



any interested person, may be granted party status in this proceeding by making written application to the Commission. Applications for party status will be available at the public input hearing or may be obtained from the Commission's web site or by contacting the Commission. **Applications for party status must be received by the Commission on or before 5:00 P.M. CDT on July 30, 2018.**

Following the public input hearing, the Commission may schedule a formal evidentiary hearing conforming to SDCL Chapter 1-26 to consider any issues raised by any intervening party, the Commission's staff, or the Commission itself. At such formal hearing, all parties will have the opportunity to appear, present evidence, and cross-examine the other parties' witnesses and exercise all other rights afforded by SDCL Chapters 1-26, 49-1, and 49-41B and ARSD Chapters 20:10:01 and 20:10:22, including rights of appeal to the courts. Absent a contested issue, the Commission will schedule the matter for decision at a regular or ad hoc meeting of the Commission.

In order to receive a wind energy facility permit from the Commission, the Applicant must show that the proposed Project will: 1) comply with all applicable laws and rules, 2) will not pose a threat of serious injury to the environment nor to the social and economic condition of inhabitants or expected inhabitants in the siting area, 3) will not substantially impair the health, safety or welfare of the inhabitants, and 4) will not unduly interfere with the orderly development of the region with due consideration having been given to the views of governing bodies of affected local units of government. Based upon these criteria, the Commission will decide whether the wind energy facility permit should be granted, denied, or granted upon such terms, conditions, or modifications of the construction, operation, or maintenance as the Commission finds appropriate. It is therefore

**ORDERED**, that the Commission will hold a public input hearing on **July 12, 2018, at 5:30 P.M. CDT at the Avon School, 210 Pine St., Avon, S.D.** It is further

**ORDERED**, that pursuant to **SDCL 49-41B-17 and ARSD 20:10:22:40**, applications for party status must be filed on or before 5:00 P.M. CDT on July 30, 2018.

Pursuant to the Americans with Disabilities Act, this hearing will be held in a physically accessible location. Please contact the Public Utilities Commission at (605) 773-3201 or (800) 332-1782 at least 48 hours prior to the public input hearing if you have special needs so arrangements can be made to accommodate you.

Dated at Pierre, South Dakota, this 1<sup>st</sup> day of June 2018.

CERTIFICATE OF SERVICE	
The undersigned hereby certifies that this document has been served today upon all parties of record in this docket, as listed on the docket service list, electronically or by mail.	
By:	<u>Adam deHueck</u>
Date:	<u>6/11/18</u>
(OFFICIAL SEAL)	

BY ORDER OF THE COMMISSION:

Kristie Eiegen  
KRISTIE EIEGEN, Chairman

Gary Hanson  
GARY HANSON, Commissioner

Chris Nelson  
CHRIS NELSON, Commissioner

# South Dakota Public Utilities Commission Information Guide to Siting Energy Conversion & Electric Transmission Facilities

This guide is intended to offer a simple overview of the Public Utilities Commission’s process in making a decision to approve or deny the construction of an energy conversion facility, AC/DC conversion facility, wind energy facility, or electric transmission facility in South Dakota. This guide is informational and does not address all situations, variations and exceptions in the siting process and proceedings of the PUC. For additional information, see South Dakota Codified Laws Chapter 49-41B ([www.sdlegislature.gov/Statutes/Codified\\_Laws](http://www.sdlegislature.gov/Statutes/Codified_Laws)) and South Dakota Administrative Rules Chapter 20:10:22 ([www.sdlegislature.gov/Rules/RulesList.aspx](http://www.sdlegislature.gov/Rules/RulesList.aspx)).

## PUC Authority

The South Dakota Legislature gave the PUC authority to issue permits for energy conversion, AC/DC conversion, wind energy and electric transmission facilities. An energy conversion facility is a generation facility, other than a wind generation facility, capable of generating 100 megawatts or more of electricity. In considering applications, the commission’s primary duty is to ensure the location, construction and operation of the facilities will produce minimal adverse effects on the environment and the citizens. The commission determines these factors based on definitions, standards and references specified in South Dakota Codified Laws and Administrative Rules. For energy conversion facilities, AC/DC conversion facilities and transmission facilities, the PUC has one year from the date of application to make a decision; six months for wind energy facilities.

The commission strives to issue a reasoned decision and conditions where appropriate that uphold the law and discourage a potentially expensive and lengthy appeal process.

In rendering its decision, the commission may grant the permit, deny the permit, or grant the permit with terms, conditions or modifications of the construction, operation or maintenance as the commission finds appropriate and legally within its jurisdiction. The commission does not have authority to change the route or location of a project. The decision of the commission can be appealed to the circuit court and, ultimately, to the South Dakota Supreme Court.

The PUC is not involved in the easement acquisition process that occurs between applicants and landowners. Likewise, the PUC does not have a role in the eminent domain process, which is handled in the circuit court system. Landowners with concerns

about these issues should seek advice from their personal attorney.

## Applicant Responsibility

The applicant that seeks the PUC’s approval must show its proposed project:

- will comply with all applicable laws and rules;
- will not pose a threat of serious injury to the environment nor to the social or economic condition of inhabitants or expected inhabitants in the siting area;
- will not substantially impair the health, safety or welfare of the inhabitants; and
- will not unduly interfere with the orderly development of the region with due consideration having been given to the views of the governing bodies of affected local units of government.

## PUC Staff Role

PUC staff members assigned to work on a siting case typically include one attorney and multiple analysts. Staff attorneys have educational and practical experience in administrative law, trial procedure and business management principles. Staff analysts have expertise in engineering, research and economics. Some of the work the staff does involves reviewing data and evidence submitted by the applicant and intervenors, requesting and analyzing opinions from experts, and questioning the parties. The staff considers the information relative to state laws and rules and presents recommendations to the Public Utilities Commissioners.

## Public Involvement

South Dakotans, as well as anyone else with an interest in a siting case, have a variety of ways to stay informed and involved. Read more on back.

**Review the electronic docket.** A docket is the continually updated collection of documents filed with the commission for a particular case. Dockets are accessible under the Commission Actions tab on the PUC website, [www.puc.sd.gov](http://www.puc.sd.gov). Dockets are labeled to correspond with their type and filing date. For example, the Prevailing Wind Park wind energy facility docket is EL18-026; EL for electric, 18 for the year 2018 and 026 to indicate it was the 26<sup>th</sup> electric docket filed with the commission in 2018.

**Attend a public input hearing.** The PUC will hold a public input hearing on a siting case, with 30 days notice, as physically close as practical to the proposed facility site. At the hearing, the applicant describes its project and the public may ask questions and offer comment. PUC commissioners and staff attend this hearing. The discussion is documented and becomes part of the record.

**Submit comments.** Members of the public are encouraged to submit written comments about an active siting case to the PUC. These ***informal*** public comments are reviewed and considered by the PUC commissioners and staff. Comments should include the docket number or siting project name, commenter's full name and full mailing address. Email address must be included for comments submitted by email. These comments should be emailed to [puc@state.sd.us](mailto:puc@state.sd.us) or mailed or hand-delivered to PUC, 500 E. Capitol Ave., Pierre, SD 57501. Comments are posted in the "Comments" section of the docket within a reasonable time after having been received. The commenter's name, city and state will be posted along with their comment. Comments received from businesses, organizations or other commercial entities (on letterhead, for example) will include the full contact information for such.

Please follow these guidelines when submitting written comments to the PUC:

- For comments sent by email, the maximum file size is 10 MB. If you have questions, please contact South Dakota PUC staff at 605-773-3201 (Monday – Friday, 8 a.m. – 5 p.m. Central Time).
- For comments sent by U.S. mail or hand delivered, no more than twenty (20) 8.5" x 11" pages, including attachments and support materials, should be submitted with a comment. Sheets with printing on both sides are counted as two pages.
- A reference document, article or other attachment not written by the person

commenting should clearly identify the source of the content. The inclusion of any copyrighted material without accompanying proof of the commenter's explicit right to redistribute that material will result in the material being rejected.

- In instances where individual comments are deemed to be a duplicate or near duplicate copies of a mass message campaign, the PUC will post only a representative sample and list the name, city and state of the commenter.
- Comments containing threatening language or profanity will be rejected.
- Multimedia submissions such as audio and video files will not be accepted as written comments.
- Electronic links will not be accepted.

**Become an intervenor.** Individuals who wish to be **formal** parties in a siting case may apply to the PUC for intervenor status. The intervention deadline is clearly indicated within the docket. Intervention is appropriate for people who intend to actively participate in the case through legal motions, discovery (requests for facts or documents), the written preparation and presentation of actual evidence, and in-person participation in a formal hearing. Intervenors are legally obligated to respond to discovery from other parties and to submit to cross-examination at a formal hearing. Individuals seeking only to follow the progress of a siting case or to offer comments for the PUC's consideration need not become intervenors.

**Communicate on record.** Verbal communication between a commissioner and a person with an interest in a matter before the commission that does not occur in a public forum or as part of the official record should be avoided. Those who communicate in writing with a commissioner about an open or imminent docket matter should understand that their comments will become part of the official record and subject to review by all parties and the public. Likewise, comments made at a PUC public proceeding or submitted to the commission relative to a docket matter become part of the record, open to review by all parties and the public. Because commissioners have a decision-making role in docket matters, any discussion with a commissioner about an open or imminent docket must take place in an open forum, such as a public meeting, with notice given to all parties.

**South Dakota Public Utilities Commission**  
500 E. Capitol Ave., Pierre, SD 57501  
1-800-332-1782; 605-773-3201  
[www.puc.sd.gov](http://www.puc.sd.gov); [puc@state.sd.us](mailto:puc@state.sd.us)



BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF SOUTH DAKOTA

**IN THE MATTER OF THE APPLICATION BY )  
PREVAILING WIND PARK, LLC FOR A )  
PERMIT OF A WIND ENERGY FACILITY IN )  
BON HOMME COUNTY, CHARLES MIX )  
COUNTY AND HUTCHINSON COUNTY, )  
SOUTH DAKOTA, FOR THE PREVAILING )  
WIND PARK PROJECT )**

APPLICATION FOR PARTY  
STATUS

**9@%8!\$26**

\_\_\_\_\_  
(Name of Applicant, this will be the person or entity named as a party)

petitions the Public Utilities Commission to be granted party status in the above-referenced facility permit proceeding.  
Pursuant to SDCL 49-41B-17 and ARSD 20:10:22:40

Briefly explain your interest in this permit proceeding. Form is limited to 1000 characters.  
(Example: Landowner in project area).

\_\_\_\_\_  
Signature of Applicant

\_\_\_\_\_  
Print or Type Name

Address: \_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
Phone Number

\_\_\_\_\_  
E-mail Address

\_\_\_\_\_  
Name of Organization (if applicable)

\_\_\_\_\_  
Date

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, 2018.

\_\_\_\_\_  
Notary Public

(Seal)

My Commission expires: \_\_\_\_\_

NOTE: Consistent with SDCL 49-41B-17 and ARSD 20:10:22:40, this application must be filed with the Public Utilities Commission on or before 5:00 p.m. CDT, July 30, 2018, unless the deadline is extended by the Commission.

Executive Director  
South Dakota Public Utilities Commission  
500 E. Capitol Ave.  
Pierre, SD 57501-5070  
Electronic Filing: <http://puc.sd.gov/EFilingOptions.aspx>



# Prevailing Wind Park Project

Bon Homme, Charles Mix, and Hutchinson Counties, South Dakota

South Dakota Public Utilities Commission

*Public Input Hearing July 12, 2018*



# About sPower

## Renewable Energy. Sustainable Future.™



**150+ Projects**  
North America

**5 Billion kWh Generated**  
And Counting

**1.3 GW**  
Operating Assets

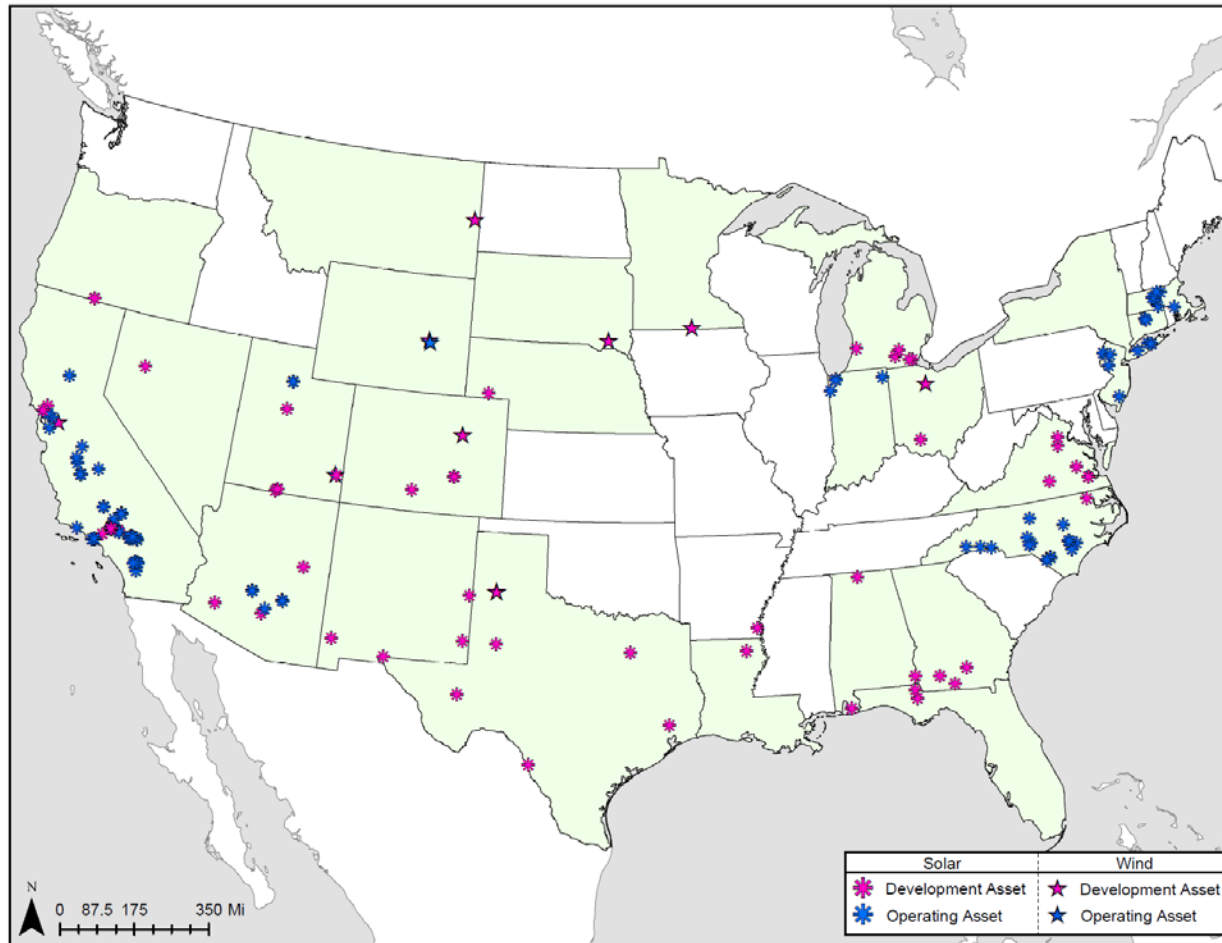
**13+ GW**  
Operating | Construction | Pipeline



001411

# sPower Projects

1.3GW | 5,145,000,000 kWh Generated



001412

# Prevailing Wind Park

## Project Overview

**Owner:** Prevailing Wind Park, LLC (2017)

**Capacity** = 219.6 MW

**Land** = 100% of land under easement, approximately 50,364 acres

### Proposed Facility

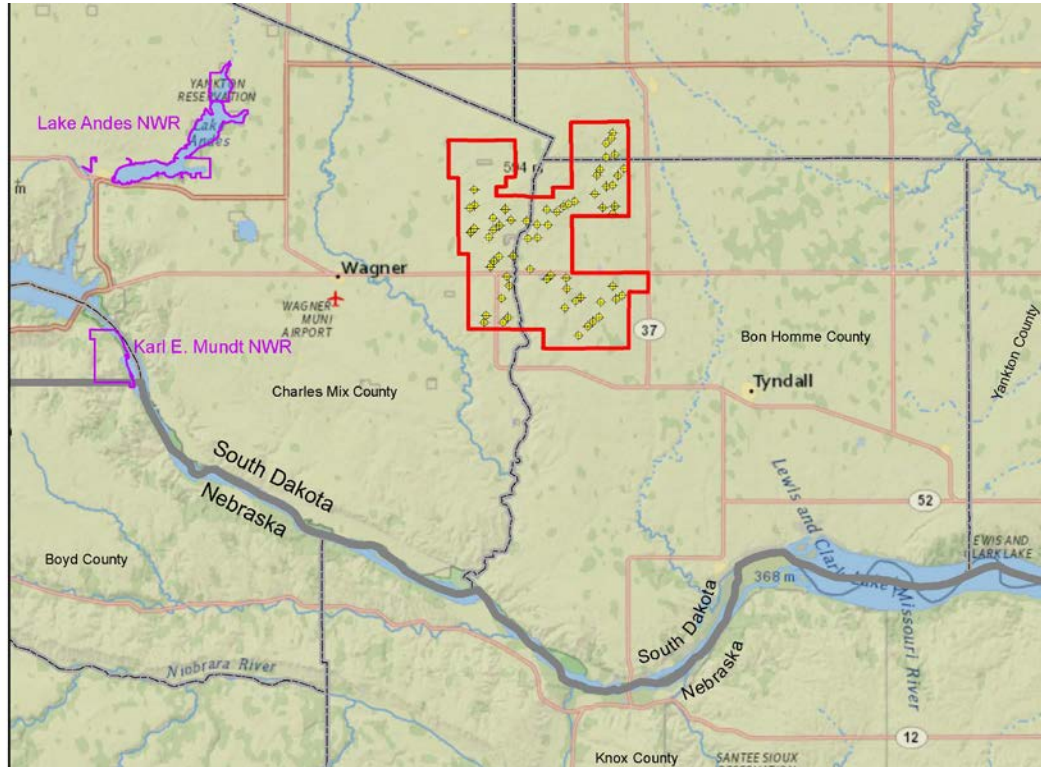
- Up to 61 turbines in Bon Homme, Charles Mix, and Hutchinson counties.
  - Maximum turbine height: 590 feet
  - Maximum rotor diameter: 449 feet
- Access roads, crane paths, collector lines, and fiber-optic cables
- Operations and maintenance facility
- Up to 4 permanent meteorological towers
- Project substation

001413



# Prevailing Wind Park

## PROJECT CONFIGURATION



001414

# Prevailing Wind Park

## Project Need / Schedule

**Power Purchase Agreement:** Basin Electric Power Cooperative

**Interconnection:** Western Area Power Administration Utica Junction Substation

### Milestones:

Fourth Quarter 2018

- SDPUC Permit
- WAPA completes environmental review
- Other Federal, State and local permits
- Construction Start

Fourth Quarter 2019

- Commercial Operation Date

001415

# Prevailing Wind Park

## Site Selection

- Strong wind resource
- Compatible land use
- Available transmission: WAPA  
Utica Junction Substation
- Community and landowner support

001416

# Prevailing Wind Park

## Studies Conducted

Study	Dates	Status
Tiers 1 and 2 Report	June 2016	Complete
Raptor Nest Survey	April 2016	Complete
Avian Use Surveys – Year One	March 2015-February 2016	Complete
Avian Use Surveys – Year Two	May 2016-April 2017	Complete
Whooping Crane Habitat Review	August 2016	Complete
Bald Eagle Nest Monitoring	March-July 2015 May-September 2016	Complete
Bird and Bat Conservation Strategy	May 2018	Complete
Northern Long-Eared Bat Acoustic Survey	July-August 2015	Complete
Northern Long-Eared Bat Presence/Absence Survey	July-August 2016	Complete
Rare Plant Habitat Assessment	May-June 2018	Complete
Native Grassland Field Verification	May-June 2018	Complete
Wetland Desktop Determination	March 2018	Complete
Wetland Field Delineation	May-June 2018	Complete
Cultural Resources Literature Search	April 2018	Complete
Cultural Resources Desktop Review and Construction Grid	April 2018	Complete
Cultural Resources Archeological Survey	June-July 2018	In process
Historical/Architectural Survey	June-July 2018	In process
Engineering Report on Effects to FCC-Licensed RF Facilities	April 2016	Complete
Sound Study	April 2018	Complete
Shadow Flicker Analysis	May 2018	Complete

001417

# Prevailing Wind Park

## Agency Coordination

Throughout Project planning and development, the Applicant and its predecessor, Prevailing Winds, LLC, have coordinated with various Federal, State, and local agencies and governmental authorities to identify potential concerns regarding the proposed Project. The Applicant has coordinated with:

- USFWS and SDGFP
- WAPA (SHPO and Tribes)
- PUC
- Counties
- Townships

001418



# Prevailing Wind Park

## Regulatory Compliance

The Project complies with all Federal, State, and local laws.

### **State Wind Turbine Setback:**

- At least 500 feet or 1.1 times the height of the tower, whichever is greater, from any surrounding property line

### **Bon Homme County Wind Turbine Setbacks (used in all three counties):**

- At least 1,000 feet from currently occupied off-site residences, business and public buildings
- At least 500 feet from the residence of the landowner on whose property the tower(s) are erected or 1.1 times the system height, whichever is greater
- At least 500 feet from right-of-way of public roads or 1.1 times the system height, whichever is greater
- At least 500 feet or 1.1 times the system height, whichever is greater, from property line from adjoining property owner, unless appropriate easement obtained

001419

# Prevailing Wind Park

## Regulatory Compliance (cont'd)

### **Bon Homme County Noise Standard (met in all three counties):**

- Noise level produced shall not exceed 45 dBA at inhabited dwelling existing at the time the permit application is filed, unless a signed waiver or easement is obtained from the owner of the dwelling. Acoustic studies demonstrate levels will be below 42 dBA.

### **Shadow Flicker Commitment (all three counties):**

- Shadow flicker produced by the wind turbines will not exceed 30 hours per year at currently inhabited dwellings of non-participants.

001420

# Prevailing Wind Park

## Voluntary Commitment – ADL System

**sPower will install an Aircraft Detection Lighting System (ADLS) on Project turbines pending approval by FAA**

Tall structures are required to be lit by the FAA as a safety precaution for pilots. The ADLS is designed to mitigate the impact of nighttime lights by deploying a radar-based system around a windfarm, turning lights on only when low-flying aircraft are detected nearby. The ADLS sends a signal to keep the light off until a plane is detected, then it stops sending the signal and the lights operate normally until the plane leaves the area and the off signal resumes.

001421

# Prevailing Wind Park

## Workforce and Jobs

### Local Workforce Development

- Career Fairs and Training
- Helmets to Hardhats – sPower puts our veterans to work by training quality men and women in the armed forces for construction careers.

### Local Jobs

- Peaking at an estimated 245 workers per day over 12 months.
- Approximately 8-10 full time employed workers in the Project area.

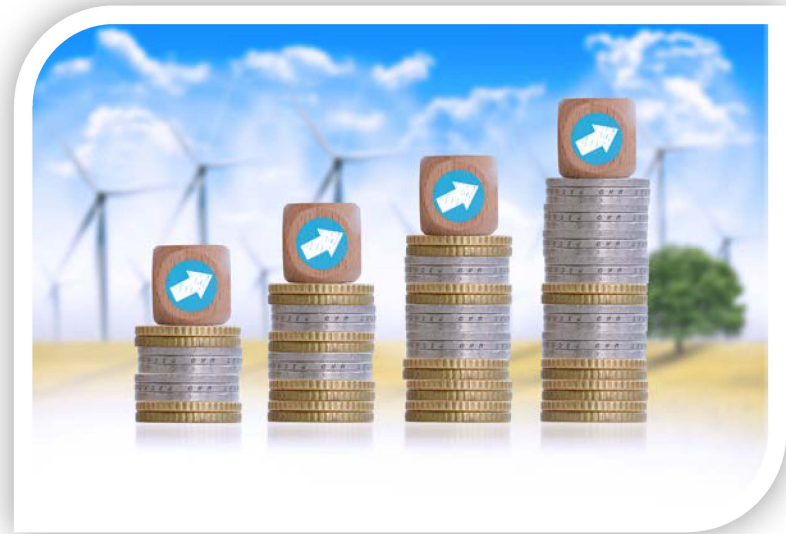


001422

# Prevailing Wind Park

## Benefits to Local Community

- \$1.2 million in annual income to landowners.
- Approximately \$743 thousand in annual tax revenues for Bon Homme, Hutchinson and Charles Mix counties, school and townships
- Up to \$100 million invested in construction activity alone
- Approximately \$11.1 million in State tax revenue from Project operations over the life of the Project



001423



# Prevailing Wind Park

## Coordination

### Coordination with Landowners and Local Authorities



001424

# Prevailing Wind Park

## Wind Farm Construction

### **Construction Activities:**

- Access Roads
- Foundation
- Equipment Delivery
- Erection of Wind Turbines
- Collector System
- Substation
- Restoration

001425

# Prevailing Wind Park

## Wind Farm Construction

### Access Roads



001426

# Prevailing Wind Park

## Wind Farm Construction

### Foundations



001427



# Prevailing Wind Park

## Wind Farm Construction

### Equipment Delivery



001428



# Prevailing Wind Park

## Wind Farm Construction

### Erection of turbines



001429

# Prevailing Wind Park

## Wind Farm Construction

### Collector System



### Substation



001430

# Prevailing Wind Park

## Wind Farm Construction

### Post-construction Restoration



001431

# Prevailing Wind Park

## Operations Overview

### Remote Monitoring

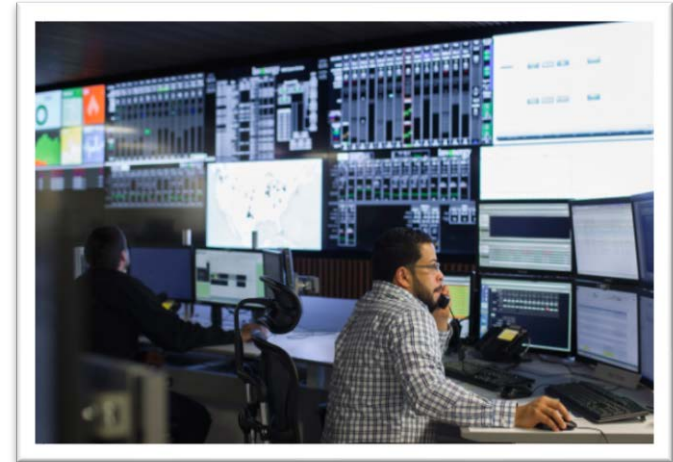
- 24-7 / 365 days a year remote monitoring
- Supervisory Control and Data Acquisition (SCADA) system
- Automatic remote shutdown capabilities.

### Maintenance

- sPower will regularly inspect Project Sites to ensure all components are operating properly
- Turbine supplier will provide initial maintenance; sPower construction and operations staff will be on-call in the event of a maintenance issue

### Security

- Project Sites will be fenced off with security access gates
- Securely installed enclosed electrical equipment
- Security lighting and cameras



001432



# Prevailing Wind Park

## Decommissioning

### Decommissioning



001433



# Prevailing Wind Park

## Decommissioning

- Project owner will be responsible for removing facilities at end of commercial operations.
- Project owner will provide financial assurance as permits and applicable law require.
- Turbine and substation foundations will be removed to a depth of 48 inches unless otherwise agreed to by the landowner

001434

# Prevailing Wind Park



[www.spower.com](http://www.spower.com)

001435





South Dakota Public Utilities Commission

EL18-026- In the Matter of the Application by Prevailing Wind Park, LLC for a Permit of a Wind Energy Facility in Bon Homme County, Charles Mix County and Hutchinson County, South Dakota, for the Prevailing Wind Park Project- Public Input Hearing

July 12, 2018, 5:30 p.m.

