

Exhibit F
AM and FM Radio Report

ComSearch

June 22, 2021

Wind Power GeoPlanner™

AM and FM Radio Report

Emerson Creek Wind



Prepared on Behalf of
Firelands Wind, LLC

June 22, 2021



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1. Introduction

Comsearch analyzed AM and FM radio broadcast stations whose service could potentially be affected by the proposed Emerson Creek Wind Project in Erie and Huron Counties, Ohio.

2. Summary of Results

AM Radio Analysis

Comsearch found two database records¹ for AM stations within approximately 30 kilometers of the project, as shown in Table 1 and Figure 1. The closest station to the project is WLKR, which broadcasts out of Norwalk, Ohio, located on the eastern side of the AOI, 3.42 km from the nearest proposed turbine location.

ID	Call Sign	Status ²	Frequency (kHz)	Transmit ERP ³ (kW)	Operation Time	Latitude (NAD 83)	Longitude (NAD 83)	Distance to the nearest Turbine (km)
1	WLKR	LIC	1510	0.5	Daytime	41.279272	-82.656194	3.42
2	WLEC	LIC	1450	1.0	Unlimited	41.441212	-82.687029	12.19

Table 1: AM Radio Stations within 30 Kilometers of Project Area

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 ERP = Transmit Effective Radiated Power.

