

May 10, 2010

**Via E-Docket Filing**

Dr. Burl W. Haar  
Executive Secretary  
Minnesota Public Utilities Commission  
350 Metro Square  
121 Seventh Place East  
St. Paul, MN 55101

**RE: In the Matter of the Applications of Paynesville Wind, LLC for a Certificate of Need and Site Permit for a 95 MW Large Wind Energy Conversion System in Stearns County  
Docket Nos. IP-6830/CN-09-1110 and IP-6830/WS-10-49**

Dear Dr. Haar:

Enclosed please find Comments Regarding the Scope of the Environmental Report and Draft Site Permit in the above referenced matters.

Please feel free to contact me if you have any questions.

Sincerely,

*/s/ Christina K. Brusven*

Christina K. Brusven  
*Attorney*  
**Direct Dial:** 612.492.7412  
**Email:** cbrusven@fredlaw.com

Enclosure

4717082\_1.DOC

Attorneys & Advisors  
main 612.492.7000  
fax 612.492.7077  
www.fredlaw.com

Fredrikson & Byron, P.A.  
200 South Sixth Street, Suite 4000  
Minneapolis, Minnesota  
55402-1425

**STATE OF MINNESOTA  
BEFORE THE  
PUBLIC UTILITIES COMMISSION**

David C. Boyd  
J. Dennis O'Brien  
Thomas Pugh  
Phyllis Reha  
Betsy L. Wergin

Chair  
Commissioner  
Commissioner  
Commissioner  
Commissioner

**In the Matters of the Applications for a  
Certificate of Need and Site Permit for a  
95 MW Large Wind Energy Conversion  
System in Stearns County, Minnesota**

**Docket Nos. IP6830/CN-09-1110 and  
IP6830/WS-10-49**

**COMMENTS REGARDING SCOPE OF  
ENVIRONMENTAL REPORT  
AND DRAFT SITE PERMIT**

**I. INTRODUCTION**

Paynesville Wind, LLC ("Paynesville Wind" or the "Applicant") is proposing a 95 MW large wind energy conversion system in Stearns County, Minnesota (the "Project"). Paynesville Wind filed applications for a certificate of need for the Project on December 8, 2009 and for a site permit on January 29, 2010.

As part of the application review processes, the Minnesota Office of Energy Security ("OES") held a public information and scoping meeting on April 19, 2010 in Lake Henry, Minnesota to receive public comments regarding the scope of the environmental report and issues that should be considered in the draft site permit for the Project. In these comments, Paynesville Wind addresses various questions and issues presented at the meeting that are relevant to the environmental report and draft site permit.

**II. HUMAN AND ENVIRONMENTAL IMPACTS**

**1. Visual Impacts and Shadow Flicker**

Like any tall structure, wind turbines will cast a shadow when the sun is visible. As wind turbine blades rotate, they can cast a shadow upon the ground and objects below. A flickering or flashing effect may occur where the shadows of the rotating blades cause rapid changes in light intensity. This change in light intensity is sometimes referred to as shadow flicker.

Generally, no shadow flicker occurs on completely overcast days, or when the wind turbine rotor and blades are not rotating, such as when winds are calm. Because the turbine is designed to turn and face into the wind, shadow flicker is most pronounced when the turbine is between the sun and a receptor directly downwind from the wind turbine.

When turbines are not properly sited, shadow flicker has been reported by some nearby residents as a visual irritant, or annoyance issue. A particular concern that has been voiced is that shadow flicker can induce seizures. Wind turbines in the Project will rotate at a rate less than 0.33 Hz, making them too slow to trigger an epileptic response.<sup>1</sup>

Computer models can accurately predict the expected amount of shadow flicker at locations within or around a wind farm. The Applicant will conduct a shadow flicker analysis to help guide the final selection of turbine locations by identifying places for turbines that minimize shadow flicker on residences. While turbine siting will be the primary means to minimize shadow flicker, the Applicant will consider additional mitigative measures to further reduce flicker on a case-by-case basis.

## 2. Sound

Wind turbines are required to be set back from residences based on the Minnesota Pollution Control Agency's ("MPCA") most stringent noise standards (nighttime L50 standard of 50 dB). Paynesville Wind is committed to siting turbines in compliance with the MPCA's noise standard. Noise modeling of the preliminary site layouts has shown that noise levels will not exceed 45 dB at any residence within the Project area, which provides the 5 dB buffer suggested by the Minnesota Department of Health White Paper as a surrogate for low frequency noise.<sup>2</sup> The results from the noise modeling are based on the cumulative noise from multiple turbines and include conservative assumptions suggested by the "Noise Guidelines for Wind Farms" document published by the Ontario Ministry of the Environment. This document is used to support the rigorous noise requirements in the Province of Ontario, Canada, and was used here in the absence of specific state and county modeling guidelines. Typically, as confirmed by Paynesville Wind's modeling, siting turbines 1,000 feet from residences is sufficient to comply with MPCA's noise standards.

## 3. Health Impacts

Sound levels from modern wind turbines pose no risk of hearing loss or any other nonauditory effect.<sup>3</sup> While subaudible, low frequency sound and infrasound are most commonly associated with noise complaints about wind turbines, there is a consensus among acoustic experts that these frequencies are of no consequence to health.<sup>4</sup> Although some people may be annoyed at the presence of sound from wind turbines, annoyance is a highly-individualized phenomenon, and is not an identified medical condition.<sup>5</sup> The primary concern about wind turbine sound is its fluctuating nature, which can occur under certain circumstances such as turbulent wind conditions. Some individuals with particular sensitivities may find this sound annoying, but the reaction depends

---

<sup>1</sup> <http://www.epilepsyfoundation.org/about/photosensitivity/>

<sup>2</sup> Minnesota Department of Health, "Public Health Impacts of Wind Turbines," St. Paul, MN (2009).

