Home Distances to Turbines

In Livingston County, IL

By John Slagel

Slagel, Exhibit 2 (cover)

This focuses on three wind farms in or near Livingston County

- The operational Streator Cayuga Ridge South Wind Power Project (In Livingston County)
- The operational California Ridge Project (In Champaign and Vermilion County, ~40 miles South-East).
- The proposed Pleasant Ridge Wind Energy Project

Streator Cayuga Ridge South Wind Power Project

The Streator Cayuga Ridge South Wind Power Project is a 300 megawatt (MW) wind farm located in Livingston County, IL, approximately five miles south east of the center of Odell, IL. The project consists of 150 wind turbines. When the project reached commercial operation in March, 2010, it was the largest wind project in Illinois.

Turbine Height: 397' to tip, 256' hub, 276' rotor diameter.

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California Ridge Wind Energy Center

The California Ridge Wind Energy Center in Champaign County, Ill., supplies 200 (217.1) megawatts from General Electric 1.6-megawatt turbines. Construction started in 2011, with generation beginning in December of 2012. Consists of 110 Turbines in Vermilion County and 22 Turbines in Champaign County, total of 132 turbines.

Turbine Height: 150m (492') to tip, 100m (328') hub, 100m (328') rotor diameter

Pleasant Ridge Wind Energy Project

The Pleasant Ridge Wind Energy Project will consist of up to 136 GE 1.79-100 or GE-1.72-103 or similar model turbines, generating up to 250 megawatts (MW) of power. The Project is located in Livingston County southeast of the town of Pontiac, Illinois and encompasses an area of approximately 58,300 acres within the townships of Pleasant Ridge, Forrest, Fayette, Eppards Point, Indian Grove, Chatsworth, Charlotte, Belle Prairie and Avoca.

Turbine Height: 427' to tip, 262' hub, (100-103m) 328'-338' rotor diameter.

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Where did this data come from?

- For Pleasant Ridge, I imported the 136 Turbine locations from the Special Use Permit into Google Maps Engine.
- For the other two, I manually located all 150 turbines using Google Maps Engine.
- For the homes in both areas, I manually located them using Google Maps Engine. I tried to determine Home vs Farm Buildings based on the satellite images and by cross-referencing with sound study data, plat books, and my local knowledge.
- I marked all local Prairie Central school buildings, so they are included in the numbers.

Raw Data – Number of Homes At Various Distances

Distance to Nearest Turbine	Streator Cayuga Ridge South Wind Power Project (Number of Homes)	California Ridge Wind Energy Center (Number of Homes)	Pleasant Ridge Wind Energy Project (Number of Homes)	
1500'	19	26	0	
1600'	26	40	2	
1700′	33	55	11	
1800'	45	66	15	
2000'	62	97	47	
2500′	81	138	134	
2700' (~ ½ mile)	86	149	167	
3000'	93	165	208	
3500'	102	184	264	
5280' (1 mile)	134	236	466	
7920' (1.5 miles)	215	352	836	

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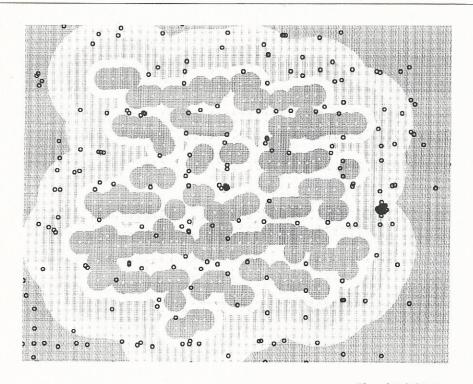
Steator Cayuga Ridge South – Homes Relative To Turbines

