

Wind Power GeoPlanner™

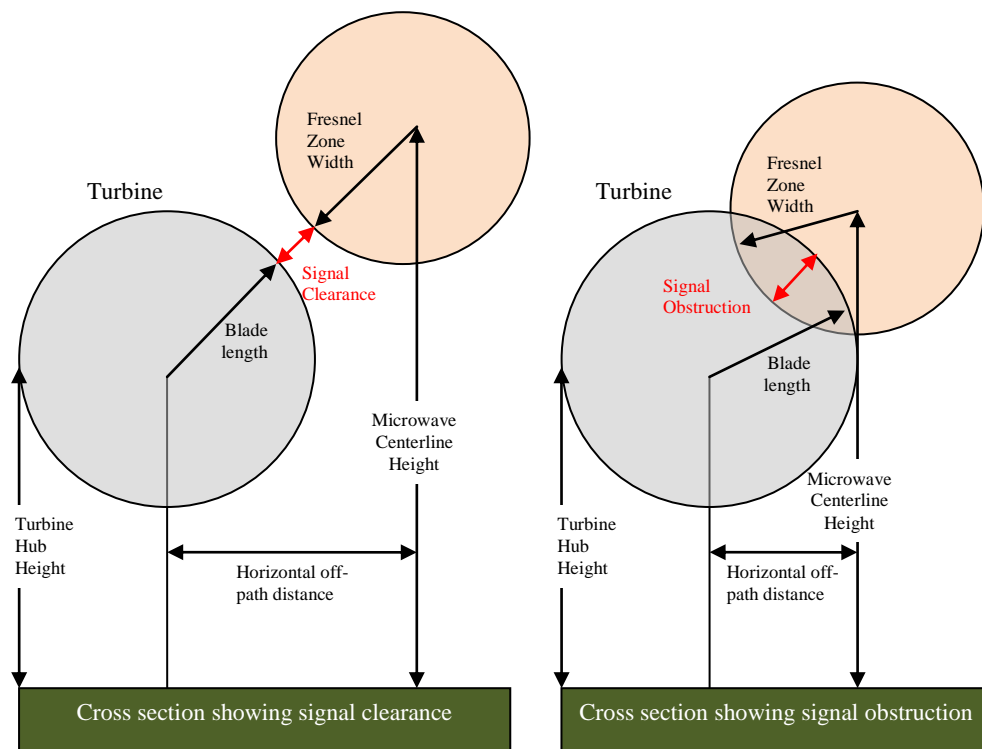
Microwave Study



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Cross Sectional Analysis

Our cross sectional analysis calculates the precise height and width of 100% of the first Fresnel Zone at the turbine location based on the antenna heights of the two link endpoints and the earth curvature bulge at the specific turbine location. The horizontal off-path distance was calculated in the previous section and the turbine hub height and blade length were provided by the client. The cross sectional analysis uses these values to calculate the clearance between the blades and the microwave Fresnel Zone as shown in the two diagrams below.



The results of the cross sectional calculations can be seen in Table 4 on the next page. It shows negative clearance values indicating obstruction of the Fresnel Zones and positive values indicating clearance of the Fresnel Zones.

Table 4: Cross Sectional Analysis Results



Microwave Study

Microwave Path ID	Fresnel Zone Width at Turbine Location (m)	Microwave Centerline Height at Turbine Location (m)	Cross Sectional Clearance (69 m Hub)	Cross Sectional Clearance (94 m Hub)
4	23.46	1003.54	855.22	830.22
4 Div ⁶	23.46	994.40	846.08	821.08
4	23.78	918.83	770.60	745.62
4 Div ⁶	23.78	909.69	761.47	736.49
4	23.92	970.89	822.11	797.11
4 Div ⁶	23.92	961.75	812.97	787.97
5	16.29	810.98	672.85	647.96

⁶ Path contains an alternative diversity antenna from the same tower locations at an alternative height to the main antenna

Conclusion

Our study identified two licensed microwave paths intersecting the project area. The Fresnel Zones for these microwave paths were calculated and mapped. Based on the cross sectional clearance, the licensed paths have centerlines high enough that they will clear the blades.

