

PUC docket IP-7002/CN-19-154 and IP-7002/WS-19-576  
Three Waters Wind Project

We attended a public information meeting on wind turbine siting held in Brewster, Minnesota in March 2019. Several people from Minnesota, Iowa, and South Dakota who live amongst existing wind power farms shared their stories of the negative effects of having a wind turbine sited on one's land or near one's residence. Their experiences suggested that wind turbine noise and shadow flicker cause significant health effects, discomfort, and reduced quality of life. It was stated that sleep deprivation is a primary complaint of those living near modern turbines. Headaches are another common complaint. Property owner after property owner made their case that the current setback distances are considerably inadequate.

Increased setback requirements would not prevent future wind farm development projects. As automation and economics have driven farm consolidation over recent decades, there are fewer and fewer farm residences on the local agricultural landscape. There are many sections of agricultural land which currently contain no farmsteads. Wind turbines could be sited in the interior of such uninhabited sections thereby providing considerably greater setback distances from existing farmstead habitations or city residences. Other sections may have only one or two aging building sites with limited future viability as a residence, for which a wind power developer could voluntarily negotiate with the property owner to buy out the farmstead thereby providing the financial means for the resident to move to another location or to retire to a nearby town. Compared to the millions of dollars required to erect a single turbine, the cost to site a turbine on an uninhabited section, or to buy out an aging farmstead, is likely to be minimal, therefore we believe that increased setback standards would not present an undue financial burden on wind power development.

One person shared a story of winter ice released from turbine blades being flung several hundred feet severely damaging the roof/side of a semi-trailer passing by on a neighboring highway. If that thrown ice had hit the truck cab, or a passenger vehicle, someone may have been killed.

Anecdotes suggest that shadow flicker can also cause significant problems. Even with shades drawn, room light levels may be significantly impacted by blade shadows passing over one's house windows. For farmers working outside, for instance repairing a piece of machinery or repairing a building, the constantly varying light levels from blade shadows passing over you at typical blade passing intervals of approximately once per second are likely to make it difficult to see the details or position of whatever tool, nail, screw, or other small item you are handling. The human iris is remarkable in its ability to adapt to different light levels, but it takes some time for it to adjust. In nature, light levels generally change more slowly, and not repeatedly second by second. Turbines should be sited so as not to cast shadows on inhabited farmsteads or other residences or worksites.

It was mentioned at the Brewster meeting that the state of Minnesota has not yet commissioned a study specifically to investigate wind turbine noise, vibration, pressure pulsation, shadow, icing, and other potential harmful effects or hazards in order to establish prudent state setback standards.


While we fully appreciate the environmental benefits of a carbon free source of electrical energy, and the economic benefits a wind turbine project may bring to the local area and the state, we urge the Public Utilities Commission and Department of Commerce to initiate a state funded and directed study to investigate the noise emissions (both in the audible and inaudible ranges as low frequency vibrations or pressure pulsations can effect human organs and the nervous system), ground-transmitted vibrations, and shadow flicker effects of large, and ever increasing in size, modern wind turbines. The state should hire independent academic and technical experts to scientifically measure and study these noise, vibration, pressure pulsation, shadow, and icing effects in order to establish appropriate setback distances from residences, worksites, roads, and property lines to protect the health, safety, well-being, and quality of life of those who live, work, or travel nearby.

Such a study should be required as part of the environmental impact study for this Three Waters Wind Project and would then also be available to safely and fairly guide this and other future wind power development projects. Furthermore, we request that the state impose such scientifically determined minimum setback distances as conditions on the design and operation of the project. We believe it would be prudent to perform such a state study now in order to ensure that future millions or billions of dollars worth of wind power development are designed and sited in a safe and effective manner and may serve the public productively for years to come.

*Lila, Mitch and Miles Voehl  
Lakefield, MA 05615  
507-662-6129*

# Comment Form: Preliminary Draft Site Permit and Environmental Report Scoping Energy Environmental Review and Analysis

Please provide your contact information. This information and your comments will be publically available.

Name: \_\_\_\_\_ Phone: \_\_\_\_\_  
Street Address:  Mr. Mike Handzus  
73833 State Highway 86  
City: Lakefield, MN 56150 State: \_\_\_\_\_ ZIP: \_\_\_\_\_  
Email: \_\_\_\_\_

Share your comments on the proposed Three Waters Wind Farm project. Be as specific as possible.

- What potential human and environmental impacts of the proposed project should be assessed in the environmental report and addressed in the preliminary draft site permit prepared for the project?
- What are the possible methods to address (avoid, minimize, or mitigate) the potential impacts of the proposed project?
- Are there other ways to meet the stated need for the project, instead of the proposed wind farm? What system alternatives to the project should be assessed in the environmental report?
- Are there any unique characteristics of the proposed site or the project that should be considered?
- Are there any items missing or mischaracterized in the Certification of Need or Site Permit Applications?
- Are there other project related issues or concerns?

Recycling blades, this is something that need to be done no matter who is building wind farms in the state. There was at one time a company in Florida that was doing this. I don't know if they are still doing this.

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Energy Environmental Review and Analysis  
MN Department of Commerce  
85 7th Place East, Suite 280  
Saint Paul, MN 55101-2198

Affix  
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Here

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## Public Comment Period Closes Friday, February 28, 2020

Comments must be post-marked or received electronically by the comment deadline.

### *How to comment:*

- Submit this form to the Environmental Review Manager at a public meeting
- Mail this form remembering to affix appropriate postage
- Mail comments in a separate envelope to the address on this form
- Fax comments to the Environmental Review Manager: (651) 539-0109
- Email comments to the Environmental Review Manager: richard.davis@state.mn.us
- Use the online comment form at: <https://mn.gov/eera/web/project/13761/>

Comments do not need to be on this form to be accepted. We encourage you to provide comments in whatever way is most convenient for you. If commenting by email or fax use "Public Comment: Three Waters Wind Project (CN-19-154 and WS-19-576)" in the subject line.

THANK YOU for participating in the permitting process! By commenting you are helping inform the Minnesota Public Utility Commission's decision regarding this project.

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### *Comment Period: Preliminary Draft Site Permit and Environmental Report Scoping*

Three Waters Wind Farm  
Docket Nos. CN-19-154 and WS-19-576

Three Waters Wind Farm, LLC (Applicant) has filed a certificate of need application and a site permit application with the Commission for an up to 201 megawatt large wind energy conversion system (LWECS).

Please share your comments on the proposed project. Comments will be used to help to develop the scope of the environmental report and the preliminary Draft Site Permit on the potential human or environmental impacts and issues important to making an informed permit decision. Please be as detailed as possible. Use additional pages as needed. Contact the Environmental Review Manager, Richard Davis, with any questions about commenting or how to submit your comment(s).

For project information visit: <https://mn.gov/eera/web/project/13761/> or contact the Environmental Review Manger at: richard.davis@state.mn.us or (651) 539-1846.

**From:** [D. Fisher](#)  
**To:** [Davis, Richard \(COMM\)](#)  
**Subject:** Public Comment: Three Waters Wind Project (CN-19-154 and WS-19-576)  
**Date:** Thursday, February 27, 2020 10:31:33 PM  
**Attachments:** [Three Waters-Public Comments-DF.pdf](#)  
[SV Township Road Flooding 2019.pdf](#)

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Rich,

Please review and submit these documents of Sioux Valley Township concerns to the commissioners.

Thank you,  
Dave Fisher  
Sioux Valley Township Chairman