Legend

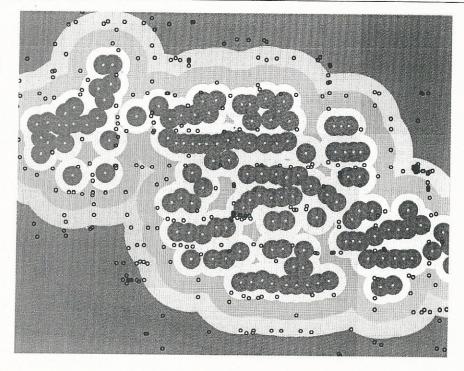


Within 1/2 mile
Within 1 mile

Within 1.5 miles Over 1.5 miles



California Ridge – Homes Relative to Turbines

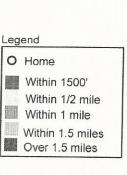


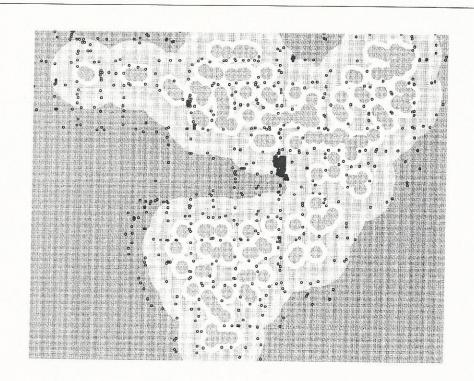
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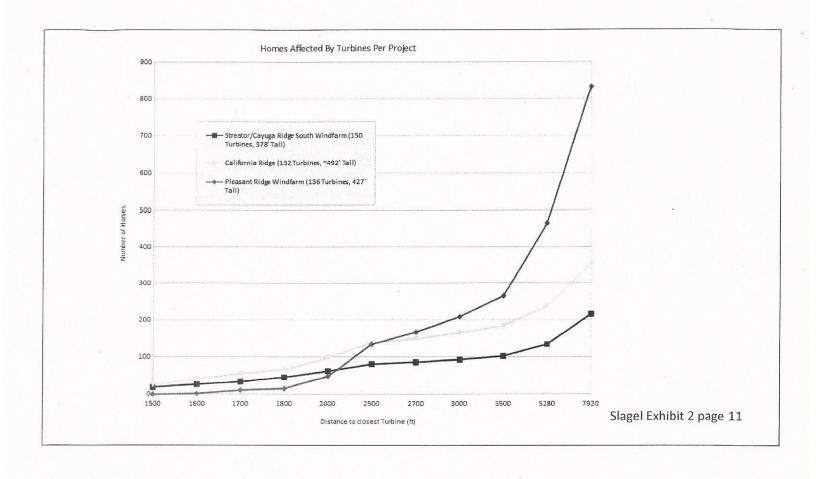
O Home Within 1500' Within 1/2 mile Within 1 mile Within 1.5 miles

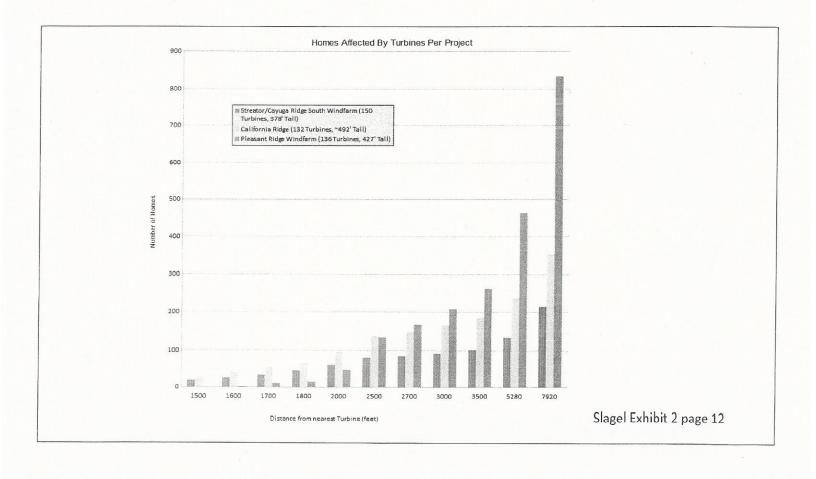
Over 1.5 miles

Pleasant Ridge – Homes Relative to Turbines









Summary

- The Streator Cayuga Ridge has 150 turbines and there are 215 homes within 1½ miles of a turbine. That is roughly 1.4 homes for each turbine with a rotor diameter of 276'.
- The California Ridge has 132 turbines and there are $\underline{352}$ homes within 1 ½ miles of a turbine. That is roughly $\underline{2.6}$ homes for each turbine with a rotor diameter of 328'.
- In Pleasant Ridge, there will be 136 turbines but $\underline{836}$ homes will be within 1 ½ miles of a turbine. That is roughly $\underline{6.14}$ homes for each turbine with a rotor diameter of 328' to 338'.

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