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THE POLITICAL, SOCIAL AND LEGAL ISSUES OF WIND TURBINES

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I. WIND ENERGY BASICS

A. Power Principles

- 1 kwh of energy will keep a 100 watt lightbulb burning for 10 hours.
- A typical residential home consumes 7,200 kwh of energy per year.

NOTE: The purpose of this presentation, and the accompanying materials, is to inform you of interesting and important legal developments. While current as of the date of presentation, the information given today may be superseded by court decisions and legislative amendments. We cannot render legal advice without an awareness and analysis of the facts of a particular situation. If you have questions about the application of concepts discussed in the presentation or addressed in this outline, you should consult your legal counsel. ©2009 Ratwik, Roszak & Maloney, P.A.

- A typical 1.5 MW turbine can produce five million kwh of energy per year.

B. Turbine Principles

- The larger the turbine, the more slowly it rotates.
- Turbines operate most efficiently in wind speeds of 20-25 mph.
- The quality of the wind (turbulence) affects production.
- In good wind areas, turbines might produce 35% of their theoretical maximum output.
- Voltage from a turbine must be stepped up to interconnect with the power grid.

II. WIND ENERGY DEVELOPMENT IN MINNESOTA

A. Policy of the State

- The State has established a legislative policy to site LWECS in “an orderly manner compatible with environmental preservation, sustainable development and the efficient use of resources.” Minn. Rules 7854.0200. Moreover, the legislature has made a determination to allow counties to assume permitting authority for smaller LWECS, and SWECS are governed entirely by local regulations (if they exist).

B. Location of Turbines

- Turbines are principally located in the southwest part of the state, though they are beginning to be sited in other regions. Collectively, they produce more than 1,300MWs of energy.

III. KEY DEFINITIONS

A. “WECS”

- A device such as a wind charger, windmill or wind turbine and associated facilities that convert wind energy to electric energy.

B. “LWECS”

- A combination of wind energy conversion systems with a combined nameplate capacity of 5,000 kilowatts or more.

C. “SWECS”

- A combination of wind energy conservation systems with a nameplate capacity of less than 5,000 kilowatts.

D. Project Size

- Project size, for purposes of jurisdiction, is determined by the PUC per Minn. Stat. § 216F.011

IV. THE REGULATORY SCHEME

A. The State Role

1. Pertinent statutes and agency regulations

- Initial regulation of turbines by the Environmental Quality Board. Regulatory authority has since been transferred to the Public Utilities Commission.
- Minnesota Statutes Chapter 216F provides the general statutory framework for the state regulation.
- The PUC has adopted agency regulations, codified at Minnesota Rules Chapter 7854.

2. Current regulation by Public Utilities Commission

- PUC General Permit Standards
 - * New standards were issued in 2008 in response to 2007 legislative changes which mandated new standards.
- Application process
 - * The process for permitting generally takes 180 days. The PUC makes a preliminary determination on the permit and then

issues a draft permit, holds a public meeting and solicits comments.

B. A County's Role

1. Counties may regulate SWECS
2. Counties have the option to regulate LWECS between 5,000 and 25,000 kilowatts if the county adopts a resolution assuming such responsibility.
 - Counties must minimally adopt PUC standards, but can be more restrictive.
 - Variances can be granted
3. Ordinance Considerations
 - Catastrophic failure (collapse)
 - Blade throw
 - Ice throw
 - Interference with TV, radio, microwave
 - Impacts on neighboring properties
 - Impacts on environment/wildlife
4. Ordinance Approaches
 - Designation as a CUP
 - Overlay district
 - Setbacks
 - Decommissioning/discontinuance

V. A VIEW FROM THE DAIS

A. The Murray County Wind Energy Ordinance

1. Permit Application Requirements
 - Size determination letter
 - Description of project
 - Size layout, maps
 - Evidence of legal control
 - Power purchase agreement
 - Topographical map with other nearby WECS identified
 - Environmental features (wetlands, scenic area, bluffs) identified
 - Decommissioning plan
 - Possible wake loss study
2. District Regulations
 - Designated as permitted, conditional or not permitted
3. Setbacks
 - Property lines
 - Dwellings
 - Roads
 - Environmental features
 - Other WECS
4. Performance Standards
 - Engineering certification
 - Ground clearance

- Height
- Color, style
- Lighting
- Signage
- Noise
- Discontinuance

B. Future Opportunities and Obstacles – Which Way Will the Wind Blow?

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