

Wind Power GeoPlanner™

AM and FM Radio Report

Crocker Wind Farm



Prepared on Behalf of
Crocker Wind Farm, LLC

April 2, 2018



COMSEARCH
A CommScope Company





Table of Contents

1. Introduction	- 1 -
2. Summary of Results	- 1 -
3. Impact Assessment	- 3 -
4. Recommendations	- 3 -
5. Contact	- 3 -

1. Introduction

Comsearch analyzed AM and FM radio broadcast stations whose service could potentially be affected by the proposed Crocker Wind Farm project in Clark County, South Dakota.

2. Summary of Results

AM Radio Analysis

Comsearch did not find any database records¹ for AM stations within 30 kilometers of the project.

ID	Call Sign	Status	Frequency (kHz)	Transmit ERP (kW)	Latitude (NAD 27)	Longitude (NAD 27)	Required Separation Distance (km)	Distance to Nearest Turbine (km)
<i>No AM Stations Found within 30 km of Project Area of Interest</i>								

Table 1: AM Radio Stations within 30 Kilometers

FM Radio Analysis

Comsearch determined that there was one database record for FM stations within a 30-kilometer radius of the Crocker Wind Farm project, as shown in Table 2 and Figure 1. This station is licensed under call sign KDLO-FM and broadcasts out of Watertown, South Dakota, to the southeast of the project.

ID	Call Sign	Status ²	Service ³	Frequency (MHz)	Transmit ERP ⁴ (kW)	Latitude (NAD 27)	Longitude (NAD 27)	Distance to Nearest Turbine (km)
1	KDLO-FM	LIC	FM	96.9	100.0	44.965833	-97.589444	14.23

Table 2: FM Radio Stations within 30 Kilometers

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; FL = FM low-power station; FB = FM booster station.

⁴ ERP = Transmit Effective Radiated Power.

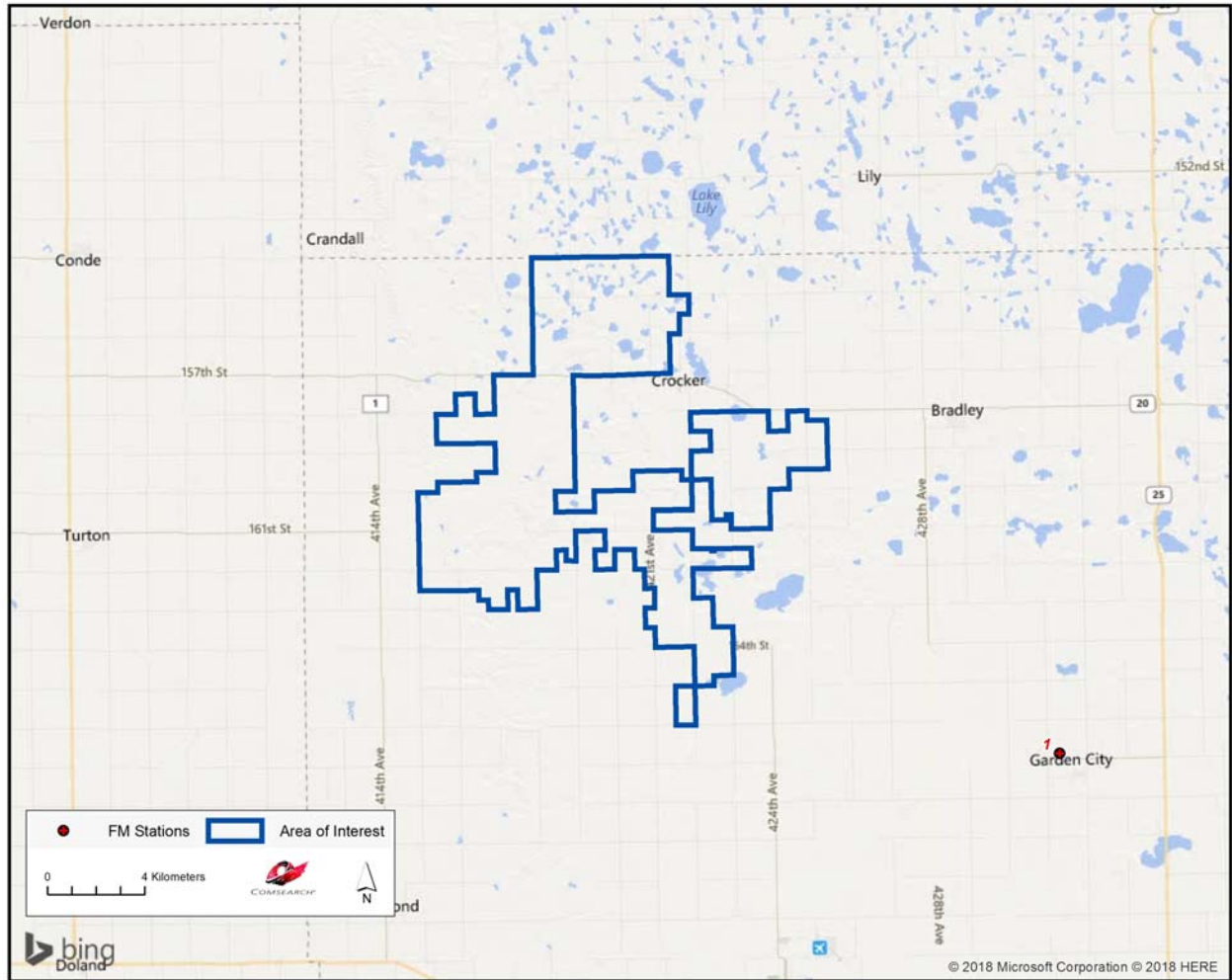


Figure 1: FM Radio Stations within 30 Kilometers

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. As there were no stations found within 3 kilometers of the Crocker Wind Farm 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 susceptible to interference caused by wind turbines, especially when large objects, such as wind turbines, are sited in the *far field* region of the radiating FM antenna in order to avoid the risk of distorting the antenna's radiation pattern. The closest operational station to the Crocker Wind Farm project, KDLO-FM, is located more than 14.2 kilometers from the nearest project turbine. At this distance, there should be adequate separation to avoid radiation pattern distortion.

4. Recommendations

Since no impact on the 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:

Contact person:	David Meyer
Title:	Senior Manager
Company:	Comsearch
Address:	19700 Janelia Farm Blvd., Ashburn, VA 20147
Telephone:	703-726-5656
Fax:	703-726-5595
Email:	dmeyer@comsearch.com
Web site:	www.comsearch.com