Appendix V

Wind Power GEOPlanner AM

and FM Radio Report Study

Wind Power GeoPlanner™

AM and FM Radio Report

Philip Wind

Prepared on Behalf of
PHILIP WIND PARTNERS, LLC

September 19, 2024

COMSEARCH®
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 Philip Wind Project in Haakon County, South Dakota.

2. Summary of Results

Project Information

Name: Philip Wind
County: Haakon
State: South Dakota

Number of Turbines: 91
Blade Diameter: 163 meters
Hub Height: 98 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 found no database records[2] for FM stations within approximately 30 kilometers of the project.

[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 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] 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 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.

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. A search radius of 30 km found no FM station records. 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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