<sup>3</sup> Ising, H. and B. Kruppa, "Health Effects Caused by Noise: Evidence in the Literature from the Past 25 Years." *Noise and Health* 6 (23): 5-13 (2004).

<sup>4</sup> Colby, D.W, Dobie, R., Leventhall, G., Lipscomb, D.M., McCunney, R.J., Seilo, M.T., Sondergaard, B. "Wind Turbine Sound and Health Effects: An Expert Panel Review," (2009).

<sup>5</sup> *Id.*

primarily on the personal characteristics, as opposed to the intensity of the sound level.<sup>6</sup> The substantial body of peer-reviewed literature on the subject of wind turbine noise indicates that there is nothing unique about the sounds and vibrations emitted by wind turbines, and that there is no evidence that the audible or subaudible sounds emitted by wind turbines have any direct adverse physiological effects.<sup>7</sup>

#### 4. Impact to Medical Air Lift Services

Several members of the public raised concerns that area air rescue services would be unable to land within the Project footprint. Paynesville Wind, in consultation with area rescue services, will develop an emergency management plan that will allow for easy access of all emergency vehicles to the site to ensure the safety of residents in and around the Project. The plan will have protocol for turning off turbines in a timely manner, if necessary, to access the site.

#### 5. Ice Shed

Paynesville Wind expects that the likelihood of a person being struck by ice will be very low. The technology to sense ice coating on wind turbine blades has increased dramatically over the past 10 years. In events of heavy icing, wind turbines now shut down automatically. Some concerns raised by residents regarding icing of wind turbine blades appear to reference older wind turbine technology with inadequate ice sensors.

Ice shed decreases significantly as the distance from the tower increases. One study of multiple wind farms performed by the risk assessment and independent engineering firm Garrad Hassan found that "Data gathered at existing wind farms have documented ice fragments on the ground at a distance of 50 to 328 feet from the base of the tower. These fragments were in the range of 0.2 to 2.2 pounds in mass."<sup>8</sup> In addition to this objective information, anecdotal evidence suggests that the tendency is for ice fragments to be dropped off, rather than thrown off, the rotor.<sup>9</sup> As the distance from the turbine increases, the ice particle sizes decrease significantly because, if ice is sent beyond the rotor swept area, it has a significant tendency to break up in the air.<sup>10</sup>

#### 6. Property Values

The most comprehensive and intensive study of property value impacts known to Paynesville Wind is "The Impact of Wind Power Projects on Residential Property Values in the United States: A Multi-Site Hedonic Analysis" by Ben Hoen et al, issued in December of 2009 and funded by the Office of Energy Efficiency and Renewable Energy of the U.S. Department of Energy. The report

---

<sup>6</sup> *Id.*

<sup>7</sup> *Id.*

<sup>8</sup> [http://www.horizonwindfarms.com/northeast-region/documents/under-dev/arkwright/Exhibit14\\_IceSheddingandBladeThrowAnalysis.pdf](http://www.horizonwindfarms.com/northeast-region/documents/under-dev/arkwright/Exhibit14_IceSheddingandBladeThrowAnalysis.pdf)

<sup>9</sup> <http://www.renewwisconsin.org/wind/Toolbox-Fact%20Sheets/Assessment%20of%20risk%20due%20to%20ice.pdf>, accessed 05/07/2010

<sup>10</sup> *Id.*

examined the property sales of nearly 7,500 single family homes within 10 miles of 24 different wind farms across the United States. The researchers examined a number of different factors, from the view of wind turbines to the length of time those turbines had been installed, and found no correlation in the relationship between property values and the existence and proximity of wind turbines.<sup>11</sup>

## **7. Stray Voltage**

Standard electrical wiring practices for wind farms are adequate to prevent stray voltage from occurring. Stray voltage is a natural phenomenon that is the result of low levels of electrical current flowing between two points that are not directly connected. While it is not a health hazard to humans, some studies indicate that it can have a detrimental effect on dairy production. Stray voltage problems usually result from inadequate grounding of distribution lines to farm buildings. Because there is return current (current returning from the farm building to the distribution lines feeding it), there is opportunity for stray voltage to occur between the distribution lines and non-electrical systems such as the ground surface or plumbing systems.

There will be no effects from stray voltage resulting from the Project's electrical collection system because, unlike the distribution lines described above, the underground and aboveground collection lines are balanced, three-phase systems that do not use the ground for any return or unbalanced current. Further, the collection lines will not be run through farmsteads or in close proximity to local distribution lines. Even where collection lines will run through pastures, there is no effect on or opportunity for interaction with local distribution lines because the Project's electrical collection lines are a standalone system that do not have any return current. Paynesville Wind is committed to siting turbines and properly installing and grounding electrical collection lines to avoid stray voltage issues that would conflict with dairy operations.

## **8. Electromagnetic Fields**

Electromagnetic fields ("EMF") from underground electrical collection lines dissipates very close to the line because they are installed below ground within insulated shielding. The electrical fields are negligible, and there is a small magnetic field directly above the lines that, based on engineering analysis, dissipates within 20 feet on either side of the installed cable. EMF associated with the transformers at the base of each turbine completely dissipates within 500 feet from the transformer, so the 1,000 foot turbine setback from residences will be adequate to avoid any EMF exposure to homes.

## **9. Wildlife Management Areas/Waterfowl Production Areas**

The applicant has engaged Minnesota Department of Natural Resources ("DNR") and U.S. Fish and Wildlife Service ("USFWS") staff regarding wildlife issues in relation to the public lands within and adjacent to the Project boundaries. In response to their recommendations, the Applicant has committed to avoiding turbine placement between the Lake Henry and Bauman WPAs. The agencies have also recommended that the Applicant conduct site-specific studies on

---

<sup>11</sup> <http://eetd.lbl.gov/EA/EMP>, accessed 05/07/2010

bird and bat species composition and use of the Project area to better assess potential impacts from the Project. In response to these comments, Paynesville Wind has voluntarily initiated a study of avian and bat use of the site using a study design and approach developed in consultation with the DNR and USFWS.

