY	40.0	40.787250	-87.988361
287	WPKF630	150-174	ILLINOIS CENTRAL RAILROAD COMPANY	40.0	41.128639	-87.864500
288	WQWF257	450-470	ILLINOIS CENTRAL SCHOOL BUS LLC	32.0	41.354722	-88.498611
289	WQWF517	450-470	ILLINOIS CENTRAL SCHOOL BUS LLC	32.0	41.018611	-88.593889
290	WQWF517	450-470	ILLINOIS CENTRAL SCHOOL BUS LLC	32.0	41.386583	-88.439944
291	WQCT757	800/900	Illinois Cooperative Association, Inc.	56.0	41.301389	-88.953056
292	KNET289	800/900	Illinois Cooperative dba Clear Talk	113.0	41.309750	-88.812306

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293	WNMO293	800/900	Illinois Cooperative dba Clear Talk	113.0	40.793639	-87.754750
294	WNWB448	800/900	Illinois Cooperative dba Clear Talk	113.0	41.151139	-87.855611
295	WPBZ996	800/900	Illinois Cooperative dba Clear Talk	113.0	41.106694	-87.888389
296	WPER444	800/900	Illinois Cooperative dba Clear Talk	113.0	40.126389	-88.290278
297	WPHA805	800/900	Illinois Cooperative dba Clear Talk	113.0	40.161417	-87.696417
298	WPHA808	800/900	Illinois Cooperative dba Clear Talk	113.0	40.891417	-88.445889
299	WPHN431	800/900	Illinois Cooperative dba Clear Talk	70.0	41.077528	-87.756139
300	WPJK853	800/900	Illinois Cooperative dba Clear Talk	113.0	40.645833	-89.179167
301	WPLY587	800/900	Illinois Cooperative dba Clear Talk	113.0	40.645833	-89.179167
302	WPLY617	800/900	Illinois Cooperative dba Clear Talk	90.0	41.301389	-88.953056
303	WPMD703	800/900	Illinois Cooperative dba Clear Talk	113.0	41.077528	-87.756139
304	WPMD731	800/900	Illinois Cooperative dba Clear Talk	113.0	40.891417	-88.445889
305	WPMF885	800/900	Illinois Cooperative dba Clear Talk	113.0	41.372222	-89.487778
306	WPPA251	800/900	Illinois Cooperative dba Clear Talk	113.0	41.336972	-88.763972
307	WPPA256	800/900	Illinois Cooperative dba Clear Talk	113.0	41.871111	-89.020833
308	WPRG706	800/900	Illinois Cooperative dba Clear Talk	113.0	40.884222	-88.742444
309	WPRG707	800/900	Illinois Cooperative dba Clear Talk	113.0	41.138889	-87.852194
310	WPRG708	800/900	Illinois Cooperative dba Clear Talk	113.0	40.793611	-87.754722
311	WPRH230	800/900	Illinois Cooperative dba Clear Talk	113.0	40.161528	-87.696444
312	WPSM625	800/900	Illinois Cooperative dba Clear Talk	113.0	40.508333	-88.987500
313	WPSM641	800/900	Illinois Cooperative dba Clear Talk	113.0	40.644722	-89.179722
314	WPST700	800/900	Illinois Cooperative dba Clear Talk	113.0	40.733056	-89.486111
315	WPSU481	800/900	Illinois Cooperative dba Clear Talk	113.0	40.508333	-88.987500
316	WPTF624	800/900	Illinois Cooperative dba Clear Talk	113.0	40.126389	-88.290278
317	WPTF927	800/900	Illinois Cooperative dba Clear Talk	112.0	40.126389	-88.290278

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318	WPUI397	800/900	Illinois Cooperative dba Clear Talk	113.0	40.161528	-87.696444
319	WNMF342	800/900	ILLINOIS PUBLIC SAFETY AGENCY NETWORK	113.0	41.918639	-88.235917
320	WNXS419	800/900	ILLINOIS PUBLIC SAFETY AGENCY NETWORK	112.7	40.729750	-89.554806
321	WPKG583	800/900	ILLINOIS PUBLIC SAFETY AGENCY NETWORK	80.0	41.583361	-88.083389
322	WPKI933	800/900	ILLINOIS PUBLIC SAFETY AGENCY NETWORK	97.0	41.864750	-87.887000
323	WPKI933	800/900	ILLINOIS PUBLIC SAFETY AGENCY NETWORK	55.0	41.156694	-87.871167
324	WRWP572	450-470	Illinois State Rifle Association	32.0	41.140278	-88.009722
325	WQTP507	150-174	Illinois Transport Inc	40.0	41.335889	-88.095139
326	KEO371	150-174	ILLINOIS, STATE OF	64.0	41.363056	-89.098611
327	KNFB428	450-470	ILLINOIS, STATE OF	64.0	41.579194	-88.083389
328	WPLH933	150-174	ILLINOIS, STATE OF	95.0	41.866694	-88.100056
329	WPNQ269	800/900	ILLINOIS, STATE OF	20.0	41.095306	-88.474778
330	WQAZ301	800/900	ILLINOIS, STATE OF	32.0	41.285861	-88.430333
331	WQCW207	800/900	ILLINOIS, STATE OF	32.0	40.869250	-88.641472
332	WQDC310	800/900	ILLINOIS, STATE OF	32.0	40.883361	-87.970583
333	WRNU712	450-470	Immke, Don	48.0	40.855000	-88.408333
334	WPXR836	450-470	IMTT-Illinois LLC	32.0	41.414194	-88.202000
335	WNVW879	800/900	INCOBRASA INDUSTRIES, LTD.	56.0	40.761694	-88.014750
336	WQKF981	150-174	INDIAN GROVE TOWNSHIP	40.0	40.741972	-88.514222
337	WRKP471	800/900	Infinite Inet, Inc	88.0	41.565833	-88.062222
338	WRFM568	150-174	INFRA METALS CORPORATION	32.0	41.318611	-88.682500
339	KXZ315	150-174	JAKOB, WILLARD	56.0	40.960583	-88.036722
340	WQBV416	150-174	Jehle Bros., Inc.	40.0	40.878083	-88.269444
341	WROD702	450-470	JGB SECURITY AND CONSULTING INC	64.0	41.531972	-87.873944
342	KDI634	150-174	JOHNSON, DAVID E	40.0	41.129750	-87.868111

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343	WRUG745	450-470	Johnson, Howard	32.0	41.266694	-88.600083
344	WPJT201	800/900	JOLIET, CITY OF	113.0	41.524194	-88.085056
345	WQZZ455	769-775/799-805	JOLIET, CITY OF	40.0	41.285861	-88.430333
346	WRAQ941	769-775/799-805	JOLIET, CITY OF	40.0	41.435389	-88.183333
347	WQBY340	150-174	JOYCE, MARTY	40.0	41.158361	-88.242556
348	WRWD568	450-470	K BROS LLC	32.0	41.008556	-88.731611
349	WQTA695	150-174	KAFER TILING & EXCAVATING, INC.	40.0	40.746139	-88.491806
350	WRFC799	150-174	KAMINKE, TOM	40.0	40.988056	-88.873056
351	KA92936	150-174	Kankakee County Sheriff's Department	51.0	41.117806	-87.860889
352	WNYU311	150-174	Kankakee County Sheriff's Department	40.0	41.119472	-87.860611
353	WRDZ975	150-174	KANKAKEE SCHOOL DISTRICT 111	40.0	41.114639	-87.832583
354	WNGD750	150-174	KANKAKEE, COUNTY OF	40.0	41.116972	-87.861722
355	WPBV982	150-174	KANKAKEE, COUNTY OF	40.0	41.117778	-87.860833
356	WQBU816	150-174	KANKAKEE, COUNTY OF	40.0	41.076139	-87.859472
357	WPUY811	450-470	Keltron Corporation	120.0	41.672222	-88.004167
358	WPYS418	450-470	Keltron Corporation	120.0	41.932222	-88.178611
359	WQKZ718	450-470	Keltron Corporation	80.0	41.750278	-88.003500
360	WQKZ719	450-470	Keltron Corporation	80.0	41.780722	-87.893361
361	WQKZ720	450-470	Keltron Corporation	80.0	41.766083	-88.059944
362	KBS718	150-174	KENDALL COUNTY CONCRETE INC	120.7	41.500028	-88.500083
363	WQVS245	450-470	Kensing, LLC	32.0	41.085556	-87.879722
364	WNLP353	150-174	KOELLER, JAN	56.0	40.898639	-88.872306
365	WRDG655	150-174	KURTZ AMBULANCE SERVICE	80.0	41.514972	-88.000972
366	KWK423	150-174	LANDER, WILLIAM A	40.0	41.125028	-88.838694
367	KWK423	150-174	LANDER, WILLIAM A	40.0	41.373361	-88.417000

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368	KWK423	150-174	LANDER, WILLIAM A	40.0	41.325583	-88.248111
369	KWK423	150-174	LANDER, WILLIAM A	40.0	41.339194	-88.195611
370	KWK423	150-174	LANDER, WILLIAM A	40.0	41.309750	-88.148111
371	WQOK773	450-470	LAZY H INC.	32.0	40.893306	-88.405889
372	WQOX691	450-470	LEWIS UNIVERSITY	80.0	41.602778	-88.080278
373	WPNP415	450-470	LIFE CARE RETIREMENT COMMUNITIES INC DBA BEACON HILL	80.0	41.840833	-88.026111
374	WPOY842	150-174	LIMESTONE FIRE PROTECTION DISTRICT	40.0	41.117528	-87.965333
375	WRAN408	150-174	LIMESTONE TOWNSHIP RD DISTRICT	40.0	41.117111	-87.964889
376	WQQV800	450-470	LIVINGSTON LANDFILL DIVISION OF REPUBLIC SERVICES	32.0	40.931889	-88.662250
377	WRDH542	450-470	LIVINGSTON STONE,INC.	32.0	40.795778	-88.619806
378	WNDG589	150-174	LOTTINVILLE FARMS INC	56.0	41.021972	-87.709194
379	WRXW773	450-470	LSC COMMUNICATIONS MCL LLC	80.0	41.660944	-88.109889
380	WRDG977	150-174	Lucas Ambulance & Medi-Car Service, Inc.	161.0	41.760361	-87.860917
381	WRPY533	450-470	LUKOW BROS FARMS	40.0	41.015694	-87.904194
382	WNPZ490	150-174	LYONS, LAWRENCE	64.0	41.442806	-88.782861
383	WNWW223	150-174	MANTENO, CITY OF	80.0	41.251694	-87.833667
384	WQSD591	150-174	MARSEILLES AREA AMBULANCE SERVICE	40.0	41.328361	-88.700083
385	WRZL420	450-470	MARSEILLES SCHOOL DISTRICT	32.0	41.324306	-88.697278
386	KNJP864	450-470	MASCHING, WILLIAM	48.0	41.037250	-88.305889
387	WPHZ795	450-470	MATERIAL SERVICE CORPORATION	80.0	41.327806	-88.483389
388	KRB443	150-174	MAZON FIRE PROTECTION DISTRICT	32.0	41.238917	-88.423667
389	WQFQ273	150-174	MAZON VERONA KINSMAN AMBULANCE SQUAD	40.0	41.238917	-88.423667
390	KLK903	150-174	MC ILVAINE, CLIFFORD J	121.0	41.901972	-88.317861
391	WQZF281	450-470	McGreal, Tim	32.0	40.739444	-88.250000

