

# Wind Tower Siting

2010 MACPZA and MnAPA  
Training & Legislative Update  
June 11, 2010 \* Kelly Inn, St. Cloud



# History

- May 8, 2001, Murray County amended their Zoning Ordinance to regulate Windpower Development for projects 5 MW or less in total nameplate capacity.
- At that time, Murray County had permitted 3 projects; each project consisted of 3 small wind turbines rated at .5 MW with an overall height of 290'. These towers were allowed as permitted uses; no public hearings were required.
- The setback guidelines were: 750' from a residence; 300' from ROW; 300' from all other property lines. All windpower development projects were allowed only in the Ag District as conditional uses.
- When tower heights had been 290' or less, 300' to property line/ROW was sufficient for a fall zone; if the tower would fall, it wouldn't land on the neighbor's property or a road.
- Under the 2001 Windpower Ordinance, Murray County conditionally permitted 29 wind towers, where the project sizes were less than 5 MW, due to the developer establishing Limited Liability Corporations (LLC) for each tower so that a project would be considered 3 – 1.65 MW towers, or 4.95 MW. Tower overall height ranged anywhere from 250' to 410'.

# Wind Power Development

- Also, a large wind project, called Fenton Wind, was constructed consisting of 118 towers in Murray County and 19 towers in Nobles County. Many complaints regarding this project were received including traffic control, dust control, road damage, setbacks to homes and ROW, noise, and television reception.
- Then in 2008, new wind standards were issued allowing counties the option to assume the responsibility for processing applications for permits for LWECs less than 25 MW in total nameplate capacity.
- Murray County was in the process of a minor review and update of their Comprehensive Land Use Plan, including a directive for the County to move forward with the Wind Delegation process for permitting projects less than 25 MW in total nameplate capacity.
- Plans were to complete the review and adopt the updates to the Plan, thence commence the process to amend the Ordinance for the Wind Delegation.
- Before the updates were completed and adopted, a wind developer began discussions with the County, February, 2008, for a 9 MW total nameplate capacity project. However, since the County hadn't applied for or received delegation for projects over 5 MW and less than 25 MW, that project could not be permitted locally.

# Wind Power Development

- Pros and Cons were examined by the County before proceeding with the Delegation process. One of the most influential pros was the Application of County Standards, Minnesota Statute 216F.081, which states “The Commission (PUC), in considering a permit application for LWECs in a County that has adopted more stringent standards, shall consider and apply those more stringent standards, unless the commission finds good cause not to apply the standards.” This gives the County some input on the siting of towers in projects over 25 MW, especially since there were complaints received from landowners for the large Fenton project.
- Rather than only amending the County Zoning Ordinance for Windpower, the County chose to adopt a stand-alone Wind Energy Ordinance. Copies of the Murray County Wind Energy Ordinance were made available for those interested; if anyone needs a copy, it can be found on Murray County’s website – [www.murray-countymn.com](http://www.murray-countymn.com).
- When Murray County was seeking delegation, only two Minnesota counties had already gone through the process and received delegation: Lyon County in February, 2008, and Freeborn County in May, 2008.

# Wind Power Development

- Murray County obtained and used Lyon County's Wind Ordinance as a base for their new stand-alone Wind Energy Ordinance. Lyon County had produced an ordinance that satisfied the State with regards to including the required minimum standards. However, Murray County, based on their experience with the many towers already constructed and operating within their jurisdiction, exercised their right to adopt more stringent standards.
- In Murray County's Resolution requesting delegation, the County had to specifically list those areas where they chose to be more restrictive than the General Wind Turbine Permit Setbacks.
  - State requires 500' setback to a home and sufficient distance to meet state noise standard. Murray County requires: 1,000' and sufficient distance to meet state noise standard for Commercial towers and 500' and sufficient distance to meet state noise standard for non-commercial towers.
    - With the larger Fenton Wind Project, Murray County has received complaints from local landowners that the towers prevent them from having their windows opening during the night, even when the closest tower is about ½ mile away.
  - State requires 250' setback from public road ROW. Murray County requires a setback equal to 1.1 times the total height (defined as the distance from ground surface to the vertically extended rotor tip) as measured from the edge of the ROW.
    - If a tower is 400' overall height, the tower must be setback from ROW 440'.
    - Under the 2001 wind ordinance, Murray County had towers that were located 300' from a ROW, and during two separate wind storms, two towers experience blade slap, which caused the fiberglass blades to strike the base of the towers and cause shards of fiberglass to be strewn about the land, approximately ¼ to ½ mile from the tower. Some of the shards and larger pieces of fiberglass were found on the actual roadway.