Paynesville Wind will consider the results of the study in siting the final turbine locations to minimize impacts to wildlife. The final study results will be provided in a report to DNR, USFWS and the PUC as well. Paynesville Wind has also committed to developing a post-construction avian and bat mortality monitoring protocol that will help assess the impacts from the Project and aid in further minimizing impacts in future projects.

### **III. STEARNS COUNTY WECS ORDINANCE**

As previously noted in Paynesville Wind's Site Permit Application, Paynesville Wind plans to work with Stearns County to address concerns on a turbine-by-turbine basis. Paynesville Wind currently has over 11,500 acres under lease, which is sufficient to site all the turbines necessary for the Project following the PUC general siting guidelines.<sup>12</sup> Paynesville Wind is concerned about the PUC's possible application of two of the setback standards included in the Stearns County WECS ordinance: the set back from roads at 1.1 times the tower height and an omnidirectional setback from non-participating landowners of five rotor diameters.

Use of these setbacks would require a prohibitively large amount of land for a project of this size. Attached to these comments is a map demonstrating the impacts that these setbacks have on the Project compared with a draft layout of Paynesville Wind's preferred turbine (the Vestas v90) provided to the Commission in Paynesville Wind's application. Paynesville Wind has observed general public support for the PUC's siting standards and notes that over 250 residents of Stearns County have written to the Commission in support of the Commission's siting standards for wind turbines as published on the PUC website. These letters of support are available in Docket No. E999/CI-09-845.

#### **1. Stearns County Road Setbacks - 1.1 Times the Height of the Turbine**

It is unclear from the public record the exact public purpose of the Stearns County road setback standard, but it appears to reference the fall distance of the turbine with the blade fully extended. The setback of 1.1 times the turbine height (for the purposes of Paynesville Wind's application, 437 to 471 feet) creates a significant additional burden on the Project and landowners hosting the turbines and increases the Project's environmental impacts.

The burden to the Project is twofold: the setbacks place turbines further from the roads requiring, on average, an additional 40 linear feet of road per turbine, or between 37,800 and 49,200 square feet of road over the Project area. Additionally, by constraining the land beyond the standard 250 foot setback, the 1.1 time the turbine height setback forces turbines to be sited closer together, increasing

---

<sup>12</sup> For reference, the Elm Creek Wind Project, a 100 MW wind farm, had sufficient acreage to construct their project with between 9,000 and 10,000 acres under lease. *Elm Creek Wind Project Application*, Docket No. IP6631/WS-07-388.

the energy lost to wind turbine wake by approximately 1% and increasing the wear (and ultimately operations and maintenance costs) on the turbines due to project-generated turbulence. This added road length also increases the fragmentation of farm fields in the area, complicating agricultural practices for participating landowners. Finally, the 1.1 road setback increases the amount of impervious surface and removes from habitat use a significant additional area.

To the best knowledge of Paynesville Wind, out of the 159.2 gigawatts of installed wind capacity worldwide,<sup>13</sup> there have been only two turbines that have fallen at their base. Typically, the foundations for turbines weigh 400 tons, which is enough to counter balance any collapse. When there is a catastrophic failure of an operating turbine, these collapses have occurred because a blade has broken off and struck the tower, creasing it and keeping the impacted area to the space immediately around the base. The PUC's long-established road setback of 250 feet adequately mitigates this potential fall risk.

Given the increased land use, cost impacts and the relatively remote risk of collapse, Paynesville Wind asks that a 250 foot setback from roads be included in the draft site permit.

## **2. Five times the Rotor Diameter from the Project Boundary**

The Stearns County WECS ordinance requires that all turbines be sited five rotor diameters (in all directions) from the property line of non-participating landowners. The ordinance further states that "... the Board may authorize a setback of less than 5 times the rotor diameter if the applicant can demonstrate that due to the wind direction, the wake interference is less than five (rotor diameters)." While wake interference is the same in whatever direction the wind is blowing, Paynesville Wind interprets this provision to mean that Stearns County has contemplated a smaller setback (such as the PUC's three rotor diameter distance) in the direction of the non-prevailing winds.

Paynesville Wind provided in its application long-term wind rose for the area based on observed wind patterns on the site and correlated this data to a long term reference station. The wind rose shows that the majority of the winds in the area come from the directions between 292.5 and 337.5 degrees (generally, northwest), and between 157.5 and 202.5 degrees (generally, south). This wind rose is typical of Minnesota's wind resource. Turbines are sited according to the wind rose in order to minimize the losses of energy due to wake from one turbine to the next based on the frequency that the wind comes from a particular direction.

By spacing turbines according to the wind's directional frequency, Paynesville Wind will be able to maximize the energy generated by a wind farm while also minimizing the impacted land area. In order to minimize energy losses and land use impacts, Paynesville Wind asks that the PUC include a 5 rotor diameter setback from property lines of non-participating landowners in the direction of the prevailing winds and a 3 rotor diameter setback from the property lines of non-participating landowners in the direction of the non-prevailing winds.

---

<sup>13</sup> World Wind Energy Report, 2009:

[http://www.wwindea.org/home/images/stories/worldwindenergyreport2009\\_s.pdf](http://www.wwindea.org/home/images/stories/worldwindenergyreport2009_s.pdf) (accessed 05/07/2010).