Avon - Avon School Gymnasium, 210 Pine Street, Avon, SD

Please Print Legibly

Person	City/State
Keith Fry	Sioux Falls
Dave Brandt	Avon SD.
LeRoy Weiser	Delmont SD.
Maryland Bauder	Tyndall SD
Cindy & Don Hight	Sioux Falls, SD
Ron Ritzel	Avon
Shelby	Delmont
Bill Nelson	Avon
Alman Lutz	Sioux Falls
Scott Lewis	Avon
Tamara	Liberal SD
Paul Skyles	Wagner SD
Linda	Avon, S.D.
Joe Podzimek	Dante SD
Jim Wittmeier	Avon, SD
Steve Kozlark	Avon SD
Bill Van Gerpen	Tyndall SD
Joel Permann	Delmont S.D.
Danell Petch	Wagner SD
Rebecca Hotchkiss	Delmont, SD



South Dakota Public Utilities Commission

EL18-026- In the Matter of the Application by Prevailing Wind Park, LLC for a Permit of a Wind Energy Facility in Bon Homme County, Charles Mix County and Hutchinson County, South Dakota, for the Prevailing Wind Park Project- Public Input Hearing

July 12, 2018, 5:30 p.m.

Avon - Avon School Gymnasium, 210 Pine Street, Avon, SD

Please Print Legibly

Person	City/State
Jerry Finck	Avon
Fr Dan Brandt	Avon
Betty Marshall	Parkston
Norbert Roth	Yankton
Earl Burns	Dante
Judith Roth	Kelley
Wale Rittman	Parkston
Raymond Brandt	Avon
Stu Kiel	Tripp
Alce Lind	Delmont, S.D.
Doug & Sharon Brandt	Avon
Kathryn Henning	Baltic, SD
Greg & Roxanne Edinger	Lesterville
Khousse MEYER	WESTBURY, New York
GEORGE MEYER	CHICAGO, IL
Renee Maruske	Scotland SD
Steve Maruske	" "
Jandra Brandt	Avon, SD
Paul Voigt	Avon, SD
Dad Marshall	Tripp SD

South Dakota Public Utilities Commission  
 EL18-026- In the Matter of the Application by Prevailing Wind Park, LLC for a Permit of a Wind Energy Facility  
 in Bon Homme County, Charles Mix County and Hutchinson County, South Dakota, for the Prevailing Wind  
 Park Project- Public Input Hearing  
 July 12, 2018, 5:30 p.m.  
 Avon - Avon School Gymnasium, 210 Pine Street, Avon, SD

Please Print Legibly

Person	City/State
Bridgett Canty	Ap-05, CA
Julie Treig	Pickstown, SD
ROLAND JORGENS	CHOKIO, MN
Karen Jenkins	Stupp SD
Morgan Jacobs	Tripp SD
Karen Ondaette	Sioux Falls.
Duane Wolborn	Sioux Falls
Inez Cotton	Sioux Falls
Duhja Conrad	Avon
Sherman Fuerniss	Delmont
Russell A. Call	Pickstown, SD
Lori Cerny	Dorchester, NE
Alan Muller	Avon, SD
Kevin Andersh	Wagner SD
Jay Weber	Avon SD
Lyle Wombede	Avon, SD
Randy Schoenly	Yankton SD
Fred Rex	Tripp
Dave + Mona Nelles	Scotland
JACK BRODEUR	Avon

South Dakota Public Utilities Commission

EL18-026- In the Matter of the Application by Prevailing Wind Park, LLC for a Permit of a Wind Energy Facility in Bon Homme County, Charles Mix County and Hutchinson County, South Dakota, for the Prevailing Wind Park Project- Public Input Hearing

July 12, 2018, 5:30 p.m.

Avon - Avon School Gymnasium, 210 Pine Street, Avon, SD

Please Print Legibly

Person	City/State
Charles Evrk	Springfield SD
Geo Holley	S. Falls
Dugg Edut	Avon SD
Sara Hentto	Avon, SD
Eugene F. Hornstra	Yankton, SD
Heidi Penning	Wagner SD
Mike Debrae	Avon S.D.
David Roth	Avon SD
Lori Fuerniss	Delmont
Erik Fuerniss	Delmont
Denise Sutkup	Wagner
Lisa Hornstra	Avon
Janet Wagon	Tynda II
Dennis + chris Rein	Sioux Falls
Maynard Meyer	Tripp SD
Dennis R Brandt	Avon SD
Bob Heisinger	Tripp SD
Timothy A. Jhner	Avon SD
Lisa Schoenfelder	Wagner SD
Marveteen Koening	Spencer, NE

South Dakota Public Utilities Commission

EL16-026- In the Matter of the Application by Prevailing Wind Park, LLC for a Permit of a Wind Energy Facility in Bon Homme County, Charles Mix County and Hutchinson County, South Dakota, for the Prevailing Wind Park Project- Public Input Hearing

July 12, 2018, 5:30 p.m.

Avon - Avon School Gymnasium, 210 Pine Street, Avon, SD

Please Print Legibly

Person	City/State
Peter Pawlowski	SALT LAKE CITY/UT
LISA ABERMONTI	MINNEAPOLIS MN
Douglas Kozel	Pierre, SD
Paul Dummer	Lester ville S.D.
Jany Razel	Avon S.D.
Wendy Gost	Avon SD
Mike Jenkins	Tripp S.D.
Vick Seegins	Sioux Falls SD
Dennis Lehnertz	Sioux Falls SD.
JOHN ERICK	MITCHELL, S.D
Marsha Kuback	AVON SD
Agnes Stoebner	Sioux Falls SD
Ken Thaler	Wagner SD
Tanner Hento	Avon, SD
May Ellen Hornslee	Yankton
Morris Traker	Mitchell, SD.
Tatianna Fuerniss	Dumont, SD
Bob Sahr	Mendota SD
W. L. Dargel	Lake Andes, SD
Carol Eggen	Avon, SD

South Dakota Public Utilities Commission

EL18-026- In the Matter of the Application by Prevailing Wind Park, LLC for a Permit of a Wind Energy Facility in Bon Homme County, Charles Mix County and Hutchinson County, South Dakota, for the Prevailing Wind Park Project- Public Input Hearing

July 12, 2018, 5:30 p.m.

Avon - Avon School Gymnasium, 210 Pine Street, Avon, SD

Please Print Legibly

Person	City/State
Eric Elsberg	Tyndall SD
Darci Adam	Clark SD
LARRY CRABB	Sioux Falls, IA
MARCIA CRABB	" "
Kip Spotted Eagle	YST - South Dakota
DAVE ADAM	CLARK, SD
ED VAN GERPEN	AVON, SD
SHARON VAN GERPEN	" "
Les Mehlhoff	Tripp S.D.
Jerome Powers	Wagner SD.
Fyle Roth	Avon, SD
Dennis Hirsch	Yankton
Loren Schaefer	Sioux
Maeyne D. Nuss	Tripp
Arlet + Maydean Dewald	Parkston
Keith Rayshy	Wardok NE Aser
Ruth Wilbert Buchholz	Tripp
Jeff Havenly	State of SD (GOED)
Patricia A. Eggen	Wagner SD
Paul A. Eggen	Wagner, SD



South Dakota Public Utilities Commission

EL18-026- In the Matter of the Application by Prevailing Wind Park, LLC for a Permit of a Wind Energy Facility in Bon Homme County, Charles Mix County and Hutchinson County, South Dakota, for the Prevailing Wind Park Project- Public Input Hearing

July 12, 2018, 5:30 p.m.

Avon - Avon School Gymnasium, 210 Pine Street, Avon, SD

Please Print Legibly

Person	City/State
Jennifer Bell	Denver, CO
Tom Culver	Avon, SD
Arwin & Margaret Bueferdt	Avon, S.D.
Erik Johnson	Avon, SD,
Dannio Hout	Avon SD
Dave Meade	Tripp SD
Keith Thorstad	Chokio, MN
Bruce Voigt	Avon S.D.
Shane Thompson	Rapid City SD
Justin Thorstad	Madison SD.
Ron Wagner	Tynsboro SD
Lucas Nelson	Lyons, NE
Dale & Mary Ann Williams	Estelline SD
Wilbur & Mavy Bowden	Scotland, SD
Jal Bai	Selma SD
Dale Wormstadt	Tripp SD
Stephanie Horst	Yankton, SD
PJ Frome	Dayton, WA.
Kristi Mogen	Twin Brooks
Amber Christenson	Troy SD

First, I would like to thank the PUC for being here to listen to our community.

I am Lori Fuerniss. I live at 40263 293rd St., Delmont, SD 57330. <sup>spell name</sup>

Our family lives roughly 1-1 1/4 miles from the Beethoven Wind farm. And we do hear the turbines in our yard and they are much louder than the noise of a refrigerator. But I am not here to talk about the sound these giants make but I would like to share how our life has been since the Beethoven turbines are running. My husband's sleeping pattern started to change...waking up during the night. I ~~was~~ joked about it ~~by~~ saying that the wind turbines were getting to him. But after sometime I <sup>decided</sup> ~~thought~~ that this was ~~no~~ no joke ~~and~~ after noticing that I was not sleeping normally anymore. I have gone from 8 hours of sleep ~~to~~ to 4-6 hours of not so good sleep each night as they are 2 hours of sleep then awake and 2 or 3 more hours of sleep. I did some research and found that this has nothing to do with the actually sound that we hear from the turbines but the infrasound-sounds we don't hear and vibrations that affect our inner ear which causes chaos with our health. Here is an example of the sleep I have been getting. I have been getting to sleep by 10:30-11:00 and wake up at 6-7.

Wednesday night- finally fell asleep at 3:00

Thursday night-woke up at 4:30 til 6:00

Friday night-I did sleep from 11:30 to 6:30

Saturday night-woke up at 2:30 until 4:30 or 5:00

Sunday night-~~woke up at 4:30 til 5:30.~~

Monday night-woke up at 4:30 til 5:30

Tues night-went to sleep at 12:30 and woke at 3:45

Last night-went to sleep at 12:00 and woke at 4:35

In June I was in Rosebud for a couple days and spent the night there and I actually had a good night's sleep for once.

On Sunday night when I woke up at 4:30, I had a pain on my side. It reminded me of shingles which is virus you can get if you've had the chickenpox. It affects nerve ends and is caused by stress. It feels like a sharp knife stabbing you, not just once, but 20-30 times per minute and may last minutes, <sup>days</sup> hours. It is very uncomfortable. I have felt this pain quite often lately. Maybe from the stress of not sleeping.

Besides ~~the~~ lack of sleep and the pain on my side, I have noticed more headaches recently. I probably had more headaches in the past 3 years than I have had altogether. Thankfully, they haven't been bad migraine headaches but just kind of annoying. These usually occur when I wake up in the morning.

These things along with my husband being diagnosed with vertigo have for the most part started or increased since the PUC was here two years ago.

It is pretty tough to farm when you can't get enough sleep and feel like crap. Even worse when my husband can't get out of bed for days because of vertigo. Small family farms do not have people to come to take over our work when we aren't feeling good. There is no calling in sick. The work still needs to be done.

Right now my BIG concern is the blueprint for the new turbines which are much larger than the Beethoven turbines (from 405 ft to 590 ft). There will be 5 within 1 ¼ miles from our yard. 3 of those will be just at mile from the yard and will also be 185 feet taller than the Beethoven turbines. And I am just talking about the turbines in relation to the farmyard; they will be even closer to the ground we farm.

Please take into consideration how this has affected us. If, in the final decision making, the project is approved, please consider making setbacks of 2 miles to a residence. I do not feel 1 mile is enough. If it were enough, we would not be experiencing sleeplessness nights, vertigo, headaches, etc. Common sense tells me that as our bodies get worn down do to the lack of sleep we will be seeing more health issues

Also there are too many families that will be affected by turbines that are only a mile from their homes. *Please deny this project*

~~One last thing crosses my mind. The past two years we have had a lot of cattle die. While it is normal to lose some every now and then, the number has gone way beyond normal. Could the infrasound from the turbines be affecting the cattle also? Dead cows don't pay any of the bills. Also if something is happening to the cows, it could be a sign of what we humans will be dealing with.~~

Thanks for your time and consideration.

*I have a map I'd like to submit to you of the turbines that will surround us of which no one from Prevailing Winds has ever approached us about*

5280 feet = 1 mile

001446

from Ed Vay Gervan H 500 S 17

# WHY DO THE LOCAL OWNERS OF PREVAILING WINDS WANT TO BUILD ANOTHER WIND PROJECT?

Well, one reason is they believe that one of the most important things we can do is provide an excellent education for our children and grandchildren.

Did you know that last year the State increased per student allocation funding by 2% or \$96? The year before was 3.36% or \$155 and over the past 5 years the State increases have averaged 0.442%. This coming year the Tripp-DeMont School District will receive its first new revenue from the Beethoven Wind Farm. It will be an increase of almost \$1,000 per student and it will be paid every year that the wind turbines are there.

As we talked about last week, a 200 megawatt wind energy project in South Dakota creates new tax revenue of \$680,000 annually. This is divided equally between county government and local school district(s). For an example, if in the Avon School District a 200 megawatt wind project like Prevailing Winds was built it would increase per student funding by \$1,360 per year, based on this past year's enrollment. Without the Prairie Wind Project to equal that same increase, annual property taxes inside the school district would have to be raised \$3 per acre.

We completely agree that the quality of one's education is not entirely dependent on how much money a school gets, but it sure would be nice to be one of the lucky school districts that could get \$1,000 or more every year for each student and maybe not have to worry about school funding so much...

Thank You for your support.

NOV 4 2015

or by Prevailing Winds, LLC;  
ly developed wind energy project.

Yes, we could get a one-time financial return on our investment, but no one is going to get rich off of that.

AVON CLARION

1

Tyadell Turbines

This is not the last you will hear from Prevailing Winds, in the near future we will be submitting informational articles to the local newspapers and holding open house meetings for those who want to learn more. But, most important Prevailing Winds, LLC is locally owned by your friends and neighbors.

continue to follow all current state and county regulations, Jurgens said. Regardless of whether it pursues a state permit, the wind farm would need a conditional-use permit from Bon Homme County and a building permit from both Bon Homme and Charles Mix counties.

"The people who finance these projects want to meet those standards," Jurgens said. "They don't want to see things get stalled. Nobody wants to spend this kind of money and have headaches." Jurgens told the Press & Dakotan at the time that the Prevailing Winds facility would likely stay in the same proposed location because of the favorable winds and terrain.

In addition, he said the investors didn't intend to reduce the size of the Prevailing Winds projects or break it into smaller parts in order to fall below the threshold requiring PUC approval.

Sioux Falls attorney Lee Magnuson, representing the wind farm, said Prevailing Winds investors found considerable opposition to the project during the PUC hearing in Avon.

In addition, approximately six dozen individuals and organizations sought status as intervenors in the permitting process. As intervenors, they would hold special rights for participating in the process.

The motion to withdraw the application cited misinformation surrounding the project. The organizers said they plan "to better inform the community on the wind project and allow Prevailing Winds to revisit its options regarding the project."

The investors took the controversy into account in making its decision, Jurgens told the Bon Homme County zoning board last September.

"We don't want to split the community. That's not good for the community," he said at the time. "But (the wind farm) is still out there. Our board is getting out more information on the project

3-25-15

AVON CLARION

162 Staden

Revenue proof from master sheet	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Expenditure proof from master sheet	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Ending Fund Balance proof from master sheet	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

**General Fund  
Detail Sheet**

	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Projected FY 2018	Projected FY 2019	Projected FY 2020	Projected FY 2021	Projected FY 2022
<b>Local Sources</b>										
Ad Valorem Taxes	\$845,858	\$1,011,182	\$980,437	\$899,428	\$978,050	\$758,980	\$742,717	\$723,555	\$699,377	\$670,000
Opt Out Taxes						\$300,000	\$150,000	\$0	\$0	\$0
Mobile Home Taxes	\$2,030	\$1,751	\$1,566	\$214	\$1,500	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000
Prior Years Taxes	\$3,965	\$4,234	\$11,254	\$3,039	\$0	\$0	\$0	\$0	\$0	\$0
Tax Deeds	\$0	\$568	\$89	\$523	\$0	\$0	\$0	\$0	\$0	\$0
Utility Tax	\$128,274	\$128,189	\$79,707	\$87,697	\$85,000	\$86,275	\$87,569	\$88,883	\$90,216	\$91,500
Penalties & Interest on Tax	\$3,026	\$3,783	\$5,128	\$3,521	\$2,000	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500
Earnings on Investments	\$3,090	\$2,877	\$2,891	\$2,921	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000
Admission Tickets	\$9,640	\$11,431	\$13,054	\$10,885	\$10,000	\$10,000	\$9,800	\$9,604	\$9,412	\$9,220
Other Pupil Activity Income	\$1,573	\$2,691	\$2,106	\$2,401	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000
Local Donation	\$651	\$389	\$782	\$0	\$0	\$0	\$0	\$0	\$0	\$0
LEAs within State	\$0	\$23,453	\$23,732	\$21,045	\$25,055	\$25,055	\$25,055	\$25,055	\$25,055	\$25,055
Medicaid	\$2,230	\$333	\$599	\$1,016	\$0	\$0	\$0	\$0	\$0	\$0
Medicaid Indirect Admin Services	\$15,202	\$17,081	\$5,215	\$2,997	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000
Other Revenues	\$5,242	\$12,035	\$10,033	\$13,050	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
<b>Total Local Sources</b>	<b>\$1,020,781</b>	<b>\$1,219,996</b>	<b>\$1,136,593</b>	<b>\$1,048,736</b>	<b>\$1,112,605</b>	<b>\$1,194,810</b>	<b>\$1,029,641</b>	<b>\$861,597</b>	<b>\$838,560</b>	<b>\$816,000</b>
<b>Intermediate Sources</b>										
County Apportionment	\$8,961	\$9,462	\$10,436	\$9,247	\$8,000	\$8,120	\$8,242	\$8,366	\$8,491	\$8,613
Revenue in Lieu of Taxes	\$0	\$0	\$0	\$541	\$0	\$0	\$0	\$0	\$0	\$0
<b>Total County Sources</b>	<b>\$8,961</b>	<b>\$9,462</b>	<b>\$10,436</b>	<b>\$9,788</b>	<b>\$8,000</b>	<b>\$8,120</b>	<b>\$8,242</b>	<b>\$8,366</b>	<b>\$8,491</b>	<b>\$8,613</b>
<b>State Sources</b>										
State Aid	\$440,931	\$407,604	\$381,301	\$341,087	\$326,575	\$285,937	\$241,118	\$198,561	\$160,379	\$122,000
Less Other Revenue Equalization							(\$98,555)	(\$133,541)	(\$168,579)	(\$210,000)
<b>Net State Aid</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$142,563</b>	<b>\$65,020</b>	<b>\$0</b>	<b>\$0</b>
State Apportionment	\$12,534	\$13,882	\$17,184	\$16,400	\$16,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000
Windfarm Tax	\$0	\$0	\$0	\$75,399	\$112,000	\$113,680	\$115,385	\$117,116	\$118,873	\$120,600
Bank Franchise Tax	\$17,465	\$19,347	\$14,982	\$16,959	\$20,000	\$20,300	\$20,605	\$20,914	\$21,228	\$21,542
Common Core	\$5,375	\$0	\$5,250	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Total State Sources</b>	<b>\$476,305</b>	<b>\$440,832</b>	<b>\$418,717</b>	<b>\$449,845</b>	<b>\$474,575</b>	<b>\$434,917</b>	<b>\$293,553</b>	<b>\$218,050</b>	<b>\$155,101</b>	<b>\$127,600</b>
<b>Federal Sources</b>										

$112000 \div 162 = 691.00$



Investment meetings

Avon 2

Menne

Gregory

Wagner

Parkston

Mitchell 1

Yankton 2

Vermillion

Westington Springs

Osage

Madison

Sioux Falls 2

Watertown

Brookings

Platte

Tripp

100 m. 100 x

As far as the people "who may be your friends and neighbors". We are not going to give out their names, they are permitted to have their privacy. But, we will share where the project investor are from. Here is a breakdown of where the 30 owners of Prevailing Winds, LLC come from:

- 7 each from Avon and Tripp
- 3 from Springfield
- 2 each from Tyndall and Scotland
- 1 each from Delmont, Lesterville, Menno, Olivet, Sioux Falls, Tabor, Wagner, Dell Rapids and Yankton

And here is the breakdown of the ownership by type of investor:

- 27 individual investors
- 2 South Dakota limited liability companies
- 1 South Dakota limited liability partnership

Because the Beethoven farm is federally defined as a "qualifying facility," NorthWestern had to purchase the power. The rule stems from the Public Utility Regulatory Policies Act of 1978, or PURPA.

Beethoven generates 79.55 megawatts of power, which is just under the 80-megawatt maximum for a qualifying facility.

3

*Board member*  
**PREVAILING WINDS Talking Points**

4.

**Prevailing Winds**

*From East River Elec*

Prevailing Winds, LLC, is proposing a large-scale wind energy project in the area north of Avon, SD. While we do not know the exact details, the project's output may exceed more than 200 megawatts. The project is privately owned and does not have any ownership by, or relationship to, the rural electric cooperatives (other than the project would like to sell its output to the cooperatives).

In December 2016, Prevailing Winds utilized a provision in federal law, as explained later, to require the rural electric cooperatives to engage in a federally-mandated negotiation process.

**Cooperative's Position on the Project**

Our cooperative typically does not take a stand on the merits of a wind energy project unless it is owned by our cooperative or one of our power suppliers, would impact our cooperative or our power suppliers/transmission partners, or has some other relationship to our cooperative. In the case of Prevailing Winds, there are cooperative members in the region who support the project, and members who oppose the project. In light of this split and the fact that the project is not linked to our cooperative or our power/transmission partners, we are not taking a position on the project.

Any project intending to proceed will need local and sometimes state and federal approvals. These decision-makers are the ones that will determine whether the project has merits and weigh the costs/benefits to the public. Due to the size and nature of the proposed Prevailing Winds project, there likely will be a need to secure local, state, and federal approvals. The responsibility to convince the public, and obtain any governmental approvals, rests with the project and its supporters. We are encouraging proponents and opponents alike to be involved at the county, state, and federal levels and to bring their perspectives to these decision-makers.

**Where does the Cooperative's Power Supply Come From?**

Our cooperative receives its power from East River Electric Power Cooperative, Inc., based in Madison, SD. East River secures this power, on our behalf, from Western Area Power Administration (utilizing the Missouri River hydroelectric dams to furnish about 18% of the power) and from Basin Electric Power Cooperative in Bismarck, ND (about 82% of the power). Our cooperative, as well as other cooperatives and one municipal electric in this region, owns East River and Basin Electric.

Basin Electric has a diverse power generation portfolio that includes coal, wind, natural gas, nuclear, waste heat, and other renewable and non-renewable resources. To secure the most cost-effective and reliable power supply on behalf of its cooperative members, Basin Electric is constantly evaluating available options for generation and market purchases. In response to political and market dynamics, this now involves careful analysis of wind energy opportunities. And, because wind farms normally produce at less than half of the time, this analysis involves backup resources such as power from natural gas-fired plants or market purchases.

*30.1 7.1  
nec/20*

*17.1*

*wind solar  
6.3 1.3*

# PREVAILING WINDS Talking Points

15

Over the last two decades, Basin Electric has significantly increased its renewable energy resources with over 1,800 megawatts of installed wind energy capacity and that number will continue to grow with new wind coming online over the next few years. When you add Basin Electric's renewable resources together with the renewable hydropower output our cooperative receives from Western Area Power Administration, more than 33% of the power delivered to homes and businesses in our service territory comes from renewable resources.

## ~~Does Prevailing Winds have an Agreement to Sell its Output to the Cooperatives?~~

Yes, in January 2018, Basin Electric entered into a contract to purchase the output of the Prevailing Winds project subject to a number of conditions.

To reach this point, Prevailing Winds utilized a federal law (the Public Utility Regulatory Policies Act or PURPA) in an attempt to sell its wind energy output to the cooperatives in our area. One of the goals of this 1978 law was to encourage the development of renewable energy resources. PURPA applies to all utilities in the United States, and all utilities must comply with it, including our cooperative.

Many think PURPA was intended to assist only smaller renewable projects, and not a large wind farm such as Prevailing Winds, but others believe the law can be utilized by small and large projects alike if certain criteria are met. ~~Once initiated by Prevailing Winds, the PURPA process required our cooperative generation power supplier, Basin Electric, to engage in legally-mandated negotiations with Prevailing Winds. A rather complicated set of federal requirements dictate the pricing terms. In short, the price is compared to Basin Electric's generation costs and market options. This is termed "avoided cost." If Prevailing Winds could meet all the necessary requirements and would accept the federally-determined avoided cost, then we cooperatives must, by federal law, purchase the power unless very limited exceptions exist.~~

As an alternative to a forced sale, the federally-required negotiations can sometimes lead to a private contract between the developer and the utility. In the case at hand, Prevailing Winds and Basin Electric were able to negotiate an agreement. The terms of the contract are confidential, but the price was competitive with other alternatives and Basin Electric managed to secure a number of important safeguards in the agreement that will help protect rural electric cooperative members. With a contract in hand, it is now up to Prevailing Winds to get the project permitted and built.

Many think PURPA is outdated and needs reform. Our cooperative, along with our power suppliers and national association, are encouraging Congress and federal regulators to revisit the 1978 law and determine if its provisions need to be modernized. Until changes are made, Prevailing Winds and other renewable energy developers may legally utilize the law's provisions.

~~The path so far, in the case of Prevailing Winds, has not been our typical or preferred route, but federal law dictated the course.~~ Regardless of the outcome of the project, you can rest assured that our cooperative and its power supply and transmission partners always keep in mind that our mission is to deliver reliable, affordable power to our member-owners.

# Basin Electric Rates Increase

Impact to CME Members to be Determined



**Russell Gall**  
General Manager

Nobody likes to be the bearer of unwelcome news. So, when I got word that Basin Electric's Board of Directors had authorized a rate increase starting August 1st, I knew it was only a matter of time before I'd be writing this article to let our members know what, when and why they, too, would be seeing an electricity price change.

Based in Bismarck, ND, Basin Electric is a cooperative owned by cooperatives, including Charles Mix Electric. Basin is our main supplier of electricity, mostly generated from coal, but also from natural gas, heat recovery, wind, and even a small amount of nuclear power. They are darn good at what they do, and have always demonstrated they have the best interests of the member cooperatives in mind.

In early June, the Basin Electric Board decided that an immediate increase of .7¢ per kWh was needed to make up the financial shortfall which began back in October, 2015. As a member cooperative of Basin, the woes of this financial quagmire will impact Charles Mix Electric, and ultimately, its end-use consumers.

Paul Sukut, Basin Electric CEO and general manager, summed it up like this: "Basin Electric has essentially encountered the perfect storm, and it happened suddenly and rapidly in early October. The cooperative is taking several steps to mitigate the impact, but ultimately, we need the membership's help."

Here are the main reasons given for Basin's request for help:

- Lower than anticipated member sales. The wet summer and mild winter of 2015-16 significantly decreased electricity sales that Basin would normally make to its members. Less sales means less revenue.
- Reduced revenue from non-member sales (surplus sales). Again, the mild weather resulted in decreased sales to customers outside of the Basin Electric family.
- Added costs to operate generation facilities. Expenses from wind power cost Basin Electric more to produce electricity.
- Generation and transmission investments. Installation of new gas-fired generators and the construction of new lines in North Dakota have added expenses to Basin's bottom line.

◦ Reduced revenue support from non-electric or subsidiary businesses, specifically Dakota Gasification Company (DGC). This is the biggie. Due to the drop in all the commodity prices, including natural gas and oil prices, the DGC plant, owned by Basin Electric, is presently losing money, especially since it is heavily dependent on sale of natural gas.

Since the reduced revenue from DGS is the biggest issue, I'll cover that a bit more. Revenue from DGC has typically contributed financial support to Basin Electric. In fact, it is estimated that DGC typically has a benefit of \$78 million per year to Basin Electric and its membership. This includes fuel supply, power supply, shared facilities and other miscellaneous benefits. That means that DGC profits have benefited every member of Charles Mix Electric in the past. However, with depressed commodity prices, DGC was unable to provide this same level of support in 2016. This is where Basin needs help from its members. As markets rebound over the next year or so those benefits will return to the members to help keep future rate increases at bay.

On the bright side, there is expected to be a slight decrease in the cost of power received from Western Area Power Administration (WAPA) starting in 2017. This will provide some relief, but since the amount of power received from the dams is only 27% of our total power supply, it cannot eclipse the overall increase from Basin.