# Wind Tower Damage - 2006



# Wind Tower Damage - 2008



# Wind Power Development

- State requires no setback to a wetland; Murray County chose to require a setback of 3 RD on east-west axis and 5 RD on north-south axis.
  - A tower with a 288' RD would be required to be set back 864' east-west and 1,440' north-south.
  - Again, these setbacks were established due to the problems that occurred with the blade slap; the County did not want to see fiberglass strewn through wetlands.
- Towers are required by the State to be 250' from Public Conservation Lands. Murray County requires 3 RD by 5 RD.
- The State does not have a required setback for towers from structures other than homes. Murray County chose to set a required setback of 1.1 times the total height to prevent structure damage in the chance the tower would fall. (created a fall zone)
- Meteorological (MET) towers would only need to meet a 250' setback to ROW and property line/boundary, whereas Murray County requires a setback of 1.1 times the total height from project boundary/property line, dwellings/homes, road and other ROW, public conservation lands, wetlands, and other structures.
  - Again, Murray County was concerned about damage caused by the tower if it were to collapse.
- Murray County does not allow any wind towers within 300' of a river or 1,000' of a lake. The State does not require a setback to shoreland areas.
  - An exception to this setback is for Micro-WECS, which are WECS of 1 kW or less and 40 feet or less in supporting tower height.