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392	KAW751	150-174	MEYER JR, JOHN A	40.0	41.251139	-88.103111
393	WQPF208	150-174	MILKS GROVE TOWNSHIP	32.0	40.939500	-88.093528
394	WQTM803	450-470	MILLER AND COMPANY	32.0	41.308583	-88.598778
395	WPZP763	450-470	MILNER MEDIA PARTNERS, LLC	40.0	41.160833	-87.875000
396	WQJA559	150-174	Minooka High School District 111	40.0	41.417139	-88.256889
397	WQYJ761	150-174	MINOOKA SCHOOL DISTRICTS 111 & 201	40.0	41.433500	-88.268972
398	WRDZ289	800/900	Mobile Relay Associates, LLC	113.0	41.878917	-87.636167
399	WQNZ921	450-470	MORRIS COMMUNITY HIGH SCHOOL DISTRICT # 101	32.0	41.364861	-88.432917
400	WPYT671	450-470	MORRIS HOSPITAL & HEALTH CARE CENTERS	32.0	41.369389	-88.426556
401	KB75622	150-174	MORRIS, CITY OF	40.0	41.358639	-88.425333
402	WRMY753	150-174	Moser Holdings, Inc.	40.0	40.715000	-88.542778
403	WNRG952	800/900	MOTOROLA SOLUTIONS, INC.	113.0	42.065028	-88.048417
404	WNSN246	800/900	MOTOROLA SOLUTIONS, INC.	113.0	42.062528	-88.052306
405	WPIG593	150-174	NAFFZIGER, RONALD	121.0	40.665306	-89.463694
406	WQVL794	450-470	NAGEL FARMS	80.0	41.820250	-88.723750
407	WQCM665	450-470	NEWTOWN, TOWNSHIP OF	32.0	41.069472	-88.780639
408	WQVZ521	800/900	NEXGEN COMMUNICATIONS CORP.	113.0	41.415278	-88.271944
409	WRMU515	800/900	NEXGEN COMMUNICATIONS CORPORATION	113.0	41.885306	-87.621583
410	WNRO588	150-174	NILES, VIRGIL L	48.0	40.618639	-88.143944
411	WNPH280	150-174	Noe Farms	80.0	40.342528	-88.484500
412	KTE293	150-174	Norfolk Southern Railway Company	40.0	41.098417	-88.811528
413	KTE293	150-174	Norfolk Southern Railway Company	40.0	41.103806	-88.250944
414	KTE293	150-174	Norfolk Southern Railway Company	40.0	41.121778	-87.910250
415	WQCB489	150-174	Norfolk Southern Railway Company	16.0	41.102972	-88.309056
416	WQCB489	150-174	Norfolk Southern Railway Company	16.0	41.104750	-88.211639

ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
417	WQGV447	150-174	Norfolk Southern Railway Company	16.0	41.106000	-88.172806
418	WQGV447	150-174	Norfolk Southern Railway Company	16.0	41.106972	-88.146861
419	WQHE218	150-174	Norfolk Southern Railway Company	16.0	41.102833	-88.328278
420	WQHE218	150-174	Norfolk Southern Railway Company	16.0	41.102972	-88.309083
421	WQRQ302	150-174	Norfolk Southern Railway Company	8.0	41.103639	-88.252250
422	WQRZ209	150-174	Norfolk Southern Railway Company	8.0	41.103056	-88.308472
423	WNIY497	150-174	NORTHEAST ILLINOIS REGIONAL COMMUTER RAILROAD CORPORATION	80.0	41.655583	-87.676722
424	WNJS224	150-174	Northeast Illinois Regional Commuter Railroad Corporation	72.0	41.524167	-88.072500
425	WNAS534	800/900	NORTHERN INDIANA PUBLIC SERVICE COMPANY	113.0	41.216694	-87.022528
426	WNAS534	800/900	NORTHERN INDIANA PUBLIC SERVICE COMPANY	177.0	41.116167	-86.163889
427	WNVR293	800/900	Northern Indiana Public Service Company	177.0	41.116167	-86.163889
428	WPAH495	800/900	NORTHERN INDIANA PUBLIC SERVICE COMPANY	257.0	41.116167	-86.163889
429	WQSJ209	450-470	NORTHERN INDIANA PUBLIC SERVICE COMPANY	257.0	41.116167	-86.163889
430	KB64148	150-174	NORTHWEST HOMER FIRE PROTECTION DISTRICT	58.0	41.622250	-87.992000
431	KSK362	150-174	NORTON TOWNSHIP	40.0	41.050028	-88.181722
432	KNFR505	450-470	NOTTKE, ALAN R	56.0	40.925583	-87.922528
433	WPXW241	450-470	NUTRIEN AG SOLUTIONS INC	32.0	40.738889	-88.511111
434	WRKQ397	450-470	O CONNOR, MARK P	32.0	41.078528	-87.963583
435	WNFH351	150-174	OAKWOOD COMMUNITY UNIT 76	121.0	40.113639	-87.828083
436	WPML765	150-174	ODELL, TOWNSHIP OF	32.0	40.997528	-88.518667
437	WNQJ460	150-174	OGLESBY, CITY OF	103.0	41.297250	-89.061194
438	WRFQ501	450-470	OHIO SEMITRONICS OF CA, INC	80.0	41.588389	-88.161194
439	WRFQ502	450-470	OHIO SEMITRONICS OF CA, INC	80.0	41.649000	-87.823139
440	WRYT529	450-470	Ohio Semitronics of California, Inc.	80.0	40.961472	-88.544861

ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
441	KPH391	450-470	OLIVET NAZARENE UNIVERSITY	32.0	41.156694	-87.871167
442	WQMJ670	450-470	OLIVET NAZARENE UNIVERSITY	32.0	41.156667	-87.871111
443	WQIS472	450-470	OLSON, DONNA J	32.0	41.158278	-88.651500
444	WQTE615	450-470	ONEOK INC.	32.0	41.412194	-88.343583
445	WRXN259	450-470	Operating Engineers Local 150	32.0	41.339917	-88.084889
446	WPPY924	150-174	Orland Fire protection District	40.0	41.358639	-88.422556
447	WPPY924	150-174	Orland Fire protection District	40.0	41.083917	-87.878944
448	WNWC408	150-174	OSF Healthcare System, d/b/a OSF Heart of Mary Medical Center (Urbana)	121.0	40.117778	-88.227500
449	WRYG510	150-174	Ottawa Elementary School District #141	40.0	41.323806	-88.828000
450	WREC954	450-470	Otter Creek Wind, LLC	32.0	41.114000	-88.719083
451	WNVH434	800/900	P T FERRO CONSTRUCTION CO	64.0	41.565861	-88.062278
452	WPFF640	800/900	PACE SUBURBAN BUS SERVICE OF THE RTA	113.0	41.853361	-87.917833
453	WQML646	150-174	PACIFIC RAIL SERVICES	40.0	41.479111	-88.118083
454	WPKZ525	450-470	PANDUIT CORPORATION	120.0	41.590028	-88.020056
455	WPXF228	150-174	PARSEC, INC	40.0	41.388333	-88.146222
456	KNNW324	450-470	PAYNE, RON	32.0	41.237528	-87.895333
457	KNNK875	800/900	PDV Spectrum Holding Company, LLC	113.0	41.870000	-88.298333
458	KNNK875	800/900	PDV Spectrum Holding Company, LLC	113.0	41.301111	-87.826389
459	KNNK875	800/900	PDV Spectrum Holding Company, LLC	112.0	41.878917	-87.636167
460	WNIC991	800/900	PDV Spectrum Holding Company, LLC	113.0	41.878917	-87.636167
461	WNNR460	800/900	PDV Spectrum Holding Company, LLC	113.0	41.878917	-87.636167
462	WNNY752	800/900	PDV Spectrum Holding Company, LLC	113.0	41.878917	-87.636167
463	WNSK691	800/900	PDV Spectrum Holding Company, LLC	113.0	41.885583	-87.620889
464	WNVX274	800/900	PDV Spectrum Holding Company, LLC	113.0	41.878917	-87.636167

ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
465	WNXG468	800/900	PDV Spectrum Holding Company, LLC	113.0	41.870583	-88.295917
466	WNYR576	800/900	PDV Spectrum Holding Company, LLC	113.0	41.878917	-87.636167
467	WPCB780	800/900	PDV Spectrum Holding Company, LLC	113.0	41.878917	-87.636167
468	WPCF913	800/900	PDV Spectrum Holding Company, LLC	113.0	42.001417	-87.924222
469	WPCG770	800/900	PDV Spectrum Holding Company, LLC	113.0	41.878917	-87.636167
470	WPEM264	800/900	PDV Spectrum Holding Company, LLC	113.0	41.878917	-87.636167
471	WPEX511	800/900	PDV Spectrum Holding Company, LLC	112.0	41.878917	-87.636167
472	WPFK412	800/900	PDV Spectrum Holding Company, LLC	113.0	41.878917	-87.636167
473	WPKX425	800/900	PDV Spectrum Holding Company, LLC	113.0	41.870000	-88.298333
474	WPKX425	800/900	PDV Spectrum Holding Company, LLC	113.0	41.301111	-87.826389
475	WPKX425	800/900	PDV Spectrum Holding Company, LLC	113.0	41.878917	-87.636167
476	WPLP777	800/900	PDV Spectrum Holding Company, LLC	112.0	41.878917	-87.636167
477	WPML271	800/900	PDV Spectrum Holding Company, LLC	113.0	42.105583	-88.379528
478	WPML271	800/900	PDV Spectrum Holding Company, LLC	113.0	41.769444	-88.245556
479	WPML271	800/900	PDV Spectrum Holding Company, LLC	113.0	41.301111	-87.826389
480	WPML271	800/900	PDV Spectrum Holding Company, LLC	113.0	41.878917	-87.636167
481	WPMU599	800/900	PDV Spectrum Holding Company, LLC	113.0	41.878917	-87.636167
482	WPPZ283	800/900	PDV Spectrum Holding Company, LLC	112.0	41.885583	-87.620889
483	WPRM224	800/900	PDV Spectrum Holding Company, LLC	113.0	42.105583	-88.379528
484	WPRM224	800/900	PDV Spectrum Holding Company, LLC	112.0	41.878917	-87.636167
485	WPRS297	800/900	PDV Spectrum Holding Company, LLC	56.0	41.301111	-87.826389
486	WPSM466	800/900	PDV Spectrum Holding Company, LLC	113.0	41.878917	-87.636167
487	WPTD567	800/900	PDV Spectrum Holding Company, LLC	113.0	41.878917	-87.636167
488	WPTG711	800/900	PDV Spectrum Holding Company, LLC	113.0	41.870000	-88.298333
489	WPTG711	800/900	PDV Spectrum Holding Company, LLC	113.0	41.301111	-87.826389

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490	WPTG711	800/900	PDV Spectrum Holding Company, LLC	113.0	41.878917	-87.636167
491	WPTT850	800/900	PDV Spectrum Holding Company, LLC	112.0	41.898889	-87.623056
492	WPTU725	800/900	PDV Spectrum Holding Company, LLC	112.0	41.496417	-88.298944
493	WPUD749	800/900	PDV Spectrum Holding Company, LLC	113.0	41.878917	-87.636167
494	WPUV824	800/900	PDV Spectrum Holding Company, LLC	113.0	41.878917	-87.636167
495	WQBG748	800/900	PDV Spectrum Holding Company, LLC	113.0	41.524444	-87.018889
496	WQGN683	800/900	PDV Spectrum Holding Company, LLC	112.0	41.878917	-87.636167
497	WQGN888	800/900	PDV Spectrum Holding Company, LLC	113.0	41.878917	-87.636167
498	WQGN889	800/900	PDV Spectrum Holding Company, LLC	113.0	41.878917	-87.636167
499	WQGN891	800/900	PDV Spectrum Holding Company, LLC	113.0	41.870000	-88.298333
500	WQGS774	800/900	PDV Spectrum Holding Company, LLC	113.0	41.878917	-87.636167
501	WQHK844	800/900	PDV Spectrum Holding Company, LLC	56.0	41.301111	-87.826389
502	WQIF432	800/900	PDV Spectrum Holding Company, LLC	113.0	41.878917	-87.636167
503	WQII739	800/900	PDV Spectrum Holding Company, LLC	113.0	41.878917	-87.636167
504	WQSU784	800/900	PDV Spectrum Holding Company, LLC	113.0	42.058944	-88.020694
505	WQSU784	800/900	PDV Spectrum Holding Company, LLC	113.0	41.977222	-87.959722
506	KNIK497	150-174	PERKINS, JAMES	80.0	40.835722	-88.335833
507	WQCS655	150-174, 450-470	PETERSON RADIO INC	482.8	38.754806	-83.536111
508	WQDJ528	150-174	PHI AIR MEDICAL, LLC	120.0	40.749750	-86.871972
509	WQNT646	450-470	PILOT TOWNSHIP ROAD DISTRICT	24.0	41.049194	-88.097639
510	WNBM965	150-174	PIPER CITY FIRE PROTECTION DISTRICT	40.0	40.747250	-88.190333
511	WPXE238	450-470	POLYNT COMPOSITES USA, INC.	32.0	41.388361	-88.299778
512	WREM969	450-470	Pontiac Community Consolidated School Dist #429	32.0	40.882750	-88.616806
513	WQCJ535	450-470	PONTIAC SCHOOL DISTRICT 90	32.0	40.992500	-88.598056
514	WNWA393	150-174	PONTIAC, CITY OF	40.0	40.908917	-88.630333

ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
515	WSAG307	150-174	PONTIAC, CITY OF	40.0	40.881722	-88.630111
516	WNCY806	450-470	POPEJOY PLUMBING & HEATING	64.0	40.735583	-88.515333
517	WQEV221	450-470	PORTILLO'S HOT DOGS LLC	80.0	40.513556	-88.954056
518	WQEV221	450-470	PORTILLO'S HOT DOGS LLC	80.0	41.548694	-88.125111
519	WQEV221	450-470	PORTILLO'S HOT DOGS LLC	80.0	41.496167	-87.470250
520	WQLF337	150-174	PRAIRIE CENTRAL SCHOOL DISTRICT 8	40.0	40.745028	-88.507833
521	WRWK381	150-174	PRAIRIE CENTRAL SCHOOL DISTRICT 8	40.0	40.755028	-88.409222
522	WQPS937	450-470	Prairie State Tractor LLC	32.0	40.917222	-88.593056
523	WRPT775	450-470	Prairie State Tractor LLC	32.0	40.878667	-88.269028
524	WNRD584	450-470	Presence Care Transformation Corporation	40.0	41.106972	-87.865333
525	WQNF752	450-470	PROTECTION ASSOCIATES, INC	80.0	41.116944	-87.865972
526	WQVW909	450-470	PROTECTION ASSOCIATES, INC.	80.0	41.116944	-87.865972
527	WQIB772	450-470	PROTECTION PLUS SECURITY SYSTEMS, INC.	80.0	41.669222	-87.723333
528	WRNS833	450-470	Quality Alarm Systems Inc.	80.0	41.662778	-87.755556
529	WNUH257	450-470	R R DONNELLEY & SONS	32.0	41.105028	-88.419222
530	WNUH257	450-470	R R DONNELLEY & SONS	32.0	41.105000	-88.419167
531	WNZX556	450-470	RA COMM INC	120.0	41.008639	-86.883083
532	WPEW337	150-174	RABIDEAU GRAIN & LUMBER	56.0	40.935306	-87.937250
533	WNHD772	800/900	RAGAN COMMUNICATIONS INC	113.0	40.653056	-89.587333
534	WNHD772	800/900	RAGAN COMMUNICATIONS INC	113.0	40.697806	-89.471750
535	WNIC994	800/900	RAGAN COMMUNICATIONS INC	113.0	40.834306	-89.616667
536	WRBW200	450-470	RAINBOW COUNCIL BOY SCOUTS OF AMERICA	32.0	41.325083	-88.342417
537	WNNL226	450-470	RANSOM FERTILIZER SALES INC	56.0	41.157528	-88.655333
538	WQLD611	800/900	RCP Enterprises, Inc	113.0	41.937222	-88.124722
539	WQLD611	800/900	RCP Enterprises, Inc	113.0	41.540556	-88.035556

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540	WQLD611	800/900	RCP Enterprises, Inc	113.0	41.966139	-87.943889
541	WRYV825	450-470	READ, SUSAN L	32.0	40.758389	-88.188806
542	WRYV825	450-470	READ, SUSAN L	32.0	40.918833	-88.149583
543	KRV214	150-174	READING TOWNSHIP VOLUNTEER FIRE DEPT	48.0	41.105583	-88.832861
544	WRAK491	150-174	REDDICK, TOWN OF (IL)	40.0	41.096111	-88.246694
545	WPOX272	450-470	REED CUSTER SCHOOL DISTRICT 255U	32.0	41.286417	-88.239778
546	WPOX272	450-470	REED CUSTER SCHOOL DISTRICT 255U	32.0	41.258306	-88.205972
547	WPBK617	450-470	Reichhold LLC 2	32.0	41.388361	-88.299778
548	WRTP782	150-174	REMPREX, LLC	40.0	41.399833	-88.147250
549	KBL646	150-174	RIBER CONSTRUCTION INC	40.0	41.105028	-88.417278
550	WNSZ338	150-174	RIENTS, JEFF	64.0	40.924750	-88.866750
551	KIS343	150-174	RIVERSIDE MEDICAL CENTER	48.0	41.123917	-87.882556
552	WPDZ270	450-470	RIVERSIDE MEDICAL CENTER	48.0	41.123917	-87.882556
553	WRQV523	150-174	Roberts, Adam	48.0	40.799167	-88.775833
554	KNJE387	150-174	ROBISKY, JOHN	64.0	40.892250	-88.268111
555	WRVW213	150-174	ROGERS FARMS, LLC	40.0	41.303056	-88.419167
556	WNDZ341	150-174	ROLUDINA FARMS INC	40.0	41.084750	-88.247278
557	WQCR252	25-50	RUFF, JERRY	40.0	40.991694	-88.825639
558	WSAF636	150-174	Ryan Honegger Farms	40.0	40.792778	-88.431667
559	WQTD937	450-470	RYDER/TLC	32.0	41.407000	-88.426028
560	WQGS649	450-470	S & K SECURITY CORP.	80.0	41.339861	-87.526694
561	WRJI718	150-174	Sancken, Brandon E	40.0	40.871389	-88.489167
562	WQHL595	150-174	SANCKEN, WALTER	32.0	40.877222	-88.415278
563	WPFC911	450-470	SANDWICH COMMUNITY UNIT SCHOOL DIST 430	64.0	41.665278	-88.576111
564	WRFF657	150-174	SAUNEMIN FIRE PROTECTION DISTRICT	14.5	40.892222	-88.404722

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565	WQWJ613	150-174	SCHAFFER, KEVIN W	40.0	40.790583	-88.587556
566	WRNQ843	150-174	Schaffer, Matthew	40.0	40.831389	-88.603056
567	WNDF633	450-470	SCHAUMBURG, BRIAN	72.0	40.755583	-88.607000
568	KNIE705	150-174	SCHERR, ROGER	48.0	40.661139	-88.512556
569	WQTF818	450-470	SCHOTT FARMS	30.0	41.100833	-88.145000
570	WQNS358	150-174	SEVERSON ENTERPRISES	40.0	41.113917	-88.307556
571	WQML239	150-174	SLAGEL, DONALD	40.0	40.715278	-88.451389
572	WRCV421	150-174	SMALL, MARK	40.0	41.187000	-88.342194
573	WPWB726	450-470	Solid Platforms Inc	121.0	41.596972	-87.344194
574	WQLD344	450-470	SOUND INCORPORATED	80.0	41.794139	-88.225056
575	WNAJ770	800/900	SSS Inc,	112.0	41.878917	-87.636167
576	KNIK458	150-174	ST. JAMES HOSPITAL	56.0	40.872778	-88.671944
577	KSJ862	150-174	STARADIO CORP.	40.0	41.122806	-87.893111
578	WRPV690	450-470	STATE LINE FARMS	121.0	40.193889	-87.522583
579	WQWM975	150-174	STEPHENS, DOUG	40.0	40.817639	-88.439750
580	WNIR674	450-470	Sterrenberg, Casey	56.0	40.834472	-88.314778
581	WNQT203	450-470	STEVES TOWING AND ASSOC INC	121.0	41.563917	-87.334472
582	WRKC238	150-174	Streator Woodland Community Unit District 5	32.0	41.296528	-88.730750
583	WQKT892	450-470	Streator-Cayuga Ridge Wind Power, LLC	32.0	40.980722	-88.441139
584	WQSU415	450-470	Streator-Cayuga Ridge Wind Power, LLC	32.0	40.961111	-88.445444
585	WRXD629	450-470	SUN AG, INC.	32.0	40.877028	-88.262278
586	KSX271	450-470	Superior Air Ground Ambulance Inc.	56.0	41.407528	-88.805639
587	WNGS881	800/900	SUPREME RADIO COMMUNICATIONS, INC	113.0	40.619472	-89.572333
588	WNGS881	800/900	SUPREME RADIO COMMUNICATIONS, INC	113.0	40.483056	-88.995278
589	WNXX459	450-470	Supreme Radio Communications, Inc.	80.0	40.483056	-88.995278

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590	WQCH508	150-174	SWARTZ, GARY	80.0	40.920278	-88.388056
591	WRKX712	800/900	TCJ ENTERPRISES, INC	88.0	41.496417	-88.298944
592	WRKX712	800/900	TCJ ENTERPRISES, INC	88.0	41.565833	-88.062222
593	WQMI805	150-174	Texas Eastern Communications, LLC	80.0	40.720194	-89.088889
594	WQMI805	150-174	Texas Eastern Communications, LLC	80.0	40.828806	-88.861111
595	WQMI805	150-174	Texas Eastern Communications, LLC	80.0	41.099694	-88.277306
596	KNIY658	450-470	THIESEN, GERALD	24.0	41.273361	-88.273667
597	WRJC321	150-174	THORSON, RYAN W	40.0	40.993333	-88.643889
598	WQUC790	150-174	Toledo Peoria & Western Railway Inc	40.0	40.751111	-88.335556
599	WRMD382	450-470	TOTAL AUTOMATION CONCEPTS, INC	80.0	41.674167	-87.763611
600	WPSY974	450-470	Trainor Grain & Supply Company	32.0	40.806667	-88.217778
601	WRJI305	150-174	TRAUB, JOHN C	64.0	40.736111	-88.516389
602	WNGN554	450-470	TRI CENTRAL COOP	56.0	40.880583	-87.956139
603	KD53949	450-470	TRI ELECTRONICS INC	121.0	41.667250	-87.506167
604	WQWF717	450-470	TRI-POINT CUSD 6J	32.0	40.866694	-88.266722
605	WPFS815	150-174	TROY FIRE PROTECTION DISTRICT	48.0	41.545028	-88.199778
606	WPEV259	450-470	Tyco Integrated Security, LLC	121.0	41.919472	-87.836167
607	WROQ724	450-470	UCP - UTILITY CONCRETE	32.0	41.388056	-88.373611
608	WQWJ306	450-470	UNICOMM ELECTRONICS	121.0	41.638083	-88.080056
609	KFX965	150-174	UNION PACIFIC RAILROAD COMPANY	40.0	40.818917	-88.675056
610	KFX965	150-174	UNION PACIFIC RAILROAD COMPANY	40.0	41.206417	-88.285389
611	WQER916	150-174	Union Pacific Railroad Company	40.0	41.064778	-88.463111
612	WQKU939	150-174	Union Pacific Railroad Company	40.0	40.873667	-88.640556
613	WQKU939	150-174	Union Pacific Railroad Company	40.0	41.111111	-88.405278
614	WQNT920	450-470	UNIS, LLC	32.0	41.398639	-88.126083

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615	WRAG716	450-470	UNITED FACILITIES, INC.	32.0	41.296917	-88.130806
616	WQXP651	450-470	United Parcel Service	32.0	41.081111	-87.875778
617	KB82881	216-220	UNIVERSITY OF MEMPHIS	640.0	36.000056	-86.000000
618	KNIT480	150-174	UNZ, CHARLES	24.0	41.124750	-88.180611
619	WQYI618	450-470	USA HOIST	80.0	41.562917	-88.110278
620	WQBA572	25-50	VCNA PRAIRIE ILLINOIS INC.	40.0	41.122222	-87.864528
621	KRJ514	150-174	VEATCH AND SONS	121.0	40.585861	-88.143111
622	WPGW541	450-470	Vermilion Valley Regional ETSB	40.0	40.992500	-88.598056
623	WPHP729	450-470	Vermilion Valley Regional ETSB	40.0	40.880861	-88.629778
624	WPHX984	450-470	Vermilion Valley Regional ETSB	40.0	40.880861	-88.629778
625	WPTQ622	450-470	Vermilion Valley Regional ETSB	32.0	40.870861	-88.639611
626	WPZS315	150-174	Vermilion Valley Regional ETSB	40.0	40.992500	-88.598056
627	WQZS385	450-470	VESTAS	24.0	41.121917	-88.642694
628	WQPT498	450-470	Vestas American Wind Technology Inc	16.0	40.966750	-88.197083
629	WREK925	150-174	Vital Ambulance Services, LLC	80.0	41.549167	-87.838611
630	WRCS783	150-174	VITKO, ED	35.0	41.229417	-88.303889
631	WPXA381	150-174	Vollmer, Francis G	40.0	40.967250	-88.728111
632	WQFH265	450-470	VON MAUR	79.0	40.515278	-88.951111
633	WNSF383	450-470	WALLRICH, GENE	64.0	40.833361	-88.300611
634	KTR830	150-174	WALTER, PETER D	48.0	40.706972	-88.411167
635	WRAI757	450-470	Warehouse Services No. 4 LLC	24.0	41.341056	-88.203167
636	WPSS738	150-174	Waste Management Holdings, Inc	40.0	41.025000	-87.872222
637	WQOT887	150-174	WATTERS, ROBERT K	48.0	41.055583	-88.470889
638	WQQT873	72-76, 150-174, 450-470, 470-512	WCIU-TV LIMITED PARTNERSHIP	120.0	41.881972	-87.647806

ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
639	WRZI370	150-174	Wenger, Nathan D	40.0	40.741389	-88.523611
640	WQPK263	150-174	Western Will County Communication Center	24.0	41.308722	-88.146083
641	WQZT877	800/900	Western Will County Communication Center	113.0	41.308722	-88.146083
642	WQZT878	800/900	Western Will County Communication Center	113.0	41.435389	-88.183333
643	WRAQ940	769-775/799-805	WESTERN WILL COUNTY COMMUNICATION CENTER	40.0	41.435389	-88.183333
644	WQOD299	150-174, 450-470, 470-512	WGBO LICENSE PARTNERSHIP, G.P.	120.0	41.892250	-87.619833
645	WZH965	800/900	WILLE BROTHERS COMPANY	64.0	41.536389	-87.854722
646	WPSH670	450-470	Willet Hofmann & Assoc Inc	161.0	41.850000	-89.475000
647	KDV822	150-174	WILMINGTON FIRE PROTECTION DISTRICT	24.0	41.312250	-88.144500
648	KNID218	150-174	WILMINGTON, CITY OF	40.0	41.304194	-88.118944
649	WSAU882	150-174	WILMINGTON, CITY OF	32.0	41.308833	-88.146278
650	WSAU882	150-174	WILMINGTON, CITY OF	40.0	41.308833	-88.146278
651	WPEH585	800/900	Wireless US LC	113.0	40.180861	-88.317833
652	KD50657	150-174	WISCONSIN POWER AND LIGHT COMPANY	241.0	43.005000	-89.196222
653	KJM544	450-470	WLS TELEVISION, INC.	160.0	41.878917	-87.636167
654	WRDF445	800/900	WOODFORD, COUNTY OF	64.0	40.900944	-89.039444
655	WQUM697	800/900	Wyndham Express, LLC	113.0	41.983028	-87.844250
656	WQRZ454	800/900	Wyndham Garden LLC	113.0	41.935306	-87.636722
657	WQRZ454	800/900	Wyndham Garden LLC	113.0	41.878917	-87.636167
658	WQMF261	800/900	WYNDHAM GARDEN, LLC.	113.0	41.878917	-87.636167
659	WQMF261	800/900	WYNDHAM GARDEN, LLC.	113.0	41.891694	-87.612306
660	WSAL530	150-174	Yoder, Thomas D	40.0	40.820000	-88.401389
661	WNGC296	800/900	Young, Joseph	113.0	40.716667	-88.001111
662	WNGC296	800/900	Young, Joseph	113.0	40.923250	-87.825889

ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
663	WNGC296	800/900	Young, Joseph	113.0	40.753333	-87.747778
664	WPEY408	800/900	Young, Joseph	113.0	40.181111	-88.317500

Table A: Mobile Licenses Intersecting Project Area

Wind Power GeoPlanner™

Microwave Study

Heritage Prairie Wind

Prepared on Behalf of
Illinois Generation LLC

February 16, 2024

COMSEARCH®
A CommScope Company

Table of Contents

1. Introduction

Microwave bands that may be affected by the installation of wind turbine facilities operate over a wide frequency range (900 MHz – 23 GHz). Comsearch has developed and maintains comprehensive technical databases containing information on licensed microwave networks throughout the United States. These systems are the telecommunication backbone of the country, providing long-distance and local telephone service, backhaul for cellular and personal communication service, data interconnects for mainframe computers and the Internet, network controls for utilities and railroads, and various video services. This report focuses on the potential impact of wind turbines and met towers on licensed, proposed and applied non-federal government microwave systems.

2. Project Overview

Project Information

Name: Heritage Prairie Wind

County: Livingston

State: Illinois

Number of Turbines: 71

Number of Met Towers: 7

Blade Diameter: 163 meters

Max Hub Height: 113 meters

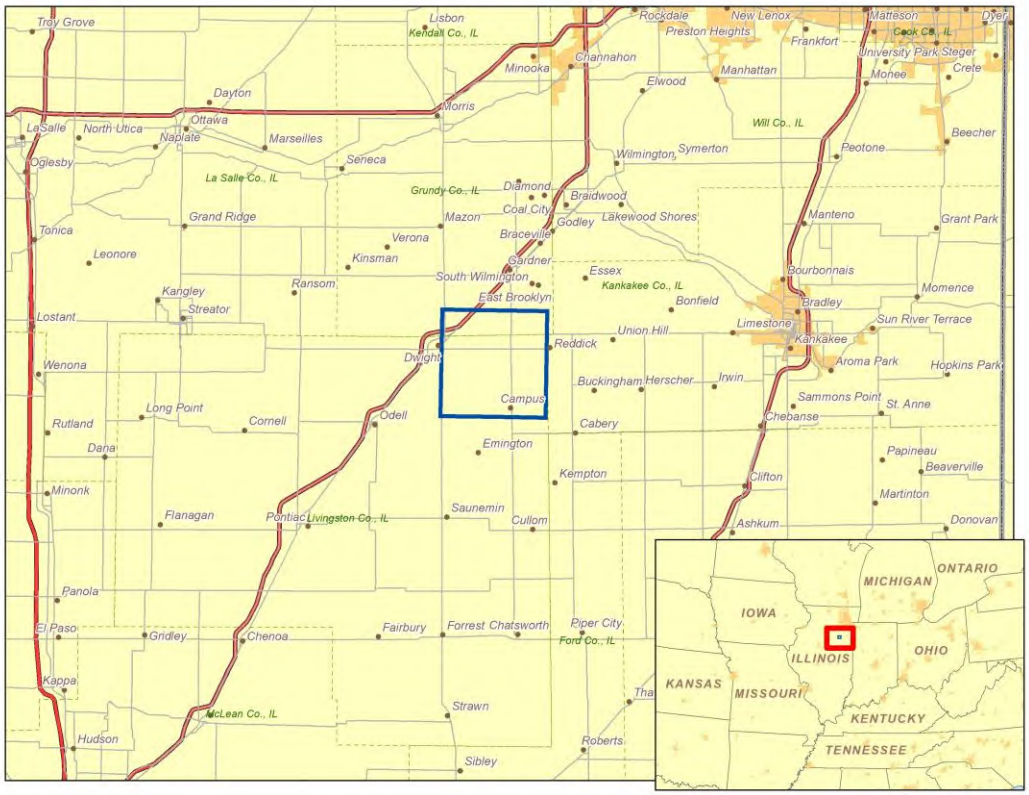


Figure 1: Area of Interest

3. Two-Dimensional Fresnel Zone Analysis

Methodology

Our obstruction analysis was performed using Comsearch's proprietary microwave database, which contains all non-government licensed, proposed and applied paths from 0.9 - 23 GHz[1]. First, we determined all microwave paths that intersect the area of interest[2] and listed them in Table 1. These paths and the area of interest that encompasses the planned turbine locations are shown in Figure 2.

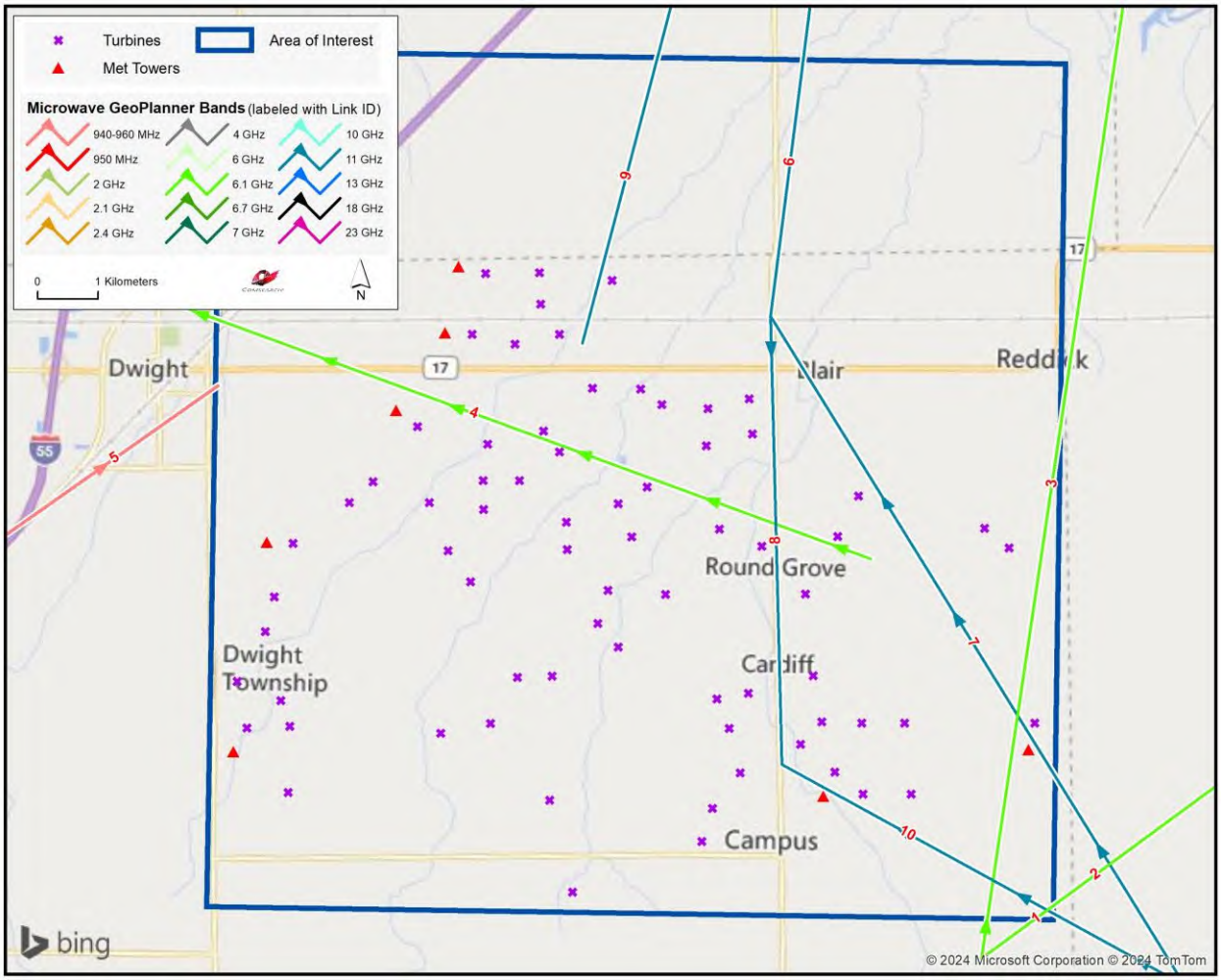


Figure 2: Microwave Paths that Intersect the Area of Interest

[1] Please note that this analysis does not include unlicensed microwave paths or federal government paths that are not registered with the FCC.

[2] We use FCC-licensed coordinates to determine which paths intersect the area of interest. It is possible that as-built coordinates may differ slightly from those on the FCC license.