The increase from Basin resulted in a 13% power cost increase to East River Electric starting August 1st. Fortunately, the frugal efforts of East River Electric's and CME's directors have delayed the impact of the increase until January of 2017.

How this rate change will affect you, the end consumers of Charles Mix Electric, is yet to be determined. CME's employee and Board of Directors are studying costs to the co-op to determine the magnitude of the price change to our members. It should be expected that a rate adjustment will be in place starting January 1st 2017.

As always, we like to keep our members informed of issues that will affect them, and will continue to do so over the next few months.

Prevailing Winds' projects would provide energy at a cost savings. Hornstra said.

"The cost of the energy, capacity and renewable energy credits offered by Prevailing Winds' subsidiaries to the cooperatives is less than half the price of what the cooperatives are currently paying

How this will affect you has yet to be determined. A rate adjustment is expected for CME members beginning Jan 1st, 2017.



I WAS JUST reading your commentary on wind and other rural development projects ("No wind development signs are a bad sign of the times in the Dakotas," June 2017, Page 10, and online at [bit.ly/wind-development](http://bit.ly/wind-development)) and I had to weigh in.

First, I am not anti-wind, but I believe we need to site wind development in the least-impacted areas for wildlife, historical [places], tourism, natural resources and the beauty of North Dakota. North Dakota currently has some 3,000 megawatts of wind developed. It also has some 6,000 MW more approved through the Public Service Commission. This will make a huge change in the landscape of North Dakota. You currently cannot drive from Bismarck to Dickinson or Bismarck to Minot without seeing wind generators the whole trip.

You can say this is great as it brings in dollars in tax revenue and to landowners. This is true, and I understand that, but here are my concerns with the Burly wind farm.

It is sited south of Bismarck on the most beautiful Missouri River hills. It is between the Missouri River, the Long Lake National Wildlife Refuge, the McKenzie Slough and the Dutton Slough wildlife area. This area is prime grassland nesting area and the flyway for the endangered whooping crane as well as bald and golden eagles. This area is also home to a very historical area and Native American history. Gen. Alfred Sully camped a winter in the area in the Sioux campaign. Sitting Bull was captured and kept in a barn still standing in the Glencoe Church area. This is along the famous Lewis and Clark Trail.

PNE Wind from Germany, which is developing the wind farm, proposes turbines that are 700 feet tall from their bases to the tips of their blades. These turbines will sit on the hills that are 200 to 400 feet high.



That means the towers will be over 1,000 feet high. The state capitol — the icon of height in North Dakota — is only some 243 feet tall. These turbines will be seen for miles and miles.

PNE has never owned a wind farm in the U.S. It developed many in Germany, but Germany has found out wind is not stable and is cutting back on wind and developing coal generation. PNE has publicly stated it has no intent to own the wind farm. It will only break ground and try to sell it to another wind company, receive the tax credits, sell them to General Electric, which makes wind generators, and head back to Germany with the money.

Basin Electric, which supplies much of the rural electric power in the area, publicly stated at the Legislature that if we become any more dependent on wind, we will black out at some point as it is not stable. They are very concerned.

My point is this is not as simple as it seems. You said we need to be for some-

thing. My family and I couldn't agree with you more! My kids went off to college in different parts of the country and were educated and worked and gained experience. They missed the beauty and wide-open space of North Dakota and the life agriculture can offer. They came back and worked hard to build niches around ag in hunting and tourism. In these we spread a positive message to consumers about agriculture and regenerating our land and wildlife. We are working on a beef niche as well to fit in with having all family members involved. These are not easy, and they just don't happen! You work hard, and everything doesn't always work out, but that is the American dream!

We have had people at the ranch from all 50 states and some 35 foreign countries for various events. We ask: If the skyline is filled with wind towers, would you come back? They usually say "probably not"! They love the night sky with stars and the northern lights are the most beautiful natural show ever. Red blinking lights

[on wind turbines] polluting the night sky will ruin that!

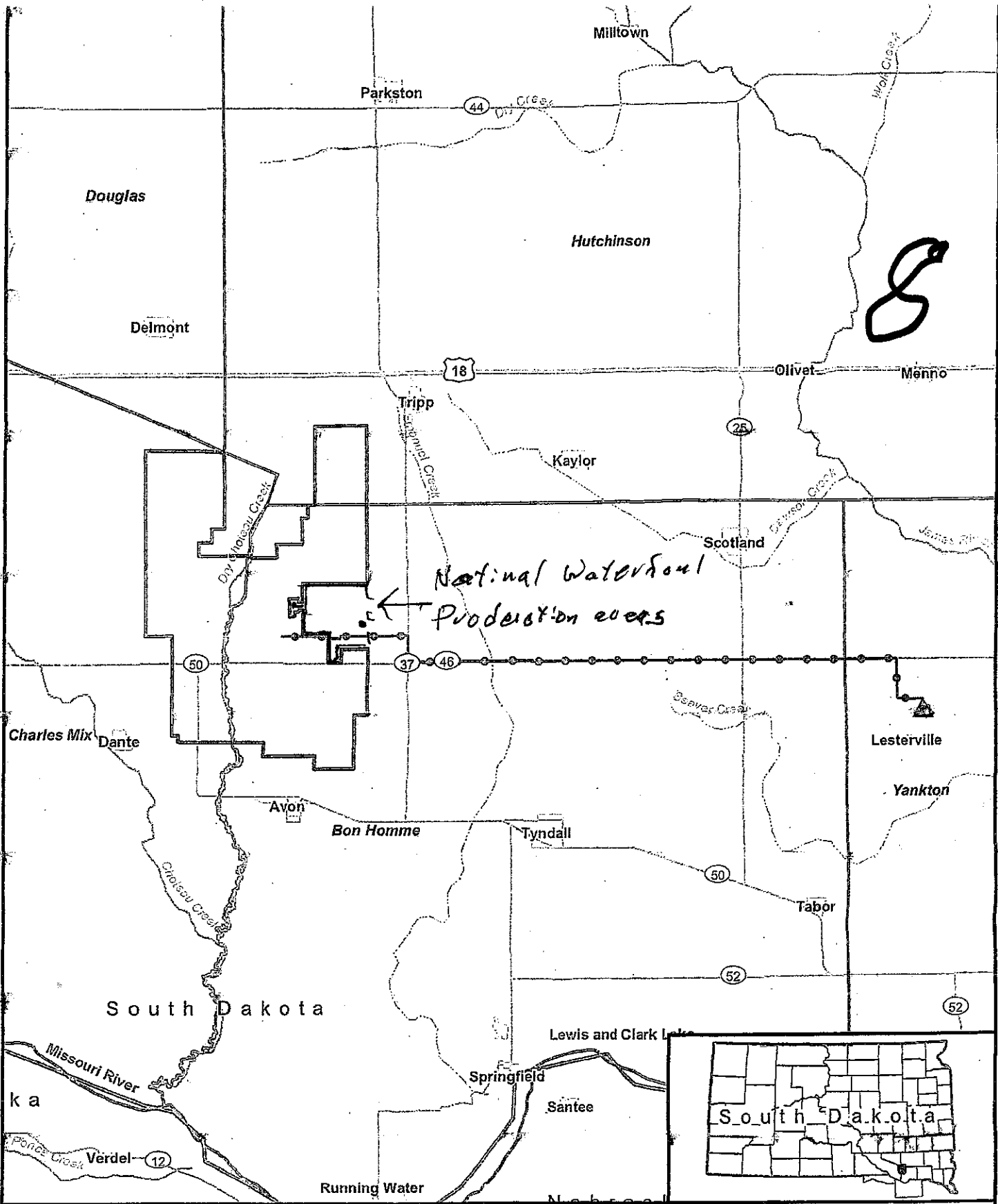
My kids worked hard to build a positive business that promotes North Dakota and agriculture. Adding heavily subsidized wind towers to the landscape will hurt their business and forever change the beautiful view from south Bismarck and the Missouri River. It is a shame these projects tear a community in half. Most folks who live here are opposed. The absentee landowners, older folks with kids coming back and a couple of folks with financial problems are the ones for

I appreciate what you do for the community. I just want to show you there is a much bigger picture on wind development than meets the eye.

Doan is the principal partner in Black Leg Ranch and Rolling Plains Adventure in Sterling, N.D. Black Leg Ranch is a working grain and cattle ranch, and Rolling Plains Adventure is an agritourism enterprise that hosts hunts, retreats, reunions and other events at the ranch.



Path: Z:\Clients\ENSI\Prevailing\W191343\_Permitting\Studies\Geospatial\DataFiles\ArcDocs\ProjectLocation\_20171115.mxd jbell 11/15/2017



**Project Location Map**  
**Prevailing Wind Park**  
**Wind Generation Facility**



9

Harris Iowa June 2017

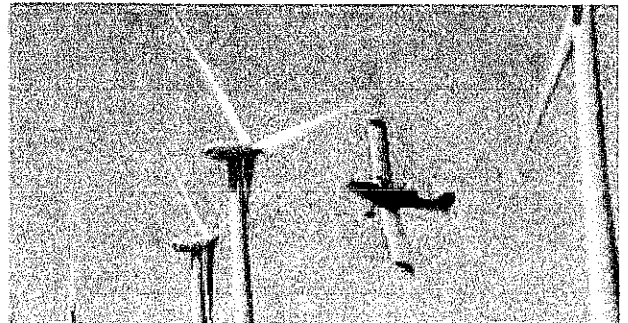
## Wind Turbines Could Cause Farmers to Lose the Advantages of Aerial Spraying...

### An Ag Pilot Could Lose a Lot More.

Aerial spraying, or "crop dusting," gets more challenging with every wind turbine project erected on America's farmland.

Ag pilots have been injured and, sadly, even killed in incidents involving wind turbines and related meteorological towers. The result has been expensive litigation and landowner liability.

Landowners are being asked to make crucial decisions that will impact farmers and their neighbors for years to come. Ag aircraft can treat large areas of land quickly and safely, and may be the only option for treating crops when wet fields, intense insect infestations or dense crop foliage exist. The presence of wind turbines can restrict and, in many cases, eliminate the option of aerial application.



Be sure to consider all the facts before "green lighting" a wind energy installation on your land.

### Learn Before You Lease

Learn more at [AgAviation.org/towers](http://AgAviation.org/towers)



# Official: Prevailing Winds Park A 'Go'

## New Wind Farm To Be Constructed In Avon And Tripp Areas

BY RANDY DOCKENDORF  
randy.dockendorf@yankton.net

AVON — During the last two days, the final pieces have fallen into place for a proposed 200-megawatt wind farm in the Avon-Tripp area, the project developers say.

The Prevailing Wind Park project will cost an estimated \$240 million. The wind farm will consist of up to 100 turbines located in Charles Mix, Bon Homme and Hutchinson counties.

"This project is a 'go' for us," said Prevail-

ing Winds LLC board member Erik Johnson. "At best case, we hope to start construction within 9 to 18 months and be finished in spring 2019."

Two major developments came together at once, Johnson told the *Press & Dakotan*. "We got final notice (Monday) from the Southwest Power Pool that we can put in the 200 megawatts (on the transmission line). But there is much less that needs to be mitigated than originally thought," he said.

WIND | PAGE 3

## Wind

From Page 1

"Because of that, we can bid the power for less. Late (Monday), we reached an agreement with someone who wants to buy the power. We have a closing date during the first half of January."

However, Johnson declined to name the power purchaser or the type of operator.

"The agreement has been closed, and the company buying the power wants the press release to come out in the middle of January," he said.

The operation requires a three-way partnership, Johnson said.

"As the developers, Prevailing Winds works with permits, interconnections and power purchase agreements, and we arrange the financing," he said. "We sell the development plan to a power company, in this case sPower (Sustainable Power Group), and they execute the plan. And now we have the purchaser of the power who will be announced."

Prevailing Winds is also moving quickly into meeting another target, Johnson said.

"We have now surpassed 30,000 acres leased for the project," he said. "To make it really cost effective, we

would need to be in the range of 33,000 to 35,000 acres. We would have 40,000 acres if we had everything we needed, but we can move ahead with what we have so far."

Johnson believes the developers may come very close to hitting the 40,000 acres.

"We have a number of fence sitters who are waiting to see," he said. "But since this is a real thing that is happening, we expect to start seeing more commitments later this week and into next week."

B&H Wind developed the Beethoven wind farm located in about the same area. The Prevailing Winds developers include many of the same individuals, but the two wind farms are different projects.

"The Prevailing Wind Park turbines will be located to the east, west and south of the Beethoven wind farm, in the Avon and Tripp area," Johnson said.

"The FERC (Federal Energy Regulatory Commission) requires a one-mile setback between wind facilities. None of the new turbines are within one mile of an existing Beethoven wind turbine."

This week, Prevailing Winds president Ronnie Hornstra and Johnson met with the Bon Homme County

planning and zoning board on Monday and the Bon Homme County commissioners on Tuesday.

"We met with the Bon Homme County Commission at their regular meeting," Johnson said. "Ronnie gave a presentation on the progress we're making, and we answered their questions and concerns."

At Tuesday's meeting, the commissioners voted to keep the current wind ordinance by a vote of three in favor, one opposed and one abstaining, according to Auditor Tammy Brunken.

The breakdown on the commissioners' votes wasn't immediately available.

The B&H and Prairie Winds developers have followed a long regulatory process, Johnson said.

"First, you need the environmental studies from state and federal agencies, to see if there is any potential harm for threatened or endangered species of animals or birds," he said.

"You need to have extensive wind data with meteorological (MET) towers. We've had five towers in place, and we've had very good wind indications. We've also had five MET towers in place since 2009, even before these latest ones, giving us a record of those wind speeds."

The Western Area Power Administration (WAPA), a federal regulatory agency, held an open house last week in Tripp as part of the environmental permit process for Prairie Wind Park.

Prairie Winds developers will also work with other entities, Johnson said.

"We'll get all the permits required by the state and counties," he said. "Some permits take time, others go quickly."

He commended District III Planning and Development office in Yankton, particularly Brian McGinnis, for assistance with the project.

Johnson pointed to the improving wind technology, with the local turbines running about 48 percent of what is considered total 24/7 efficiency — up from 46 percent three years ago.

While things fell together quickly for the Prevailing Wind Park, the process has been long in coming, Johnson said.

"In March, it will have been three years of work on the project. Power transmission systems are really complicated activities," he said.

"As of now, our timeline isn't complete, but we're optimistic that we will be moving along during the next few months."

Follow @RDockendorf on Twitter.

PAGE 10  
IS THE RIGHT -  
MITIGATION  
INFORMATION

**CHAPTER 49-22**  
**ENERGY CONVERSION AND TRANSMISSION FACILITY SITING ACT**

**49-22-01. Short title.**

Repealed by S.L. 2017, ch. 328, § 27.

**49-22-02. Statement of policy.**

The legislative assembly finds that the construction of energy conversion facilities and transmission facilities affects the environment and the welfare of the citizens of this state. Therefore, it is necessary to ensure that the location, construction, and operation of energy conversion facilities and transmission facilities will produce minimal adverse effects on the environment and upon the welfare of the citizens of this state by providing that no energy conversion facility or transmission facility shall be located, constructed, and operated within this state without a certificate of site compatibility or a route permit acquired pursuant to this chapter. The legislative assembly hereby declares it to be the policy of this state to site energy conversion facilities and to route transmission facilities in an orderly manner compatible with environmental preservation and the efficient use of resources. In accordance with this policy, sites and routes shall be chosen which minimize adverse human and environmental impact while ensuring continuing system reliability and integrity and ensuring that energy needs are met and fulfilled in an orderly and timely fashion.

**49-22-03. Definitions.**

In this chapter, unless the context or subject matter otherwise requires:

1. "Certificate" means the certificate of site compatibility or the certificate of corridor compatibility issued under this chapter.
2. "Commission" means the North Dakota public service commission.
3. "Construction" includes any clearing of land, excavation, or other action that would affect the environment of the site after April 9, 1975, but does not include activities:
  - a. Conducted wholly within the geographic location for which a utility has previously obtained a certificate or permit under this chapter, or on which a facility was constructed before April 9, 1975, if:
    - (1) The activities are for the construction of the same type of facility as the existing type of facility as identified in a subdivision of subsections 5 or 12 of this section and the activities are:
      - (a) Within the geographic boundaries of a previously issued certificate or permit;
      - (b) For an electric energy conversion facility constructed before April 9, 1975, within the geographic location on which the facility was built; or
      - (c) For an electric transmission facility constructed before April 9, 1975, within a width of three hundred fifty feet [106.68 meters] on either side of the centerline;
    - (2) Except as provided in subdivision b, the activities do not affect any known exclusion or avoidance area;
    - (3) The activities are for the construction:
      - (a) Of a new electric energy conversion facility;
      - (b) Of a new electric transmission facility;
      - (c) To improve the existing electric energy conversion facility or electric transmission facility; or
      - (d) To increase or decrease the capacity of the existing electric energy conversion facility or electric transmission facility; and
    - (4) Before conducting any activities, the utility certifies in writing to the commission that:
      - (a) The activities will not affect any known exclusion or avoidance area;
      - (b) The activities are for the construction:
        - [1] Of a new electric energy conversion facility;



- [2] Of a new electric transmission facility;
      - [3] To improve the existing electric energy conversion or electric transmission facility; or
      - [4] To increase or decrease the capacity of the existing electric energy conversion facility or electric transmission facility; and
    - (c) The utility will comply with all applicable conditions and protections in siting laws and rules and commission orders previously issued for any part of the facility.
  - b. Otherwise qualifying for exclusion under subdivision a, except that the activities are expected to affect a known avoidance area and the utility before conducting any activities:
    - (1) Certifies in writing to the commission that:
      - (a) The activities will not affect any known exclusion area;
      - (b) The activities are for the construction:
        - [1] Of a new electric energy conversion facility;
        - [2] Of a new electric transmission facility;
        - [3] To improve the existing electric energy conversion facility or electric transmission facility; or
        - [4] To increase or decrease the capacity of the existing electric energy conversion facility or electric transmission facility; and
      - (c) The utility will comply with all applicable conditions and protections in siting laws and rules and commission orders previously issued for any part of the facility;
    - (2) Notifies the commission in writing that the activities are expected to impact an avoidance area and provides information on the specific avoidance area expected to be impacted and the reasons why impact cannot be avoided; and
    - (3) Receives the commission's written approval for the impact to the avoidance area, based on a determination that there is no reasonable alternative to the expected impact. If the commission does not approve impacting the avoidance area, the utility must obtain siting authority under this chapter for the affected portion of the site or route. If the commission fails to act on the notification required by this subdivision within thirty days of the utility's filing the notification, the impact to the avoidance area is deemed approved.
  - c. Incident to preliminary engineering or environmental studies.
- 4. "Corridor" means the area of land in which a designated route may be established for an electric transmission facility.
- 5. "Electric energy conversion facility" means any plant, addition, or combination of plant and addition, designed for or capable of:
  - a. Generation by wind energy conversion exceeding one-half megawatt of electricity; or
  - b. Generation by any means other than wind energy conversion exceeding fifty megawatts of electricity.
- 6. "Electric transmission facility" means an electric transmission line and associated facilities with a design in excess of one hundred fifteen kilovolts. "Electric transmission facility" does not include:
  - a. A temporary electric transmission line loop that is:
    - (1) Connected and adjacent to an existing electric transmission facility that was sited under this chapter;
    - (2) Within the corridor of the sited facility and does not cross known exclusion or avoidance areas; and
    - (3) In place for less than one year; or
  - b. An electric transmission line that is less than one mile [1.61 kilometers] long.
- 7. "Facility" means an electric energy conversion facility, electric transmission facility, or both.



8. "Permit" means the permit for the construction of an electric transmission facility within a designated corridor issued under this chapter.
9. "Person" includes any individual, firm, association, partnership, cooperative, corporation, limited liability company, or any department, agency, or instrumentality of a state or of the federal government, or any subdivision thereof.
10. "Power emergency" means an electric transmission line and associated facilities that have been damaged or destroyed by natural or manmade causes resulting in a loss of power supply to consumers of the power.
11. "Road use agreement" means permits required for extraordinary road use, road access points, approach or road crossings, public right-of-way setbacks, building rules, physical addressing, dust control measures, or road maintenance and any repair mitigation plans.
12. "Route" means the location of an electric transmission facility within a designated corridor.
13. "Site" means the location of an electric energy conversion facility.
14. "Utility" means any person engaged in and controlling the electric generation, the transmission of electric energy, or the transmission of water from or to any electric energy conversion facility.

#### **49-22-04. Ten-year plans - Contents.**

Each utility that owns or operates, or plans within the next ten years to own, operate, or start construction on any facility shall develop a ten-year plan as specified in this section and submit the plan to the commission. Each utility shall file an updated plan on or before July first of each even-numbered year after the year of its initial submission. The ten-year plan may be appropriate portions of a single regional plan or may be jointly prepared and submitted by two or more utilities and must contain the following information:

1. A description of the general location, size, and type of all facilities to be owned or operated by the utility during the ensuing ten years, as well as those facilities to be removed from service during the ten-year period.
2. An identification of the location of the tentative preferred site for all electric energy conversion facilities and the tentative location of all electric transmission facilities on which construction is intended to be commenced within the ensuing five years and such other information as may be required by the commission. The site and corridor identification shall be made in compliance with the criteria published by the commission pursuant to section 49-22-05.1.
3. A description of the efforts by the utility to coordinate the plan with other utilities so as to provide a coordinated regional plan for meeting the utility needs of the region.
4. A description of the efforts to involve environmental protection and land-use planning agencies in the planning process, as well as other efforts to identify and minimize environmental problems at the earliest possible stage in the planning process.
5. A statement of the projected demand for the service rendered by the utility for the ensuing ten years and the underlying assumptions for the projection, with that information being as geographically specific as possible, and a description of the manner and extent to which the utility will meet the projected demands.
6. Any other relevant information as may be requested by the commission. Upon receipt of the ten-year plans the commission shall proceed to assess the impact of the development proposed within the state to ensure that energy conversion facilities and transmission facilities will be sited in an orderly manner compatible with environmental preservation and efficient use of resources.

#### **49-22-05. Inventory of potential sites - Criteria - Public hearings.**

Repealed by S.L. 1977, ch. 447, § 16.

**49-22-05.1. Exclusion and avoidance areas - Criteria.**

1. The commission shall develop criteria to be used in identifying exclusion and avoidance areas and to guide the site, corridor, and route suitability evaluation and designation process. The criteria also may include an identification of impacts and policies or practices which may be considered in the evaluation and designation process.
2. Except for electric transmission lines in existence before July 1, 1983, areas within five hundred feet [152.4 meters] of an inhabited rural residence must be designated avoidance areas. This criterion does not apply to a water pipeline. The five hundred foot [152.4 meter] avoidance area criteria for an inhabited rural residence may be waived by the owner of the inhabited rural residence in writing.
3. Areas less than one and one-tenth times the height of the turbine from the property line of a nonparticipating landowner and less than three times the height of the turbine or more from an inhabited rural residence of a nonparticipating landowner, must be excluded in the consideration of a site for a wind energy conversion area, unless a variance is granted. The commission may grant a variance if an authorized representative or agent of the permittee, the nonparticipating landowner, and affected parties with associated wind rights file a written agreement expressing the support of all parties for a variance to reduce the setback requirement in this subsection. A nonparticipating landowner is a landowner that has not signed a wind option or an easement agreement with the permittee of the wind energy conversion facility as defined in chapter 17-04. A local zoning authority may require setback distances greater than those required under this subsection. For purposes of this subsection, "height of the turbine" means the distance from the base of the wind turbine to the turbine blade tip when it is in its highest position.

**49-22-06. Facility development plans.**

Repealed by S.L. 1977, ch. 447, § 16.

**49-22-07. Certificate of site compatibility or route permit required.**

1. A utility may not begin construction of an electric energy conversion facility or an electric transmission facility in the state without first having obtained a certificate of site compatibility or a route permit from the commission pursuant to this chapter. The facility must be constructed, operated, and maintained in conformity with the certificate or permit and any terms, conditions, or modifications of the certificate or permit. A certificate or permit may be transferred, subject to the approval of the commission, to any person who agrees to comply with its terms, conditions, and modifications.
2. If a power emergency exists which necessitates the relocation of a portion of an electric transmission line and associated facilities from the designated route, the owner of the line shall give telephonic notice to the commission in advance of the relocation. The line may then be relocated to restore power as soon as practicable. After the line has been relocated, the owner shall file with the commission a request to approve the relocated route.

**49-22-07.1. Letter of intent prior to construction.**

Repealed by S.L. 2013, ch. 365, § 3.

**49-22-07.2. Waiver of procedures and time schedules.**

Any utility which proposes to construct an electric energy conversion facility or an electric transmission facility within the state may make an application to the commission for a waiver of any of the procedures or time schedules set forth in this chapter or in the rules adopted pursuant to this chapter. The commission, after hearing and upon a finding that the proposed facility is of such length, design, location, or purpose that it will produce minimal adverse effects, or, after hearing and upon a finding that a demonstrable emergency exists which requires immediate construction and that adherence to the procedures and time schedules would

jeopardize the utility's system, may issue an order waiving specified procedures and time schedules required by this chapter or by the rules adopted pursuant to this chapter, including, but not limited to, applications, notices, and hearings, and may forthwith issue a certificate of site compatibility, a certificate of corridor compatibility, or a route permit, with such conditions as the commission may require.

**49-22-08. Application for a certificate - Notice of filing - Amendment - Designation of a site or corridor.**

1. An application for a certificate must be in such form as the commission may prescribe, containing the following information:
  - a. A description of the size and type of facility.
  - b. A summary of any studies which have been made of the environmental impact of the facility.
  - c. A statement explaining the need for the facility.
  - d. An identification of the location of the preferred site for any electric energy conversion facility.
  - e. An identification of the location of the preferred corridor for any electric transmission facility.
  - f. A description of the merits and detriments of any location identified and a comprehensive analysis with supporting data showing the reasons why the preferred location is best suited for the facility.
  - g. A description of mitigative measures that will be taken to minimize all foreseen adverse impacts resulting from the location, construction, and operation of the proposed facility.
  - h. An evaluation of the proposed site or corridor with regard to the applicable considerations set out in section 49-22-09 and the criteria established pursuant to section 49-22-05.1.
  - i. Such other information as the applicant may consider relevant or the commission may require.
2. After determining that the application is complete, the commission shall serve a notice of filing of the application on such persons and agencies that the commission may deem appropriate and shall publish a notice of filing of the application in the official newspaper of each county in which any portion of the site or corridor is proposed to be located.
3. A copy of the application shall be furnished to any person or agency, upon request to the commission within thirty days of either service or publication of the notice of filing.
4. An application for an amendment of a certificate shall be in such form and contain such information as the commission shall prescribe.
5. The commission may designate a site or corridor for a proposed facility following the study and hearings provided for in this chapter. Any designation shall be made in accordance with the evidence presented at the hearings, an evaluation of the information provided in the application, the criteria established pursuant to section 49-22-05.1, and the considerations set out in section 49-22-09 in a finding with reasons for the designation, and shall be made in a timely manner no later than six months after the filing of a completed application for a certificate of site compatibility or no later than three months after the filing of a completed application for a certificate of corridor compatibility. The time for designation of a site or corridor may be extended by the commission for just cause. The failure of the commission to act within the time limits provided in this section shall not operate to divest the commission of jurisdiction in any certification proceeding. The commission shall indicate the reasons for any refusal of designation. Upon designation of a site or corridor, the commission shall issue a certificate of site compatibility or a certificate of corridor compatibility with such terms, conditions, or modifications deemed necessary.