# Wind Power Development

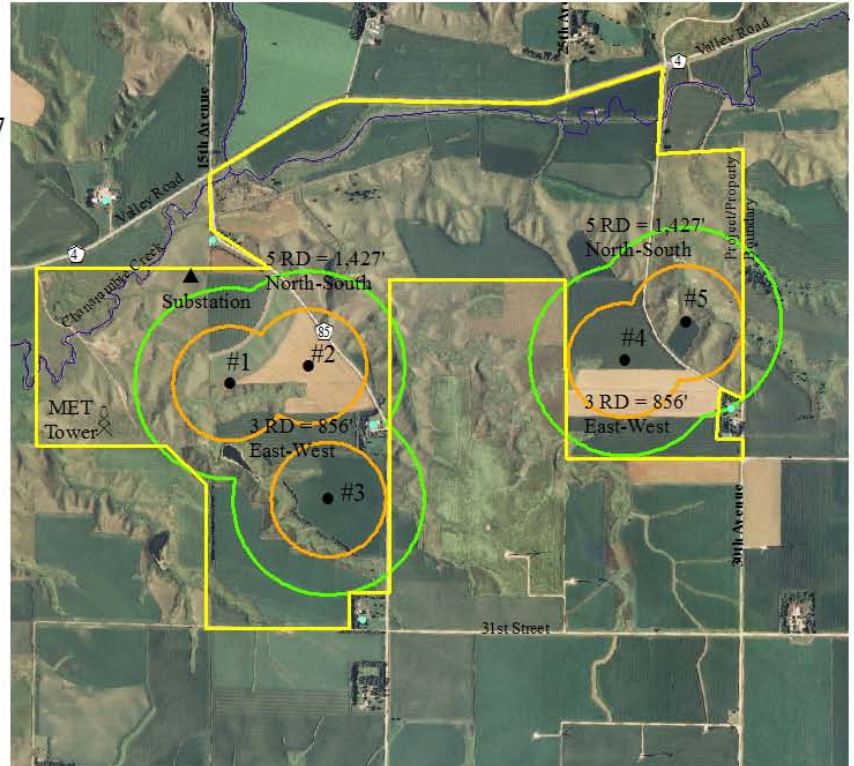
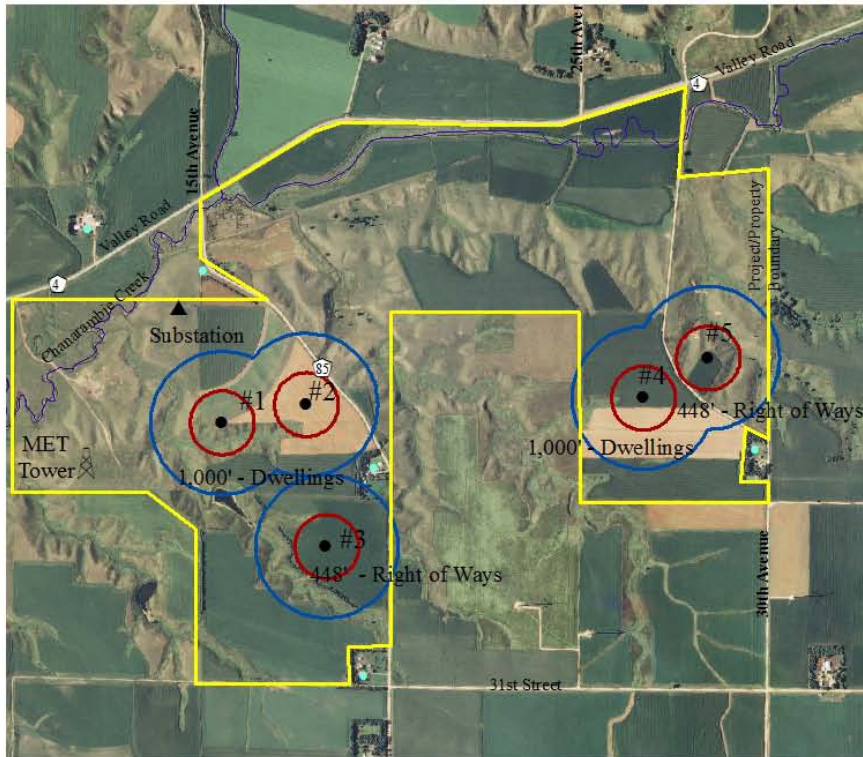
- Recently complaints have been voiced regarding the adoption of the Wind Energy Ordinance. The landowners who have been complaining did not participate in the public hearing process, which was held prior to the formal adoption of the ordinance. They feel that a taking has occurred since they are unable to construct a commercial or non-commercial wind tower on their property due to its close proximity to the shoreland district and the wetlands located on their property.
- Other important areas Murray County included in their Wind Energy Ordinance:
  - **Pre-Construction Meeting:** this was determined to be of value to the County so that they would have a listing of the contacts for project construction in the instance that problems would arise that needed attention. Also, a pre-con meeting provides many local and state agencies with the opportunity to address any problems they may see before it happens.
  - **Performance Bond** to be held by the county until the Township and/or County road authority (ies) have provided the County Auditor with a written release that all haul routes within their jurisdiction in Murray County have been returned to pre-construction condition.
- Murray County formally adopted their Wind Energy Ordinance in January, 2009, and received their Delegation Confirmation for Large Wind Energy Conversion System Permitting Authority for projects with a total nameplate capacity of less than 25 MW, from the State of Minnesota Public Utilities Commission on March 30, 2009.

Valley View Wind, LLC  
 Part of the SE1/4 Section 8,  
 SW1/4 & Part of the SE1/4 Section 9,  
 Part of the NE1/4 Section 16,  
 N1/2, Part of the NE1/4 SW1/4, and Part of the SE1/4 Section 17  
 Moulton Township, Murray County  
 Conditional Use Special Public Hearing  
 Tuesday, June 29, 2010 @ 7:30 pm

3 Rotor Diameter East-West = 856' 5 Rotor Diameter North-South = 1,427'

1,000' Buffer to Dwellings

448' Buffer to Rights-of-Ways



Source: Murray Co. GIS Data  
 Prepared By: Murray Co. Environmental Office  
 Displayed Using: Murray Co. Coordinate System