ID	Status	Callsign 1	Callsign 2	Band	Path Length (km)	Licensee
1	Licensed	WCP851	WNTS470	6.1 GHz	37.07	ComEd a.k.a. Commonwealth Edison
2	Licensed	WCP851	WNTS470	6.1 GHz	37.07	ComEd a.k.a. Commonwealth Edison
3	Licensed	WQOX523	WQOX509	6.1 GHz	14.06	Cellco Partnership -IA/IL/IN/WI
4	Licensed	WPOV267	WPOV263	940-960 MHz	18.72	Vermilion Valley Regional ETSB
5	Licensed	WQQU253	WQQU254	6.1 GHz	30.19	Verizon Wireless (VAW) LLC- IA/IL/IN/WI
6	Licensed	WQXV259	WQXW552	11 GHz	18.07	Surf Air Wireless, LLC
7	Licensed	WQXV260	WQXW552	11 GHz	20.01	Surf Air Wireless, LLC
8	Licensed	WQXW552	WRFW573	11 GHz	7.44	Surf Air Wireless, LLC
9	Licensed	WRBL389	WRAX874	11 GHz	10.26	Olson, Donna J
10	Licensed	WRFW571	WRFW573	11 GHz	9.63	Surf Air Wireless, LLC

Table 1: Summary of Microwave Paths that Intersect the Area of Interest
(See enclosed mw_geopl.xlsx for more information and
GP_dict_matrix_description.xls for detailed field descriptions)

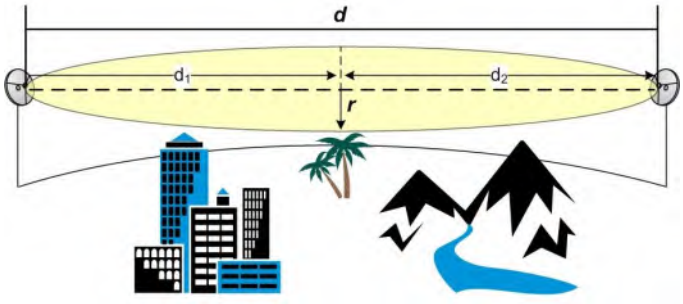
Verification of Coordinate Accuracy

It is possible that as-built coordinates may differ from those on the FCC license. For this project, ten of the paths cross within close proximity of the proposed structures and the tower locations for these paths will have a critical impact on the result. Therefore, we verified these locations using aerial photography. Some of the towers were found to be slightly off and were moved to their locations based on the aerial photos[3].

[3] See enclosed mw_geopl.shp (adjusted locations based on aerial photography/basis for report images and results) and mw_geopl_fcc.shp (locations solely based on FCC licensed information) for details.

Next, we calculated a Fresnel Zone for each path based on the following formula:

$$r \cong 17.3\sqrt{\frac{n}{F_{GHz}}\left(\frac{d_1 d_2}{d_1 + d_2}\right)}$$



Where,

r	=	Fresnel Zone radius at a specific point in the microwave path, meters
n	=	Fresnel Zone number, 1
F_{GHz}	=	Frequency of microwave system, GHz
d_1	=	Distance from antenna 1 to a specific point in the microwave path, kilometers
d_2	=	Distance from antenna 2 to a specific point in the microwave path, kilometers

In general, this is the area where the planned wind turbines and met towers should be avoided, if possible. Likewise, Comsearch recommends that an area directly in front of each microwave antenna should be avoided. This corresponds to the Consultation Zone which measures 1 kilometer along the main beam of the antenna and 24 ft (7.3 meters) wide. A depiction of the Fresnel Zones and Consultation Zones for each microwave path listed can be found in Figure 3, and is also included in the enclosed shapefiles[4,5].

[4] The ESRI® shapefiles enclosed are in NAD 83 UTM Zone 16 projected coordinate system.

[5] 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.

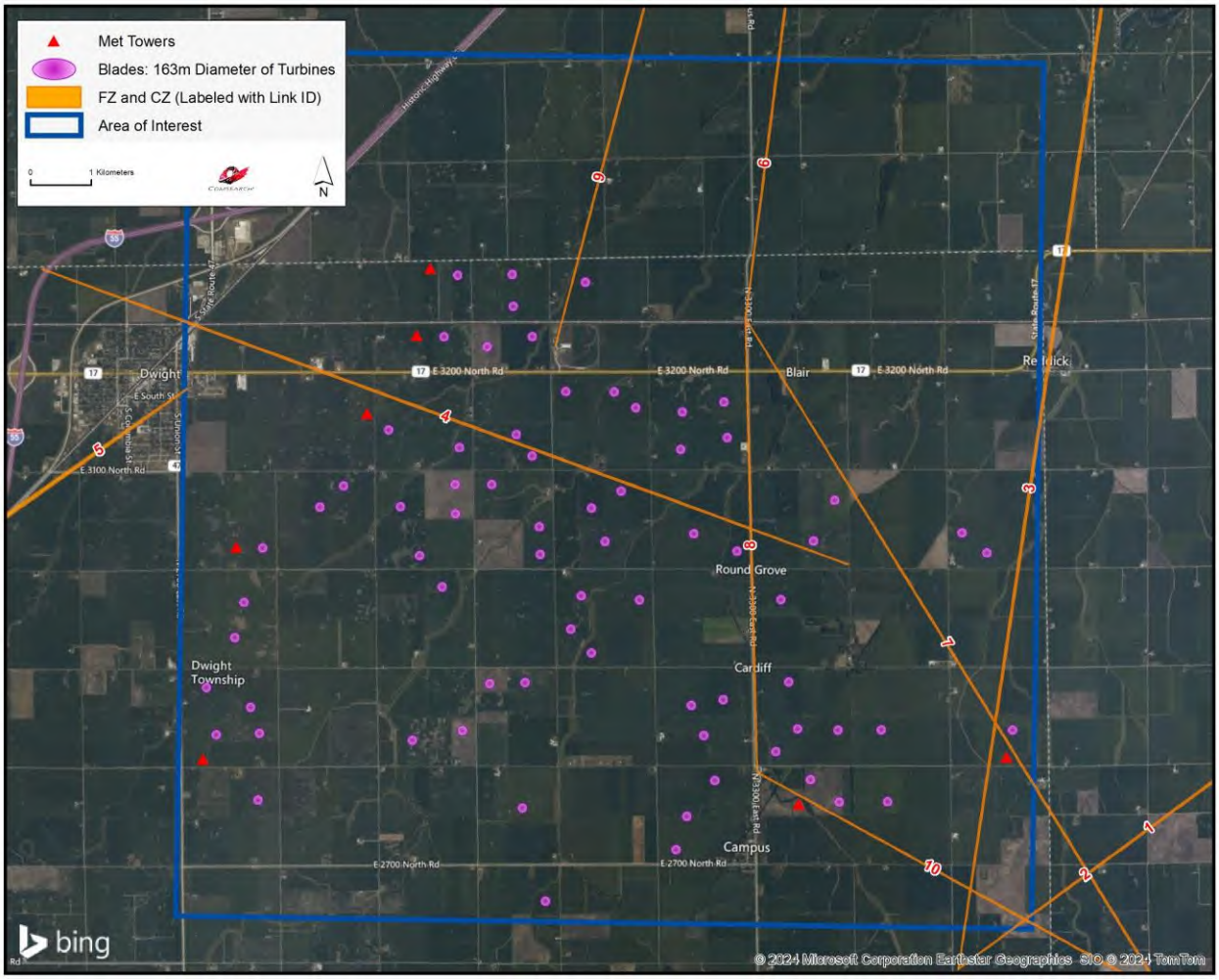


Figure 3: Microwave Paths with Fresnel Zones

4. Conclusion

Total Microwave Paths	Paths with Affected Fresnel Zones	Total Turbines	Total Met Towers	Turbines intersecting the Fresnel Zones
10	0	71	7	0

Table 2: Fresnel Zone Analysis Result

Our study identified ten microwave paths intersecting the Heritage Prairie Wind area of interest. The Fresnel and Consultation Zones for these microwave paths were calculated and mapped in order to assess the potential impact from the turbines. A total of 71 turbines and 7 met towers were considered in the analysis. Each turbine has a rotor diameter of 163 meters and a hub height of 113 meters. Of those turbines and met towers, none were found to have potential obstruction with the microwave systems in the area.

5. Contact

For questions or information regarding the Microwave Study, please contact:

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Company: Comsearch
Address: 21515 Ridgetop Circle, Suite 300, Sterling, VA 20166
Telephone: 703-726-5656
Fax: 703-726-5595
Email: David.Meyer@CommScope.com
Web site: www.comsearch.com

Appendix: Turbine and Met Tower Locations

Name	Latitude (NAD83)	Longitude (NAD83)
L2	41.04089996	-88.41151692
L4	41.06052594	-88.40652165
L5	41.04120107	-88.40308817
L6	41.04504340	-88.40489500
L9	41.06858765	-88.40301520
L11	41.07477097	-88.39196856
L13	41.07794637	-88.38741950
L16	41.08633301	-88.37877903
L17	41.07500359	-88.37622752
L18	41.04054353	-88.37317655
L20	41.10022360	-88.36823675
L21	41.06326464	-88.36783021
L24	41.10932934	-88.36574240
L26	41.04209863	-88.36343329
L27	41.09885469	-88.35977869
L28	41.07851504	-88.35846482
L29	41.04909715	-88.35823132
L30	41.07409401	-88.36546259
L31	41.10957503	-88.35510049
L32	41.10486959	-88.35478301
L33	41.08593788	-88.35379876
L34	41.03080019	-88.35147261
L35	41.08282633	-88.35064178
L37	41.10043485	-88.35098104
L38	41.04934096	-88.35136096
L39	41.06829545	-88.34877221
L40	41.07237954	-88.34903054
L42	41.06227765	-88.34062167
L43	41.09242261	-88.34426083
L46	41.05733292	-88.34255971
L47	41.10860974	-88.34075904
L50	41.05385372	-88.33846214
L56	41.09246575	-88.33477888
L58	41.09016103	-88.33053887
L60	41.06179975	-88.32923559
L61	41.02499030	-88.32133998
L62	41.04632782	-88.31876420
L63	41.08411764	-88.32163055
L64	41.02994284	-88.31933675
L65	41.08964683	-88.32140700
L66	41.03529480	-88.31396937
L68	41.07169669	-88.31879865
L69	41.04192612	-88.31626404

Name	Latitude (NAD83)	Longitude (NAD83)
L70	41.08597258	-88.31255970
L71	41.04725799	-88.31257463
L73	41.03970250	-88.30214195
L74	41.06921491	-88.31031126
L76	41.05001465	-88.29983805
L77	41.06215580	-88.30159562
L79	41.04309317	-88.29796245
L80	41.03562725	-88.29528971
L81	41.07088598	-88.29538415
L82	41.07694790	-88.29135753
L86	41.04300794	-88.29005665
L87	41.03239840	-88.28961487
L89	41.04313883	-88.28159438
L91	41.03254347	-88.28016359
L95	41.07242269	-88.26638939
L97	41.06950638	-88.26146200
L98	41.04338518	-88.25594753
L99	41.08387330	-88.36487305
L104	41.07524142	-88.33888926
L105	41.07034457	-88.33612481
L106	41.07781076	-88.33314875
L107	41.01710087	-88.34669118
L109	41.03135366	-88.40314014
L110	41.06783675	-88.37236238
L111	41.07842926	-88.36560797
L113	41.09121356	-88.31330860
L120	41.05528700	-88.40818678
L121	41.04782773	-88.41358016
L24 Met	41.11024006	-88.37113354
L20 Met	41.10034340	-88.37354888
L16 Met	41.08864213	-88.38304474
L9 Met	41.06863646	-88.40818157
L2 Met	41.03726698	-88.41405307
L80 Met	41.03198274	-88.29745526
L98 Met	41.03938594	-88.25703288

Wind Power GeoPlanner™

Mobile Phone Carrier Report

Heritage Prairie Wind

Prepared on Behalf of
Illinois Generation LLC

February 19, 2024

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A CommScope Company

Table of Contents

1. Introduction

Comsearch has developed and maintains comprehensive technical databases containing information on licensed mobile phone carriers across the US. Mobile phone carriers operate in multiple frequency bands and are often referred to as Advanced Wireless Service (AWS), Personal Communication Service (PCS), 700 MHz Band, Wireless Communications Service (WCS), and Cellular. They hold licenses on an area-wide basis which are typically comprised of several counties.

This report focuses on the potential impact of wind turbines on mobile phone operations in the project area.

2. Summary of Results

Methodology

Our mobile phone analysis was performed using Comsearch's proprietary carrier database, which is derived from a variety of sources including the Federal Communications Commission (FCC). Since mobile phone market boundaries differ from service to service, we disaggregated the carriers' licensed areas down to the county level. Then we compiled a list of all mobile phone carriers in the main counties that intersect the area of interest. The area of interest was defined by the client and encompasses the planned turbine locations. A depiction of the wind project area and counties appears below.