**49-22-08.1. Application for a permit - Notice of filing - Amendment - Designation of a route.**

1. An application for a route permit for an electric transmission facility within a designated corridor must be filed no later than two years after the issuance of the certificate and must be in such form as the commission may prescribe, containing the following information:
  - a. A description of the type, size, and design of the proposed facility.
  - b. A description of the location of the proposed facility.
  - c. An evaluation of the proposed route with regard to the applicable considerations set out in section 49-22-09 and the criteria established pursuant to section 49-22-05.1.
  - d. A description of mitigative measures that will be taken to minimize all foreseen adverse impacts resulting from the location, construction, and operation of the proposed facility.
  - e. A description of the right-of-way preparation and construction and reclamation procedures.
  - f. A statement setting forth the manner in which:
    - (1) The utility will inform affected landowners of easement acquisition, and necessary easement conditions and restrictions.
    - (2) The utility will compensate landowners for easements, without reference to the actual consideration to be paid.
  - g. Such other information as the utility may consider relevant or the commission may require.
2. After determining that the application is complete, the commission shall serve a notice of filing of the application on such persons and agencies that the commission may deem appropriate and shall publish a notice of filing of the application in the official newspaper of each county in which any portion of the designated corridor is located.
3. A copy of the application shall be furnished to any person or agency, upon request to the commission within thirty days of either service or publication of the notice of filing.
4. An application for an amendment of a permit shall be in such form and contain such information as the commission shall prescribe.
5. The commission shall designate a route for the construction of an electric transmission facility following the study and hearings provided for in this chapter. This designation shall be made in accordance with the evidence presented at the hearings, an evaluation of the information provided in the application, the criteria established pursuant to section 49-22-05.1, and the considerations set out in section 49-22-09 in a finding with reasons for the designation, and shall be made in a timely manner no later than six months after the filing of a completed application. The time for designation of a route may be extended by the commission for just cause. The failure of the commission to act within the time limit provided in this section shall not operate to divest the commission of jurisdiction in any permit proceeding. Upon designation of a route the commission shall issue a permit to the applicant with such terms, conditions, or modifications deemed necessary.

**49-22-08.2. Combining application.**

A utility may file a separate application for a certificate or a permit, or combined into one application.

**49-22-09. Factors to be considered in evaluating applications and designation of sites, corridors, and routes.**

The commission shall be guided by, but is not limited to, the following considerations, where applicable, to aid the evaluation and designation of sites, corridors, and routes:

1. Available research and investigations relating to the effects of the location, construction, and operation of the proposed facility on public health and welfare, natural resources, and the environment.

2. The effects of new electric energy conversion and electric transmission technologies and systems designed to minimize adverse environmental effects.
3. The potential for beneficial uses of waste energy from a proposed electric energy conversion facility.
4. Adverse direct and indirect environmental effects that cannot be avoided should the proposed site or route be designated.
5. Alternatives to the proposed site, corridor, or route which are developed during the hearing process and which minimize adverse effects.
6. Irreversible and irretrievable commitments of natural resources should the proposed site, corridor, or route be designated.
7. The direct and indirect economic impacts of the proposed facility.
8. Existing plans of the state, local government, and private entities for other developments at or in the vicinity of the proposed site, corridor, or route.
9. The effect of the proposed site or route on existing scenic areas, historic sites and structures, and paleontological or archaeological sites.
10. The effect of the proposed site or route on areas which are unique because of biological wealth or because they are habitats for rare and endangered species.
11. Problems raised by federal agencies, other state agencies, and local entities.

**49-22-09.1. Approval of hydroelectric transmission facilities by legislative assembly required.**

After compliance with the applicable requirements of this chapter, any hydroelectric transmission facility that transmits hydroelectric power produced outside the United States, and which crosses any portion of this state, must have the approval of the legislative assembly by concurrent resolution. A person may not begin construction of a hydroelectric transmission facility in this state which transmits hydroelectric power produced outside the United States, or exercise the right of eminent domain in connection with such construction, without first having complied with this chapter and obtained the approval of the legislative assembly. This section does not apply to any electric transmission facility for which a route permit and certificate of corridor compatibility has been issued prior to July 1, 1985, or any extension thereof issued after July 1, 1985.

**49-22-10. Designation of sites and corridors.**

Repealed by S.L. 1979, ch. 504, § 15.

**49-22-11. Approval of a specific transmission facility route within a designated corridor.**

Repealed by S.L. 1979, ch. 504, § 15.

**49-22-12. Emergency certification.**

Repealed by S.L. 1977, ch. 447, § 16.

**49-22-12.1. Emergency certification.**

Repealed by S.L. 1979, ch. 504, § 15.

**49-22-13. Public hearings - Notice.**

1. The commission shall hold a public hearing in each county in which any portion of a site, corridor, or route is proposed to be located in an application for a certificate or a permit. At the public hearing, any person may present testimony or evidence relating to the information provided in the application, the criteria developed pursuant to section 49-22-05.1, and the factors to be considered pursuant to section 49-22-09. When more than one county is involved, the commission may hold a consolidated hearing in one or more of the affected counties. A hearing for any county shall not be consolidated if five or more affected landowners in such county file a petition with the commission within ten days of the publication of the notice of hearing.



2. The commission shall not be required to hold a public hearing on an application for the transfer of a certificate or a permit, or an application for a waiver of procedures and time schedules, but shall publish a notice of opportunity for a public hearing in the official newspaper of each county in which any portion of the facility or the proposed site, corridor, or route is located. If requested by any interested person and good cause has been shown therefor, the commission shall hold a public hearing. Where more than one county is involved, the commission may hold a consolidated hearing in one or more of the affected counties.
3. One or more public hearings shall be held at a location or locations determined by the commission concerning the following matters:
  - a. A substantial or material change in the criteria established pursuant to section 49-22-05.1.
  - b. A substantial or material change in the rules adopted pursuant to section 49-22-18.
  - c. The revocation or suspension of a certificate or permit.
4. Notice of a public hearing shall be given by the commission by service on such persons and agencies that the commission may deem appropriate and twice by publication, once at least twenty days prior to such hearing and a second time within twenty days prior to such hearing. Notice of a public hearing and notice of opportunity for a public hearing on an application for a certificate, a permit, a transfer, or a waiver shall be given at the expense of the applicant. In an emergency the commission, in its discretion, may notice a hearing upon less than twenty days.

**49-22-14. Advisory committees - Appointment - Compensation.**

The commission may appoint one or more advisory committees to assist it in carrying out its duties under this chapter. Committees appointed to evaluate sites or corridors considered for designation must be composed of as many persons as may be appointed by the commission, but must include a majority of public representatives; at least one representative from the state department of agriculture, a public or municipally owned utility, a private investor-owned utility, and a cooperatively owned utility; and one representative from each county and city in which an electric energy conversion facility or electric transmission facility is proposed to be located. Members of advisory committees are entitled to be reimbursed, within the limits of legislative appropriations, for any necessary expenses in the amounts provided by law for state officials.

**49-22-14.1. Cooperation with state and federal agencies and political subdivisions.**

The commission may, and is encouraged to, cooperate with and receive and exchange technical information and assistance from and with any department, agency, or officer of any state or of the federal government to eliminate duplication of effort, to establish a common database, or for any other purpose relating to the provisions of this chapter and in furtherance of the statement of policy contained herein. The commission shall cooperate and exchange technical information with directly impacted political subdivisions as outlined in subsection 2 of section 49-22-16.

**49-22-15. Public participation - Meetings - Records.**

Repealed by S.L. 1979, ch. 504, § 15.

**49-22-16. Effect of issuance of certificate or permit - Local land use, zoning, or building rules, regulations, or ordinances - State agency rules.**

1. The issuance of a certificate of site compatibility or a route permit shall, subject to subsections 2 and 3, be the sole site or route approval required to be obtained by the utility.
2. a. A certificate of site compatibility for an electric energy conversion facility may not supersede or preempt any local land use, zoning, or building rules, regulations, or ordinances and no site may be designated which violates local land use, zoning, or building rules, regulations, or ordinances.

- b. Except as provided in this section, a permit for the construction of a gas or liquid or electric transmission facility within a designated corridor supersedes and preempts any local land use or zoning regulations.
  - c. Before a gas or liquid transmission facility is approved, the commission shall require the applicant to comply with the road use agreements of the impacted political subdivision. A permit may supersede and preempt the requirements of a political subdivision if the applicant shows by a preponderance of the evidence the regulations or ordinances are unreasonably restrictive in view of existing technology, factors of cost or economics, or needs of consumers regardless of their location, or are in direct conflict with state or federal laws or rules.
  - d. When an application for a certificate for a gas or liquid transmission facility is filed, the commission shall notify the townships with retained zoning authority, cities, and counties in which any part of the proposed corridor is located. The commission may not schedule a public hearing sooner than forty-five days from the date notification is sent by mail or electronic mail. Upon notification, a political subdivision shall provide a listing to the commission of all local requirements identified under this subsection. The requirements must be filed at least ten days before the hearing or the requirements are superseded and preempted.
  - e. An applicant shall comply with all local requirements provided to the commission pursuant to subdivision d, which are not otherwise superseded by the commission.
3. Utilities subject to this chapter shall obtain state permits that may be required to construct and operate electric energy conversion facilities and electric transmission facilities. A state agency in processing a utility's facility permit application shall be bound to the decisions of the commission with respect to the site designation for the electric energy conversion facility or the corridor or route designation for the electric transmission facility and with respect to other matters for which authority has been granted to the commission by this chapter.
  4. No site or route shall be designated which violates the rules of any state agency. A state agency with jurisdiction over any aspect of a proposed facility shall present the position of the agency at the public hearing on an application for a certificate, a permit, or a waiver, which position shall clearly state whether the site, corridor, or route being considered for designation will be in compliance with such agency's rules. For purposes of this chapter it shall be presumed that a proposed facility will be in compliance with a state agency's rules if such agency fails to present its position on the proposed site, corridor, or route at the appropriate public hearing.

**49-22-16.1. Unfair tactics in acquiring land or easements for a facility - Court action - Cancellation of easement - Penalty.**

1. Any person employed by a public utility to acquire easements for a facility subject to this chapter shall not use any harassment, threat, intimidation, misrepresentation, deception, fraud, or other unfair tactics to induce the owner of the land to be affected by the facility to grant or agree to any easements.
2. If at least five landowners aggrieved by the conduct of a person or persons, acting on behalf of the same utility, acquiring easements for a site or route of a facility allege use of harassment, threat, intimidation, misrepresentation, deception, fraud, or other unfair tactics by the person or persons acquiring or attempting to acquire the easement, an action may be brought in the appropriate district court.
3. Upon a determination by the court that the person or persons employed by the utility used harassment, threat, intimidation, misrepresentation, deception, fraud, or other unfair tactics in acquiring or attempting to acquire an easement from at least five separate landowners, the court shall, by order, declare the easements void and may order any compensation paid therefor returned to the offending utility, or allow the landowner to retain such compensation, or award to the landowner up to three times the amount of the compensation involved as damages, punitive or compensatory. The

court shall award costs and reasonable attorney's fees to the plaintiffs when the court rules in favor of the plaintiffs.

4. Upon a determination by the court that the utility involved did knowingly allow, encourage, or operate in active consort or participation with such person or persons utilizing such unfair tactic, the court shall cause a copy of its memorandum opinion or order to be filed with the commission.
5. Upon receiving a copy of a memorandum opinion or order issued by a district court pursuant to this section, the commission may revoke or suspend the permit issued with respect to the route affecting the aggrieved landowners. If a permit has not been issued with respect to a site or route affecting the aggrieved landowners, the commission may refuse to issue a permit for such portion of the route.

#### **49-22-16.2. Easements for a facility - Terms.**

Any easement for an electric transmission facility as defined in this chapter acquired contractually by a utility after July 1, 1979, shall give the landowner the option of receiving a single sum payment for the easement or receiving payment in annual installments of equal amounts including interest on the outstanding balance to be paid by the utility at a rate equal to the average rate paid during that year by the Bank of North Dakota on a certificate of deposit in an amount equal to the outstanding balance. The first annual installments shall be prorated to July first and all following annual installments shall fall due on July first. The option provided herein shall not apply to any easement providing for compensation of less than five thousand dollars. In the event the landowner elects to receive the compensation in annual payments, the benefits unpaid at the time of sale of the real estate to which the easement attaches shall accrue to the purchaser of said real estate thereafter. The utility right-of-way agent shall inform the property owner of the owner's option to choose annual installments.

#### **49-22-16.3. Route adjustment before or during construction for gas or liquid transmission line.**

Repealed by S.L. 2017, ch. 328, § 27.

#### **49-22-16.4. Light-mitigating technology system - Rules.**

1. The commission shall adopt rules by January 1, 2019, relating to the implementation of light-mitigating technology systems on wind energy conversion facilities. The rules must be consistent with the federal aviation administration regulations [14 CFR 1.1 et seq.] and must include service and maintenance requirements, safety standards, and lighting system requirements.
2. By December 31, 2019, every wind energy conversion facility for which the commission issued a certificate of site compatibility after June 5, 2016, must be equipped with a functioning light-mitigating technology system that complies with rules adopted by the commission.
3. By December 31, 2021, every wind energy conversion facility for which the commission issued a certificate of site compatibility before June 5, 2016, must be equipped with a functioning light-mitigating technology system that complies with the rules adopted by the commission. After public hearing, the commission may grant an extension of time based on technical or economic feasibility considerations.
4. Any costs associated with the implementation, operation, and maintenance of light-mitigating technology systems are the sole responsibility of the wind energy conversion facility owner.

#### **49-22-17. Improvement of sites or locations.**

Utilities that have acquired an electric energy conversion facility site or electric transmission line route in accordance with the provisions of this chapter may proceed to construct or improve such site or route for the intended purposes at any time, subject to subsections 2 and 3 of section 49-22-16; provided, that if such construction and improvement commences more than four years after a certificate or permit for the site or route has been issued, then the utility must

certify to the commission that such site or route continues to meet the conditions upon which the certificate of site compatibility or electric transmission facility construction permit was issued.

**49-22-18. Rules and regulations.**

The commission shall adopt rules and regulations in conformity with the provisions of this chapter and to prescribe methods and procedures required therewith.

**49-22-19. Hearing - Judicial review.**

Any party aggrieved by the issuance of a certificate of site compatibility or electric transmission facility construction permit from the commission, certification of continuing suitability filed by a utility with the commission, or promulgation of a final order by the commission, may request a rehearing by the commission. The hearing must be conducted pursuant to chapter 28-32. There is a right of appeal to the district court from any adverse ruling by the commission.

**49-22-20. Revocation or suspension of certificate or permit.**

A certificate of site compatibility or permit for the construction of an electric transmission facility may be revoked or suspended for:

1. Any material false statement in the application or in accompanying statements or studies required of the applicant.
2. Failure to comply with the certificate or permit or any terms, conditions, or modifications contained therein.
3. Violation of the provisions of this chapter or rules or regulations issued pursuant to this chapter by the commission.
4. A determination by a district court pursuant to section 49-22-16.1.

**49-22-21. Penalties.**

1. Any person required by this chapter to have a certificate or permit who willfully begins construction of an electric energy conversion facility or electric transmission facility without previously securing a certificate or permit as prescribed by this chapter, or who willfully constructs, operates, or maintains an electric energy conversion facility or electric transmission facility other than in compliance with the certificate or permit and any terms, conditions, and modifications contained therein is guilty of a class A misdemeanor.
2. Any person who willfully violates any regulation issued or approved pursuant to this chapter or who willfully falsifies, tampers with, or renders inaccurate any monitoring device or method required to be maintained under this chapter shall be guilty of a class A misdemeanor.
3. Any person who willfully engages in any of the following conduct is subject to a civil penalty of not to exceed ten thousand dollars for each such violation for each day the violations persist, except that the maximum penalty may not exceed two hundred thousand dollars for any related series of violations:
  - a. Begins construction of an electric energy conversion facility or an electric transmission facility without having been issued a certificate or permit pursuant to this chapter.
  - b. Constructs, operates, or maintains an electric energy conversion facility or an electric transmission facility other than in compliance with the certificate or permit and any terms, conditions, or modifications contained therein.
  - c. Violates any provision of this chapter or any rule adopted by the commission pursuant to this chapter.
  - d. Falsifies, tampers with, or renders inaccurate any monitoring device or method required to be maintained pursuant to a certificate or permit issued pursuant to this chapter.

The civil penalty provided for in this subsection may be compromised by the commission. The amount of the penalty when finally determined or agreed upon in

compromise must be deposited in the general fund and, if not paid, may be recovered in a civil action in the courts of the state.

4. Notwithstanding any other provision of this chapter, the commission, by injunctive procedures, without bond or other undertaking, may proceed against any person who willfully engages in any conduct described in subsection 3. No liability shall accrue to the commission or its authorized representative in proceeding against any person pursuant to this section.

**49-22-22. Siting process expense recovery - Deposit in special fund - Continuing appropriation.**

1. Every applicant under this chapter shall pay to the commission an application fee:
  - a. An applicant for a certificate of site compatibility shall pay an amount equal to five hundred dollars for each one million dollars of investment in the facility.
  - b. An applicant for a certificate of corridor compatibility shall pay an amount equal to five thousand dollars for each one million dollars of investment in the facility.
  - c. An applicant for a waiver shall pay the amount which would be required for an application for a certificate of site or corridor compatibility for the proposed facility. If a waiver is not granted for a proposed facility, such application fee paid shall be allowed as a credit against fees payable under this section in connection with an application under this chapter for a certificate or permit for the proposed facility.
  - d. An applicant for a transfer of a certificate or permit shall pay an amount to be determined by the commission to cover anticipated expenses of processing the application.
  - e. An applicant certifying to the commission under subsection 3 of section 49-22-03 shall pay an amount to be determined by the commission to cover anticipated expenses of processing the application.
  - f. The application fee under subdivision a, b, or c may not be less than ten thousand dollars nor more than one hundred thousand dollars.
2. At the request of the commission and with the approval of the emergency commission, the applicant shall pay such additional fees as are reasonably necessary for completion of the electric energy conversion facility site, electric transmission facility corridor, or electric transmission facility route evaluation and designation process by the commission. The application fee under subsection 1 and any additional fees required of the applicant under this subsection may not exceed an amount equal to one thousand dollars for each one million dollars of investment in a proposed energy conversion facility or ten thousand dollars for each one million dollars of investment in a proposed electric transmission facility.
3. A siting process expense recovery fund is established in the state treasury. The commission shall deposit payments received under subsections 1 and 2 in the siting process expense recovery fund. All moneys deposited in the fund are appropriated on a continuing basis to the commission to pay expenses incurred in the siting process. The commission shall specify the time and method of payment of any fees and shall refund the portion of fees collected under subsections 1 and 2 which exceeds the expenses incurred for the evaluation and designation process.

**49-22-23. Transfer.**

Repealed by S.L. 1977, ch. 447, § 16.

**49-22-24. Safety.**

Every utility that owns or operates electric generation of any size for the primary purpose of resale shall comply with the standards of the national electrical safety code in effect at the time of construction of the generation.



# South Dakota Public Utilities Commission Information Guide to Siting Energy Conversion & Electric Transmission Facilities

This guide is intended to offer a simple overview of the Public Utilities Commission's process in making a decision to approve or deny the construction of an energy conversion facility, AC/DC conversion facility, wind energy facility, or electric transmission facility in South Dakota. This guide is informational and does not address all situations, variations and exceptions in the siting process and proceedings of the PUC. For additional information, see South Dakota Codified Laws Chapter 49-41B ([www.legis.sd.gov/Statutes/Codified\\_Laws](http://www.legis.sd.gov/Statutes/Codified_Laws)) and South Dakota Administrative Rules Chapter 20:10:22 ([www.legis.sd.gov/rules](http://www.legis.sd.gov/rules)).

## PUC Authority

The South Dakota Legislature gave the PUC authority to issue permits for energy conversion, AC/DC conversion, wind energy and electric transmission facilities. An energy conversion facility is a generation facility, other than a wind generation facility, capable of generating 100 megawatts or more of electricity. In considering applications, the commission's primary duty is to ensure the location, construction and operation of the facilities will produce minimal adverse effects on the environment and the citizens. The commission determines these factors based on definitions, standards and references specified in South Dakota Codified Laws and Administrative Rules. For energy conversion facilities, AC/DC conversion facilities and transmission facilities, the PUC has one year from the date of application to make a decision; six months for wind energy facilities.

The commission strives to issue a reasoned decision and conditions where appropriate that uphold the law and discourage a potentially expensive and lengthy appeal process.

In rendering its decision, the commission may grant the permit, deny the permit, or grant the permit with terms, conditions or modifications of the construction, operation or maintenance as the commission finds appropriate and legally within its jurisdiction. The commission does not have authority to change the route or location of a project. The decision of the commission can be appealed to the circuit court and, ultimately, to the South Dakota Supreme Court.

The PUC is not involved in the easement acquisition process that occurs between applicants and landowners. Likewise, the PUC does not have a role in the eminent domain process, which is handled in the circuit court system. Landowners with concerns

about these issues should seek advice from their personal attorney.

## Applicant Responsibility

The applicant that seeks the PUC's approval must show its proposed project:

- will comply with all applicable laws and rules;
- will not pose a threat of serious injury to the environment nor to the social or economic condition of inhabitants or expected inhabitants in the siting area;
- will not substantially impair the health, safety or welfare of the inhabitants; and
- will not unduly interfere with the orderly development of the region with due consideration having been given to the views of the governing bodies of affected local units of government.

## PUC Staff Role

PUC staff members assigned to work on a siting case typically include one attorney and multiple analysts. Staff attorneys have educational and practical experience in administrative law, trial procedure and business management principles. Staff analysts have expertise in engineering, research and economics. Some of the work the staff does involves reviewing data and evidence submitted by the applicant and intervenors, requesting and analyzing opinions from experts, and questioning the parties. The staff considers the information relative to state laws and rules and presents recommendations to the Public Utilities Commissioners.

## Public Involvement

South Dakotans, as well as anyone else with an interest in a siting case, have a variety of ways to stay informed and involved. Read more on back.

**Review the electronic docket.** A docket is the continually updated collection of documents filed with the commission for a particular case. Dockets are accessible under the Commission Actions tab on the PUC website, [www.puc.sd.gov](http://www.puc.sd.gov). Dockets are labeled to correspond with their type and filing date. For example, the Prevailing Wind Park wind energy facility docket is EL18-026; EL for electric, 18 for the year 2018 and 026 to indicate it was the 26<sup>th</sup> electric docket filed with the commission in 2018.

**Attend a public input hearing.** The PUC will hold a public input hearing on a siting case, with 30 days notice, as physically close as practical to the proposed facility site. At the hearing, the applicant describes its project and the public may ask questions and offer comment. PUC commissioners and staff attend this hearing. The discussion is documented and becomes part of the record.

**Submit comments.** Members of the public are encouraged to submit written comments about an active siting case to the PUC. These **informal** public comments are reviewed and considered by the PUC commissioners and staff. Comments should include the docket number or siting project name, commenter's full name and full mailing address. Email address must be included for comments submitted by email. These comments should be emailed to [puc@state.sd.us](mailto:puc@state.sd.us) or mailed or hand-delivered to PUC, 500 E. Capitol Ave., Pierre, SD 57501. Comments are posted in the "Comments" section of the docket within a reasonable time after having been received. The commenter's name, city and state will be posted along with their comment. Comments received from businesses, organizations or other commercial entities (on letterhead, for example) will include the full contact information for such.

Please follow these guidelines when submitting written comments to the PUC:

- For comments sent by email, the maximum file size is 10 MB. If you have questions, please contact South Dakota PUC staff at 605-773-3201 (Monday - Friday, 8 a.m. - 5 p.m. Central Time).
- For comments sent by U.S. mail or hand delivered, no more than twenty (20) 8.5" x 11" pages, including attachments and support materials, should be submitted with a comment. Sheets with printing on both sides are counted as two pages.
- A reference document, article or other attachment not written by the person

commenting should clearly identify the source of the content. The inclusion of any copyrighted material without accompanying proof of the commenter's explicit right to redistribute that material will result in the material being rejected.

- In instances where individual comments are deemed to be a duplicate or near duplicate copies of a mass message campaign, the PUC will post only a representative sample and list the name, city and state of the commenter.
- Comments containing threatening language or profanity will be rejected.
- Multimedia submissions such as audio and video files will not be accepted as written comments.
- Electronic links will not be accepted.

**Become an intervenor.** Individuals who wish to be **formal** parties in a siting case may apply to the PUC for intervenor status. The intervention deadline is clearly indicated within the docket. Intervention is appropriate for people who intend to actively participate in the case through legal motions, discovery (requests for facts or documents), the written preparation and presentation of actual evidence, and in-person participation in a formal hearing. Intervenors are legally obligated to respond to discovery from other parties and to submit to cross-examination at a formal hearing. Individuals seeking only to follow the progress of a siting case or to offer comments for the PUC's consideration need not become intervenors.

**Communicate on record.** Verbal communication between a commissioner and a person with an interest in a matter before the commission that does not occur in a public forum or as part of the official record should be avoided. Those who communicate in writing with a commissioner about an open or imminent docket matter should understand that their comments will become part of the official record and subject to review by all parties and the public. Likewise, comments made at a PUC public proceeding or submitted to the commission relative to a docket matter become part of the record, open to review by all parties and the public. Because commissioners have a decision-making role in docket matters, any discussion with a commissioner about an open or imminent docket must take place in an open forum, such as a public meeting, with notice given to all parties.

South Dakota Public Utilities Commission  
500 E. Capitol Ave., Pierre, SD 57501  
1-800-332-1782; 605-773-3201  
[www.puc.sd.gov](http://www.puc.sd.gov); [puc@state.sd.us](mailto:puc@state.sd.us)

07/2018

001470

Truth - Perfect Love Casts  
Out All Fear!  
Rev Dan  
Brundage

## 2016 Survey in Buffalo Ridge 2 near Toronto, SD

Completed by Mark Junker - B.S. Civil Engineering

Meredith Junker - Dr. Pharmacy

They left Deuel County about a year ago.

There are 24 existing wind turbines in Deuel County according to 2015 satellite imagery. Interviews were conducted with residents who live within 1 mile of the existing wind turbines.

17 Deuel County residences were counted within 1 mile of the existing wind turbines.

There were 13 interviews with Deuel County residents.

The 2 interviews in Brookings County were with residents who live just south of the Deuel-Brookings county line road.

Residents were simply asked what it was like living next to the wind turbines. If a resident voluntarily shared concerns about noise or shadow flicker, some follow up questions regarding the level of noise and frequency of shadow flicker were asked.

All interviews were conducted in person (by Mark Junker) at the residence. All interviews were ended with a question regarding if the owner was receiving any compensation from the wind developer.

### NOISE RESULTS

40% Negatively Impacted (Remember they were asked what it was like living next to wind turbines.)

- "it sucks"
- "limit outside activity"
- "never sleep with windows open"
- "noise inside home"

27% Mildly Affected

- "noise really bad in freezing fog"
- "hear turbines in house every winter"

These percentages compare favorably with other surveys that I have read.

## FLICKER RESULTS No Flicker was in the Ordinance

### 33% Negatively Impacted

- “1 / 2 hour morning & evening, Nov. to Feb.”
- “20 min. per evening ,but not summertime”
- “most months of year”
- “happens all the time”

### 20% Mildly Affected

- “in kitchen – Feb. & Mar.”
- “Feb. & Mar.”

## OTHER CONCERNS

- Property Values
- Wildlife
- Flashing Red Lights
- House Vibrating

## Conclusion

Although not scientific, there is nothing unique about the residents that were interviewed. Therefore, the sample of people interviewed is representative of the Toronto-White area wind development.

All interviews conducted (both negative and positive) are contained within this report.

There is a wide range of reactions from residents living next to the wind turbines.

There is sufficient evidence from the interviews to demonstrate that a substantial number of Deuel County residents are negatively impacted from noise and shadow flicker generated from wind turbines.

Therefore, the current ordinance does not protect a substantial number of residents from noise and shadow flicker generated from wind turbines.

When current ordinances are not protecting people being forced to live among 2.0MW turbines, what would you expect life among much more powerful turbines such as those proposed here or 4.2 MW in other counties? I have enclosed a comments letter regarding these concerns.

Over the past years I have become acquainted with an Industrial Noise Engineer. William Acker has more than 40 years of experience in his field and is intimately knowledgeable regarding the Shirley Wind Farm. I asked his thoughts on these larger IWT like a 4.2 MW. He replied "They scare the hell out of me."

I asked if I may quote him.

"Yes, and they should scare anyone living near them."

### BROWN COUNTY, WI

Shirley Wind Farm declared a "Human Health Hazard" that was the headline.

Why? The Brown Co. Board of Health (BOH) took the time to understand, educate themselves & draw a conclusion with regard to Health, Safety, & Welfare not based on any industry standard.