# Wind Regulation Responses

| County     | Permit Wind Turbines | 5 MW or less | Up to 25 MW | Delegated                    |                                  | Permit Fee   | Other Fees                                    | # of Towers                          | Permitted by Whom             |
|------------|----------------------|--------------|-------------|------------------------------|----------------------------------|--|---|--------------------------------------|-------------------------------|
|            |                      |              |             | CUP?                         | CUP Cost                         |  |   |                                      |                               |
| Aitkin     | Yes                  |              |             | Yes - over 70'               | \$700                            |  | No  | Couple small private WECS            |                               |
| Big Stone  | Yes                  | X            |             | Yes                          | \$500                            | \$50   | No  | No                                   |                               |
| Brown      | Yes                  | X            |             | Yes - Commercial & MET       | \$280                            | \$250 - towers under 55 kW; \$5/foot in height with a minimum of \$500 |   | 13                                   | Locoally                      |
| Carver     | Yes                  | X            |             | Yes                          | \$500 + staff time up to \$1,000 | Based on value - \$1,000 - \$2,000                                     | No  | 5                                    | Locally                       |
| Clay       | Yes                  | X            |             | Yes                          | \$200                            | \$25 plus \$1/\$1,000 value of tower (will probably cap at \$1,000)    | May consider impact for roads and other areas | 5                                    | 3 County & 2 City of Moorhead |
| Clearwater | No                   |              |             |                              |                                  |  |   | Sample Tower                         |                               |
| Fillmore   | Yes                  |              | X           | Yes                          | \$450                            | \$7.50 / 100 ft² base  | No  | 4-6                                  | Locally                       |
| Freeborn   | Yes                  |              | X           | Yes                          | \$400                            | \$200  | 9-1-1   | 122 (200 MW) - being constructed now | State                         |
| Grant      | Yes                  |              | X           | Yes                          | \$1000 + \$150 / turbine         |  | No  | 10                                   | State                         |
| Hubbard    | No                   |              |             |                              |                                  |  |   | 1-2 dozen small scale private use    |                               |
| Jackson    | Yes                  | X            | X           | Yes                          | \$300                            | >1 MW \$500  | CUP for MET                                   | 120                                  | Both                          |
| Kandiyohi  | Yes                  | X            |             | Yes                          | \$350                            | Based on cost of construction  | No  | No                                   |                               |
| Lyon       | Yes                  |              | X           | Yes                          | \$300                            | \$50   | No  | 9 - large; 3-small                   | Locally                       |
| Mower      | Yes                  | X            |             | Yes                          | \$500                            | No   | No  | 260 with 302 coming soon             | Both - majority by state      |
| Murray     | Yes                  |              | X           | Yes                          | \$600                            | \$750 / MW   | 9-1-1   |                                      |                               |
| Nicollet   | Yes                  | X            |             | Yes                          | \$350                            | Micro \$50; Non-Commercial \$250; Commercial \$500                     | No  | 7 permitted; 2 operational           | Locally                       |
| Nobles     | Yes                  | X            |             | Yes                          | \$400                            | \$10 / foot to top of blade (\$500 minimum)                            | 9-1-1   | 34 complete, 134 under construction  | Both                          |
| Norman     | Yes                  | X            |             | Yes                          | \$250                            | No   | No  | No                                   |                               |
| Pipestone  | Yes                  | X            |             | Yes                          | \$800                            | \$50 / turbine   | 9-1-1   | 220                                  | Both                          |
| Polk       | Yes                  |              |             | Some                         | \$300                            | \$250  | No  | 1                                    | Locally                       |
| Redwood    | Yes                  | X            |             | Yes                          | \$650                            | \$650/project  | No  | 2                                    | Locally                       |
| Renville   | Yes                  | X            |             | Yes                          | \$800                            | \$75   | No  | 2                                    | Locally                       |
| Rice       | Yes                  | X            |             | Yes                          | \$346                            | Based on cost of the project   | Driveway Permit                               | 2 - 1.65 MW and 10 - under 40 kW     | Locally                       |
| Rock       | Yes                  | X            |             | Yes                          | \$500 + cost of mailings         | \$750 / MW   | 9-1-1   | 11                                   | Locally                       |
| Sherburne  | Yes                  | X            |             | Yes - over 20 kW             | \$496 (includes Recording)       | Based on value of building   | No  | 3 small                              |                               |
| Sibley     | Yes                  |              |             | Yes - over 40 kW or 150 feet | \$600                            | \$50 minimum/\$1 per \$1,000 in value (Max - \$1,000)                  | No  | 7 (all under \$150 feet)             | 5 County & 2 City             |
| Stearns    | Yes                  |              | X           | Yes                          | \$400                            | No   | Consulting Fees                               | 15                                   | Locally                       |
| Steele     | Yes                  | X            |             | Yes - overall 200'           | \$400                            | Based on value of structure  | 9-1-1   | 11 - less than 40 kW                 | Locally                       |
| Wright     | Yes                  | X            |             | Not all                      | \$350                            | Commercial fee valued at \$14,000, which equates to \$398.46           | No  | 2 micro                              | Locally                       |