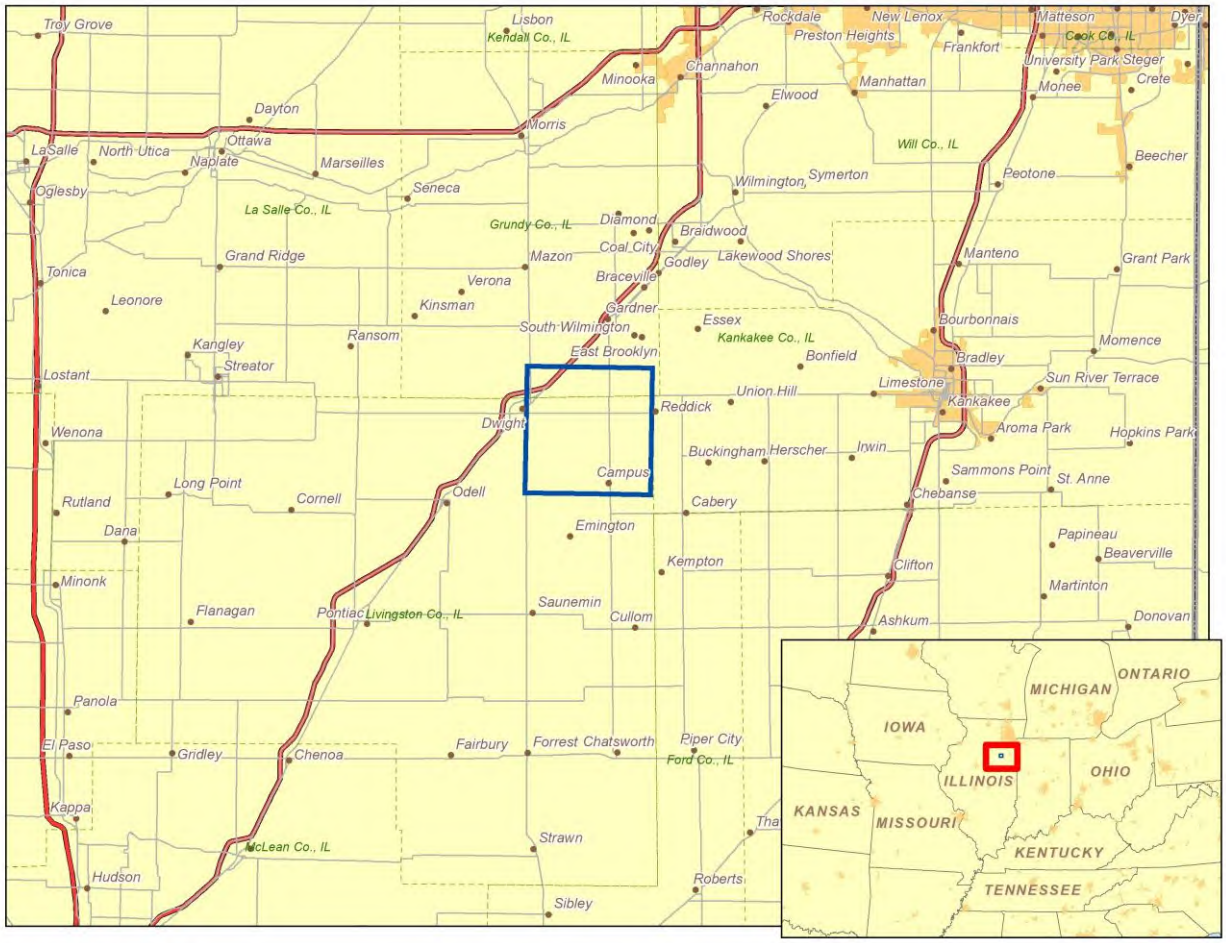

Figure 1: Counties that intersect the Area of Interest

Results
The Heritage Prairie Wind Project is located in Livingston County, Illinois. We have identified the type of service, channel block, market ID and FCC callsign for each carrier in the county of interest. A description of the various service types and geographic market areas is below with a summary table on the following page.

AWS
AWS licensees won their spectrum in an auction that started in August 2006. The licensees are authorized by 734 Cellular Market Areas (CMA) for Block A, 176 Economic Areas (BEA) for Blocks B and C, and 12 Regional Economic Area Groupings (REAG) for Blocks D, E and F. This spectrum at 1.7 and 2.1 GHz was allocated for mobile broadband and advanced wireless services. Partitioning and leases are permitted in the band.

Cellular
Licensees are authorized by Metropolitan and Rural Statistical Areas, also known as CMAs. Unserved areas can be covered by licensees other than the original A or B block licensee. To determine the most realistic coverage, we compiled the Cellular Geographic Service Areas (CGSA) from the 32 dBu contours defined by Part 22.911(a) of the FCC rules. Mobile services are provided at 800 MHz and partitioning and leases are permitted in the band.

PCS
There have been nine auctions for this band, with the last one being held in August 2008. Licensees are authorized by 51 Major Trading Areas (MTA) for Blocks A and B, 493 Basic Trading Areas (BTA) for Blocks C through F, and 176 Economic Areas (EA) for Block G. This band has been heavily partitioned and disaggregated both by counties and by smaller polygons within counties (known as undefined areas or partial counties). The 1.9 GHz PCS carriers provide mobile services and leases are permitted in the band.

700 MHz Band
Originally used for analog television broadcasting, this band consists of an upper and lower band, each having its own set of frequency blocks. There have been three auctions in this band with the last one (Auction 73) being held in 2008 and mobile phone carriers eventually winning licenses for Blocks A, B, and C of the Lower 700 MHz band and Block C of the Upper 700 MHz band. Licensees are authorized by 176 Economic Areas (EA) for Lower Block A, 734 Cellular Market Areas (CMA) for Lower Blocks B and C, and 12 Regional Economic Area Groupings (REAG) for Upper Block C. Partitioning and leases are permitted in the band.

WCS
Mobile services provided in the 2.3 GHz band occupy frequency blocks above and below the spectrum allocated for Satellite Digital Audio Radio Service (SDARS) from 2320 MHz to 2345 MHz. WCS licensees are authorized by 52 Major Economic Areas (MEA) for Blocks A and B and 12 Regional Economic Area Groupings (REAG) for Blocks C and D. Partitioning and leases are permitted in the band.

Service[1]	Mobile Phone Carrier	Channel Block	County	ST	Market ID	Callsign
700 MHz	T-Mobile	Lower A	Livingston	IL	BEA064	WQJQ707
700 MHz	US Cellular	Lower B	Livingston	IL	CMA395	WQLE725
700 MHz	AT&T	Lower C	Livingston	IL	CMA395	WPYZ902
700 MHz	AT&T	Lower D	Livingston	IL	EAG704	WPZA238
700 MHz	DISH Network	Lower E	Livingston	IL	BEA064	WQJZ206
700 MHz	Verizon	Upper C	Livingston	IL	REA003	WQJQ691
AWS	Verizon	A	Livingston	IL	CMA395	WQGB347
AWS	Verizon	B	Livingston	IL	BEA064	WQGA952
AWS	AT&T	C	Livingston	IL	BEA064	WQGA776
AWS	AT&T	D	Livingston	IL	REA003	WQGV784
AWS	T-Mobile	E	Livingston	IL	REA003	WQGB376
AWS	T-Mobile	F	Livingston	IL	REA003	WQPZ970
Cellular	AT&T	A	Livingston	IL	CMA395	KNKN328
Cellular	Cellular One	B	Livingston	IL	CMA395	KNKN583
Cellular	Cellular One	B	Livingston	IL	CMA395	KNKN581
Cellular	Cellular One	B	Livingston	IL	CMA395	KNKN582
PCS	AT&T	A	Livingston	IL	MTA003	KNLF206
PCS	AT&T	A	Livingston	IL	MTA003	WPSF246
PCS	Verizon	B	Livingston	IL	MTA003	KNLF207
PCS	T-Mobile	B	Livingston	IL	MTA003	WQRJ905
PCS	T-Mobile	C	Livingston	IL	BTA046	WPOK680
PCS	T-Mobile	C	Livingston	IL	BTA046	WQND997
PCS	T-Mobile	D	Livingston	IL	BTA046	KNLH478
PCS	Verizon	E	Livingston	IL	BTA046	KNLF927
PCS	T-Mobile	F	Livingston	IL	BTA046	KNLF892
PCS	T-Mobile	G	Livingston	IL	BEA064	WQKT278
WCS	AT&T	A	Livingston	IL	MEA018	KNLB305

[1] AWS: Advanced Wireless Service at 1.7/2.1 GHz
CELL: Cellular Service at 800 MHz
PCS: Personal Communication Service at 1.9 GHz
700 MHz: Commercial Mobile Phone at 700 MHz
WCS: Wireless Communication Service at 2.3 GHz

Service[1]	Mobile Phone Carrier	Channel Block	County	ST	Market ID	Callsign
WCS	AT&T	B	Livingston	IL	MEA018	KNLB279
WCS	AT&T	C	Livingston	IL	REA003	WPQL712
WCS	AT&T	D	Livingston	IL	REA003	KNLB325

Table 1: Mobile Phone Carriers in the Area of Interest

FCC-Licensed Sites

For competitive and confidentiality reasons, most mobile phone carriers' individual sites are not licensed with the FCC. However, in the cellular band, if a base station extends the existing Cellular Geographic Service Area (CGSA), then it must be recorded with the FCC. We identified one cellular site within the Heritage Prairie Wind area of interest. Figure 2 on the next page depicts its location in relation to the area of interest and Table 2 contains the technical parameters on the FCC license.

Callsign	Licensee	Antenna Height (m)	Latitude (NAD83)	Longitude (NAD83)	Distance to the Nearest Turbine (km)
KNKN328	AT&T	59.7	41.065833	-88.399889	0.40

Table 2: FCC-Licensed Mobile Phone Sites

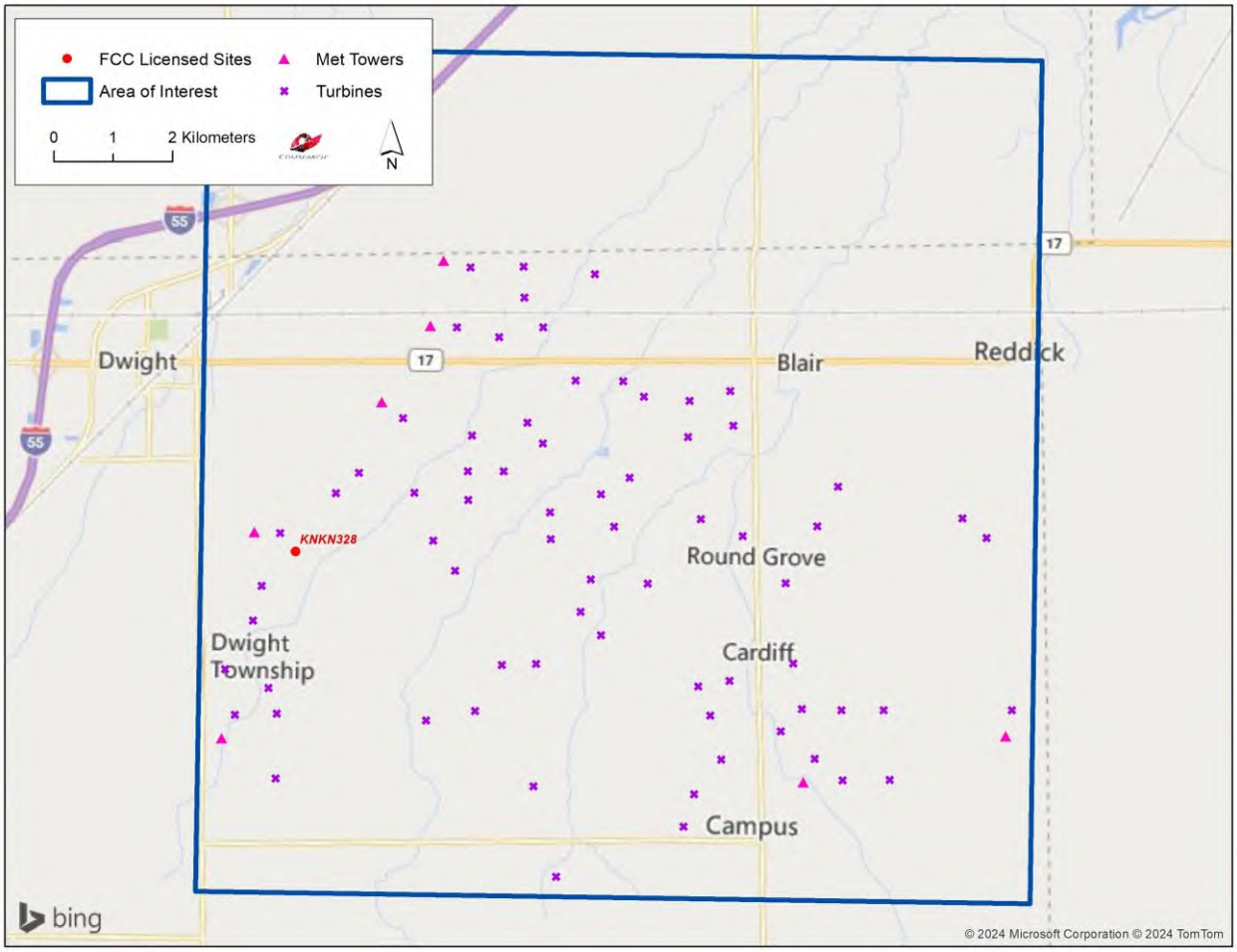

Figure 2: FCC-Licensed Mobile Phone Sites within the Area of Interest

Impact Assessment and Distance Setback Requirements

The cellular mobile phone signal propagation is typically not affected by physical structures because the beam widths of the radiated signal from the base stations and mobile units are very wide and the wavelength of the signal is long enough to wrap around objects such as wind turbine towers and blades. In addition, the cellular network consists of multiple base stations that are designed so that if the connection cannot be made to one base station it will shift to adjacent base stations to make the connection. This enables cellular mobile telephone systems to provide coverage in areas that are congested with physical structures such as downtown urban areas. Areas containing wind turbines have less of a coverage issue than urban areas, so the wind turbines presence does not require any special setback for signal obstruction consideration other than physical clearance of the blades. From an electromagnetic interference standpoint, the emissions from the wind turbines, which are specified by the FCC, should be taken into account to ensure they will not interfere with the base stations or the mobile units. Part 15 of the FCC regulations covers the emissions from unintentional radiating devices, such as wind turbines. The field strength limits for the emissions from unintentional radiators is given in paragraph 15.109 of Part 15 of the FCC rules. The emission limits are stated for a distance of 3 meters or approximately 10 feet and are shown below.