- The Shirley Wind Farm contained 8 IWT 2.5MW each.
- The assigned Health Officer was directed to take action; Chua Xiong & her Grad. Student, Carolyn Harvey decided to review the literature. The Health Officer concluded: "Currently there is insufficient scientific evidence-based research to support the relationship between wind turbines and health concerns." She further went on that this was her "final decision" and she would only monitor the situation "on an annual basis".



- Some months later, through a Freedom of Information request of emails between Ms Xiong & Ms Harvey, the following was reported: “Carolyn the times that I have been out there at the wind turbines I get such migraine headaches. I think I should take some preventative Tylenol before I head out there.” It is not difficult to understand why she would only monitor on an annual basis. And by the way, if they did a review of the literature, they would have known that headaches are a symptom for some of those who are more sensitive to infrasound & low frequency noise.

SD needs to be for Safe Responsible Renewable Energy (SDSRRE). I ask you to please deny this application and use your authority to accept only safe setbacks: 2 miles with a waiver.

Thank You.

George L. Holborn

  
Sioux Falls, SD 57110-7617



---

**SDPUC Docket EL18-026**

2 messages

---

**Ruby Holborn** [redacted]  
To: Mark Junker <mark\_junker@hotmail.com>

Thu, Jul 5, 2018 at 8:47 PM

Mark,  
I would like to disseminate your survey that you did with the residents near Toronto, SD living in the Buffalo Ridge II Wind Farm. When you sign below, you are giving me permission to present your survey to the SD PUC regarding Docket EL18-026.

Thank You.

Regards,  
George L. Holborn

Mark Junker: \_\_\_\_\_

Sent from my iPhone

---

**Mark Junker** <mark\_junker@hotmail.com>  
To: Ruby Holborn [redacted]

Sat, Jul 7, 2018 at 9:04 PM

George, you have my permission

Mark

---

**From:** Ruby Holborn [redacted]  
**Sent:** Thursday, July 5, 2018 8:47 PM  
**To:** Mark Junker  
**Subject:** SDPUC Docket EL18-026

[Quoted text hidden]

## Toronto Area Interviews

The purpose of these interviews is to investigate how residents are reacting to living next to the wind turbines south of Toronto in Deuel County.

There are 24 existing wind turbines in Deuel County according to 2015 satellite imagery. Interviews were conducted with residents who live within 1 mile of the existing wind turbines.

According to 2015 satellite imagery, 17 Deuel County residences were counted within 1 mile of the existing wind turbines .

15 interviews were conducted as shown on the following pages. 13 of the interviews were with Deuel County residents. The 2 interviews in Brooking County were with residents who live just south of the Deuel-Brookings county line road.

The number of wind turbines within a mile of each residence is shown on each interview. Distances listed were measured off satellite imagery from the center of the house to the center of the wind turbine. All distances were rounded to the nearest 100 feet. The distances are also shown in miles for informational purposes.

Residents were simply asked what it was like living next to the wind turbines. If a resident voluntarily shared concerns about noise or shadow flicker, some follow up questions regarding the level of noise and frequency of shadow flicker were asked. All interviews were conducted in person (by Mark Junker) at the residence.

Also noted on each interview is any other relevant information that was volunteered. All interviews were ended with a question regarding if the owner was receiving any compensation from the wind developer.

**Interview #1**      w/ owners      June 4 and 12, 2016      Deuel County

Turbine	Distance (feet)	Distance (miles)
1	1200	0.23
2	1500	0.28
3	1900	0.36
4	2500	0.47
5	2900	0.55
6	3300	0.63
7	4100	0.78
8	4700	0.89

**Noise:**

- describes noise as bad & loud (comparable to jets at an airport)
- noise prohibits the joy of campfires in the evening
- noise prevents house windows from being opened at night

**Shadow Flicker:**

- describes shadow flicker as bad
- shadow flicker occurs approximately ½ hour in morning and evening from approximately November to February
- can't block the shadow flicker out of the house

**Other:**

- owners worried about property value
- owners do not receive any compensation from the wind developer

Interview #2      w/ owner      June 4, 2016      Brookings County

Turbine	Distance (feet)	Distance (miles)
1	1300	0.25
2	1700	0.32
3	1700	0.32
4	2300	0.44
5	2300	0.44
6	3000	0.57
7	3100	0.59
8	3300	0.63
9	3800	0.72
10	4300	0.81
11	4500	0.85
12	4600	0.87
13	5000	0.95
14	5100	0.97

**Noise:**

- complained of noise

**Shadow Flicker:**

- complained of shadow flicker

**Other:**

- described living next to wind turbines as "it sucks"
- described a blade flying off of a wind turbine and stabbing in the ground in an upright position – unclear on exact distance the blade landed away from the wind turbine – described distance as "a ways"
- said deer were coming back to the area after being gone since construction of the wind turbines
- owner does not receive any compensation from the wind developer



**Interview #3**      w/ owner      June 4, 2016      Brookings County

Turbine	Distance (feet)	Distance (miles)
1	1200	0.23
2	2100	0.40
3	2200	0.42
4	2300	0.44
5	2600	0.49
6	3100	0.59
7	3200	0.61
8	3500	0.66
9	4300	0.81
10	4400	0.83
11	4700	0.89
12	4800	0.91
13	5000	0.95

**Noise:**

- noise really bad in freezing fog

**Shadow Flicker:**

- shadow flicker around 2 pm from approximately February to March

**Other:**

- owner does not receive any compensation from the wind developer

**Interview #4**      w/ owner's adult son      October 2, 2016      Deuel County

Turbine	Distance (feet)	Distance (miles)
1	1900	0.36
2	2600	0.49
3	3400	0.64
4	4600	0.87

**Noise:**

- no noise complaints except can hear wind turbines in the house during the winter
- described moving parts of the wind turbines as louder in the winter (compared it to your vehicle making more sounds in the cold)

**Shadow Flicker:**

- none

**Other:**

- complained field/access road washes out
- father (owner) receives compensation from the wind developer

**Interview #5**

w/ owner

October 2, 2016

Deuel County

Turbine	Distance (feet)	Distance (miles)
1	1900	0.36
2	2200	0.42
3	2800	0.53
4	2900	0.55
5	3600	0.68
6	3700	0.70
7	3800	0.72
8	4000	0.76
9	4100	0.78
10	4200	0.80
11	4600	0.87
12	4700	0.89
13	5200	0.98

**Noise:**

- no noise complaints

**Shadow Flicker:**

- owner did not complain of shadow flicker
- owner mentioned that a guest did wonder what the shadow moving across the guest bedroom was

**Other:**

- only real complaint was they were dealing with some compaction issues in some fields yet due to construction traffic outside of the access roads
- owner receives compensation from the wind developer

Interview #6

w/ owner

October 2, 2016

Deuel County

Turbine	Distance (feet)	Distance (miles)
1	2200	0.42
2	2400	0.45
3	3000	0.57
4	3300	0.63
5	3800	0.72
6	3800	0.72
7	3900	0.74
8	3900	0.74
9	4200	0.80
10	4400	0.83
11	4500	0.85
12	4700	0.89
13	5200	0.98

**Noise:**

- can hear noise in the house with the windows closed
- claimed noise can be "10 times louder than today"

**Shadow Flicker:**

- shadow flicker once in a while in the winter

**Other:**

- owner receives compensation from the wind developer

**Interview #7**      w/ owner's fiancé      October 2, 2016      Deuel County

Turbine	Distance (feet)	Distance (miles)
1	4500	0.85
2	4600	0.87
3	4700	0.89
4	5300	1.00

**Noise:**

- described noise as light whooshing sound
- no noise problems

**Shadow Flicker:**

- unknown

**Other:**

- not known if owner receives any compensation from wind developer



**Interview #8**

w/ owner

October 2, 2016

Deuel County

Turbine	Distance (feet)	Distance (miles)
1	5000	0.95
2	5000	0.95
3	5200	0.98

**Noise:**

- noise described as minimal

**Shadow Flicker:**

- none

**Other:**

- owner does not receive any compensation from the wind developer

**Interview #9**

w/ owner

October 2, 2016

Deuel County

Turbine	Distance (feet)	Distance (miles)
1	4500	0.85
2	5100	0.97

**Noise:**

- describes noise as similar to military aircraft with propellers
- does not sleep with windows open due to noise
- does not wear hearing aids outside to avoid hearing the noise

**Shadow Flicker:**

- shadow flicker in evenings for approximately 20 minutes
- no shadow flicker in summer time

**Other:**

- the blinking lights on the wind turbines at night are an annoyance
- had house for sale 79 days this summer, owner's opinion is that there was no interest in the house due to the wind turbines
- owner does not receive any compensation from the wind developer

Turbine	Distance (feet)	Distance (miles)
1	1300	0.25
2	1300	0.25
3	2200	0.42
4	2500	0.47
5	3200	0.61
6	3600	0.68
7	4100	0.78
8	4100	0.78
9	4800	0.91
10	5100	0.97

**Noise:**

- See David  
2 DEC 16  
AM*
- described noise as bad
  - wind turbines are much noisier than they are today
  - can hear noise inside the house with windows closed (owner also noted it was a very well built house)

**Shadow Flicker:**

- shadow flicker is a problem most months during the year
- high noise  
during Hazy  
foggy  
days*

**Other:**

- owner wants to sell house, but can't
- owner hates the wind turbines
- no geese in the area since construction of the wind turbines
- owner does not receive any compensation from the wind developer

**Interview #11**      w/ owner      October 8, 2016      Deuel County

Turbine	Distance (feet)	Distance (miles)
1	1200	0.23
2	2000	0.38
3	2400	0.45
4	2800	0.53
5	2900	0.55
6	3500	0.66
7	3800	0.72
8	4500	0.85

**Noise:**

- owner was used to the noise - no noise complaints
- can't hear noise in house

**Shadow Flicker:**

- no shadow flicker complaints

**Other:**

- owner does not mind the wind turbines
- not known if owner receives any compensation from wind developer

**Interview #12**      w/ owner      October 8, 2016      Deuel County

Turbine	Distance (feet)	Distance (miles)
1	2500	0.47
2	3300	0.63
3	4100	0.78
4	4800	0.91
5	4900	0.93
6	5000	0.95
7	5100	0.97

**Noise:**

- described noise as bad
- described a vibration inside the house at times from the wind turbines
- dogs go nuts sometimes due to noise

**Shadow Flicker:**

- described shadow flicker as happening all the time

**Other:**

- no geese or wildlife around anymore due to wind turbines
- owner #@!#&% hates the wind turbines
- owner does not receive any compensation from the wind developer



**Interview #13**      w/ owner      October 8, 2016      Deuel County

Turbine	Distance (feet)	Distance (miles)
1	2700	0.51
2	3000	0.57
3	3500	0.66
4	4100	0.78
5	5000	0.95

**Noise:**

- owner can hear them
- owner cannot hear them in the house

**Shadow Flicker:**

- some shadow flicker in kitchen in winter time

**Other:**

- owner does not receive any compensation from the wind developer

**Interview #14**      w/ owner      October 8, 2016      Deuel County

Turbine	Distance (feet)	Distance (miles)
1	3300	0.63
2	3700	0.70
3	3900	0.74
4	4100	0.78
5	4400	0.83
6	5100	0.97

**Noise:**

- can hear noise in the house with the windows closed

**Shadow Flicker:**

- no shadow flicker problems in the yard

**Other:**

- complained of erosion in the fields next to the access roads
- says red lights flashing at night on the wind turbines are annoying
- owner does not receive any compensation from the wind developer

**Interview #15**      w/ owner      October 8, 2016      Deuel County

Turbine	Distance (feet)	Distance (miles)
1	2700	0.51
2	2700	0.51
3	3300	0.63
4	4200	0.80
5	5100	0.97

**Noise:**

- used to the noise
- no noise in the house

**Shadow Flicker:**

- no shadow flicker

**Other:**

- couldn't get TV reception with antenna anymore after wind turbines were built
- owner does not receive any compensation from the wind developer

## Results

### Noise:

- 6 out of 15 (40%) of residents interviewed are negatively impacted by the noise generated from the wind turbines (#1, #2, #6, #9, #10 and #12)
- 4 out of 15 (27%) of residents interviewed are mildly affected by the noise generated from the wind turbines (#3, #4, #13 and #14)
- 5 out of 15 (33%) of residents interviewed are not affected by the noise generated from the wind turbines (#5, #7, #8, #11 and #15)

### Shadow Flicker:

- 5 out of 15 (33%) of residents interviewed are negatively impacted by the shadow flicker generated from the wind turbines (#1, #2, #9, #10 and #12)
- 3 out of 15 (20%) of residents interviewed are mildly affected by the shadow flicker generated from the wind turbines (#3, #6 and #13)
- 7 out of 15 (47%) of residents interviewed are not affected by the shadow flicker generated from the wind turbines (#4, #5, #7, #8, #11, #14 and #15)

### Other:

- 1 resident interviewed reported devaluation of property due to the wind turbines (#10)
- 1 resident interviewed claimed difficulty selling house due to the wind turbines (#9)
- 1 resident interviewed worried about property value (#1)
- 3 residents interviewed reported wildlife has been negatively impacted due to the construction of the wind turbines (#2, #10, and #12)

**Conclusion:**

Although not scientific, there is nothing unique about the residents that were interviewed. Therefore, the sample of people interviewed is representative of the Toronto - White area wind development. All interviews conducted (both negative and positive) are contained within this report.

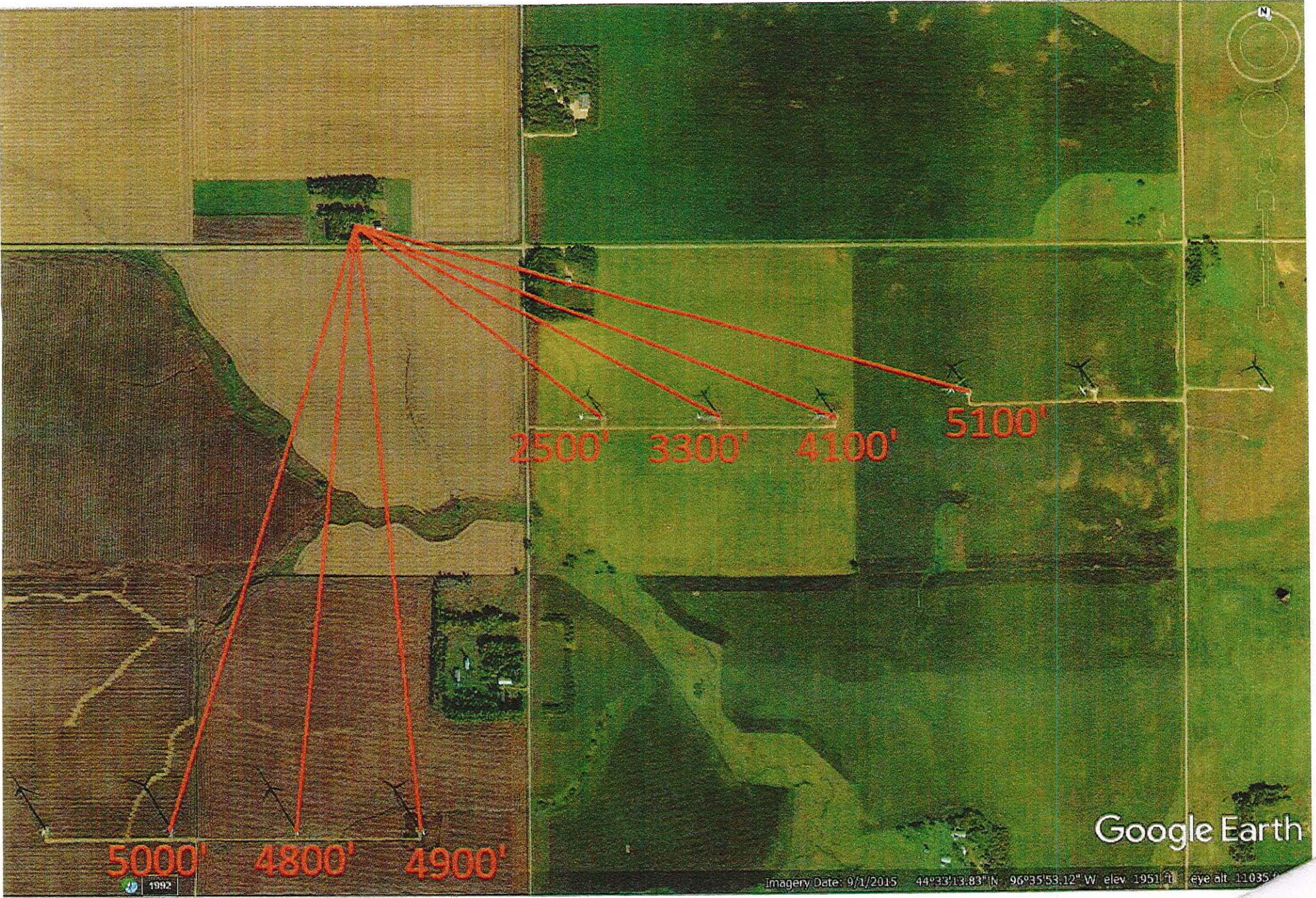
There is a wide range of reactions from residents living next to the wind turbines.

There is sufficient evidence from the interviews to demonstrate that a substantial number of Deuel County residents are negatively impacted from noise and shadow flicker generated from wind turbines.

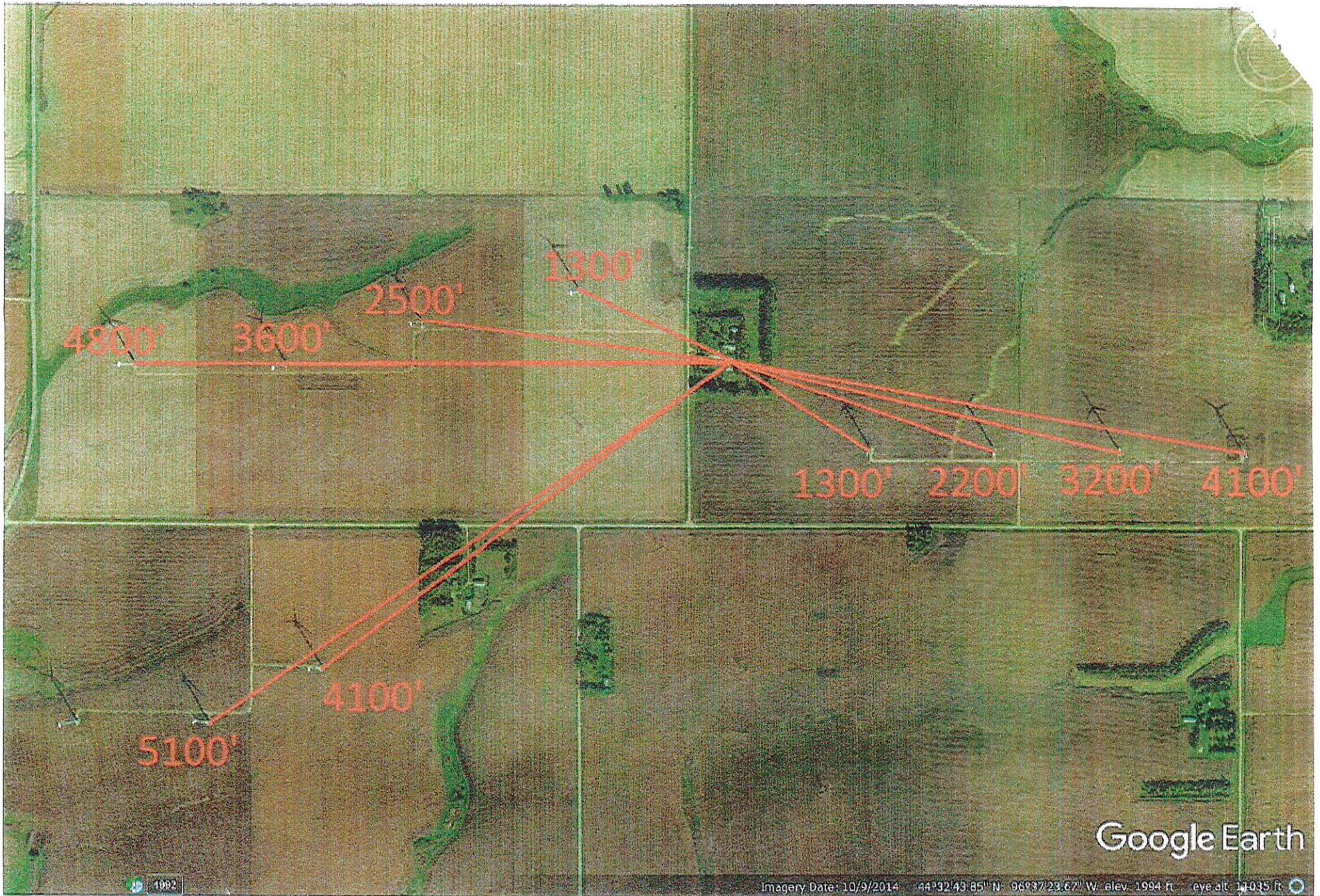
Therefore, the current Deuel County ordinance does not protect a substantial number of residents from noise and shadow flicker generated from wind turbines.



Interview  
#12









EL18-026 - In the Matter of the Application by Prevailing Wind Park, LLC for a Permit of a Wind Energy Facility in Bon Homme County, Charles Mix County and Hutchinson County, South Dakota

EL18-003 - In the Matter of the Application by Dakota Range I, LLC and Dakota Range II, LLC for a Permit of a Wind Energy Facility in Grant County and Codington County, South Dakota

George L. Holborn 07/09/2018

My wife and I have been following the SD Wind Energy Dockets EL17-055 Crocker Wind Farm and EL18-003 Dakota Range Wind Farm. I find of special interest Mr. Hessler noted the ambient in Clark County was 15-21 dba (quiet). Other acousticians suggest when the ambient is exceeded by 10 dba, the new noise become dominant (possible annoyance/sleep deprivation). You may recall southern Lincoln County, SD had an ambient of 26 dba. I know of no reference made regarding an ambient for Codington or Grant County. I would imagine the ambient would be comparable.

What are Mr. Hessler's thoughts on the above?

We understand with every increase of 10 dba, the receptor perceives a doubling of the noise. How would Mr. Hessler compare a 20-25 dba average increase over ambient at a non-participating receptor with the computer models offered by Dakota Range?

In the early 1980's, complaints as far as 1.8 miles from an experimental 2.0 MW industrial wind turbine (IWT) were documented. You and Mr. Hessler know this history, but I think it is worth mentioning. Dr. Neil Kelly (a physicist) conducted extensive research on IWT. The Wind Industry was included in this research. Subsequently, the wind industry began installing much smaller turbines than the 2.0 MW that elicited complaints as far away as 1.8 miles. For instance, in 1993 the first IWT installed on the Buffalo Ridge near Lake Benton, MN were 0.75 MW output. These smaller turbines presented few or no complaints except for vista, day and night. At the turn of the century, the Wind Developers determined more money could be made with a larger turbine. As the output increased the complaints increased. Sleep deprivation being one of the most frequent complaints and as Mr. Hessler pointed out a small percent in extreme cases people left their homes. Is it possible a non-trivial % of non-participants want to leave?

To the best of my knowledge, turbines in the 1.5 - 2.5 MW size can and have abandoned homes. I am aware Mr. Hessler collaborated with [REDACTED] on a study of the Shirley Wind Farm in Brown County WI. This Wind Farm consists of eight 2.5 MW IWT's. Homes were abandoned out to 1.38 miles from the nearest turbine. The Shirley Wind Farm was declared a Human Health Hazard by the Brown County WI Board of Health. The MN Dept. of Commerce claims there are no 4.2 MW turbines operating in MN and I know of none operating in SD. The larger the turbine equals more money and more complaints. Does Mr. Hessler share the concerns Robert Rand has with these larger IWT? Would Mr. Hessler know what the relative amount of infrasound (in general) from a 2.0 MW vs a 4.2 MW output? I don't think it is directly proportional, it may be more. Perhaps the question should be:

Does the Wind Developer have scientific data that a 4.2 MW IWT will not give rise to sleep disturbance?

Does Mr. Hessler believe the Dakota Range computer models account for worst case scenarios? As I understand from both visiting with those living among the turbines and my readings, many problems are realized during evenings when wind is calm at the receptor but 4-500 feet above the wind may be blowing fast enough for the turbines to operate at or near peak efficiency. This coupled with associated weather conditions, for example foggy periods, others report winter is more problematic. One family complained their home would occasionally vibrate (1-2x per year). The nearest 2.0 MW IWT is nearly half a mile away. At the same time a dog was howling and the horses were milling around in the corral. I grew up on a ranch and when the animals were aroused, they were sensing something we did not sense. When this happened at least one of us would reach for a rifle or shotgun. I have not heard of any reports that the Governor's mansion occasionally vibrates. It seems to me a computer model, or an ordinance for that matter, of 40-45 dba average (Mr. Hessler's numbers) is of little consolation for the receptor if a period spike as high as 68 dba or infrasound he or she can or cannot hear but can feel and said person is awoken by spike or is trying to go to sleep.

What are Mr. Hessler's thoughts on the above "run-on" sentence?

Admittedly people are different. For example my wife and I may be awoken at 2am by whatever noise. She can fall asleep in a few minutes, but I maybe awake for the day.

Deuel County, November 2016 at a Zoning Board Meeting, three people testified about their life among the turbines. All reported a sense of hopelessness in that no one, including the Wind Developer or any government entity, cared about their family's plight. Two, as it seemed to me, looked as though they were just plain worn out (tired). Two of the three were called liars by wind proponents. At a subsequent meeting one was asked to leave. They didn't use those meetings as an opportunity to lie; they saw it as a chance to warn us of our future when more are forced to live among the turbines. It is not difficult to understand why others refuse to come forward to tell their story about life among the turbines. It is more preferable to sell your property and quietly leave. By the way, these people live in Buffalo Ridge II Wind Farm based in Brookings County and in southern Deuel County just south of Toronto, SD. These turbines are a 2.0 MW output. They were among a number of people surveyed by Mr. Mark Junker, a civil engineer. He submitted his survey to Deuel County Zoning Board in the fall of 2016. This survey provides a window of life among the turbines in SD. Mr. Junker and his family moved out of Deuel County more than a year ago.

Some of Mr. Hessler's peers, (independent acousticians), have indicated a number less than 40 dba average would be more appropriate. I found Mr. Hessler's comments on Steven Cooper's work of great interest. Does Mr. Hessler agree with Cooper's assertion in the Master Resource interview on page 4 "dBa doesn't work"? Does Mr. Hessler agree with Cooper's assertion on page 6 "What you can't hear cannot hurt you, is incorrect"? What are Mr. Hessler's thoughts on Cooper's comments on page 11 "The residents report greater sleep disturbance over time and more people have had to abandon their homes."? Does Mr. Hessler agree with Cooper "Sleep is the problem. "And also sleep deprivation associated with living among the turbines is more than a non-trivial number of people? Mr. Hessler's thoughts on the last two pages of the Master Resource interview may provide insight or knowledge to help us understand what many people must endure living among the turbines and why.

Regarding Mr. Lawrence's testimony, my understanding is a larger body of evidence and more time to draw a conclusion one way or another would be beneficial. Beyond that, my interpretation of his testimony is a buyer is reluctant to admit it was a mistake to purchase a residence among the turbines, but when the residents are forced to live among the turbines; those people are more likely to find it objectionable. They could find problems with annoyance and or sleep deprivation. I noticed a similar situation in the Junker survey; those who are or have a family member being paid by the Wind Developer are reluctant to complain. For me, I am unable to live among the turbines. I cannot imagine all things being equal; anyone would choose to live among the turbines. Property values may not go down, but they may not increase at the pace of those 10 miles away. I have asked a number of Wind Developers if they live in a wind farm; none do. Why?

We asked several politicians, local and US delegation. None wanted to live among the turbines.

██████████, Lake Benton, MN is maybe the only exception. At that time he claimed to be both a politician and wind developer. He also claimed he lived 750 feet from a 2.6 MW turbine and Lake Benton had turbines right next to the lake. Actually the nearest turbine to the lake was roughly a mile away. The largest turbine in the area was 1.5MW and it was 1504 feet from his home. By the way, he stated flicker does not bother him. Flicker bothers me. The first time I encountered flicker was East of White, SD on Hwy 30. It was a bright spring day near lunchtime. I immediately became disorientated and pulled onto the shoulder of the road. It is difficult to show statistical significance in this matter; however, ask anyone; ask yourself; all things being equal, would you rather live among the turbines or live somewhere else?