# Wind Development Questions

1. Impact of LWECS on air ambulance service?
2. Will the State be amending the setbacks based on the MDH White Paper?
3. Potential Locations for commercial wind farms for Carver County?
4. Will we be forced to permit 5 MW - 25 MW locally in the future?
5. Did anything in the law change this year?
6. Is there a comprehensive guidance document being developed on this topic?
7. Counties that enforce building code, how do you determine building permit fee?
8. What amounts of bonds, fees or other financial assurance is being required to insure the roads are being maintained?
9. When will the PUC review and use our local WECS ordinance performance standards in their permitting process?
10. How many counties have taken on the windpower permitting delegation?
11. If counties do not take on the delegation of WECS under 25 MW, will they face a "gap in the permitting system"?
12. Since there is a reciprocal setback for feedlots, should the same setback exist for residential construction near a wind farm?



# Website Links

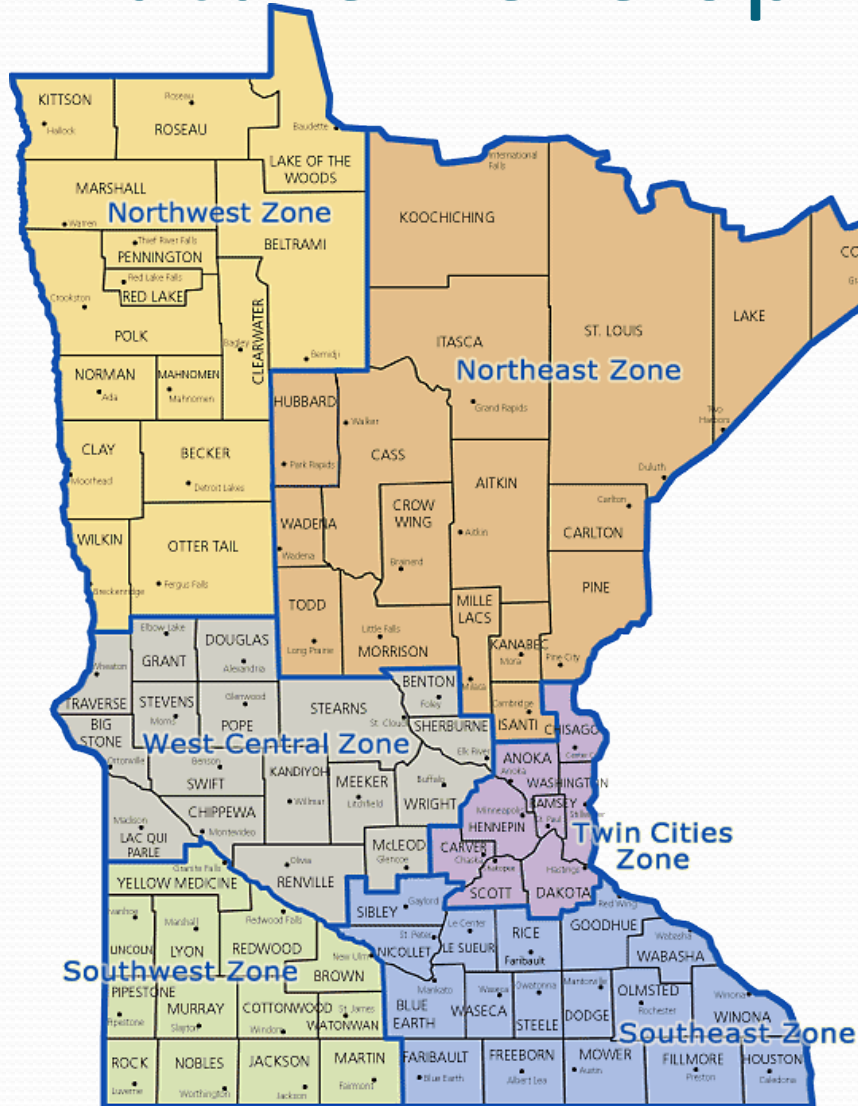
Midwest ISO Generation Interconnection Queue 06-11-2010

