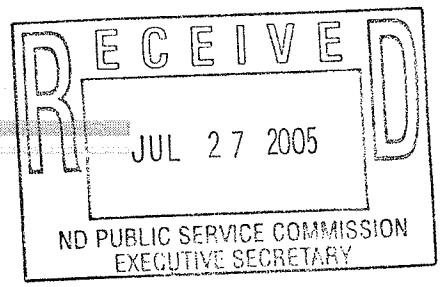
Wind Energy Council
Growing the wind energy industry in the Upper Great Plains



July 27, 2005

North Dakota Public Service Commissioners
600 E. Boulevard, Dept. 408
Bismarck, ND 58505-0480

Dear Commissioners Clark, Cramer & Wefald,

Wind energy development in North Dakota is gaining momentum with 67 megawatts of existing wind energy generation and more than 300 MW of new wind energy generation under development in five new wind farm projects.

The positive attributes of wind energy have attracted a large and diverse group of stakeholders with differing opinions on what is best for the future development of wind in North Dakota. This has resulted at times in mixed signals being sent to Legislators, State Officials and decision-makers regarding wind energy issues.

The recent action taken by Spring Valley Township in Dickey County has brought the wind farm siting issue back to the forefront of public policy debate in North Dakota. At the center of the debate is the issue of mandatory set-backs from a wind farm perimeter. The main concern is the protection of adjacent landowner wind resources.

Background

In the design of a wind farm, it is important to pay attention to the arrangement and spacing of the wind turbines relative to the prevailing winds. The reason is that the turbulence (wake effect) from an upwind turbine can have a negative effect on the energy production of wind turbines that are down wind. As the wind turbines are spaced farther apart, the wind has a chance to straighten back out before it reaches the next turbine, which minimizes the wake effects.

Some states have established mandatory spacing requirements that control the minimum distance (setback) that a wind turbine must be placed from the perimeter of the wind farm. From an engineering point of view, the wind must travel a distance equal to approximately 10 wind turbine rotor diameters (RD's) in order to straighten out and have the same energy potential that it did when it passed through the first wind turbine's rotor. For this reason, Minnesota requires a minimum setback of 5 RD's. That way, if two adjoining wind farms each maintain the 5 RD's, the wind turbines from the two projects will have a total separation distance equal to 10 RD's, preserving each wind farm owner's wind resource.

The underlying assumptions behind the mandatory setback are that the wind turbines are aligned with the prevailing winds and that the adjacent property is suitable for wind development, which may or may not be the case.

Wind Energy Council Recommendations

The Wind Energy Council would like to offer the following recommendations for consideration regarding the wind farm siting issues in North Dakota.

It would be best to implement a uniform set of wind farm siting criteria at the state level and WEC would welcome the opportunity to participate in a constructive dialogue to discuss the issues.

- Having different siting criteria from County to County or Township to Township will make it more complicated and potentially more costly to develop projects.
- It would be best to appoint one agency to administer and enforce the siting regulations, so that requests for variances are handled in a consistent and impartial manner.

If not implemented properly, mandatory setbacks from a wind farm perimeter will have a negative impact on wind development in North Dakota.

- Arbitrarily requiring wind farms to maintain a 5 RD setback along the wind farm perimeter will eliminate some good potential land parcels from wind development unless an agency or person has the authority to exercise judgment and grant variances.
- Wind farms are typically developed on prominent land features such as hills and ridgelines. In many cases, the adjacent land is not suitable for wind energy development because it is not on the high ground.
- The quality of the wind resource is critical to the revenue of the wind farm. It is in every wind farm owner's best interest to protect their wind resource by entering into agreements with adjacent landowners to ensure that another wind farm or other tall structure that would interfere with the wind resource is not built too close to the wind turbines.

Over the last two years, the Wind Energy Council has organized and conducted a series of meetings that were attended by a broad range of individuals, landowners, communities, organizations, and companies that consider themselves to be stakeholders in North Dakota's wind energy future. The primary purpose for the meetings was to achieve consensus on what the important issues are and what legislation may be needed to further promote wind development and ensure that North Dakota's landowners and citizens are treated fairly.

From these meetings, a set of draft minimum guidelines were created for the siting of wind turbines. While not a comprehensive list, it represents the items upon which consensus was reached. Consensus was not reached on the issue of mandatory setbacks. The group felt that it would be best for everyone if these guidelines were implemented uniformly across the state. However, the best way to achieve this remained subject to debate. The group decided to reach out to the County Commissioners and make the guidelines available to any Commissioners that had an interest, rather than approaching the State Legislature. For your reference, a copy of the draft guidelines is attached to this letter.

Thank you for your consideration in these matters. Resolving the issues surrounding siting wind turbines is clearly in the best interest of the State and the wind industry so that robust wind development can occur as efficiently as possible. I would be happy to address any questions.

Respectfully submitted,

Jay Haley

Jay Haley, Chairman
Wind Energy Council

DRAFT

ND Wind Energy Stakeholders Coalition

Recommended Minimum Guidelines For the Siting of Wind Turbines

July 25, 2005

Setbacks

- Public Roads – 1.1 x overall height to tip of blade at highest point
- Occupied Residence – 500 ft
- Icing – 1.5 x (hub height + rotor diameter)

Towers

- Tubular towers only, no lattice style
- Non-reflective paint/coatings on tower, nacelle, and blades

Collection System

- No overhead lines within wind farm perimeter

Lighting

- Minimum lighting of turbines as per FAA requirements
- No additional lighting on turbines.