At a 2016 Deuel County Zoning meeting, a wind developer proclaimed a residential property value would increase right along with adjoining farm property. The attendees of about 150 people roared with laughter. Since I was a board member, I was able to ask him again. He continued when we explain to you (us) how it will happen we will agree. The crowd roared with laughter again. I listened several hours at two additional meetings and property values were never ever brought up again. When I offered a phone interview between our County Commissioner and a well-known RE Appraiser, our County Commission never found the time. The only information our Zoning Board and County Commission had on property values was provided by the wind developer.

In all the meetings (a considerable number across eastern SD) of County Planning and Zoning Board, County Commissions, and SD & MN PUC, it seems that wind developers offer only the information they feel necessary for project approval. "The truth, the whole truth, and nothing but the truth" has never been a consideration. The non-participating receptor has been no more than a minor footnote in the rules for project approval. There are so many known unknowns regarding life among the turbines. Dakota Range Docket EL18-003 should be denied and a moratorium on any future project until the information vista is clear.

Finally, when the non-participating receptor is no longer forced to bear the burden, both emotional and financial, this political exercise in crony capitalism will no longer require so much needless attention. The solution, in my estimation, exists when the non-participating receptor is no longer forced to live among the turbines. The wind developer should be required to negotiate a contract with all those living among the turbines, participating and non-participating receptors, alike. The solution should be a 2 mile setback with a waiver and when these larger turbines are used a greater setback should be considered. The participating as well as the non-participating receptors is treated equally under this regime. The wind developer must negotiate with the non-participating receptor as if he was a participant and he or she will help determine the distance to the nearest turbine.

With that I would like to thank the PUC staff or whoever thought it would be useful to include Mr. Hessler and Mr. Lawrence in the process. My wife and I found Mr. Hessler and Mr. Lawrence's testimony of great interest.

Thank You so much.

Regards,

George L. Holborn

  
Sioux Falls, SD 57110-7617



This will be South Dakota's FIRST "Wind Park". Most parks attract people. Will this one? Since this announcement, has the population increased in Bon Homme, Charles Mix, and Hutchinson counties?

Under Wind Docket EL17-055 Crocker and EL18-003 Dakota Range, Mr. Jeff Haverly, Proponent Testimony on behalf of Governor Daugaard's Office of Economic Development (GOED) stated: "Each of those projects represents economic development potential through capital investment in our state as well as good paying jobs in many of our rural areas.

I have researched the 14 SD counties that have operating wind farms. Their populations have decreased. Only Brookings County has grown & that is because the city of Brookings & adjacent Volga grew. At least on the surface, two of the main causes of growth of Brookings & Volga is college Division I & industry. Industrial wind turbines and their associated money have not attracted people to live in the rural community.

Also in Brookings & Deuel Counties, the wind energy personnel with good paying jobs do not live amongst the turbines in the rural areas. They live miles away from the turbines as well as many wind participants. They shop & pay taxes elsewhere. This is reality.

Mr. Haverly went on to state according to the PUC, "...we could provide power for almost the entire United States." Wind energy is intermittent. You will always need a backup continuous energy source such as hydro, coal, gas, & nuclear. We already have a reliable source of power for less money.

Mr. Haverly went on to state: "We see tremendous economic development opportunities from these types of projects."

*The Center of American Experiment issue 10 winter 2018 article reads: "The High Cost of Failure." "Minnesota has made meager progress in reducing greenhouse gas emissions since 2005. And it has cost a fortune."*

Some residents by Toronto, SD have stated they do not travel on the roads near operating wind turbines in the winter. SD should us scientific calculations rather than political for our setbacks. What is the Wind Turbine Manufacturer's Manual Safety Stay Away Zone?

If a wind participant wants a wind turbine he should be able to have one but all of the negative effects such as noise, infrasound, shadow flicker, ice throw, adverse health effects, and property devaluation should remain on his property.

Is it permissible for a farmer to plow past his fence line into his neighbor's field?

Is it permissible for that farmer to harvest that crop with no authorization or compensation for his neighbor? How close do you want your home from an IWT?

Those forced to live among the turbines are not asked such a question?

Our citizens should be granted protection not unlike this first example.

One should not be discriminated against because of where one lives.

Should our quiet enjoyment of our property be any less important than that of anyone else's quiet enjoyment?

We do have residents who are experiencing adverse health effects because of improper setbacks. You are being asked to permit this to continue.

SD needs to be for Safe Responsible Renewable Energy (SDSRRE).

I ask you to please deny this application and use your authority to accept only safe setbacks: 2 miles with a waiver.

Thank You.

*Reference:*

*Center of the American Experiment Magazine issue 10 winter 2018*

*"The High Cost of Failure" by Steven F. Hayward, Ph.D. and Peter J. Nelson, J.D.*

Ruby L. Holborn

  
Sioux Falls, SD 57110-7617



Ruby Holborn [REDACTED]

---

## Request for your Permission by noon 07/12

2 messages

---

Ruby Holborn [REDACTED]

Wed, Jul 11, 2018 at 7:14 PM

To: Peter.Zeller@americanexperiment.org

I would like to quote from and reproduce the below material on 07/12/2018 for our South Dakota PUC Docket EL18-026 in the Matter of the Application by Prevailing Wind Park, LLC for a Permit of a Wind Energy Facility in Bon Homme County, Charles Mix County, and Hutchinson County, SD.

I am asking your permission to quote from and reproduce from the Center of the American Experiment Magazine issue 10 Winter 2018 Thinking MN "The High Cost of Failure" by Steven F. Hayward, Ph.D. and Peter J. Nelson, J.D.

I am sorry about this late notice. If you are willing to help me, please expedite your permission.

Thank You!  
Ruby Holborn  
Sioux Falls, SD

---

Peter Zeller

Thu, Jul 12, 2018 at 9:10 AM

<peter.zeller@americanexperiment.org>

To: [REDACTED]

Permission granted.

Peter J. Zeller  
Director of Operations

---

Center of the American Experiment \* 612-338-3605 \* Fax 763-710-7429  
8421 Wayzata Blvd., Ste. 110 \* Golden Valley, MN 55426

« *Minnesota's Think Tank* »

**From:** Ruby Holborn [REDACTED]  
**Sent:** Wednesday, July 11, 2018 7:14 PM  
**To:** Peter Zeller <peter.zeller@americanexperiment.org>  
**Subject:** Request for your Permission by noon 07/12

[Quoted text hidden]



Ruby Holborn [REDACTED]

---

## Wind Energy Reference in Minnesota

1 message

---

Isaac Orr <Isaac.orr@americanexperiment.org>

Thu, Jul 12, 2018 at  
9:22 AM

To: [REDACTED]

Hi Ruby,

I saw your email to Peter Zeller asking permission to use materials on our site. Please feel free to reference any materials written by me at Americanexperiment.org and please feel free to directly reach out to me in the future.

Isaac

Isaac Orr  
Policy Fellow  
Center of the American Experiment



ENERGY POLICY

# The High Cost of Failure

Minnesota has made meager progress in reducing greenhouse gas emissions since 2005. **And it has cost a fortune.**

By Steven F. Hayward, Ph.D.  
and Peter J. Nelson, J.D.

*This is an excerpt of a much more comprehensive white paper that can be found at [www.AmericanExperiment.org](http://www.AmericanExperiment.org).*



**M**innesota's primary energy policy goal is to reduce greenhouse gas emissions (GHG) 15 percent below 2005 levels by 2015, 30 percent by 2025, and 80 percent by 2050. To date, Minnesota has not come close to meeting these goals.

### Minnesota's Energy Policy Fails by its Own Measure

In the latest biennial report to the legislature on GHG emissions, state agencies found that GHG emissions "decreased slightly, about 4 percent, from 2005 to 2014." That is far short of the 15 percent by 2015 goal.<sup>1</sup> To reach GHG emission reduction goals, Minnesota might pay lip service to a broad-based strategy, but, in reality, the strategy focuses almost entirely on reducing emissions from electricity generation. This strategy is failing and will continue to fail.

### Wind and Solar Power are Not Driving Down GHG Emissions

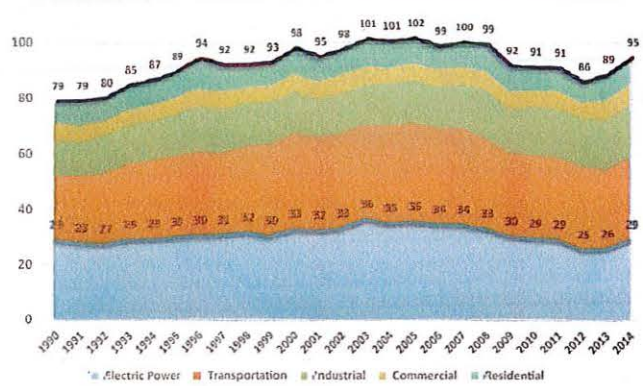
The most glaring failure of Minnesota's energy policy is this: *Increases in renewable energy such as wind and solar power are not driving down carbon dioxide emissions.*

Minnesota's carbon dioxide emissions have fallen only slightly during the same time period it has vastly expanded its renewable energy, and progress in decarbonizing its electricity supply has actually reversed course in the last three years. Figure 1 shows CO2 emissions trends dating back to 1990. After falling 15 percent from the peak in 2005, total CO2 emissions rose 10.4 percent between 2012 and 2014. Overall, CO2 emissions dropped 6.6 percent from 2005 levels. By this measure, there is no way Minnesota will come close to meeting its 15 percent by 2015 GHG emissions reduction goal. State agencies, accounting for all GHG emissions, report even less progress—only a 4 percent reduction in 2014 compared to 2005.

The failure of wind power to reduce CO2 emissions is made especially evident in Figure 2 below, which shows that carbon dioxide emissions from the electricity sector in 2014 were the same as they were in 1990 when there was *no* wind power in the state. While electric power carbon emissions are lower today than in 2005, the state has made little to no progress since 2009, even as electricity generated by wind increased by 92 percent. Note that the dip in emissions in 2012 and 2013 is directly related to a catastrophic failure that took down Minnesota's largest coal-fired power plant for 22 months, beginning in November 2011.

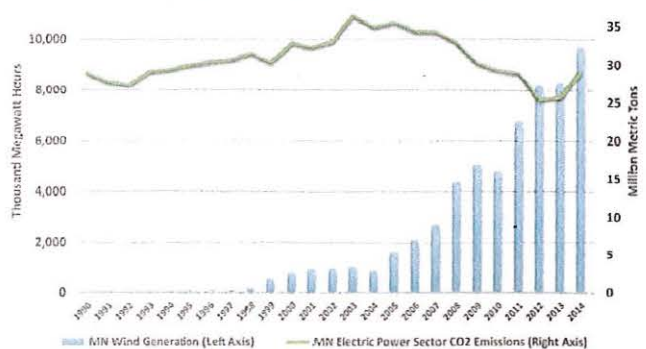
Wind power's failure to meaningfully reduce CO2 emissions in Minnesota is also revealed by comparing Minnesota wind generation and emissions trends to the U.S. as a whole. If wind

**FIGURE 1: MINNESOTA CO2 EMISSIONS BY SECTOR**



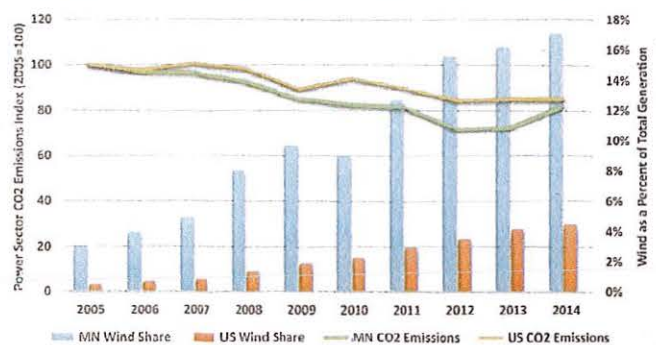
Source: U.S. Energy Information Administration

**FIGURE 2: ELECTRIC POWER SECTOR CO2 EMISSIONS AND WIND POWER CAPACITY**



Source: U.S. Energy Information Administration

**FIGURE 3: POWER SECTOR CO2 EMISSIONS AND THE SHARE OF WIND GENERATION FOR MN AND THE U.S.**



Source: U.S. Energy Information Administration

**About the authors:** Steven F. Hayward is the senior resident scholar at Institute of Governmental Studies, University of California at Berkeley and author of the 2011 Almanac of Environmental Trends. Peter J. Nelson was vice president and senior policy fellow at Center of the American Experiment at the time of publication. He is now senior advisor at Centers for Medicare and Medicaid Services.



works well to reduce carbon emissions, then Minnesota's electric power sector should be experiencing far greater emissions reductions than the U.S. However, Figure 3 reveals that CO2 emissions in Minnesota's electric power sector dropped by about the same level as the U.S. between the 2005 baseline and 2014. Despite wind generating 17 percent of Minnesota's electricity—substantially higher than the 4.4 percent wind generation across the U.S.—electric power sector emissions dropped by 18 percent in Minnesota and 15 percent in the U.S. Again, the apparent drop in 2012 and 2013 in Minnesota is entirely due to the catastrophic failure of Minnesota's largest coal-fired power plant.

The U.S. does better than Minnesota when comparing total greenhouse gas emissions. Between 2005 and 2014, GHG emissions dropped by 9.3 percent across the U.S. compared to a 6.6 percent drop in Minnesota.

### Why Renewables Fail and Will Continue to Fail

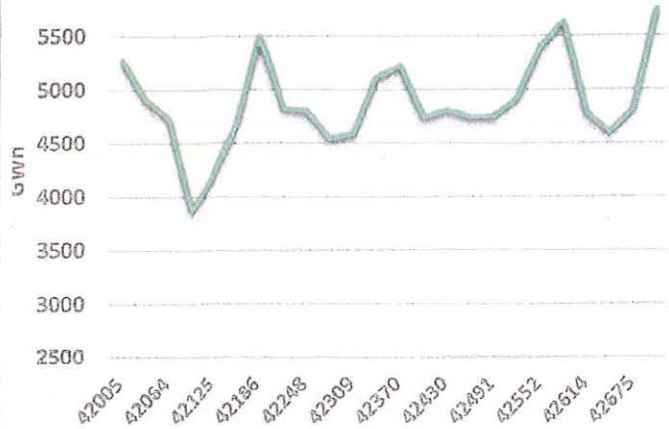
#### Intermittency

Understanding why renewables fail begins with the inherent *intermittency* of wind and solar power, which requires backup generation from conventional sources of electricity to assure grid stability during periods of peak demand. The U.S. Department of Energy classifies wind and solar power as *non-dispatchable* technology—that is, wind and solar are not “on demand” sources of electricity because they depend on optimal wind conditions and sunshine. Solar power obviously produces no power at night (or in the winter when panels may be covered with snow or ice), and wind power falls if the wind stops blowing or blows too hard.

Dispatchable electricity sources include coal, natural gas, and nuclear. The Department of Energy estimates what it calls the *capacity factor* of different sources of electricity—that is, how much of the time the source can be relied upon to produce power. Coal, natural gas and nuclear power can all produce power 85 to 90 percent of the time, any time of day or night, under any weather conditions. Importantly, down time for these power sources is generally predictable and easily planned around. By contrast, despite improvements in wind and solar technology, the Department of Energy estimates that onshore wind power has a capacity factor of only 41 percent (up from 35 percent in 2014), while solar power has a capacity factor of just 25 percent. Southwestern Minnesota has a higher capacity factor than the national average (approximately 50 percent) because of more favorable prevailing wind conditions, but the bulk of Minnesota's electricity usage is in the eastern half of the state, requiring extra expense for transmission lines from most wind power facilities. Conventional electricity generation facilities can be sited close to existing grid resources and end-users.

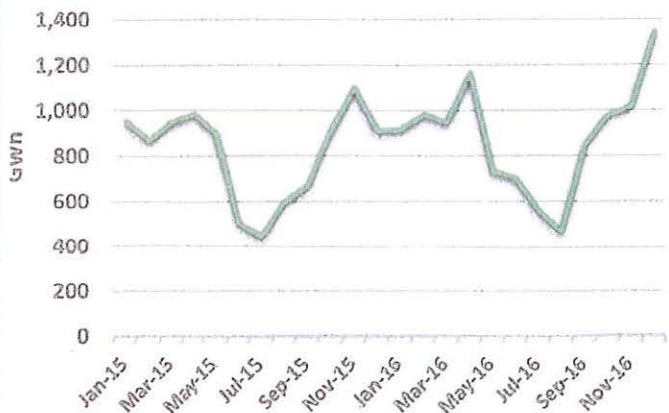
The most important factor in thinking about the resource mix of electricity generation is that electricity has to be available at constant and predictable amounts 24/7. Here is how the Department of Energy describes it: “Since load must be balanced on a continuous basis, units whose output can be varied to follow

**FIGURE 4: TOTAL MINNESOTA ELECTRICITY DEMAND/OUTPUT BY MONTH, 2015-2016**



Source: U.S. Energy Information Administration

**FIGURE 5: MINNESOTA WIND POWER OUTPUT BY MONTH, 2015-2016**



Source: U.S. Energy Information Administration

demand (dispatchable technologies) generally have more value to a system than less flexible units (non-dispatchable technologies), or those whose operation is tied to the availability of an intermittent resource.”<sup>2</sup>

Electricity demand in Minnesota varies by time of day and by as much as 40 percent by season, from its lowest points in the spring and fall (when the weather is mildest) to its highest points in the middle of the summer and around the holidays. The data show that wind power produces the least amount of power in the hot summer months when annual power demand peaks. Wind power performs okay in the winter months, but falls precipitously—as much as 50 percent—in the summer months when demand is highest. (See Figures 4 through 7.) When wind power in 2016 slumped by 60 percent in August, the gap was mostly filled by coal-fired and gas-fired power. Coal power increased output 82 percent between April and August in 2016. (See Figure 6.)

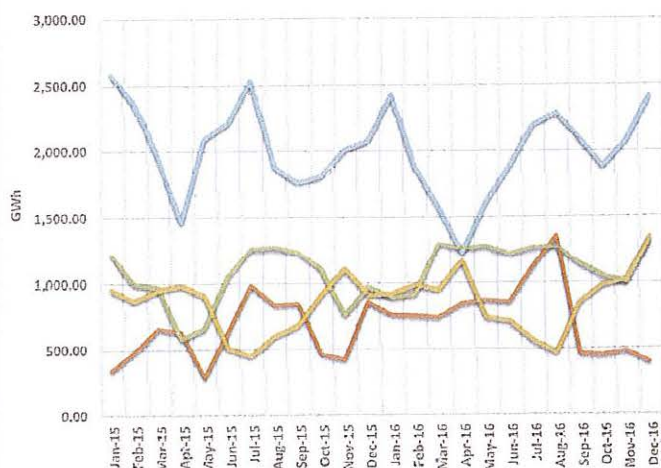
This point bears restating in stronger terms. A closer look at the actual power output data reveals facts contrary to the



narrative of the claimed benefits of greater renewable capacity. Coal accounts for more than 90 percent of total CO2 emissions from the electric power sector, and the fact that total coal-fired electricity production has fallen by much less than the amount of new wind capacity accounts for the lack of progress in reducing CO2 emissions. This is because coal—much more than natural gas—is the swing producer, i.e., coal is the primary backstop when wind production falls.

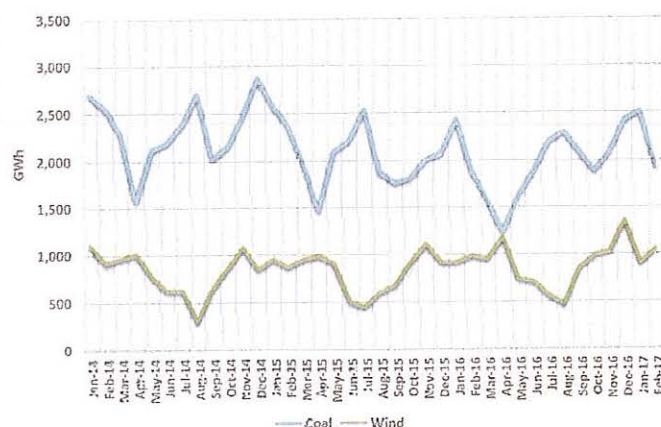
The inverse relationship between coal and wind output can be seen vividly in Figure 7 below, which displays the relationship between coal and wind output from 2014 through February of 2017. Notice especially that coal power increases sharply in the summer months when wind power declines because of slack prevailing winds. Wind power performs best in the winter months, when power demand experiences its second peak period of the year, but here again Figure 7 shows that coal-fired power is the swing producer in meeting the higher demand.

**FIGURE 6: TOTAL OUTPUT FROM MAJOR SOURCES**



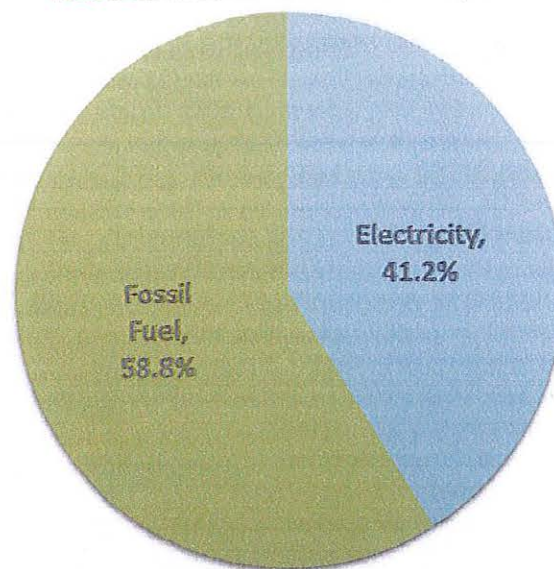
Source: U.S. Energy Information Administration

**FIGURE 7: ELECTRICITY OUTPUT FROM COAL AND WIND, JANUARY 2014 TO FEBRUARY 2017**



Source: U.S. Energy Information Administration

**FIGURE 8: MINNESOTA ENERGY USE, 2015**



Source: U.S. Energy Information Administration

### Natural gas

If the primary object of Minnesota's energy policy is decarbonization, it should allow undistorted market forces to determine the mix of sources to displace coal. This may mean wind in some cases, but will probably mean more natural gas. Numerous studies show the most effective emission reduction strategies rely primarily on natural gas, not wind.<sup>3</sup> Natural gas emits far lower emissions than coal without any of the severe intermittency problems posed by renewables.

Minnesota's experience compared to the U.S. strongly suggests the state is making a serious mistake by focusing too much on wind and solar. While Minnesota has been ramping up wind, most of the rest of the country has been shifting to natural gas. Minnesota is also relying more on natural gas, but not nearly as much as other states. Between 2005 and 2015, natural gas generation grew from a 5.1 percent share to a 13.0 percent share of Minnesota's electricity generation. By contrast, natural gas grew from an 18.8 percent share to a 32.7 percent share across the U.S. These data suggest the rest of the country, by relying on natural gas, achieved the same, but still limited level of emissions reduction as Minnesota, but at a lower price. Recall that it was during this same time-period that Minnesota lost its historic electricity pricing advantage.

### Emphasis on electricity generation addresses only a fraction of energy use

Even if Minnesota were to devise a better strategy to reduce emissions from the electric power sector, the impact on total GHG emissions would still be very limited. Electricity, as shown in Figure 8, only accounts for about 40 percent of final energy use in the state. More important, 70 percent of fossil fuel consumption in Minnesota is used for purposes other than



generating electricity, such as transportation and home heating, which is predominantly supplied by natural gas. This means that the principal emphasis of Minnesota's energy policy is aimed at a fraction of overall energy use. Generating 25 percent of Minnesota's *electricity* from renewable sources would mean that it would only be generating about 15 to 20 percent of *total* energy from renewable sources at best.

### Biofuels Production may be Reaching its Limit

Efforts to address emissions in the largest fraction of energy use—liquid fuels—emphasize biofuels, especially ethanol blended with gasoline. This is another policy that piggybacks on national mandates and subsidies, though it is far from clear that ethanol is environmentally preferable to conventional gasoline.<sup>4</sup> In any case, the U.S. Environmental Protection Agency has recently *reduced* the mandated level of ethanol blending in the nation's gasoline supply, and hints at further reductions in the years ahead, far short of the original ambitious target contemplated by the Bush Administration in 2005. In other words, the U.S. appears to be close to the limit for the production and use of corn-based ethanol.

Minnesota also appears to be reaching its biofuel production limits. As the "Minnesota's 2025 Energy Action Plan" notes, Minnesota is far off track from reaching its biodiesel content mandate of 20 percent biodiesel by 2018. Presently, Minnesota can only deliver 55 percent of the biodiesel capacity to meet this mandate.

The historic reliability and robustness of American energy systems has led Americans to take energy for granted. With a few extraordinary exceptions, transportation fuel is always in abundance, and the lights come on whenever we flip the switch. In fact, our energy systems are highly complex. Simplistic mandates will stress complex energy systems—especially the electricity grid—as they scale up.

### The Cost and Collateral Damage of Minnesota's Energy Policy

The little progress Minnesota has made in reducing emissions since 2005 has come at a great cost. There is of course the cost of building out wind and solar generation capacity. On top of this financial cost, the build-out of renewables also puts the stability of the electric grid at risk and removes substantial acreage of land from productive use.

### The Difficulty of Estimating the Cost of Minnesota Renewable Energy Mandate

It is difficult to estimate with any precision the cost of Minnesota's rapid expansion into renewable electricity generation.

However, make no mistake, government mandates come at a cost. There are a number of costs involved with mandating renewable energy.

- *Stranded costs*: Adding new renewable generation when new generation is not needed results in stranded costs related to the loss of value in retiring the existing generation before it has reached the end of its useful life.
- *Transmission costs*: The geographic dispersion of renewables requires substantially higher investments in transmission to connect to the people who will use it.
- *Backup costs*: Renewables' intermittency—the fact that they produce zero electricity when the wind does not blow or the sun does not shine—requires extra generation to always be online as a backup.
  - *Baseload cycling costs*: Ramping this extra backup baseload generation up and down to accommodate intermittency also comes at a cost to both efficiency and wear and tear.
  - *Curtailment costs*: When the renewables produce too much electricity at low demand times, power producers must, at times, shut them down. Under certain contracts, a utility must still pay for the power not produced.
  - *Profile costs*: Maybe the largest cost—the profile cost—results from the fact that wind provides electricity at low demand times (the spring, the fall, and the middle of the night) when prices are very low.

**The U.S. appears to be close to the limit for the production and use of corn-based ethanol.**



Accounting for all of these factors is incredibly challenging. Adding to the challenge, Minnesota's major investor-owned utility (IOU), Xcel Energy, has little to no incentive to accurately account for the cost. As an IOU, Xcel receives a guaranteed rate of return on all approved capital expenditures. Thus, so long as spending on renewables is approved, it is guaranteed a higher return. The only thing moderating Xcel's move to renewables is the possibility of losing price sensitive industrial customers. However, many of these customers, especially in the mining industry, are outside of their service territory.

### Building Wind Farms to Meet Minnesota's Mandate Has Cost an Estimated \$10.6 Billion to Date

While it may be difficult to precisely estimate the full cost of Minnesota's renewable energy mandate, the cost to build out the wind farms currently serving the state's mandate amounts to around \$10.6 billion. Every year utilities report on the renewable energy credits (RECs) they use to satisfy the state's renewable energy standard (RES). These RECs are linked to the specific renewable electricity generating facilities respon-



sible for the credit, including both utility-owned and independently-owned facilities. Based on these reports, Minnesota utilities depend on wind farms with about 5,000 MW of nameplate capacity to meet the state mandate. The cost of building out these windfarms can be estimated by matching the year a windfarm is built with the capacity-weighted average cost of installing wind for that year, as reported by Berkeley Lab. Add it all up and the wind mills currently meeting Minnesota's RES cost around \$10.6 billion to build.<sup>5</sup>

These investments are largely in addition to the regular capital investments necessary to maintain the existing system. Though Xcel Energy might issue press releases claiming renewables are "cost-effective" and at times even claim they are the lowest-cost choice, even Xcel must be forthright in legal filings before the Minnesota Public Utilities Commission (MPUC).<sup>6</sup> In Xcel's latest request for a rate increase they were asked to explain recent capital investments. Here is their response:

For at least the last five-years, we have focused on investing in carbon free generation—specifically our nuclear generating units and new wind generation resources—and the transmission system needed to deliver this generation to load. These investments were *in addition* to the capital investments we always need to make in our distribution, transmission, and generation assets to help ensure we can safely and reliably serve our customers.<sup>7</sup> [Emphasis added]

Why did they make these *additional* investments in carbon-free generation? As they explain, state and federal policies required them.