[http://midwestmarket.org/cfmx/portal/GenInterQueue/MP\\_GenInterQueue\\_report3.cfm](http://midwestmarket.org/cfmx/portal/GenInterQueue/MP_GenInterQueue_report3.cfm)

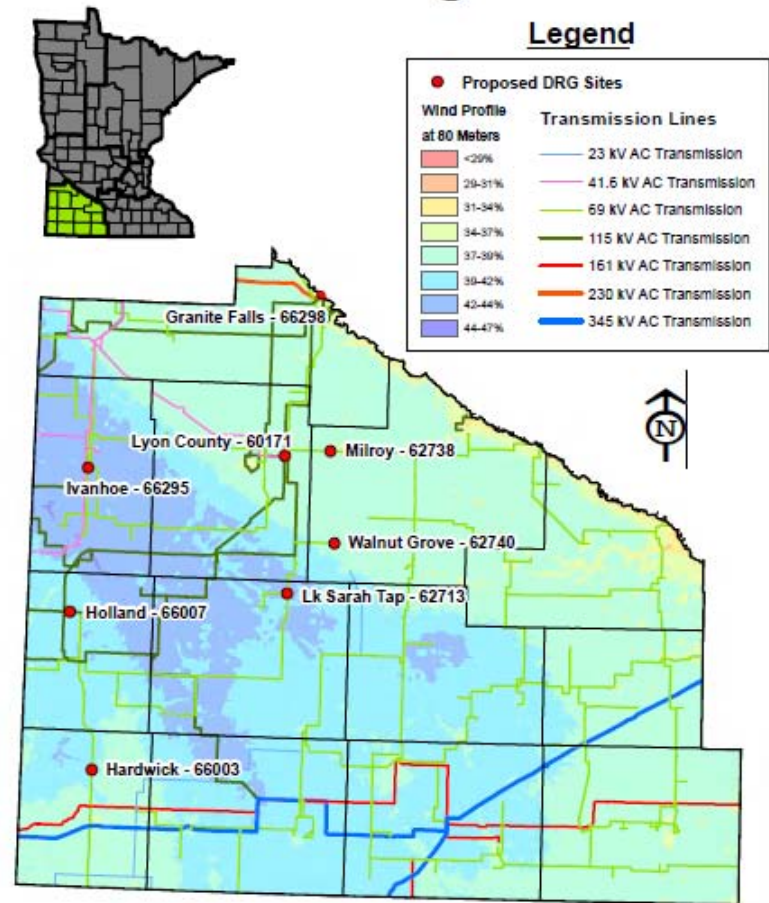
Future Development – Minnesota Transmission Planning Zones

<http://www.minnelectrans.com/minnesota-zones.html>

# Future Development



## Proposed DRG Sites in the SW Planning Zone



# Wind Power Development

?? Questions ??