Radiated Emission Limits at 3 Meters

Frequency of Emission (MHz)	Field Strength (microVolts/meter)
30 – 88	100
88 – 216	150
216 – 960	200
> 960	500

From these limits and the receiver sensitivity of the cellular base stations and mobile units we can determine a setback requirement for wind turbines and cellular system. The typical sensitivity of mobile units is -90 dBm ($1X10^{-12}$ Watts) and the typical sensitivity of base stations is -93 dBm ($5X10^{-13}$ Watts). The gain of mobile unit antennas are -10dB or 0.1 and the gain of base station antennas are 17 dB or 50. The effective area (A) of the mobile unit and base station antennas are determined from the following formula.

$$A = G*\lambda^2 / 4*\pi$$

Where,
G = Antenna Gain, number
λ = Wavelength, 0.353 meters
π = 3.14

This gives us an effective area for the mobile unit antenna of $9.9X10^{-4}$ meter^2 and the effective area for the base station antenna of 0.496 meter^2. Using the typical receiver sensitivities of the mobile and base units above, we can determine their power flux density (P_D) from the following formula:

$$P_D = S/A$$

Where S is defined as the sensitivity for Mobile Unit or for the Base Station expressed in Watts

To calculate the electric field strength (E) we use the following formula:

$$E = (P_D * 377)^{½}$$

So for the mobile unit, $P_D = 1.01X10^{-9}$ Watts/meter^2 and E = 617 microVolts/meter. And, for the base station unit, $P_D = 1.008X10^{-12}$ Watts/meter^2 and E= 19.4 microVolts/meter.

These results show that the mobile units' sensitivity expressed as field strength is above the level allowed as an emission for the wind turbines at a distance of 3 meters. Therefore, no setback for the use of a mobile unit is needed beyond 3 meters. Since the base station has field strength sensitivity below the allowed emission level of the wind turbines a setback distance is needed to ensure that the base stations will not be affected. The field strength of the emission is inversely proportional to separation distance in meters. To determine the setback distance to reduce the field strength to 19.4 microVolts/meter the following formula is used.

D = (500 MicroVolts/meter)*(3 meters) / 19.4 MicroVolts/meter

Where,
D = Setback Distance for Base Station to avoid interference, meters

Thus the setback distance for the cellular tower base station from the wind turbines should be 77.3 meters or greater.

Summary

The telephone communications in the mobile phone carrier bands are typically unaffected by the presence of the wind turbines and we do not anticipate any significant harmful effect to mobile phone services in the Heritage Prairie Wind Project area. Mobile phone systems are designed with multiple base transmitter stations covering a specific area. Since mobile telephone signals are designed with overlap between adjacent base transmitter sites in order to provide handoff between cells, any signal blockage caused by the wind turbines does not materially degrade the reception because the end user may be receiving from multiple transmitter locations. For example, if a particular turbine attenuates the signal reception into a mobile phone, the phone may receive an alternate signal from a different transmit location, resulting in no disruption in service. Mobile phone systems that are implemented in urban areas near large structures and buildings often have to combat even more problematic signal attenuation and reflection conditions than rural areas containing a wind energy turbine facility.

For the cellular towers located within the project area, no setback distance is required from an interference standpoint other than physical clearance of the blades. From an electromagnetic

standpoint, a setback distance of 77.3 meters should be used to meet FCC emission requirements.

In the unlikely event that a mobile phone carrier believes their coverage has been compromised by the presence of the wind energy facility, they have many options to improve their signal coverage to the area through optimization of a nearby base transmitter or even adding a new sector or cell site. Utility towers, meteorological towers or even the turbine towers within the wind project area can serve as the platform for a base transmit site or cell enhancer.

3. Contact Us

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Wind Power GeoPlanner™

Off-Air TV Analysis

Heritage Prairie Wind

Prepared on Behalf of
Illinois Generation LLC

February 19, 2024

COMSEARCH®
A CommScope Company

Table of Contents

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 Heritage Prairie Wind project in Livingston County, Illinois. 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.

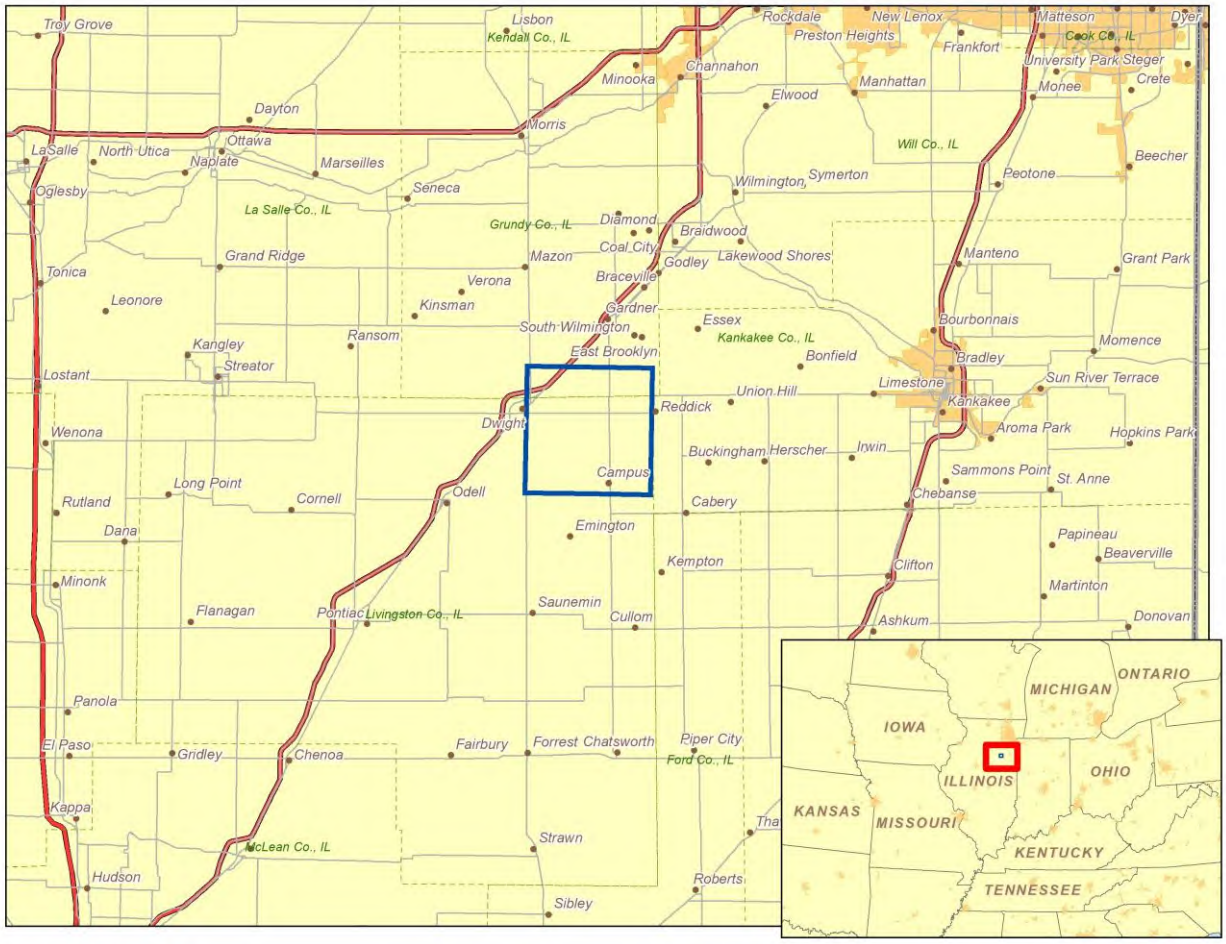

Figure 1: Wind Farm Project Area and Local Communities

To begin the analysis, Comsearch compiled all off-air television stations[1] within 150 kilometers of the proposed turbines. TV stations at a distance of 150 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, on the next page, and a plot depicting their locations is provided in Figure 2. There are a total of 85 database records for stations within approximately 150 kilometers of the proposed turbines. Of these stations, only 66 stations are currently licensed and operating, 25 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.

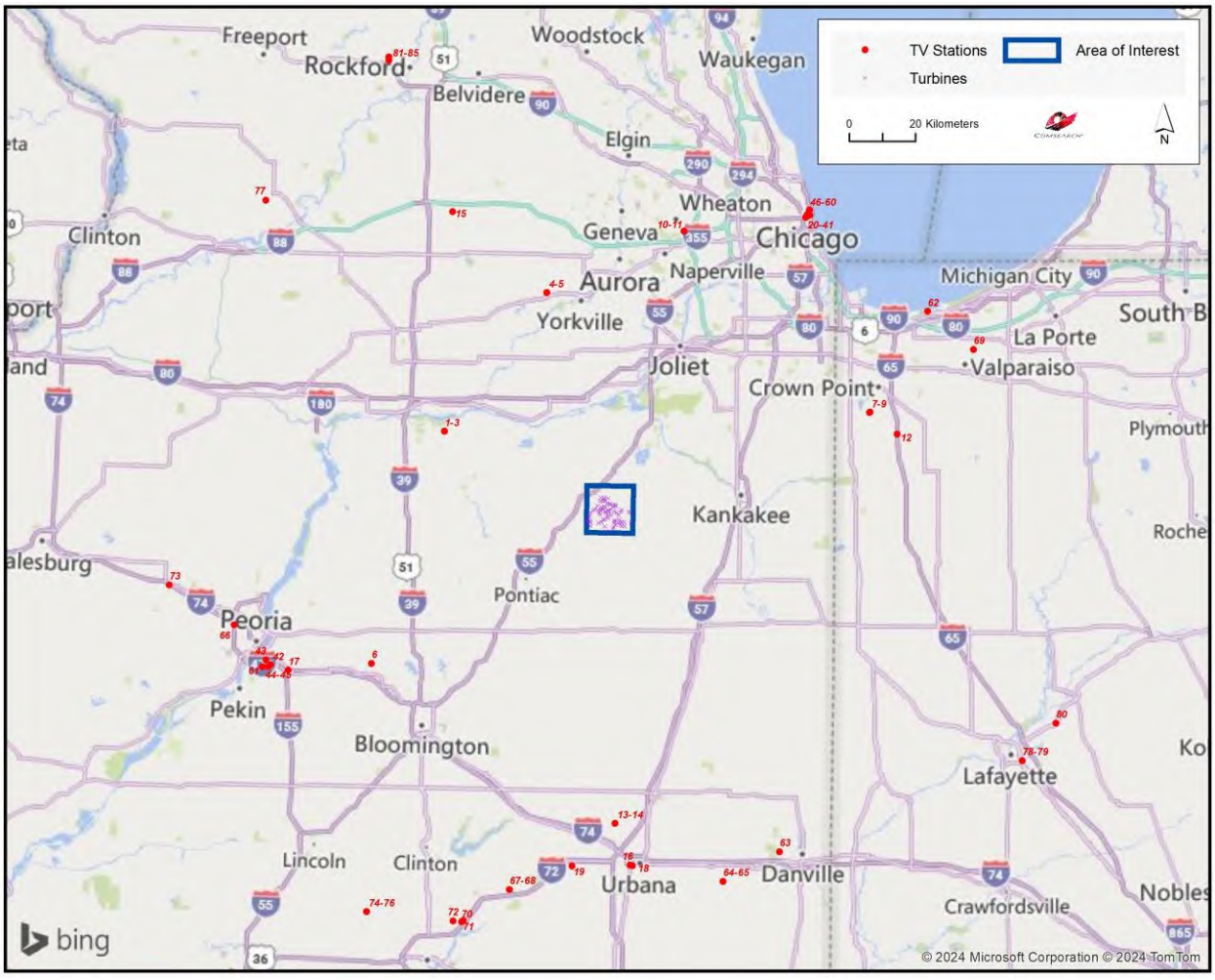

Figure 2: Plot of Off-Air TV Stations within 150 Kilometers of Proposed Turbines

[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.