#### **IV. MISCELLANEOUS ISSUES**

##### **1. Local Ordinances**

At the public information and scoping meeting, a member of the public asked whether Paynesville Wind would be applying for a conditional use permit for its towers, based on the Lake Henry Township zoning ordinance dated June 8th, 1999.<sup>14</sup> In Minnesota, the only site permit required to construct a LWECS is a site permit from the PUC.<sup>15</sup> The State site permit supersedes and preempts "all zoning, building, or land use rules, regulations or ordinances adopted by regional, county, local and special purpose governments."<sup>16</sup> Based on this statute, Paynesville Wind has applied for a state site permit and is not required to obtain any additional conditional use permits for the wind towers. Paynesville Wind will, however, work with local officials throughout the siting and construction process and will seek the appropriate local permits and approvals for the Project's substation and transmission line located in Paynesville Township.

##### **2. Property Tax Impacts**

A resident asked whether participating landowners' property taxes would increase because of the installation of wind turbine equipment. The landowners real property taxes should not be affected by the installation of the wind turbines. Minn. Stat. § 500.30 provides that any appreciation to the property caused by a wind easement will not be included in the net tax capacity for the property. Further, Paynesville Wind's lease provides that Paynesville Wind will pay all personal property taxes and assessments levied against the wind turbines, including any taxes based on electricity production. The lease also provides that Paynesville Wind will pay any increase in real property taxes due to the installation of the wind turbines, in the event that the taxes increase notwithstanding Minn. Stat. § 500.30.

##### **3. Liability Protections for Participants**

Another concern raised at the public hearing was whether participating landowners were adequately protected from liabilities related to operation of the wind turbines on their property. Paynesville Wind's lease addresses this issue by including an indemnification provision that requires each party to indemnify the other against (i) any operations or activities on the leased land (including Paynesville Wind's operation of the wind farm and the participant's farming operation or other previous activities) and (ii) any negligent or intentional act or omission by the other party. In addition, the lease requires Paynesville Wind to carry insurance to cover these potential claims. Thus, the lease provisions adequately address the liability issues between participating landowners and Paynesville Wind.

---

<sup>14</sup> Transcript of public information and scoping hearing, April 19, 2010, p. 18-21.

<sup>15</sup> Minn. Stat. § 216F.07.

<sup>16</sup> *Id.*

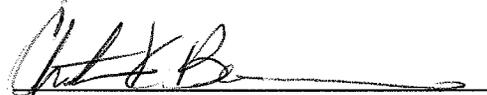
V. **CONCLUSION**

As discussed above, Paynesville Wind plans to site the Project in a responsible manner that minimizes impacts to humans and the environment, while providing economic benefits through the delivery of clean, renewable energy. Upon consideration of these and other public comments, Paynesville Wind respectfully requests that:

- (1) OES issue a scoping decision and draft environmental report; and
- (2) The Commission issue a draft site permit for the Project.

Dated: May 10, 2010

Respectfully submitted,



Christina K. Brusven (# 0388226)