The State of Minnesota and the federal government have set forth environmental and policy goals that we are obligated to meet. We are also obligated to meet North American Electricity Reliability Corporation (NERC) system reliability standards, and we take seriously our obligations to provide quality customer service and a safe working and operating environment. These needs exist at all times.<sup>8</sup>

Looking through other filings for rate increases reveals that most utilities at least in part blame Minnesota's RES for the need for higher rates.<sup>9</sup>

### Transmission Costs

As Xcel acknowledges in its rate increase request, a portion of its capital investment in recent years went to fund transmission upgrades needed to deliver the new load from new wind facilities. This represents a substantial and often overlooked component of the cost of mandating renewable energy. According to Xcel's most recent Renewable Energy Rate Impact Report, transmission project costs attributable to Minnesota's RES equal \$1.8 billion.<sup>10</sup> This is no doubt a conservative estimate. Assuming a similar cost to the rest of Minnesota's utilities, installing new transmission to meet the RES costs roughly \$4 billion statewide.

### Profile Costs

Wind is a very low "value" energy source.

That's because the wind blows the strongest and, therefore, produces the most electricity when demand for electricity is the lowest.

This is true on both a seasonal and a daily basis. Wind blows strongest in the spring and the fall and at night when electricity usage is the lowest. As a result, wind on average sells at a lower price than other sources of electricity. The lower sale price imposes a cost, which is referred to as a "profile cost." At many times during the year, the demand for power when the wind is blowing is so low that the price of wind goes negative, meaning utilities must literally pay someone to take their wind power.

This profile cost is hard to quantify because wind production data is usually considered proprietary and nonpublic. However, one wind farm in Minnesota—the Wapsipinicon wind farm—has published this data. A review of this data confirms that the contract for this wind farm has cost the Southern Minnesota Municipal Power Agency (SMMPA) millions of dollars.<sup>11</sup> SMMPA contracted to buy wind at 6.2 cents per kWh in 2012 and 6.3 cents per kWh in 2013. Yet the wind on average only sold for 1.8 cents per kWh in 2012 and 2.4 cents per kWh in 2013. That resulted in a loss of \$14.6 million in 2012 and \$12.7 million in 2013, compared to what SMMPA could have paid buying electricity on the wholesale market.

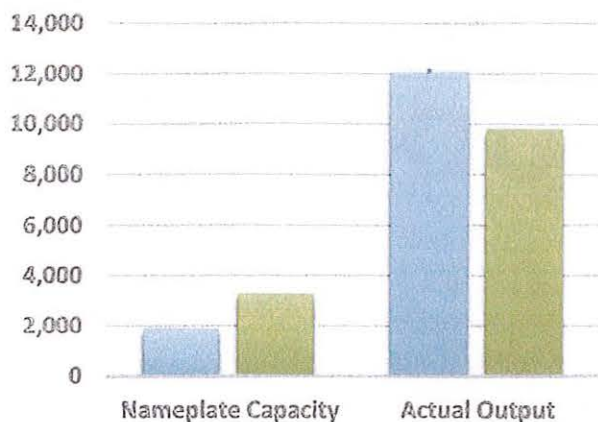
### Less Grid Stability

On top of these quantifiable costs, a basic threshold question about wind is rarely asked or answered: Can wind power guarantee re-





**FIGURE 10: ELECTRICITY OUTPUT FROM COAL AND WIND, JANUARY 2014 TO FEBRUARY 2017**



Source: U.S. Energy Information Administration

## Conclusion

Legislation passed in 2017 reveals the Minnesota legislature understands the problem rising electricity prices pose to the state. Until this year, state energy goals largely ignored the cost involved in achieving them. But the Minnesota legislature recently enshrined one more energy goal into state

statute that directs utilities to aim for electricity rates to “be at least five percent below the national average.”<sup>16</sup> What this means is that the MPUC must now balance the cost of achieving the state’s various green energy goals with the cost.<sup>17</sup>

This report shows how Minnesota fails to come close to meeting near-term greenhouse gas emission reduction goals and how hopelessly unattainable it is to reach the longer-term goals. Considering these future goals are unattainable without great cost and hardship, the new goal to keep Minnesota electricity prices lower than the national average might appear to be in direct conflict.

Though a conflict may now exist among the goals, this rivalry will hopefully lead to a more measured and effective approach to reducing greenhouse gas emissions. Instead of rubberstamping a renewable energy project just because it might advance Minnesota’s green energy goals, moving forward the MPUC should now take greater care in evaluating alternatives and whether the project undermines competitive electricity rates.

The change is welcome, but will it be enough? Minnesota electricity rates are now higher than the nation’s, but substantial investments in new wind and solar have already been approved by the MPUC, despite no increase in demand. Getting back to a proper balance will almost certainly require further updates to state law. ★

## Endnotes

1. Minnesota Pollution Control Agency and Minnesota Department of Commerce, “Greenhouse Gas Emissions: 1990-2014,” (January 2017).

2. U.S. Energy Information Administration, “Levelized Cost and Levelized Avoided Cost of New Generation Resources in the Annual Energy Outlook 2017,” April 2017, p. 2; [https://www.eia.gov/outlooks/aeo/pdf/electricity\\_generation.pdf](https://www.eia.gov/outlooks/aeo/pdf/electricity_generation.pdf).

3. See, e.g., Charles R. Frank, Jr., “The Net Benefits of Low and No-Carbon Electricity Technologies,” Brookings Institute Global Economy & Development Working Paper, p. 73, (May 2014). (“Assuming that reductions in carbon dioxide emissions are valued at \$50 per metric ton and the price of natural gas is not much greater than \$16 per million Btu, the net benefits of new nuclear, hydro, and natural gas combined cycle plants far outweigh the net benefits of new wind or solar plants. Wind and solar power are very costly from a social perspective because of their very high capacity cost, their very low capacity factors, and their lack of reliability.”)

4. See, e.g., “Water Implications of Biofuels Production in the United States,” National Research Council, National Academies Press, 2008, <https://www.nap.edu/catalog/12039/water-implications-of-biofuels-production-in-the-united-states>. Among other findings: “If projected future increases in the use of corn for ethanol production do occur, the increase in harm to water quality could be considerable.”

5. This calculation is based on the wind farms identified in Minnesota electric utility Renewable Energy Certificate Retirement Reports issued for the 2012 to 2016 reporting periods; M-RETS data on wind farm commencement dates; and annual estimates of construction costs from Berkeley Lab for the U.S. Department of Energy.

6. Xcel Energy, Press Release, “Xcel Energy Announces the Nation’s Largest Multi-State Investment in Wind Energy,” March 3, 2017, and Xcel Energy, Press Release, “Xcel Energy achieves wind energy milestone,” March 19, 2013.

7. Aakash H. Chandarana, “In the Matter of the Application of Northern States Power Company for Authority to Increase Rates for Electric Service in Minnesota,” Direct Testimony and Schedules, November 2, 2015, <https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPop&documentId={69F2C489-88E7-46A5-B458-0358311E4CF0}&documentTitle=201511-115332-01>.

8. *Ibid.*

9. See “Energy Policy in Minnesota: The High Cost of Failure” at <https://www.AmericanExperiment.org>.

10. Xcel Energy, “Renewable Energy Standard (RES) Rate Impact Report,” January 2015, <https://www.xcelenergy.com/staticfiles/xcel/PDF/Regulatory/09-App-F-NSP-RES-Rate-Impact-Report-January-2015.pdf>.

11. Tyler McNeal, “Profile Costs as a Component of Integration Costs in Wind Energy,” *Comparative Advantage* (Spring 2016), available at <https://economics.stanford.edu/sites/default/files/comparative-advantage-2016.pdf>.

12. U.S. Department of Energy, Staff Report on Electricity Markets and Reliability [SREMR], (August 2017), pp. 61, 63, 82, 118, available at <https://energy.gov/downloads/download-staff-report-secretary-electricity-markets-and-reliability>.

13. *Ibid.*, p. 14.

14. U.S. Energy Information Administration, Table 2B, <https://www.eia.gov/electricity/state/minnesota/index.php>.

15. Prairie Island Environmental Impact Statement, Nuclear Regulatory Commission, p. 2-24, <https://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1437/supplement39/sr1437s39.pdf>.

16. Minn. Stat. § 216C.05.

17. Long before the state established its present green energy goals, state law directed the MPUC “to provide the retail consumers of natural gas and electric service in this state with adequate and reliable services at reasonable rates.” Minn. Stat. § 216B.01. That language promoting reasonable rates still exists in state statute, but has been largely ignored and replaced by the more specific green energy goals added over the years.

Dear Chris Nelson,

My name is Jim Kaufman of [REDACTED], Delmont, SD 57330 and with my wife, Julie, live inside the boundaries of the proposed wind farm. I have many concerns.

We are fourth generation farmers in Charles Mix County. Our farm is located six miles south and 3/4 east of Delmont and has been in our family since homesteaded in the 1880's when Julie's great grandfather turned his covered wagon upside down and covered it with earth for his first home as he developed the land. I do believe it was a struggle. Roughly 140 years later, we are still fighting the "good fight" in our struggles to stay on this farm. This year marks our 45th crop here. We have survived with God's help through floods and drought, good times and bad times. We've had times of plenty and we've had little at times. Now, we face what will probably be the toughest fight of our lives. . . to survive the turbines. It's no secret. We don't want them and wish the ones that are here were gone.

Some of our concerns after living in the shadows of the existing turbines are effects on our health and wellbeing, the diminishing natural beauty of our surroundings, and the value of our land should we be forced to relocate. We don't wish to move, however, I don't think we will be able to live under 600 ft. turbines that are 1 mile away. The existing 250 ft. turbines that are two miles east of us now sometimes keep me awake at night with noises and blinking lights that annoy the hell out of me. I have experienced bouts of tinnitus and an inability to focus since the towers have been operational. When I leave the boundaries of the wind farm for a couple of days, all symptoms subside. Julie often speaks of reoccurring vertigo that she had never experienced before. I recently read a wind power article which stated that if we don't like the shadow flicker or the flashing lights, we should just "draw the curtains". When we chose to live here, the main reason for choosing this life style was the fact that it offered peace and tranquility. The prospect of more and larger towers will rob us of what is left of that peace and tranquility.

Another concern is the promise of financial boom for the communities in which these wind farms exist. The wind farm that came in a couple of years ago promised those windfalls which we have yet to experience. Julie and I aren't receiving any benefits from these turbines. The wind people promised us MONEY for our community and schools. Nothing yet. However, our taxes went up dramatically, the Tripp Delmont School got another opt-out due to lack of available finances, and our taxes went up some more. Where is the windfall?? It's been calculated that \$.36 additional tax per acre would more than cover the proposed tax monies claimed by S-Power and Prevailing Winds. I will sign up for that to keep the turbines out.

The wind power people keep saying that the production is low cost electricity and that we need it. Well, that's not exactly true either. We have too much electricity as it is. When a megawatt of wind power is built, a megawatt of other generation (ie. gas or coal power) has to be built to cover the capacity of wind farms should the wind not blow because the grid identifies the capacity of the wind as part of total capacity. . . what a game. Our electric bill has never gone down in 45 years even with the recent addition of the wind turbines. With more wind production, our rates and bills will continue to rise. I would like to see it go the other way for a change.


The wind people assume that we don't know that they are only after the subsidies and don't care about anyone affected by their quest for money. They come into a proposed area and dangle some money in front of people to give easement to build and some people, who don't have blood ties to their land and/or community, take the bait and the wind people are in. No one mentions the fact that this tears communities apart by pitting neighbor against neighbor for the sake of the almighty dollar. These effects will last a lifetime. Someone much wiser than me once said, "The love of money is the root of all evil".

I ask you to view this from our side. Would you allow this to happen over your heads? Would you risk your health, your financial existence, your community for the bottom line of the wind people from Utah? This wind farm will definitely cramp our happiness style. Yet the wind people keep saying the turbines are "relatively" safe and we need not worry. Then, I question why investors five states away want to build here rather than there and if they are so good and safe, why don't they build them in Utah and leave us alone? We are not "fly over" people. We are real people with real dreams and aspirations and want to hold onto our farm for the next generation and those yet to come. The Constitution guarantees the right to life, liberty and the pursuit of happiness to all people equally--including us. "The wind blows where it wishes and you hear its sound but you do not know where it comes from or where it goes." John 3: 8 In other words, no human being can understand, govern, or control the winds movement.

I will ask you to add this to the Prevailing Winds docket WL-18-026 to be read at the meeting in Avon on the 12th of July, 2018. I will be in Wisconsin at that time.

Sincerely,

James and Julie Kaufman

  
Delmont, SD 57330



Commissioners,

My name is Erik Johnson and I live 8 miles south of Avon. I am an investor in Prevailing Winds, which means I put my own money at risk to bring the project benefits to this community, and I am also on the board of managers.

I believe in wind and solar electricity generation because it requires no fuel, and therefore produces no emissions beyond what is necessary to construct the facilities. Retiring older coal plants in favor of new wind, solar, and natural gas plants is a win for the environment and for rural economies.

I have taken it upon myself to write a lot of what I call "editorials" in the local papers over the last few years to inform people about how renewable energy works, why I believe it is the future of energy production, and also to counter a lot of the negative information, or in many cases misinformation, about renewables in general and wind energy in particular.

I am an engineer by training, and I also have experience in finance, so I have a good working knowledge of how the energy industries work. I have tried to rely on reputable peer reviewed independent studies for the information that I relay to the local readers.

It has been very gratifying for me to see the PUC also go through a rigorous, fact-based analysis of wind energy, proving or disproving various claims made about wind energy in the process of approving both the Crocker and Dakota Range wind farm permits. I commend the commissioners for conducting thorough evidentiary hearings, hiring expert witnesses, and taking sworn testimony to evaluate each permit application on the facts. When the facts come through, a rational decision in favor of wind energy is the logical outcome.

It is possible that we are going to hear some opinions and claims tonight that may or may not be based in fact. But after seeing the level of professionalism exhibited by PUC staff and all of the Commissioners, I have great confidence that this permit application **will** be evaluated on the facts and will comply with the laws of the State of South Dakota. I want to personally thank the Commissioners and PUC staff for all they do for our State and for ensuring that the truth is heard.

Thank you.

<Complimentary opening (introduce yourself and your role at GOED)>

I would like to share the following prepared statement on behalf of the Governor's Office of Economic Development, which would urge your favorable consideration of the benefits that wind energy projects such as this one, have for South Dakota.

My office sees tremendous opportunity for our state through investments in wind energy. South Dakota's wind resources continue to attract attention at a national level, and my office regularly receives inquiries about possible projects here. Each of those projects represents economic development potential through capital investment in our state as well as good paying jobs in many of our rural areas.

The Thorstad <sup>15-Power JH</sup> Wind Project is an excellent example of the kind of project we support at GOED, and we have been working with them for some time to ensure South Dakota remains a top choice for their planned investment. The specific project subject of today's proceedings, the planned <sup>JH</sup> ~~\_\_\_\_\_~~ Wind Project, would encompass up to ~~\_\_\_\_\_~~ <sup>217</sup> megawatts of power generation in the state. This capacity would be brought about by approximately \$254 million in investment in South Dakota, and generate considerable economic impact to the area through tax revenue as well as job creation.

At GOED, we believe the future of energy production in South Dakota is here and it is real. It is obvious that renewable energy provides a secure, domestic and sustainable source of energy for our state and nation—be it solar or wind. We see tremendous economic development opportunities from these types of projects.

On average, more than 25 percent of South Dakota's power generation comes from wind power. As a matter of fact, South Dakota currently has over 980 megawatts of wind power capacity and produces enough energy to power more than 260,000 homes.

But this is what excites us even more: we have the *potential* to produce more than 3 million gigawatt-hours of energy on an annual basis, and according to the PUC, if South Dakota was able to harness the entirety of that wind energy potential, we could provide power for almost the entire United States!

While we don't currently have that wind harnessed, South Dakota does rank in the top five states for wind energy potential. We believe our wide open spaces and high quality wind resources can provide much more wind power for the citizens of our state, as well as those in parts of the country that do not enjoy South Dakota's ample wind resource.

In the past decade, South Dakota has seen tremendous job creation and capital investment in renewable energy. Wind power has contributed well in excess of \$2 billion in capital investment and directly created more than 500 jobs. These projects produce ongoing revenue streams for our state – revenue that doesn't depend on taxes on our citizens. And many of the jobs created by these projects are excellent, high-wage jobs based in our rural communities.

We recognize there is an important local discussion that must take place concerning any project, and therefore we do not take a position on siting the projects such as this. However, my office sees clear benefits to expanded wind power production in our state and is quite pleased to offer our support for expansion of wind energy in South Dakota. I would urge your favorable consideration of the project. Thank you.

Please post these comments on the Prevailing Winds docket EL18-026

Julie Freier, [REDACTED], Pickstown, SD 57367

Madam Chairperson, South Dakota Public Utilities Commissioners and Staff:

I respectfully request that the proposed Prevailing Winds LLC Wind Park Project be denied.

My grandmother, dad and uncle own approximately 800 acres of farmland in the footprint area of the project. My brother and I own the farmstead that our great grandparents built, which is also located in the footprint area. None of our land or property is signed up to be a part of the project, yet there are at least 4 proposed wind turbines, #60, #45, #41, #49, within a half mile of the farm that my brother and I own.

-These turbines are monstrous in size. **The height of the turbines is 586 ft tall with a 440 ft rotor diameter.** That is almost 2 football fields high. The height of the current turbines in the nearby Beethoven project is 405 ft. These turbines would be 180 ft taller. To give some perspective to this, the tallest building in South Dakota, according to Wikipedia, is the CenturyLink Tower (formerly Qwest Tower) located in downtown Sioux Falls. It is only 174 ft tall, consisting of 11 stories. These wind turbines are over 3 times as tall as the CenturyLink Tower, spin 200 mph at the tip and have big red flashing lights on top. In contrast, the CenturyLink Tower just sits there. These wind turbines would destroy the aesthetics of our rural area.

-Some of these turbines are near both Highways 46 and 50. Ice throw from the spinning turbines would be a serious concern for passing traffic in winter.

-These turbines would destroy wildlife and habitat. Looking at Figures 8 and 10 of Appendix A on the PUC website for this project, it is noted that there are numerous wetlands as well as a USFWS Waterfowl Production area, a SDGFP Game Production area, and many SDGFP Walk-In Hunting areas. There are also many CRP acres that landowners have planted for wildlife conservation. These turbines would be detrimental to the conservation of these areas as well as the wildlife that lives there.

-These turbines are not needed. I visited with the General Manager of Charles Mix Electric last month on June 19, 2018. He explained that wind turbines can't supply 100% of needed electricity because the wind is unreliable. They can only supply 40% at best. Basin Electric, which supplies Charles Mix Electric, would have to supplement the other 60% from other sources. When asked if Basin Electric was depending on this proposed wind project going through to meet their needs, it was made clear to me that, no, it was not needed because Basin Electric plans 20 years out in advance and has plenty of other sources for power. There is no urgency for power. It seems that the only urgency is to get this Prevailing Winds Wind Park Project pushed through before the tax credits expire.

-There are many studies that have been done about the detrimental health effects suffered by people who live close to wind turbines. The turbines would have a significant negative effect on the residents' physical, emotional, psychological, and spiritual health. A 1000 ft set back is too close for a healthy lifestyle. Most people, given a choice, would not live near a 586 ft tall wind turbine. None of the investors or Board of Directors of Prevailing Winds live in the footprint of this proposed project. I have a neighbor whose land and property recently was up for sale. It would have been the perfect opportunity



for one of these board members or investors to buy that property and live within a half mile of these wind turbines. However, not one of them took advantage of this opportunity.

-This project would devalue my farm. You may have heard about the herbicide Dicamba in the news this past year for unintentionally drifting onto neighboring soybean fields and damaging the crop for that season. The farmers were being compensated for their losses for that harvest. A farmer can use any chemical he wants, but when that chemical drifts onto my land, he has trespassed and he is liable for any damage to me. What's the difference between that and shadow flicker, noise, or vibration? NOTHING! This wind park project would damage and devalue my farm and cause financial loss for a lifetime. This seems much worse.

For these reasons, please deny the proposed Prevailing Winds LLC Wind Park Project.

Julie Freier

██████████

Pickstown, SD 57367

Commissioners Fiegen, Nelson and Hanson

My name is Ronnie Hornstra and live and farm at [REDACTED] [REDACTED] [REDACTED] about 10 miles south of Avon. Although I have for the most part made my living as a farmer, I have an engineering background and did work in the electrical field for many years which helped motivate me to become a part of this project.

I have been involved with Wind Power in this area since its inception, over 11 years ago when community members came together to try to develop some type of a project for the betterment of the area.

After numerous meetings in the area towns it was decided to form a company to try and develop what seemed to be a great natural resource that was just blowing by unutilized. With the donated help from a local attorney and 25 area investors South East Dakota Wind was born. From this group a governing Board was elected to try to develop a project. With help from hired professionals, this blossomed into the successful Beethoven Wind Farm located on the ridge line north of Avon.

Considering the many positive things that Beethoven had brought to the area including jobs, extra taxes improved roads and extra income plus knowing that there was still a potential for more development the board decided to go ahead with the Prevailing Winds Project that you are here for tonight.

I have served as President of both the Beethoven and Prevailing Wind projects and have been deeply involved with the land leases in both ventures.

One thing that I found interesting in working with these two projects is that the enthusiasm from landowners to be a part of Prevailing Winds was generally greater the nearer their land and homes were to the current Beethoven Farm. Many in fact would call me before I contacted them to see if they could be included. I took this as a strong sign of support for the project along with more than 37 thousand acres of land from over 150 landowners pledging their support to the development, <sup>this</sup> was <sup>convincing</sup> <sup>enough</sup>

I ask for your support of the Prevailing Wind Park project and speak for what has been call the silent majority including the over 150 landowners that voted positively by including their property.

With the Commissions insight it is my hope that the facts and truth will prevail.

Thank You for your time.

CARAVELLE

001519

I was looking at the PUC site, about to click on Dakota Range one day, and saw this new docket listed. I thought I would take a look and see what this project had planned for these fine citizens of the area. After just a few minutes of research, my head was swimming. HOW CAN THIS POSSIBLY BE? 590 foot turbines? 1,000 feet from homes?

That is all the farther I needed to go.

I didn't need to read the sound study. The flicker report? No need to click on that either. Aircraft detection lighting? I can't say that would even get me to click. There is no way anyone should be subjected to this danger, the nuisance, or the mental torture.

What these county boards and commissions have allowed to happen here is shameful and must not be allowed to move forward. Participating landowners want the money. Easy money...at the expense of others. There is no possible way these people can live in the shadow of these behemoths. Participators or non-participators, it does not matter, they all need to be saved from this ridiculous error in judgment. This project IS NOT SAFE. The danger of ice throw and blade throw is enough to say 'STOP'. As much as wind energy people like to minimize the danger of ice throw, it is a very real safety concern for residents and travelers through the area. Do you know how I know that? I know that because I went to a public meeting in May. The wind developers had 3 placards on easels. 2 were about construction. The third, placed right in the middle, was totally concerning ice throw. 33% of their message was directed at 'selling' people on ice throw being trivial. No, it is no small thing.

Here are two examples:

1. My brother is a truck driver. Earlier this year, a turbine threw a large chunk of ice over the top of a house, on to the highway right in front of him. It was night, it startled him, and it could have caused him injury, or an accident had he swerved out of instinct, like most drivers would.
2. My friend was just hit in the head by hail on Tuesday. Small chunks of ice in comparison, but they cut her head and caused injury. Those hail stones were not coming off of a blade traveling 200 miles per hour, they were gravity fed.
3. Ice is dangerous. Period.

I cannot understand how anyone would want to ruin this beautiful countryside for a few dollars. The birds, bats, bees, and all of our precious wildlife...in danger. For what? For a check in the mail for a handful of people...misery for everyone else.

Amber Christenson

■■■■ ■■■■ ■■■■

Strandburg, SD

Name: My name is Kelly Pazour.

Address: My Home is at [REDACTED] Wagner, SD.

About yourself/family/home: I was born and raised here. My grandpa Kaberna, was raised here. As well as my mother. I am the third generation that has lived and worked here. I have four children and I care about their health and well-being. I am not a typical farm wife, I do the farm work most men do around here, we both farm and ranch. I have a head of over 200 sheep. My animals are very important to me. I work out at the lambing barn which is about 1200 feet closer to the proposed turbines than my house and I spend hours there, both at night and during the day.

[REDACTED] is my 10-year-old daughter who lost her hearing in one ear due to cancer. She now uses a Baha Hearing Aid to move the sound from one side of her head to the hearing ear. It uses the sound waves to transfer the sound.

I am asking you, the PUC, to help protect my way of life, my family and animals by denying the Prevailing Winds Park project and permit because I have concerns with the health factor associated with Wind Turbines so close to people's homes.

Since 2014, when they put in Beethoven Wind Farm and my daughter lost her hearing, I have been researching impacts of Infrasound issues, wind turbines and the possible impact to her health as well as others. The Mayo Clinic has also been helpful directing me to studies about these issues. I have found with my research that several areas in Canada and Europe require an absolute minimum of a 2-mile set back; very likely the height of the new turbines may require more than 3 miles setback, such as Divide County, ND. Infrasound is very different from decibels and I am concerned with the way sPowers, Prevailing Winds LLC and all these companies talk about decibels as a way to measure sound impact. This may have been good enough in the past but not today. We are all smarter now and the research is there if you choose to acknowledge it.

For example, infrasound has no relationship to the "sound of a refrigerator" or the measurements of decibels relative to a wind turbine. This phrase has been used repeatedly to compare to the noise associated with wind turbines. I am tired of hearing this argument. Infrasound is acknowledged by the aeronautics industry. The medical "industry" has diagnoses for health issues brought on by vibrations to the body. Several people are sensitive to vibrations. They alert our body to danger. This instigates the "Flight or Fight" syndrome, a necessary contribution to ill health when the body is chronically sensing this danger.

I am also concerned about and threats of Serious Injury to Environment- Land, Culture, Wildlife as well as Property Values and Future Development.