ID	Call Sign	Status	Service[2]	Channel	Transmit ERP[3] (kW)	Latitude (NAD 83)	Longitude (NAD 83)	Distance to the Closest Turbine (km)
1	WTVK	STA	DTV	10	30.0	41.281833	-88.936417	50.63
2	WAOE	LIC	DTV	10	24.0	41.281833	-88.936417	50.63
3	WTVK	LIC	DTS	10	30.0	41.281833	-88.936417	50.63
4	WAUR-LD	LIC	LPD	29	15.0	41.665278	-88.576111	64.19
5	WSPY-LD	LIC	LPD	30	10.8	41.665278	-88.576111	64.19
6	WYZZ-TV	LIC	DTV	28	1000.0	40.645833	-89.179167	78.20
7	WYIN	LIC	DTV	17	300.0	41.348889	-87.400556	78.56
8	WYIN	STA	DTV	17	300.0	41.349806	-87.399472	78.68
9	WYIN	CP	DTV	17	1000.0	41.349806	-87.399472	78.68
10	WAUR-LD	CP	LPD	29	12.3	41.838417	-88.080250	83.90
11	WWTO-TV	STA	DTV	35	15.0	41.838417	-88.080250	83.90
12	KPDS-LD	LIC	LPD	9	3.0	41.289917	-87.299917	84.28
13	W07DD-D	STA	LPD	7	0.1	40.224167	-88.298889	88.12
14	W07DD-D	LIC	LPD	7	0.28	40.224167	-88.298889	88.12
15	WYCH-LD	LIC	LPD	11	3.0	41.880028	-88.924889	97.49
16	WBXC-CD	LIC	DCA	18	15.0	40.111111	-88.243056	100.96
17	W27EQ-D	LIC	LPD	27	15.0	40.621944	-89.476667	101.17
18	W27EL-D	LIC	LPD	27	15.0	40.109361	-88.234889	101.22
19	WCIA	LIC	DTV	34	681.0	40.105833	-88.450000	101.55
20	WMEU-CD	LIC	DCA	18	15.0	41.878917	-87.636167	103.80
21	WGN-TV	LIC	DTV	19	645.0	41.878917	-87.636167	103.80
22	WWME-CD	LIC	DCA	20	15.0	41.878917	-87.636167	103.80
23	WCIU-TV	LIC	DTV	23	1000.0	41.878917	-87.636167	103.80

[2] Definitions of service and status codes:
ACA - Analog Class A
DCA - Digital Class A
DRT - Digital Replacement Translator
DT - ETL testing
DTS - Distributed Transmission System
DTV - Full Service Television
DTX - Digital TV Auxiliary
LPA - Low Power Analog TV
LPD - Low Power Digital TV
LPT - Digital TV Translator
LPX - Analog TV Translator
TS - Legacy Service for Analog TV Auxiliary
TV - Analog TV legacy

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
AMD - Amendment

[3] ERP = Transmit Effective Radiated Power

ID	Call Sign	Status	Service[2]	Channel	Transmit ERP[3] (kW)	Latitude (NAD 83)	Longitude (NAD 83)	Distance to the Closest Turbine (km)
24	WFLD	CP	DTV	24	1000.0	41.878917	-87.636167	103.80
25	WTTW	LIC	DTV	25	250.0	41.878917	-87.636167	103.80
26	WEDE-CD	LIC	DCA	28	2.84	41.878917	-87.636167	103.80
27	WMAQ-TV	LIC	DTV	29	350.0	41.878917	-87.636167	103.80
28	WSNS-TV	LIC	DTV	29	350.0	41.878917	-87.636167	103.80
29	WFLD	LIC	DTV	31	1000.0	41.878917	-87.636167	103.80
30	WPWR-TV	LIC	DTV	31	1000.0	41.878917	-87.636167	103.80
31	WMAQ-TV	CP	DTV	33	398.0	41.878917	-87.636167	103.80
32	WRJK-LP	AMD	LPD	11	0.09	41.878889	-87.635556	103.82
33	WBBM-TV	LIC	DTV	12	10.9	41.878889	-87.635556	103.82
34	WBBM-TV	CP	DTV	12	30.0	41.878889	-87.635556	103.82
35	WJYS	LIC	DTV	21	140.0	41.878889	-87.635556	103.82
36	WXFT-DT	LIC	DTV	22	1000.0	41.878889	-87.635556	103.82
37	WLS-TV	LIC	DTV	22	1000.0	41.878889	-87.635556	103.82
38	WRJK-LP	CP	LPD	24	15.0	41.878889	-87.635556	103.82
39	WCPX-TV	LIC	DTV	34	400.0	41.878889	-87.635556	103.82
40	WDCI-LD	LIC	LPD	30	15.0	41.885028	-87.621583	105.05
41	WCHU-LD	LIC	LPD	7	3.0	41.889083	-87.626667	105.18
42	WMBD-TV	LIC	DTV	26	822.0	40.635000	-89.538611	105.20
43	WAOE	LIC	DRT	18	15.0	40.648056	-89.557222	106.01
44	WHOI	LIC	DTV	24	402.0	40.629444	-89.548056	106.19
45	WEEK-TV	LIC	DTV	25	536.0	40.629444	-89.548056	106.19
46	WOCK-CD	LIC	DCA	4	3.0	41.898917	-87.623111	106.24
47	WRME-LD	LIC	LPD	6	3.0	41.898917	-87.623111	106.24
48	WTVK	LIC	DTS	10	13.85	41.898917	-87.623111	106.24
49	WMEU-CD	CP	DCA	18	15.0	41.898917	-87.623111	106.24
50	WWME-CD	CP	DCA	20	15.0	41.898917	-87.623111	106.24
51	WCIU-TV	CP	DTV	23	1000.0	41.898917	-87.623111	106.24
52	WPVN-CD	LIC	DCA	26	15.0	41.898917	-87.623111	106.24
53	W27EB-D	LIC	DCA	27	15.0	41.898917	-87.623111	106.24
54	WDCI-LD	CP	LPD	30	0.85	41.898917	-87.623111	106.24
55	W31EZ-D	LIC	LPD	31	15.0	41.898917	-87.623111	106.24
56	WESV-LD	LIC	LPD	31	15.0	41.898917	-87.623111	106.24
57	WWTO-TV	LIC	DTV	32	15.0	41.898917	-87.623111	106.24
58	WLPD-CD	LIC	DCA	32	15.0	41.898917	-87.623111	106.24
59	WGBO-DT	LIC	DTV	35	635.0	41.898917	-87.623111	106.24
60	WRJK-LD	LIC	LPT	36	5.1	41.898917	-87.623111	106.24
61	WTVP	LIC	DTV	35	155.0	40.628889	-89.570000	107.89
62	WODN-LD	LIC	LPD	13	3.0	41.624472	-87.191139	108.69
63	W23EQ-D	LIC	LPT	23	12.1	40.151611	-87.713556	108.92
64	WICD	LIC	DTV	32	1000.0	40.069444	-87.912778	111.35
65	WCCU	LIC	DTV	36	125.0	40.069444	-87.912778	111.35

ID	Call Sign	Status	Service[2]	Channel	Transmit ERP[3] (kW)	Latitude (NAD 83)	Longitude (NAD 83)	Distance to the Closest Turbine (km)
66	WSIO-LD	CP	LPT	19	11.0	40.741153	-89.673717	111.45
67	WILL-TV	LIC	DTV	9	30.0	40.038889	-88.669444	111.99
68	WILL-TV	APP	DTV	9	35.0	40.038889	-88.669444	111.99
69	WAAA-LD	LIC	LPD	16	14.0	41.521389	-87.023889	115.12
70	WAND	LIC	DTV	20	1000.0	39.952389	-88.832389	125.17
71	WBUI	LIC	DTV	22	325.0	39.948889	-88.836917	125.67
72	WLCF-LD	LIC	LPD	17	15.0	39.950833	-88.868056	126.27
73	W19ES-D	LIC	LPT	19	1.62	40.843389	-89.911083	128.13
74	WCQA-LD	STA	LPD	12	1.5	39.971056	-89.174361	134.65
75	WCQA-LD	STA	LPD	12	1.5	39.971056	-89.174361	134.65
76	WCQA-LD	LIC	LPD	12	3.0	39.971056	-89.174361	134.65
77	W27EJ-D	LIC	LPD	27	15.0	41.897861	-89.606056	135.61
78	WPBI-LD	LIC	LPD	17	15.0	40.402258	-86.849731	138.45
79	WPBY-LD	LIC	LPD	35	13.0	40.402250	-86.849722	138.45
80	W18EZ-D	LIC	LPD	18	0.5	40.503333	-86.729722	142.07
81	WTVO	LIC	DTV	16	196.0	42.287222	-89.170833	146.97
82	WQRF-TV	LIC	DTV	36	910.0	42.287222	-89.170833	146.97
83	WFBN-LD	LIC	LPD	23	15.0	42.296667	-89.170833	147.90
84	WSLN	LIC	DTV	9	30.0	42.296750	-89.170833	147.91
85	WIFR-LD	LIC	LPD	28	15.0	42.296750	-89.170833	147.91

Table 1: Off-Air TV Stations within 150 Kilometers of Proposed Turbines

3. Impact Assessment

Based on a contour analysis of the licensed stations within 150 kilometers of the Heritage Prairie Wind, it was determined that 19 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 turbines 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	Channel	Transmit ERP (kW)	Latitude (NAD 83)	Longitude (NAD 83)	Distance to the Closest Turbine (km)
2	WAOE	LIC	DTV	10	24	41.281833	-88.936417	50.63
3	WTVK	LIC	DTS	10	30	41.281833	-88.936417	50.63
3	WTVK	LIC	DTS	10	30	41.281833	-88.936417	50.63
6	WYZZ-TV	LIC	DTV	28	1000	40.645833	-89.179167	78.20
7	WYIN	LIC	DTV	17	300	41.348889	-87.400556	78.56
8	WGN-TV	LIC	DTV	19	645.0	41.878917	-87.636167	103.80
23	WCIU-TV	LIC	DTV	23	1000	41.878917	-87.636167	103.80
25	WTTW	LIC	DTV	25	250	41.878917	-87.636167	103.80
27	WMAQ-TV	LIC	DTV	29	350.0	41.878917	-87.636167	103.80
28	WSNS-TV	LIC	DTV	29	350	41.878917	-87.636167	103.80
29	WFLD	LIC	DTV	31	1000.0	41.878917	-87.636167	103.80
30	WPWR-TV	LIC	DTV	31	1000	41.878917	-87.636167	103.80
33	WBBM-TV	LIC	DTV	12	10.9	41.878889	-87.635556	103.82
35	WJYS	LIC	DTV	21	140	41.878889	-87.635556	103.82
36	WXFT-DT	LIC	DTV	22	1000	41.878889	-87.635556	103.82
37	WLS-TV	LIC	DTV	22	1000	41.878889	-87.635556	103.82
39	WCPX-TV	LIC	DTV	34	400	41.878889	-87.635556	103.82
59	WGBO-DT	LIC	DTV	35	635.0	41.898917	-87.623111	106.24
64	WICD	LIC	DTV	32	1000	40.069444	-87.912778	111.35

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

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

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