**FREDRIKSON & BYRON, P.A.**

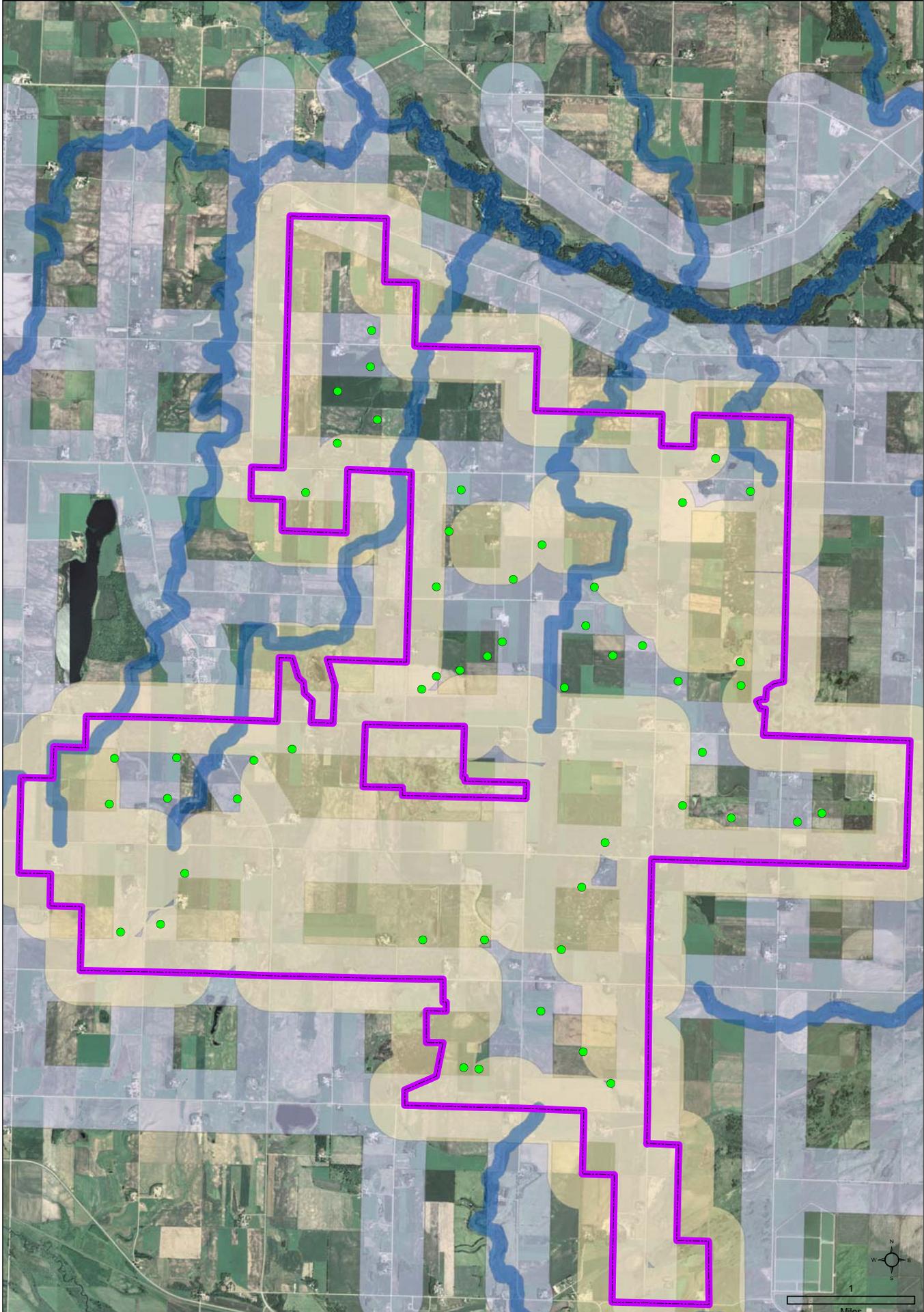
200 South Sixth Street, Suite 4000

Minneapolis, Minnesota 55402-1425

Telephone: (612) 492-7412

Fax: (612) 492-7077

**Attorney for Paynesville Wind, LLC**



**PAYNESVILLE WIND FARM**  
**Stearns County Setback Analysis**  
**VESTAS V90 1.8 MW**

LEGEND	
<span style="color: green;">●</span>	Turbine
<span style="background-color: lightblue; border: 1px solid blue; display: inline-block; width: 10px; height: 10px;"></span>	Shoreland Overlay
<span style="background-color: yellow; border: 1px solid yellow; display: inline-block; width: 10px; height: 10px;"></span>	Landowner Setbacks 5x5
<span style="background-color: lightblue; border: 1px solid lightblue; display: inline-block; width: 10px; height: 10px;"></span>	ROW Setback



First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Julia	Anderson	Julia.Anderson@state.mn.us	Office of the Attorney General-DOC	1400 BRM Tower 445 Minnesota St St. Paul, MN 551012131	Electronic Service	Yes	OFF_SL_10-49_Official
Christina	Brusven	cbrusven@fredlaw.com	Fredrikson & Byron, P.A.	200 S 6th St Ste 4000 Minneapolis, MN 554021425	Electronic Service	No	OFF_SL_10-49_Official
Becky	Coates	N/A	Professional Service Industries, Inc.	2401 Pilot Knob Rd, Ste 138 Mendota Heights, MN 55120	Paper Service	No	OFF_SL_10-49_Official
Michael	Deruyter	michael.deruyter@hdrinc.com	HDR Engineering, Inc.	701 Xenia Ave S, Suite 600 Minneapolis, MN 55416	Paper Service	No	OFF_SL_10-49_Official
Sharon	Ferguson	sharon.ferguson@state.mn.us	Department of Commerce	85 7th Place E Ste 500 Saint Paul, MN 551012198	Electronic Service	Yes	OFF_SL_10-49_Official
Burt W.	Haar	burt.haar@state.mn.us	Public Utilities Commission	Suite 350 121 7th Place East St. Paul, MN 551012147	Electronic Service	Yes	OFF_SL_10-49_Official
John	Lindell	agorud.ecf@state.mn.us	Office of the Attorney General-RUD	900 BRM Tower 445 Minnesota St St. Paul, MN 551012130	Electronic Service	Yes	OFF_SL_10-49_Official
Patrick	Smith	N/A	Gerónimo Wind Energy, LLC	7650 Edinborough Way, Ste 725 Edina, MN 55435	Paper Service	No	OFF_SL_10-49_Official

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Julia	Anderson	Julia.Anderson@state.mn.us	Office of the Attorney General-DOC	1400 BRM Tower 445 Minnesota St St. Paul, MN 551012131	Electronic Service	Yes	OFF_SL_9-1110_1
Christina	Brusven	cbrusven@fredlaw.com	Fredrikson & Byron, P.A.	200 S 6th St Ste 4000 Minneapolis, MN 554021425	Electronic Service	No	OFF_SL_9-1110_1
Sharon	Ferguson	sharon.ferguson@state.mn.us	Department of Commerce	85 7th Place E Ste 500 Saint Paul, MN 551012198	Electronic Service	Yes	OFF_SL_9-1110_1
Burl W.	Haar	burl.haar@state.mn.us	Public Utilities Commission	Suite 350 121 7th Place East St. Paul, MN 551012147	Electronic Service	Yes	OFF_SL_9-1110_1
John	Lindell	agorud.ec@state.mn.us	Office of the Attorney General-RUD	900 BRM Tower 445 Minnesota St St. Paul, MN 551012130	Electronic Service	Yes	OFF_SL_9-1110_1
Patrick	Smith	N/A	Geronimo Wind Energy, LLC	7650 Edinborough Way, Ste 725 Edina, MN 55435	Paper Service	No	OFF_SL_9-1110_1

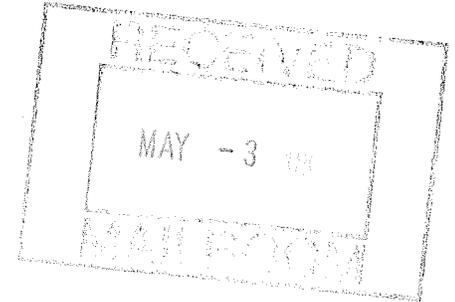


# Minnesota Pollution Control Agency

520 Lafayette Road North | St. Paul, MN 55155-4194 | 651-296-6300 | 800-657-3864 | 651-282-5332 TTY | [www.pca.state.mn.us](http://www.pca.state.mn.us)

April 29, 2010

Mr. Larry Hartman  
Project Manager  
Minnesota Office of Energy Security  
85 7<sup>th</sup> Place East, Suite 500  
St. Paul, MN 55101-2198



RE: Paynesville Wind, LLC (a Subsidiary of Geranimo Wind Energy, LLC)  
Paynesville Wind Farm in Stearns County  
PUC Docket Number IP-6830/WS-10-49 and IP-6830/CN-09-1110

Dear Mr. Hartman:

Thank you for the opportunity to review and comment on the Site Permit Application for Paynesville Wind Farm in Stearns County, a proposed 95 megawatt wind farm. Regarding matters for which the Minnesota Pollution Control Agency (MPCA) has regulatory responsibility and other interests, the MPCA has the following comments to provide at this time.