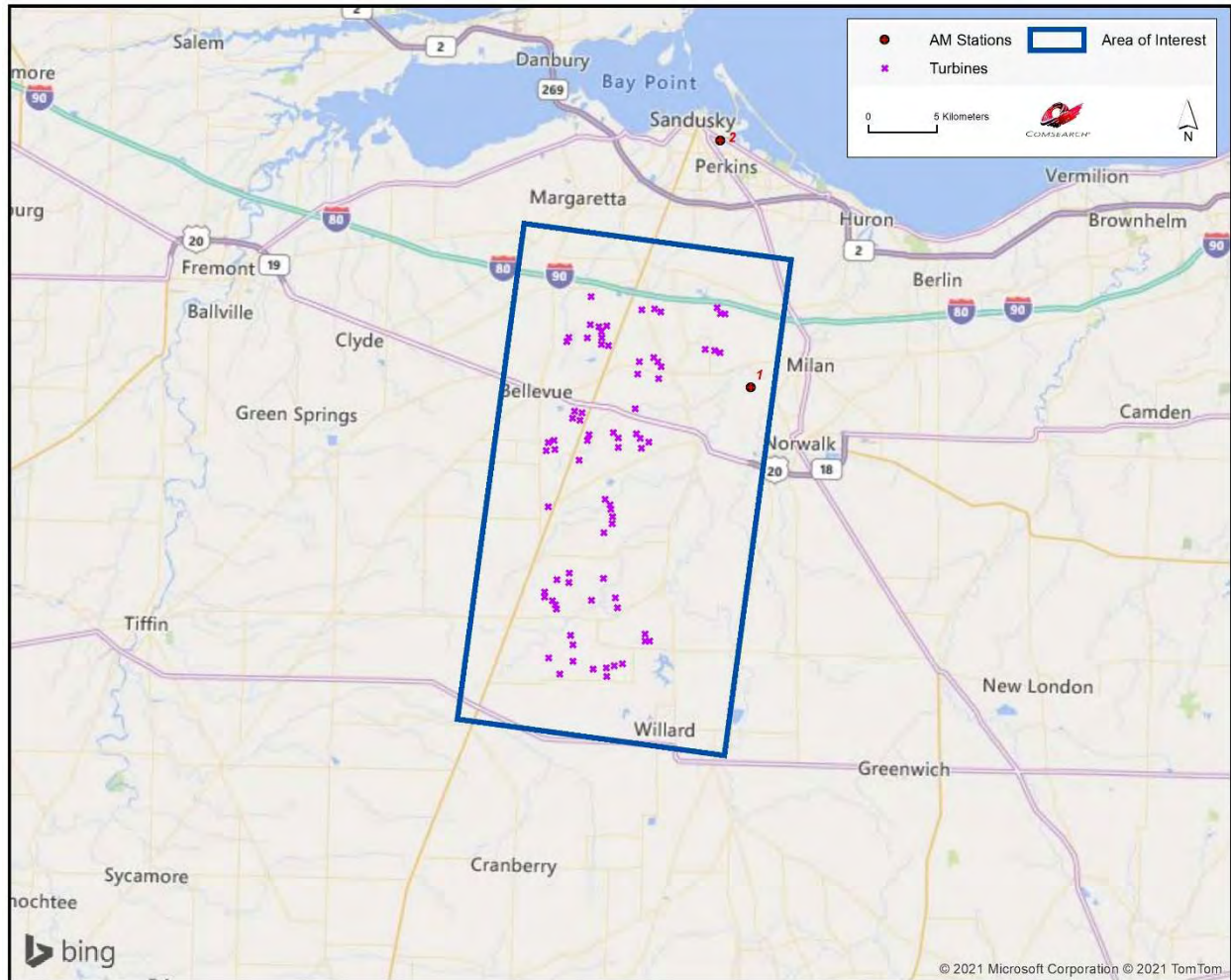


Figure 1: AM Radio Stations within 30 Kilometers of Project Area

FM Radio Analysis

Comsearch determined that there were twenty-eight database records for FM stations within a 30-kilometer radius of the Emerson Creek Wind Project, as shown in Table 2 and Figure 2. Twenty-six of the stations are currently licensed and operating, seven of which are translator stations that operate with limited range, one is an auxiliary (backup) station and one is a low power station. The closest station is WOHF, which is currently licensed out of Bellevue, Ohio, located 0.50 km from the nearest proposed turbine location on the western side of the project AOI. All other stations are 3.26 km or further from the nearest proposed turbine location.

ID	Call Sign	Service ⁴	Status ⁵	Frequency (MHz)	Transmit ERP ⁶ (kW)	Latitude (NAD 83)	Longitude (NAD 83)	Distance to the Nearest Turbine (km)
1	WOHF	FM	LIC	92.1	5.8	41.238667	-82.837694	0.50
2	WLKR-FM	FM	LIC	95.3	3.3	41.280333	-82.657389	3.26
3	W225DG	FX	LIC	92.9	0.24	41.280333	-82.657111	3.28
4	WHRQ	FM	LIC	88.1	0.38	41.377222	-82.814444	4.68
5	WGGN	FM	LIC	97.7	0.64	41.396694	-82.791833	6.63
6	WYOR	FM	APP	88.5	20.0	41.248833	-82.912750	6.79
7	WYOR	FM	CP	88.5	20.0	41.248833	-82.912750	6.79
8	W228EN	FX	LIC	93.5	0.25	41.330972	-82.599028	6.79
9	WCPZ	FM	LIC	102.7	50.0	41.330972	-82.599028	6.79
10	WMJK	FM	LIC	100.9	3.0	41.249194	-82.912944	6.81
11	W216CO	FX	CP	91.1	0.2	41.399444	-82.651944	8.10
12	W202AW	FX	LIC	88.3	0.12	41.399500	-82.651833	8.11
13	W218BL	FX	LIC	91.5		41.035333	-82.708778	8.12
14	WSHB	FM	LIC	90.9	0.45	41.048083	-82.681167	8.56
15	WVMS	FM	LIC	89.5	5.5	41.441417	-82.805444	11.60
16	WCPZ	FS	LIC	102.7	12.0	41.441167	-82.687139	12.18
17	WHVT	FM	LIC	90.5	2.7	41.295861	-82.973778	13.11
18	WYOR	FM	LIC	88.5	0.1	41.108917	-83.002944	14.69
19	WKFM	FM	LIC	96.1	3.4	41.301444	-82.487667	16.36
20	WSWR	FM	LIC	100.1	3.0	40.945056	-82.661556	18.52
21	WLRD	FM	LIC	96.9	6.0	40.960056	-82.621000	19.25
22	WNZN	FM	LIC	89.1	2.2	41.309472	-82.441833	20.04
23	W206BX	FX	LIC	89.1	0.055	41.366167	-83.088806	23.61
24	WFRO-FM	FM	LIC	99.1	11.5	41.366167	-83.088806	23.61

⁴ FM = FM broadcast station; FX = FM translator station; FS = FM auxiliary (backup) station; FL = FM low power station; FB = FM booster station.

⁵ LIC = Licensed and operational station; APP = Application for construction permit; CP=Construction permit granted; CP MOD = Modification of construction permit.

⁶ ERP = Transmit Effective Radiated Power.

ID	Call Sign	Service ⁴	Status ⁵	Frequency (MHz)	Transmit ERP ⁶ (kW)	Latitude (NAD 83)	Longitude (NAD 83)	Distance to the Nearest Turbine (km)
25	WNRK	FM	LIC	90.7	4.0	41.180611	-82.389056	28.14
26	WHEI	FM	LIC	88.9		41.116417	-83.167417	28.23
27	WSJG-LP	FL	LIC	103.3	0.1	41.108333	-83.175361	28.98
28	W227BJ	FX	LIC	93.3	0.25	41.112972	-83.180528	29.36

Table 2: FM Radio Stations within 30 km

ID	Call Sign	Status ⁷	Frequency (MHz)	Antenna Make	Antenna Model	Antenna Size (m)	Recommended Minimum Separation Distance ⁸ (km)
1	WOHF	LIC	92.1	ERI	LPX-5E-HW	16.3	0.163

Table 3: FM Radio Stations within 2 km of the Project Area with Separation Distances

⁷ LIC = Licensed and operational station; APP = Application for construction permit; CP=Construction permit granted; CP MOD = Modification of construction permit.

