

**STATE OF MINNESOTA
MINNESOTA ENVIRONMENTAL BOARD**

In the Matter of the Request of Trimont Wind I, LLC, for Approval to Amend Its Site Permit for a 100.5 MW Large Wind Energy Conversion System in Martin and Jackson Counties To Allow Three Wind Turbines to be Located Within Five Rotor Diameters of the Site Boundary

**MINNESOTA ENVIRONMENTAL
QUALITY BOARD'S FINDINGS OF
FACT, CONCLUSIONS OF LAW AND
ORDER GRANTING APPROVAL FOR
TURBINE SETBACK REQUIREMENTS
AND AMENDING THE PERMIT**

SITE PERMIT NO. 03-72-LWECS-TRIMONT

The above-entitled matter came before the Minnesota Environmental Quality Board at a regular meeting on October 21, 2004, pursuant to a request by Trimont Wind I, LLC, for an amendment to its site permit issued on June 17, 2004, to allow three wind turbines to be located within five rotor diameters of the site permit boundary.

STATEMENT OF ISSUE

Should the MEQB grant the request of Trimont Wind I, LLC to amend Condition III.C.1. of Site Permit 03-72-LWECS-Trimont issued on June 17, 2004, and allow Trimont to locate three turbines within five rotor diameters of areas where Trimont does not hold the wind rights?

Based upon the record and proceedings herein, the Minnesota Environmental Quality Board makes the following:

FINDINGS OF FACT

1. On June 17, 2004, the Minnesota Environmental Quality Board issued a site permit in accordance with its authority in Minnesota Statutes section 116C.694 to Trimont Wind I, LLC, for a 100.5 megawatt large wind energy conversion system in Martin and Jackson Counties.
2. Once a large wind energy conversion system site permit is issued, project developers engage in micrositing of the turbines. Micrositing allows the permittee to factor in the site permit requirements while seeking to maximize production and reduce the infrastructure costs associated with project development.

3. Since receiving approval of the Site Permit, Trimont has begun its micrositing efforts. Trimont has conducted geotechnical work at the site and has continued to monitor the wind resource in the area and to make minor refinements of the layout of the turbines to optimize project performance.
4. Condition III.C.1 of the Site Permit provides that the wind turbines shall not be placed less than 5 rotor diameters from the boundary of any property on which the permittee does not hold the wind rights. The purpose of this condition is to insure that the wind turbines do not interfere with the rights of neighboring landowners to utilize the wind resource on their property. When wind turbines extract energy from the wind, they change the air flow behind the turbine (downwind wakes). The air flow in the wake is more turbulent and its forward velocity is reduced. As the wake moves away from the turbine's rotor, it expands into the atmosphere and diminishes. Eventually, normal wind flow is restored by mixing the unaffected wind flows around the wake with the wake. The effects of wakes are significantly dissipated at a distance of ten rotor diameters. Therefore, the EQB has required a five rotor diameter setback in site permits, so that one project would not affect another one, thereby protecting the wind resource of each developer.
5. In a letter dated September 30, 2004, Trimont requested that the EQB allow the placement of three wind turbine towers closer than 5 rotor diameters from the site permit boundaries. The three turbines are numbers 7, 31, and 43. Trimont has provided a map displaying the turbine locations in question. This map is included in the EQB packet.
6. Turbine No. 7 is located in Section 36 of Jackson County. A drainage channel runs to the north and east of the proposed location for this turbine. Trimont would like to locate this turbine at a distance of 1292 feet from the drainage channel, which is equivalent to approximately 4.8 rotor diameters.
7. The drainage channel is not a suitable location for a wind turbine. Allowing Trimont to place a wind turbine less than 5 rotor diameters from the channel will not interfere with possible development of the wind resource in the future.
8. Turbines Nos. 31 and 43 are located in Section 20 of Martin County. The proposed locations for these two turbines are less than 5 rotor diameters from a nearby cemetery. Turbine No. 31 would be 980 feet from the cemetery, approximately 3.6 rotor diameters, and Turbine No. 43 would be 990 feet from the cemetery, approximately 3.7 rotor diameters.
9. No wind turbines will be located in the cemetery and any nearby wind turbines that might be constructed in the future will be more than 5 rotor diameters from Turbines Nos. 31 and 43.
10. The EQB allowed one other wind developer (Moraine Wind, LLC) to locate turbines less than five rotor diameters from the site boundary when such location

would not interfere with possible future development. This was done on February 20, 2003, when the Board amended Site Permit 01-10-LWECS-NE for a project in Murray and Pipestone Counties.

11. Minnesota Rules part 4401.0700 provides that the EQB can amend a site permit for a LWECS upon the request of any person, with notice to the permittee. In this case the permittee is the person who has requested the amendment.
12. The only amendment requested by Trimont is on the language of Condition III.C.1. Trimont has not requested an amendment of any other condition of the permit and the permit will remain in effect as issued on June 17, 2004.

Based on the foregoing Findings of Fact, the Board makes the following:

CONCLUSIONS

1. Minnesota Statutes section 116C.694 gives the MEQB authority to place conditions in a site permit and to modify a site permit.
2. Allowing Trimont Wind I, LLC, to construct the requested three turbines within five rotor diameters of a drainage channel and a cemetery will not result in an adverse impact on any neighboring landowners, nor jeopardize the development of future wind projects in the area.
3. Any Finding of Fact more properly considered a Conclusion, or any Conclusion more properly considered a Finding of Fact, is hereby expressly adopted as such.

Based on the Findings of Fact and Conclusions contained herein, and the entire record of the proceeding, the Minnesota Environmental Quality Board hereby makes the following:

ORDER

1. The Minnesota Environmental Quality Board hereby grants approval to Trimont Wind I, LLC. to locate Turbines Nos. 7, 31, and 43 closer than five rotor diameters from the property boundary and in the approximate locations shown on Exhibit A.
2. Condition III.C.1. in Site Permit No. 03-72-LWECS-Trimont is amended to read as follows:

1. WIND ACCESS BUFFER

Wind turbine towers shall not be placed less than 5 rotor diameters from the perimeter of the site without the approval of the MEQB. Wind turbine towers within the project boundaries shall not be placed less than 5 rotor diameters from the boundary of any property on which the Permittee does not hold the wind rights, except one turbine may be no less than four rotor diameters from a nearby drainage channel and two turbines may be no less than three rotor diameters from a nearby cemetery.

3. The enclosed map of the proposed locations of the wind turbines shall be incorporated into the Site Permit as amended.

Approved and adopted this 21st day of October, 2004



Robert A. Schroeder
Chair