- If the total project will disturb one acre or more of land, a National Pollutant Discharge Elimination System/State Disposal System (NPDES/SDS) Construction Stormwater Permit is required from the MPCA prior to construction. Information regarding the MPCA's Construction Stormwater Program can be found on the MPCA's Web site at: <http://www.pca.state.mn.us/water/stormwater/stormwater-c.html>.
- Please be aware that the Sauk River is listed on the MPCA Draft 2010 303(d) Total Maximum Daily Load (TMDL) list of impaired waters for mercury and *E. coli*. Also near the project area are Stony Creek and an Unnamed Creek, both on the draft 2010 list for *E. coli* and turbidity, respectively. We recommend you check with our current listing of impaired waters at our MPCA Web site at: <http://www.pca.state.mn.us/water/tmdl/tmdl-303dlist.html>. The impairment will dictate additional increased stormwater treatment both during construction and require additional increased permanent treatment post construction. These requirements will be included in the NPDES Construction Stormwater Permit. Paynesville Wind, LLC/Geranimo Wind Energy LLC should identify that compliance with these increased stormwater water quality treatments can be achieved on the project site or elsewhere. Questions regarding Construction Stormwater Permit requirements should be directed to Larry Zdon at 651-757-2839.
- Section 3.1 of the site application stated the area occupied by the wind farm will be approximately 50 acres. Any project that will result in over 50 acres of disturbed area and has a discharge point within one mile of an impaired water is required to submit their Stormwater Pollution Prevention Plan (SWPPP) to the MPCA for a review at least 30 days prior to the commencement of land disturbing activities. If the SWPPP is found to be out of compliance with the terms and conditions of the General Permit, further delay may occur. The MPCA encourages the project proposer to meet with staff at preliminary points to avoid this situation.
- Based on this project's need to obtain a U.S. Army Corp of Engineers Section 404 Permit and the project's proximity to impaired waters, this project may also require a Clean Water Act Section 401 Water Quality Certification or waiver from the MPCA to verify compliance with state water quality standards. For further information about the 401 Water Quality Certification process, please contact Kevin Molloy at 651-757-2577 or Bill Wilde at 651-757-2825.

Mr. Larry Hartman  
April 29, 2010  
Page 2

Please be aware that this letter does not constitute approval by the MPCA of any or all elements of the project for the purpose of pending or future permit action(s) by the MPCA. Ultimately, it is the responsibility of the project proposer to secure any required permits and to comply with any requisite permit conditions. If you have any questions concerning our review of this project, please contact Elise Doucette of my staff by e-mail at [elise.doucette@state.mn.us](mailto:elise.doucette@state.mn.us) or by telephone at 651-757-2316.

Sincerely,



Craig Affeldt  
Supervisor  
Environmental Review and Feedlot Section  
Regional Division

CA/EMD:mbo

cc: Reed Larson, MPCA – Brainerd

# Minnesota Department of Natural Resources

500 Lafayette Road • St. Paul, MN • 55155-40



May 10, 2010

Ingrid Bjorklund, Project Manager  
Minnesota Office of Energy Security  
85 7th Place East, Suite 500  
St. Paul, MN 55101

Re: Site Permit Application for the Paynesville Wind Farm  
[PUC Docket Number: IP-6830/WS-10-49]

Dear Ms. Bjorklund:

The Minnesota Department of Natural Resources (DNR) has reviewed the Site Permit Application for the Paynesville Wind Farm in Stearns County [PUC Docket Number: 6830/WS-10-49]. The Paynesville Wind Farm project area is in close proximity to several DNR owned Wildlife Management Areas (WMA), a Scientific and Natural Area (SNA), several United States Fish and Wildlife Service (USFWS) Waterfowl Production Areas (WPA). The site permit application indicates there are Conservation Reserve Program (CRP) and Reinvest in Minnesota (RIM) easement properties within or near the project area. Minnesota County Biological Survey (MCBS) Sites of Biodiversity Significance are also included within and near the project area and a calcareous fen is located in the vicinity of the project area. The DNR appreciates that the applicant has coordinated with DNR staff regarding natural resources in the area and has configured project boundaries to avoid publicly owned conservation lands such as WMAs and SNAs. The following comments are provided concerning natural resources that may be affected by the proposed wind farm.

## Pre-Construction Surveys and Avian Use

Due to the presence of numerous habitat features, the inclusion of state-listed grassland bird species results from the Natural Heritage Information System (NHIS), and Breeding Bird Atlas results including the presence of grassland species with declining populations near the project, the DNR previously suggested pre-construction surveys. The applicant recently informed the DNR that pre-construction surveys will take place during the 2010 spring survey season. Ongoing coordination between the OES, DNR, and the applicant is encouraged regarding pre-construction surveys for avian or bat activity. The DNR suggests conducting flight path analysis surveys focused on proposed turbine locations that may experience high avian use. Section 21 and 22 of Township 123, Range 32 include a line of turbines, for example, that may obstruct a flyway between the Zion WPA and a group of WMAs and an SNA southeast of the project boundary including the Salem Community Prairie WMA and the Miller Spring Lea Farm WMA. Another example of an area where flight paths may be affected by turbines is Section 30 of Township 123, Range 32. These areas should be included in survey work this season by conducting analysis of flight patterns. The DNR is available for consultation prior to survey work to further clarify these recommendations, and requests a coordinated review with the OES regarding survey results prior to permit issuance.

