Minnesota State Permitting Process for Large Wind Energy Conversion Systems

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Minnesota Energy Facility Permitting

- Large Wind Energy Conversion Systems
- High Voltage Transmission Lines
- Large Electric Power Generating Plants
- Pipelines
Wind Siting Act – Minnesota Statute 216F

- The siting of Large Wind Energy Conversion Systems (LWECS) – projects of 5 MW or more – is to be made in an orderly manner compatible with environmental preservation, sustainable development, and the efficient use of resources (Minn. Stat. § 216F.03).

- Local government may regulate projects less than 25 MW in combined nameplate capacity.
  - Less than 5 MW is a Small Wind Energy Conversion Systems.
  - Between 5 MW and 25 MW if assume authority to regulate LWECS via Minn. Stat. § 216F.08.
Wind Permitting Trends In Minnesota

> 1,800 MW (>1,400 turbines) in Minnesota today, plus 600 turbines permitted but not built.

Projects increasing in number and size
12+ projects in PUC process – 1,300+ MW, 800+ turbines
12+ additional projects expected in next year for another 1,000+ MW

Concentrated in southern Minnesota, but expanding across state

Drivers – MISO deadlines, Grants, Transmission, Wind Resources, Renewable Requirements
Total Number of Megawatts by Year For Wind Power Projects in MN State Process 2005-2010
Wind Development in Minnesota

Wind Turbines in Minnesota as of January 15, 2010

Existing Known Turbines
Visible on Aerial Photos or Has FAA Built Date

- Many large or medium-scale systems include a handful of smaller turbines.

Number of Turbines:
- 1,060 PUC permitted
- 361 Non PUC permitted

Approximate Total Capacity: 1,770 MW

Legend:
- PUC permitted turbines
- Non PUC permitted turbines
- PUC Project Area
- Counties

Proposed Turbines
Locations within FAA Obstruction Database or Project Areas in Public Utilities Commission Permit Proposals

- There are proposed sites that include areas of interest. However, it is unlikely that some will not be built.

Number of proposed turbines outside PUC project areas is 364 with estimated capacity.

The FAA Obstruction database is used to check if structures will interfere with air traffic. Some wind developers appear to check potential sites early in the process, and the FAA permit does not indicate where funding or an actual proposal exists.

Turbines checked against Mn Department of Revenue 2008 Wind Turbine Tax Database. Not listed in the Revenue database are turbines less than 0.25 MW capacity and those owned by political subdivisions with less than 2 MW capacity.
Public Utilities Commission Wind Permitting

- Provides consistent process and standards statewide

- Up to 6 month process

- Alternate form of Environmental Review – not required to prepare an EIS, EA, or EAW for Minnesota

- Public notice, participation, comments

- Site permits issued for up to 30 years and may be amended
Minnesota Rules 7854

PUC Permitting Process

- Days After Acceptance

Timeline
Time from application acceptance to permit decision = 180 days.

* Public Participation Opportunities

Application Submitted
- Application Accepted
- Comment Period on Issues to Consider in Draft Permit
- Draft Permit Issued
- Public Meeting* Comment Period on Draft Permit
- Comment Period Closed
- Permit Decision by Public Utilities Commission*
- Contested Case Hearing
- Contested Case Hearing*
- Judicial Review
County Delegation Program Overview

- PUC General permit standards for wind developed
- Standards apply to projects < 25 MW, variance allowed
- Counties may be more restrictive by ordinance
- Technical assistance to counties

How to Assume Authority

- Adopt standards by ordinance and pass resolution
- Written notice to PUC

Clarified Project Size Definition

- Established project sized determination procedure
- Applications to counties must include the determination
General Permit Standards

- Minn. Stat. § 216F.08 directed PUC to adopt standards for projects less than 25 MW
- PUC Order, January 11, 2008 (Docket #: 07-1102)
- Establishes minimum standards.
  - Setbacks
  - Size Determination
  - Permittee Responsibilities
  - Studies/Surveys/Plans
  - Reporting
  - Pre-Construction Meeting
County LWECS Permitting Approach

Amend existing ordinances to:

- Incorporate General Permit Standards
- Adopt more restrictive standards, such as:
  - Larger setbacks
  - Setbacks from additional features
  - Exclusion areas
- Can be different for commercial, non-commercial sized turbines

Current Counties with Delegation:

- Lyon
- Freeborn
- Murray
- Lincoln
- Stearns
- Meeker
# PUC General Permit Setbacks

## Wind Access Buffer (setback from lands not in permittee’s control)
- 3 RD (760 – 985 ft) on east-west axis
- 5 RD (1280 – 1640 ft) on north-south (RD = rotor diameter = 78 – 100 m)

## Homes
- 500 feet + distance to meet state noise standard.

## Noise Standard
- 750 – 1500 ft typically required to meet state noise standard. (Minnesota Rules Chapter 7030).

## Public Roads
- 250 ft from edge of public road ROW.

## Wetlands
- No turbines in wetlands and no setback; but Wind Access Buffer setback applies to public lands.
Native prairie, biological and archeological surveys.
Public road permits required and repair construction related damages.
NPDES storm water permit for construction projects.
Utility scale, monopole design turbines, not prototypes. Off white or white in color.
Lighting and safety marking limited to FAA requirements.
Conditions for crop damage and restoration; drain tile avoidance, repair.
Preconstruction emergency plan.
Tower identification and “as-built” GIS data submitted to PUC.
TV signal strength study (baseline) and preconstruction microwave beam path analysis.
Decommissioning plan.
Special Conditions.
PUC Permit Prevails

PUC's permits preempt local planning and zoning – LWECS permit is the only site approval required.

Local governments encouraged to comment during the state permitting process – PUC must apply county standards for LWECS unless PUC finds good cause to not apply those setbacks.
Docket Records Define Conditions

General Permit Standards Docket

Health Effects Docket

Natural Resource, including Avian and Bat Impacts

Individual Project Dockets

If PUC's state permitting authority is to be used to establish conditions, the record for these conditions must be developed within PUC's process.
PUC Permits the Box

Figure 1-4
Preliminary Turbine Layout with Setbacks
Elm Creek II Wind Project
Jackson & Martin
Counties, MN

Modify Date: 5/18/2002
Exclusion Areas Defined in Process
Details Come Through Compliance
Other Permits

Wetland and Water Impacts
- Section 404 (COE), WCA (SWCD), PWI (DNR)
- License to cross public waters (DNR)

Turbine Location and Lighting
- Proposed Construction or Alteration (FAA)

Sediment Control
- NPDES storm water permit for construction projects

Transportation and Road Permits
- State, County, Township – oversize/overweight, driveway access, utility crossing.

Other Project Specific Permits
- Additional permitting maybe be required for the interconnection, O&M building, and other project components.
Local Review of Associated Facilities

Associated Facilities

- Transmission lines, substations, O&M building

Local Review for Transmission Lines

- Minn. Stat. § 216E.05, Minn. Rule 7850.5300
  - HVTL between 100 and 200 kV
  - Substations with a voltage designed ≥ 100 kV
  - Other facilities
  - Within 10 days of notifying local government, applicant must notify PUC
  - Local government can request PUC to assume jurisdiction within 60 days.
  - Requires Environmental Review with scoping
For Further Information on Minnesota’s Permitting Process for Large Wind Energy Conversion Systems see:

http://energyfacilities.puc.state.mn.us/wind.html

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