⁸ Recommended minimum separation distance is based on the far field distance of the antenna or 1.5 km if no antenna information is available and includes separation from both the turbine towers and blades.

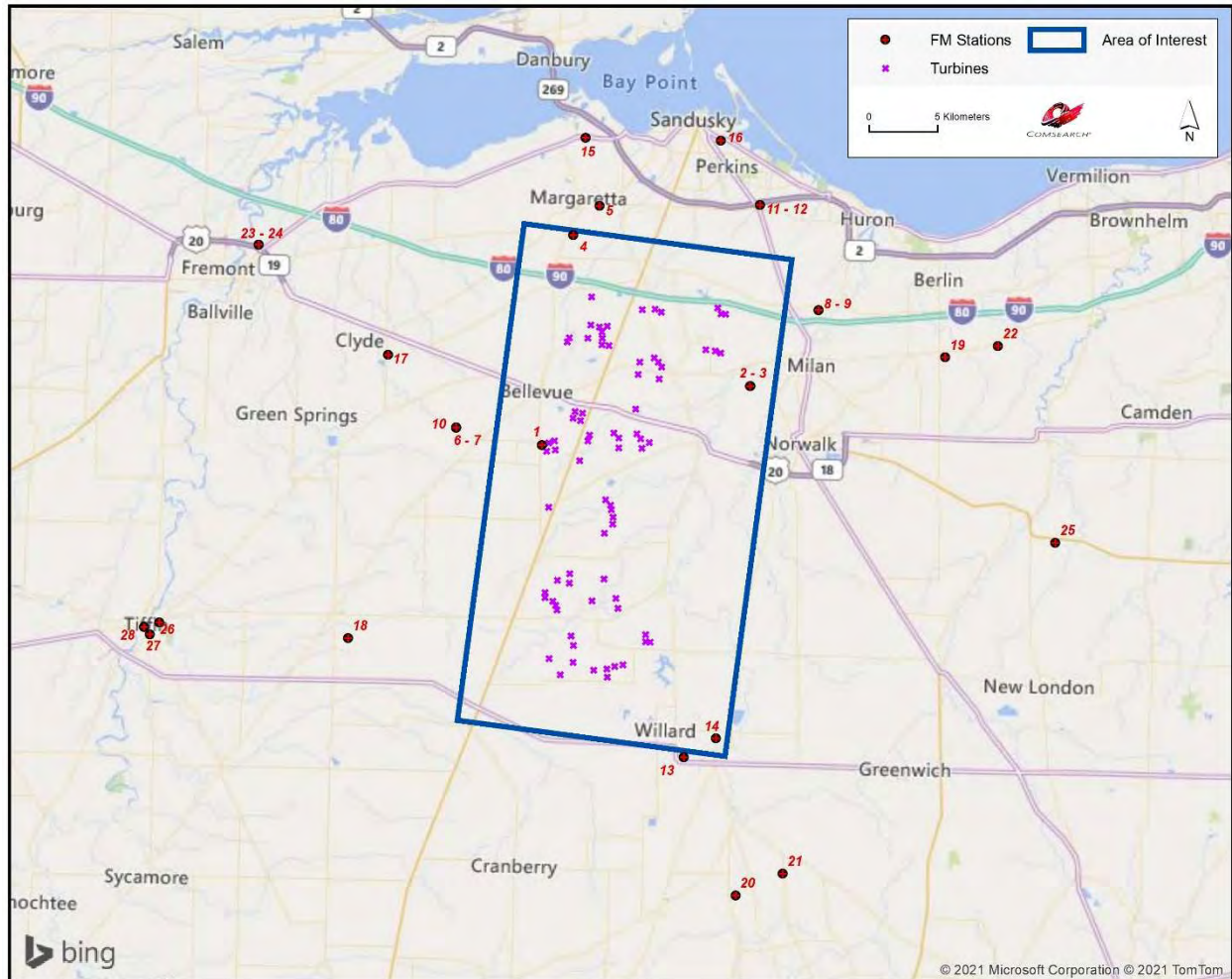


Figure 2: FM Radio Stations within 30 km

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. The closest AM station (WLKR) is located 3.42 km from the nearest proposed turbine location. 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 WOHF is the nearest FM station to the proposed turbine locations at 0.50 km away. Based on the licensed antenna information, WOHF requires a minimum separation distance of 0.163 km from the station and any turbine tower and blade. At these distances there should be adequate separation to avoid radiation pattern distortion. All other FM stations are located 3.26 km or further from the nearest turbine location and would not be impacted by the wind project.

4. Recommendations

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

5. Contact

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

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Summary: Application - 8 of 13 (Exhibit F – AM and FM Radio Report)
electronically filed by Christine M.T. Pirik on behalf of Firelands Wind, LLC