The site application includes a description on page 5-29 in Section 5.18.1.1 of bird usage in the project area. The record on this topic will be expanded based on survey results. However, it is important to note an example of habitat use in the area. The American kestrel, a raptor mentioned in this section, has been sighted in surprisingly high numbers within the project boundary. Currently, there are 13 Breeding Bird Atlas blocks with confirmed American kestrel breeding. Three of these blocks are within the project

Bjorklund 5/10/10

[www.dnr.state.mn.us](http://www.dnr.state.mn.us)

AN EQUAL OPPORTUNITY EMPLOYER



PRINTED ON RECYCLED PAPER CONTAINING A MINIMUM OF 10% POST-CONSUMER WASTE

boundary. This is important because American kestrel populations have decreased in Minnesota an average of 1.28% per year from 1966-2006 and 3.2% per year from 1980 – 2007 in the Prairie Pothole Region (See attached USGS document).

#### MCBS Sites and Conservation Easements

As discussed in previous correspondence from the DNR, several MCBS Sites of Biodiversity have been identified within and adjacent to the project boundary. These particular sites contain native prairie remnants, grasslands, shrub swamps, and other wetlands. Factors taken into account during the ranking process of these sites include considerations such as the number of rare species and the quality of native communities. Many of these sites will be avoided due to their location in WMAs and WPAs. However, given the ecological significance of these areas, the DNR recommends avoiding MCBS Sites of Biodiversity ranked as moderate, high, or outstanding in other areas within the project boundary.

The site permit application contains several helpful maps, including Figures 1-6 through 1-8, Figure 5-5, Figure 5-11, Figure 5-12 and figures showing turbine locations, that assist with the review of natural resources, recreational resources, public lands, turbine locations, and setbacks. A map showing locations of conservation easement lands such as CRP and RIM and locations of MCBS Sites of Biodiversity Significance would also be helpful to include in the record. When these maps are layered with turbine locations, they also provide better information for environmental review.

#### Native Prairie

The site permit application discusses native prairie in the vicinity of the project and the possibility of previously unmapped native prairie occurring within the project boundary. Any grasslands that cannot be determined as having been farmed should be evaluated on the ground by a qualified botanical surveyor as discussed in previous DNR correspondence. A permit condition should require on-site field surveys for native prairie. Please send a copy of the native prairie protection and management plan to the DNR if applicable.

If prairie is found within the project area, please consider the following. The application text (pages 5-32 and 5-35) states that mitigation measures will include avoiding high quality native prairie habitat. More than 99% of Minnesota's prairies have been destroyed and more than one third of Minnesota's endangered, threatened, and special concern species are dependent on the remaining small fragments of Minnesota's prairie ecosystem. Due to the rare status of native prairie, the DNR recommends avoidance of all remaining prairie. Turbines and infrastructure should also be distant enough from prairie to allow for management such as prescribed burning.

#### Turbine Size

The site permit application includes turbine layout maps (Figures 1-3 through 1-5) showing site plans for 1.5 MW, 1.8 MW, and 2.3MW turbines. Generally, the larger the turbine shown, the less the turbine configuration appears to cause habitat fragmentation. The use of larger turbines may be a useful way to avoid effects to natural resources.

#### Public Lands and Waters

As discussed in the site permit application, the applicant should contact the DNR, Division of Lands and Minerals for permitting information if any project infrastructure will cross public lands or waters.

The Glacial Lakes State Trail is located in the southern portion of the project area. If any infrastructure crosses this trail, the applicant will need to obtain a license to cross public lands or waters. Also, because this trail is owned by the state, the non-leased property setback shown on Figure 1-6 through 1-8 of the site permit application applies to this property as well as other non-leased properties on the Figure. Current turbine site configurations do not appear to include turbines within this buffer. However, please include this setback in future project planning and identify this setback on future setback maps.

Please note that the DNR is currently assessing whether a classification of navigable is appropriate for public waters such as the Public Waters Inventory (PWI) wetland shown in permit application Figure 5-11 in section 19 of Township 123, Range 32. There may be additional setbacks if this determination is made. Currently, no turbines are proposed to be located near this wetland. However, please contact the DNR if the project layout changes and turbines are proposed within the 3X5 rotor diameter buffer from this PWI wetland.

#### Other Comments

The site permit application includes the presence of Stearns County Grant-in-Aid Snowmobile Trails. A 250 foot setback is included in the site application permit. The DNR encourages a minimum of a 250 foot setback from Grant-in-Aid trails for safety reasons. The setback shown on site permit application maps should also be carried forward as a permit condition.

Please clarify whether the meteorological tower located adjacent to the Zion WMA is temporary or permanent and, if temporary, how long the tower will be located adjacent to the WMA.

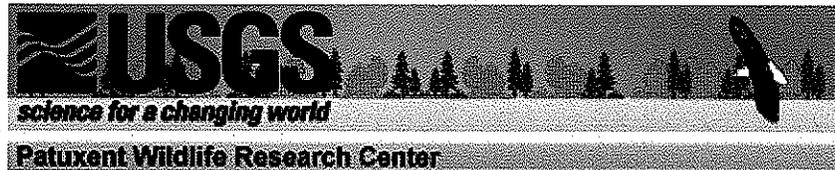
Thank-you for your consideration of comments provided regarding the Paynesville Wind Farm Site Permit Application. Please contact me with any questions.

Sincerely,

A handwritten signature in black ink that reads "P. Schrenzel for Jamie Schrenzel". The signature is written in a cursive style.

Jamie Schrenzel  
Principal Planner  
Environmental Review Unit  
(651) 259-5115

Enclosures: 1



**North American Breeding Bird Survey  
Summary of Population Change**

**American Kestrel *Falco sparverius***

**MIN trend results**

**Species aou:3600**

**Region:MIN**

**Estimating Equation Results**

**Trend period:1966 to 2006**

Trend Estimate	P value	N routes	Variance	Average Count
MIN -1.28	0.02735	73	0.3241	1.39

Return to our [home page](#), if you want.