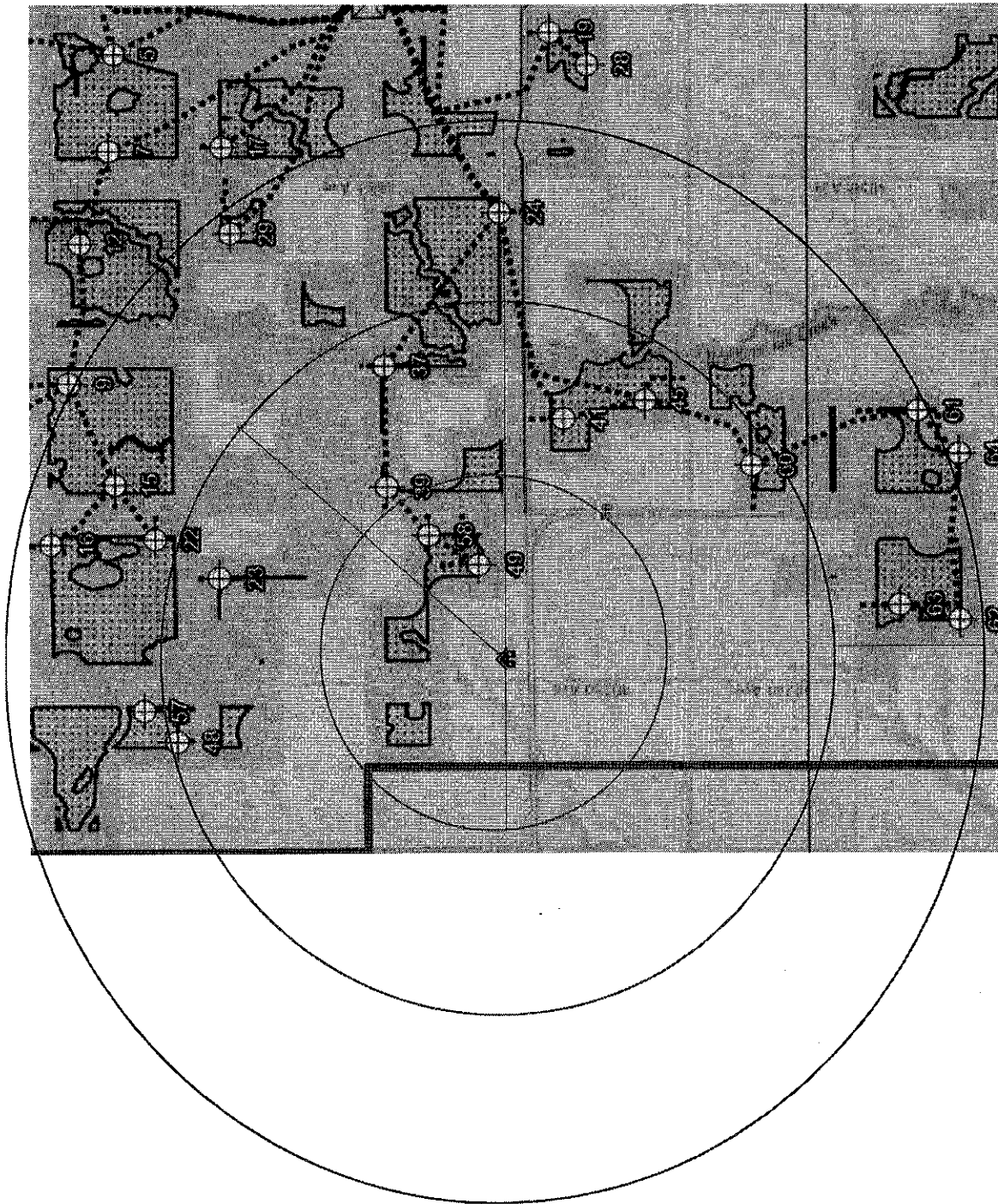
My livelihood is dependent upon my ability to take care of my livestock. I have read several studies that indicate this same infrasound can affect animals as well as people. I know there are many studies about the impact to wildlife and that concerns me as well. There are concerns about safety zones around the turbines and I need to know, if I can build additional live stock buildings on my property as well as who would be responsible for any damage caused by ice throws or if one of the turbines would catch on fire.

Can you assure me and my family that the sound from the turbines will not have an impact on my daughter, her hearing aids and her health? How can you guarantee that it will not?

I request that the PUC do the right thing and deny the Prevailing Winds Park project and permit for the overall protection of my family, my neighbors and my farm business.



Kelly Pozour



## INFRASOUND AND LOW FREQUENCY NOISE - Ljubljana 2018

<https://www.youtube.com/watch?v=ZXCZ3OyklrE>

### Wind Warning to World Health Organization-Europe (turbine health effects in the crosshairs)

<https://www.masterresource.org/windpower-health-effects/europe-world-health-organization-wind-effects/>

Using residential proximity to wind turbines as an alternative exposure measure to investigate the association between wind turbines and human health

<https://eur02.safelinks.protection.outlook.com/?url=http%3A%2F%2Fs3.amazonaws.com%2Fwindaction%2Fattachments%2F3052%2FBarry-etal-Residential-proximity-wind-turbine-human-health-Canada.pdf&data=02%7C01%7C%7C90fe23656f4a4e1606a608d5dd0e8932%7C84df9e7fe9f640afb435aaaaaaaaaaaa%7C1%7C0%7C636657977346702414&sdata=zwG4QYtPIRSTKdHThrmGR7Pob1r44hR8AhNN0wwPIWE%3D&reserved=0>

### Adverse health effects of industrial wind turbines – National Library of Medicine

<https://nam03.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.ncbi.nlm.nih.gov%2Fpmc%2Farticles%2FPMC3653647%2F&data=02%7C01%7C%7C302e2fc4132446fbc11508d5e0f68aa5%7C84df9e7fe9f640afb435aaaaaaaaaaaa%7C1%7C0%7C636662271838021863&sdata=vCLyB1ds2JPqOjIqcenviQ6RlyWla2yotT1YpaIjb8M%3D&reserved=0>

### Humidity Change in Wind Turbine Vortex

<https://nam02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fdocs.wind-watch.org%2Fhumidity-changes-in-wind-turbine-vortex.pdf&data=02%7C01%7C%7C7Ca4a5405c8a16407754a508d5de1a30a4%7C84df9e7fe9f640afb435aaaaaaaaaaaa%7C1%7C0%7C636659127006182439&sdata=XzUvmM%2BMVV861p5QXLULn%2B95pVD%2FsOxFQglKvdtlpbw%3D&reserved=0>

### The Noise from Wind Turbines: Potential Adverse Impacts on Children's Well-Being

<https://www.ft.dk/samling/20111/almdel/suu/bilag/418/1147584.pdf>

### Preferred Listening Levels of Children Who Use Hearing Aids: Comparison to Prescriptive Targets

[https://www.audiology.org/sites/default/files/journal/JAAA\\_11\\_04\\_06.pdf](https://www.audiology.org/sites/default/files/journal/JAAA_11_04_06.pdf)

3 mile set back ordinance for Divide County, ND p. 77- [https://www.dividecountynd.org/vertical/sites/%7B23645B69-53AD-4DAC-B0E7-3EA806F706B3%7D/uploads/April2017\\_ZoningOrdinance.pdf](https://www.dividecountynd.org/vertical/sites/%7B23645B69-53AD-4DAC-B0E7-3EA806F706B3%7D/uploads/April2017_ZoningOrdinance.pdf)

Good evening Commissioners,

7-12-18

My name is Dave Adam – ADAM and I am from Clark, SD and these meetings are starting to be a pretty regular event these days with BIG WIND really trying to take advantage of the production tax credit.

*EVEN though Big Wind is saying they might install the ADLS SYSTEM*

So, the ~~1<sup>st</sup> thing I want to mention is that~~, you the Public Utility Commission need<sup>s</sup> to mandate that all of the wind projects that you are approving need to have the Aircraft Detection Lighting System installed on them and do what the state of North Dakota did and require that all wind projects, no matter if they are under 100 mega watts - that have already been built, have this ADLS system installed on them as well.

I will turn in that North Dakota law after I am done here for you to look at.

Also, I have been working with some of our state Representatives for getting this placed into law here in our state during the next legislative session.

The 2<sup>nd</sup> item I would like to mention, is that if BIG WIND gets there way – which seems to be happening, do you realize that from Deuel County all the way up to Grant County there could be up to 1000 towers built in the next 5 years? Now these are not the 2 to 300' towers that are in Highmore and over in Toronto and other parts of the state. These are towers that between 5 & 600' tall.

Just think of that, 1000 almost 600' towers in a about a 50 mile area - when will it stop in this area and in Hughes & Hyde Counties and

*↑  
here*



throughout the rest of the state? Are state isn't even benefiting from  
the little bit of electricity these things produce. <sup>ONE MORE THING, left waverly</sup>  
<sup>MENTIONED ABOUT ALL THIS SUPPOSED ENERGY THAT IS PRODUCED. HOW MUCH</sup>  
<sup>OF THE ELECTRICITY WILL BENEFIT THIS TOWN OF AVON?</sup>  
And that brings me to my finally point. Health, with these big monster  
towers – have you the Commissioners seen or studied any of the health  
affects from these size of towers that BIG WIND is wanting to put 1000'  
from a residence? Just think about that – a 586' tower and it will be  
placed 1000' from a residence – how are you going to feel when one of  
these people that are here tonight have to move because they are not  
able to live that close to a tower because of health reasons – you pick  
the health reason: sleep deprivation, migraines, intestinal problems,  
vertigo, and I pray that there is never a child with Downs syndrome that  
would have to live by one of these monsters – they cannot handle it.

You need to have these setbacks changed drastically, maybe you – the  
Commissioners that are approving all of these projects should put wind  
projects in at least a one year moratorium and do some serious studies  
and come up with what is safe for the citizens of this state that you are  
making decisions for.

Thank you for your time,

Dave Adam

Clark, SD

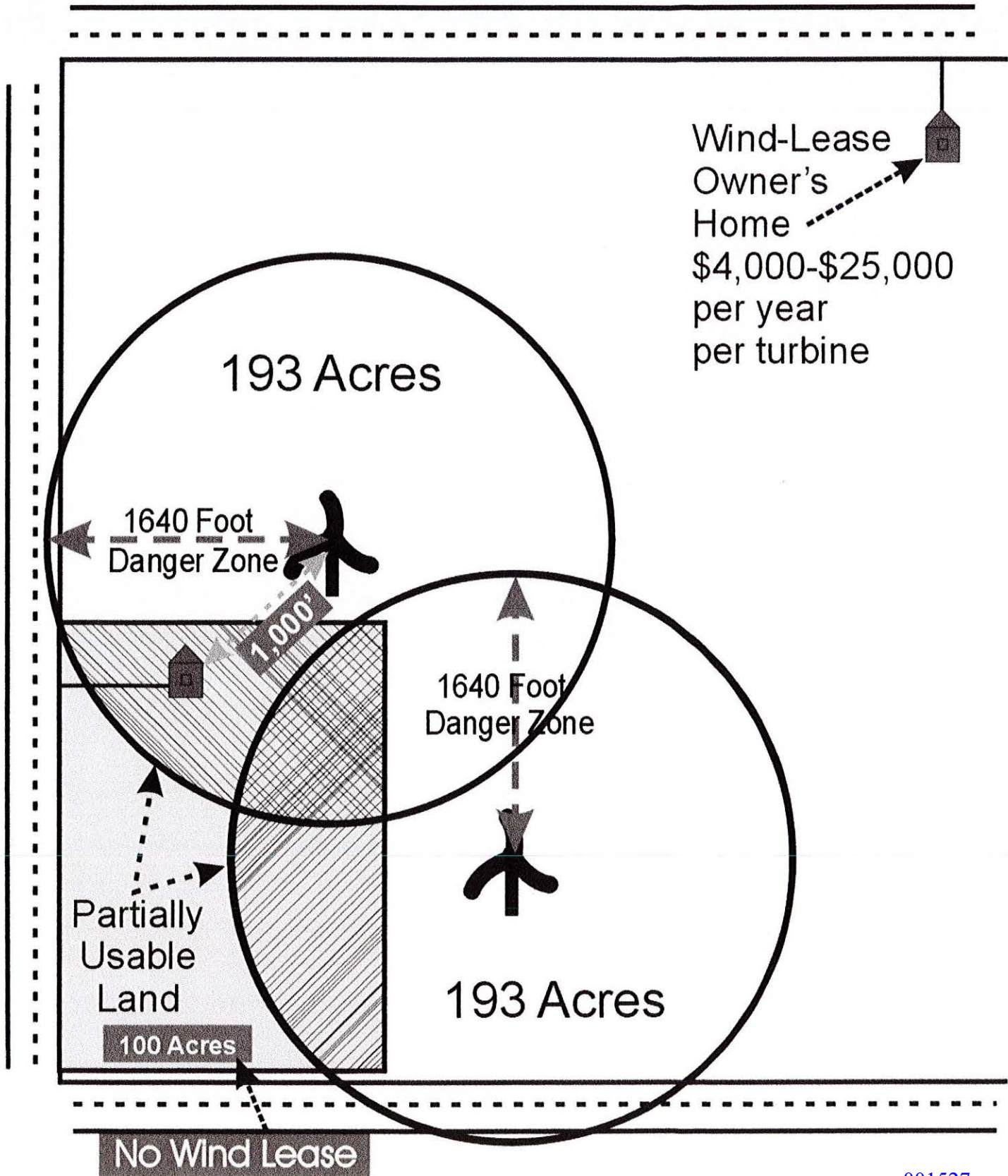






# Trespass Zoning

Participating wind lease/easement holders, steal land use and safety from non-participants.  
Non-participants receive ZERO compensation.











Good Evening,

My name is Katie Bartunek and my home lies within the heart of the purposed wind project. As a young mother and educator it is my passion to protect young children who don't yet have a voice of their own. My husband Corey and I are currently raising our 8 year old, 5 year old, and 7 month old on the farm where their great grandparents started out.

What causes me grave concern is when my children's health could be affected by symptoms of vibroacoustic disease. What can the PUC guarantee for my family's future health and well-being? If you grant this permit, according to the rules, then you are guaranteeing that this wind energy facility will not substantially impair the safety or welfare of any inhabitants.

Can you guarantee the health of my family without doing any sort of study on infrasound from existing turbines?

If something should occur to one of my family members because of vibroacoustic disease or other health issues related to wind turbines, who will be there to pay our medical bills? Or the cost of moving to a safe healthy environment?

Secondly who gives someone the right to infiltrate our home with noise, infrasound, vibration, and shadow flicker? I feel it is a violation of our property rights. Why should I have submit to shadow flicker within our own home for 30+ hours per year? Can I in turn dump 30 loads of manure a year 1,000 ft from my neighbors lawn?

For these and many more health and well being reasons I'm asking the PUC to DENY Prevailing Winds project.

1

Commissioners, welcome again to Avon.

As I listened to most of the Crocker and Dakota Range evidentiary hearings and ad hoc meetings, I hear you repeat a certain phrase : “Help me to understand”. When you say, “help me to understand”, then that means you don’t understand, or you don’t understand completely. My goal is to help people understand.

After listening to the Dakota Range meeting on Tuesday, I got a sick feeling in my stomach, and you should have also. The setbacks for that project are grossly inadequate and are going to make some people sick and going to force some people out of their homes. Health concerns are springing up all over the Midwest, and if it weren’t for the confidentiality clause and neighbor agreements that the developer puts in the contract, this room could be full of these people with such problems.

Studies show the longer you live near a wind turbine, the worse your symptoms become. There is a big coverup going on with the health effects, so the wind industry is scrambling to keep it under wraps. Because of growing health complaints, the University of Minnesota is starting a study on how people respond to very low-frequency sounds from wind turbines. But guess who is paying for this study? Xcel Energy, the utility company erecting thousands of wind turbines in northeastern South Dakota and the same out of state corporation that our Governor gave 8.1 million dollars of our money to last year. How can you trust any study that’s bought and paid for by the Wind Company?

I have compiled a small library of health-related peer review articles, other studies, and work done around the world by Doctors and Scientists that are experts in this field. I am donating this to the PUC, I do not expect it to get posted on the docket and I don’t want it back. I offer it only as a tool to “help you understand”. **Or**, you can go to this one-page document from the American Wind Energy Association. It reads: “Some rumors persist about sound from wind turbines and human health”. And “Studies have found that a “nocebo effect can take place.”

If the AWEA is right, then every one of these Doctors and scientists that did all this research would have to be wrong.



Commissioners, you are now in control of people's health and their quality of life. If you grant a permit based on your own criteria, then you are agreeing with the applicant that this project will not substantially impair the health, safety or welfare of the inhabitants. That statement becomes your guarantee to the community.

We went to our County Zoning Board and Commissioners at least a dozen times. We first asked for a 2-mile setback, then last year we asked for a 1-mile setback with waivers. They would not even listen. They gave us a 1000 ft. setback, and a Prevailing Winds Board member wrote in the Avon Clarion last September: "So the County looked to the SDPUC, there they found the draft model ordinance" and he goes on to say "For this, Bon Homme County adopted the state standard of a 1000 ft. setback for safety reasons".

So, our zoning laws are the result of the PUC "state standard". Because our County officials had already been so influenced by the wind developers, we did not stand a chance. The other reason we have no voice is because the County Commissioner for the Avon District is on the Board of Managers for Prevailing Winds. Since this project only takes in the Avon District of the county, we have no representation at the county level.

I don't envy your job. It's evident you have a lot of pressure to grant these permits. But you have the health and safety of South Dakota residents in your control. There are people in this room that will have health effects from these giant wind turbines. Are you going to play Russian Roulette with their health? There is a wealth of knowledge out there to "help you understand".

Justice will not be served until those who are unaffected are as outraged as those who are. Benjamin Franklin



# WIND TURBINES AND SOUND: WIND FARMS AS GOOD NEIGHBORS



## Wind turbine noise may be one of the most easily misunderstood issues related to wind energy projects.

### THE BOTTOM LINE

Aside from being difficult to understand, technically, individuals have a wide range of varied reactions to sound of all kinds, including wind turbine sound. That means it is extremely difficult to pinpoint a particular sound level (or decibel measurement) as being universally the “right” level.

The fact is, wind developers take great care to ensure that projects are sited in a way that makes sound at neighboring residences lower than would typically be noticeable. This is done through advanced and very accurate computer modeling technology, a long history of operational experience, and good common sense. The support of communities and neighbors are the life-blood of the industry. The care taken to properly site turbines is evidenced in the hundreds of thousands of people that live near wind farms without issue.

It helps that wind turbines sound is extremely low. Most people that visit operating wind projects are amazed at how quiet they are: Typically, two people can carry on a conversation at normal voice levels even while standing directly below a turbine.

### WIND ENERGY PROVIDES PUBLIC HEALTH BENEFITS

Emitting virtually no air or water pollution, wind energy is essential to reducing energy-sector public health impacts. In fact, wind power makes important contributions toward public health by reducing air pollutants trigger asthma attacks and create smog. In 2016 alone, wind created \$7.4 billion in public health benefits, and by cutting air pollution, wind-generated electricity avoided 12,000 premature deaths according to researchers from the Lawrence Berkley National Laboratory.

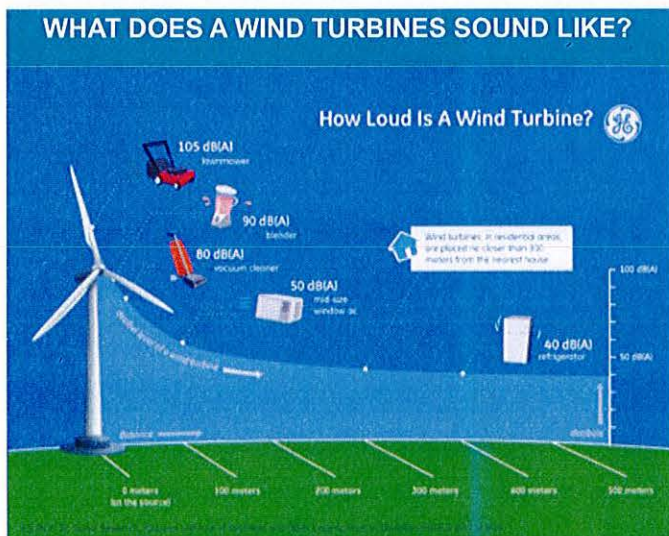
### DOES WIND TURBINE SOUND IMPACT HEALTH?

Some rumors persist about sound from wind turbines and human health. The reality is that numerous independent studies and government health organizations from around the world have found no link between human health and wind turbine sound. For example, a **Massachusetts study** found no evidence for a set of health effects from exposure to wind turbines. A major study in Canada of over a thousand homes confirmed this again, **stating**, “No evidence was found to support a link between exposure to wind turbine noise and any of the self-reported illnesses.”

Studies have found that a “**nocebo**” effect can take place, the opposite of the well-known “placebo” effect. The nocebo effect describes a situation in which individuals who are led to expect physical symptoms may actually experience these symptoms, whether or not the supposed cause of the symptoms is actually present. In this case, increased exposure to misinformation about wind actually seems to increase the likelihood that certain individuals will report negative health effects such as headaches or nausea, although no scientific evidence shows wind turbines cause any such health effects.

Some relevant studies include:

- Statistic Canada: Community Noise and Health Study
- Wind Turbines and Health: A Critical Review of the Scientific Literature
- Oregon Wind Energy Health Impact Assessment
- Health effects and Wind Turbines: A review of the literature
- Chief Medical Officer of Health of the Province on Ontario



Wind power created \$7.4 billion in public health benefits in 2016 by cutting pollution that causes asthma attacks and other diseases. #WindWorks





Good Evening Commissioners, I am Marsha Hubner. Prevailing Winds map has approximately 17 turbines within two miles from my home.

I have repeatedly heard from the Commission that you do not make decisions based on your opinion, only on the law. Mrs. Feigen just Tuesday at the Dakota Range Ad Hoc meeting you made the statement that the word 'reasonable' has different interpretations. I agree. And I would contend that so do the words ***serious injury, substantially impair, and unduly interfere***. I don't think there is a question that 63 more giant wind turbines will cause some injury to the environment, inhabitants and development of this region. The question is, will it be ***serious and substantial? In any case shouldn't you error on the side of caution?***

Commissioner Nelson, you have said that South Dakota ranchers and farmers have always been good stewards of the land, therefore they should have the freedom to do whatever they want to do with it. I agree. But I also think we would all agree that that freedom stops at their property line. If there wasn't a problem with wind turbines encroaching neighboring property owners, we wouldn't be here tonight. The Bent Tree wind project in Minnesota just last May bought out several homeowners because of long term complaints on noise, and many other projects are now offering good neighbor agreements to quiet the complaints from non-participating home owners. At last Tuesday's meeting you asked for a contingency to make it "slightly more palatable to those living in the footprint. Is that all we can hope for? The health effects from infrasound are real and cumulative, more and more people are getting sick from living near a turbine. If it wasn't for the confidentiality clause, we would have been made aware of this much sooner. Isn't having to leave your home from serious health issues SERIOUS and SUBSTANTIAL?

Commissioner Hanson you have made a comment that," we just don't know how all the purposed Wind Energy Projects (literally thousands of turbines) will impact wild life in this state. And when we do know, it may be too late." I so agree. The U.S. Fish and Wildlife also have serious concerns. What we **do** know is that this particular Wind Project puts endangered birds and bats at risk. Plus this whole footprint is in the center of the Central Flyway and is in the Mississippi Flyway,

and possible whooping crane migration routes. How could it not have SERIOUS and SUBSTANTIAL impacts?

Commissioner Nelson you have talked about your unwillingness to usurp local governments. I appreciate that. But at that same AD Hoch meeting you asked for the decibel limits be lowered from 50 to 45. Then added you would only ever do that with the applicant's permission. <sup>It's becoming more clear</sup> ~~It has become obvious~~ that applicants dictate our zoning laws. The pressure put on these local governments by professional Wind salesmen is unprecedented. And the health effects of wind turbines of this size is also unprecedented. Where are the studies not paid for by Wind that PROVE it is safe? Your commission's comments about putting contingencies and policies "in the incubator" make it clear you do not know how turbines will affect us. Do you have any idea how that makes us feel? I did not sign up to be an experiment. What is at stake for me and many others is being able to live in our homes. **I am trying to understand how Wind Energy Corporations are given the benefit of the doubt over people forced to live in the footprint.** They may not care about South Dakota or its inhabitants, but I know you do.

We all need to step back. If all the wind project applications in South Dakota are accepted to date, what will this state look like, be like? What's the collateral damage? When the commission grants a permit, you are in essence, promising me and others living in the footprint that we will NOT experience any harm that is ***serious or substantial?*** ***Can you in good conscious make that promise?*** Please don't let the **South Dakota we all grew up in become only a memory by your decided definitions.** Just maybe you were put in this position for such a time as this.

Thank you

Darci Adam

██████████  
Clark, SD 57225

The statement I am about to make is one that I suspect most of the people in this room will agree with: As a state, nation, and world, we have energy and environmental issues, and these challenges should be solved using real science. What exactly is real science? Speaking as one who has taught science classes for fourteen years I can tell you first what real science is not. Real science is not a collection of theorems. Rather, it is a process, the crux of which is called the Scientific Method. The Scientific Method begins with a hypothesis – for example, wind energy is safe for humans; animals; the environment; etc. What should then follow is a thorough assessment based on objective, comprehensive, empirical, independent, peer-reviewed research. The fact is, this process has not been even remotely undertaken for wind energy.

How many of you are aware that last year there were thirty-eight registered Big Wind or energy lobbyists working our legislators out in Pierre last session? Due to aggressive lobbyists pushing forth the agenda of often multi-national conglomerates, you and I have been fed pseudo-science from the beginning. These technical, economic, environmental, health, and other studies should have been performed before the very first industrial wind park was ever built. The onus of responsibility should be upon those promoting the theory. Instead, we repeatedly find ourselves in the position of proving something is unreliable or unsafe just to protect ourselves. This is completely backward and upside down!

Is it unreasonable to ask for real scientific proof that there is a net benefit to taxpayers and rate payers? Is it unreasonable to ask for real studies on environmental effects? And a better question is, are we being unreasonable to ask for real scientific proof that a 590-foot wind turbine located 1,000 feet from a residence is safe and will not substantially impair the health, safety or welfare of the inhabitants? Or, do we assert that it is okay to resort to pseudo-science and computer modeling as long as our state, the "hosting" community, and several landowners get a little extra money? And when a few well-done studies are brought forth that prove a detrimental effect on, for example breeding grassland bird distributions, or breeding duck densities - two studies relied upon by USFWS - is it okay to ignore them?

We need real science in South Dakota. There are currently no state noise regulations. There is no set-back standard other than the 1,000 feet previously promoted on your website. As attested to by the PUC Staff's witness, David Lawrence, the jury is still out regarding property devaluation in South Dakota. We have no state regulation regarding shadow flicker. Commissioner Nelson, on Tuesday you acknowledged the fact that there are no state regulations regarding safe ground-to-blade distances. And Commissioner Fiegen affirmed that

we do have outdated wind laws. Both Commissioners Nelson and Hanson voiced concerns regarding current county set-back distances. We are all certainly anxious for some real science!

Commissioners, you have approved the Crocker Wind Farm and Dakota Range I & II projects with full knowledge that their "studies" (such as they are) are lacking, with some not even having been completed. You must know this only emboldens wind developers. And so here we are again. I beg you: Don't make your decision on Prevailing Wind Park until the industry comes back with some real science. Don't require the citizenry to prove it shouldn't be permitted. And don't throw this back on our legislators. You are vested with the authority to deny this permit if the applicant fails to meet their burden of proof. Please. Require real science, true and complete.



E1 18-006

## Prevailing Winds

Dear Commissioners,

Lets skip the websites and peer reviewed reports, Lets talk Common sense.

Cities and Counties across South Dakota have ordinances to regulate the storage of unused vehicles. This is because they maybe an eyesore and will impact the property values of adjacent properties.

As the blades are replaced will the unrecyclable blade end up sitting on the edge of the fence line, like in other communities? Does anyone even know if the taxpayer funded landfill can take all the blades?

Is it not common sense that a neighbor's yard ornament, a 396 foot metal tower, with 448 feet flapping, ice throwing wings, producing the noise of a jet engine, sometimes louder because of air moisture, blade imbalance or bad bearings, putting shake like flicker on the adjacent property, possibly leaking 335 gallons of fossil fuel. What about exposing the neighbors to sleep deprivation and vibro acoustic disease? You would have to agree it is possible that would have an impact on the property value with a home 1,000 feet away.

As more industrial wind projects come online there will be more abandon and no sale homes. Wouldn't it make sense that a person would prefer to buy a property that does not have an unauthorized encumbrance on the property? ~~Does it not make sense~~  
 Common sense is that home values go up in counties with industrial turbines is because people would pay anything not to live under a health destroying power plant?

How many people will it take to abandon their homes before South Dakota realizes industrial wind turbines are not good for the fabric of our rural communities?

How many homes will be abandoned next to industrial wind turbines before the FHA changes critical guidelines and not insure mortgages within a 1/4 mile of turbines?

Who will be the first real estate appraiser in South Dakota who will comment, at his discretion that the industrial wind turbines are too close? This signals the home will fall in the FHA critical guidelines and is no longer eligible for a FHA mortgage?

What is the PUC's threshold that an INT will not pose a threat of serious injury to the environment nor the social or economic condition of the inhabitants or expected

inhabitants in the siting area. Is it one, two, a percentage?

When will the PUC use the power to deny, and stop sentencing people to live against their will, in close proximity to IWT, threatening their health, property values and quiet enjoyment of their property?

Please deny the Prevail Winds PUC permit

Kristi Mogen  
Twin Brooks SD