American Kestrel *Falco sparverius*

North American Breeding Bird Survey Trend Results

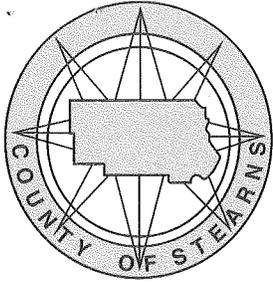
Help file

Check out our new Regional Credibility  measure

Region	-----1966-2007 trends-----						--1966-1979--			--1980-2007--		
	Trend	P	N	( 95% CI )	R.A.	Trend	P	N	Trend	P	N	
Northwestern Interior F	-6.4	0.03	7	-10.2 -2.7	0.04	--	--	--	-5.9	0.12	7	
Northern Pacific Rainfo	-1.9	0.16	49	-4.5 0.7	0.22	1.3	0.71	30	-1.6	0.23	44	
Boreal Taiga Plains	-0.8	0.57	75	-3.6 2.0	1.12	12.0	0.06	18	-2.0	0.10	70	
Boreal Softwood Shield	-8.5	0.03	22	-15.5 -1.6	0.70	1.1	0.86	13	-8.9	0.00	13	
Great Basin	-1.2	0.07	199	-2.5 0.1	1.79	4.8	0.08	62	-1.9	0.00	187	
Northern Rockies	-2.6	0.03	166	-4.8 -0.3	0.89	8.1	0.03	52	-2.7	0.01	159	
Prairie Potholes	-0.9	0.30	158	-2.7 0.8	0.53	5.5	0.12	54	-3.2	0.00	148	
Boreal Hardwood Transit	-0.1	0.76	144	-0.9 0.7	0.55	5.4	0.02	60	-1.1	0.16	128	
Lower Great Lakes/ St.	-2.4	0.00	145	-3.8 -1.0	0.93	3.0	0.05	88	-3.5	0.00	139	
Atlantic Northern Fores	-2.8	0.00	148	-4.7 -0.9	0.32	3.1	0.39	82	-4.0	0.01	126	
Sierra Nevada	1.6	0.49	18	-2.8 6.1	0.39	-0.5	0.94	8	-0.8	0.67	16	
Southern Rockies/colora	-1.5	0.07	162	-3.1 0.1	1.23	1.2	0.82	27	-1.4	0.15	158	
Badlands and Prairies	0.1	0.90	83	-1.2 1.4	1.61	9.0	0.01	25	-2.9	0.05	81	
Shortgrass Prairie	-0.8	0.26	93	-2.2 0.6	1.27	7.0	0.14	20	-2.9	0.05	92	
Central Mixed Grass Pra	-0.2	0.90	83	-3.6 3.2	0.79	-5.7	0.08	38	2.9	0.27	78	
Oaks and Prairies	-2.4	0.52	9	-9.3 4.5	0.07	-9.8	0.67	3	-1.0	0.72	7	
Eastern Tallgrass Prair	2.2	0.02	240	0.4 3.9	1.00	0.6	0.87	80	2.5	0.01	235	
Prairie Hardwood Transi	-0.8	0.04	119	-1.6 0.0	1.06	9.0	0.00	62	-2.1	0.00	116	
Central Hardwoods	0.7	0.37	105	-0.8 2.3	1.06	4.3	0.07	58	1.4	0.04	102	
West Gulf Coastal Plain	-0.5	0.91	20	-8.8 7.8	0.08	12.1	0.64	8	-8.2	0.07	11	
Mississippi Alluvial Va	5.7	0.23	6	1.5 10.0	0.20	--	--	--	0.6	0.88	5	
Southeastern Coastal Pl	-8.8	0.14	31	-20.1 2.4	0.07	-36.5	0.00	10	3.0	0.03	27	
Appalachian Mountains	-1.1	0.14	205	-2.5 0.4	0.41	0.7	0.72	115	-1.6	0.07	181	
Piedmont	0.3	0.90	53	-4.2 4.8	0.23	4.8	0.24	33	0.0	0.99	45	
New England/mid-atlanti	-5.1	0.01	84	-8.7 -1.5	0.30	2.4	0.42	57	-8.7	0.02	63	
Peninsular Florida	-4.1	0.39	16	-13.1 5.0	0.28	28.8	0.57	8	4.1	0.42	12	
Coastal California	-2.0	0.00	96	-3.1 -0.8	2.68	-2.8	0.26	75	-1.1	0.11	85	
Sonoran and Mojave Dese	0.9	0.60	44	-2.6 4.4	0.72	6.5	0.34	16	0.3	0.88	39	
Sierra Madre Occidental	-3.4	0.12	29	-7.5 0.7	1.07	21.0	0.07	7	-3.7	0.11	25	
Chihuahuan Desert	-1.8	0.38	20	-5.7 2.1	0.58	-1.6	0.84	4	-0.2	0.94	18	
Tamaulipan Brushlands	13.0	0.27	4	-5.7 31.7	0.05	--	--	--	14.5	0.16	4	

(\*) Note that survey actually began in 1967-1968 in central and western United States and Canada. See help file for details

Use Back Arrow to Return to Species List.

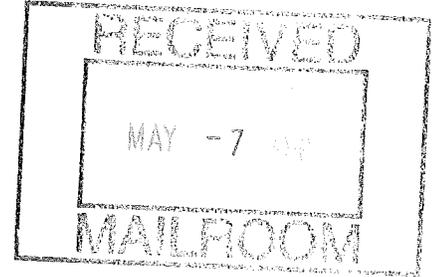


# COUNTY OF STEARNS

Administration Center Rm 121 • 705 Courthouse Square • St. Cloud, MN 56303  
320-656-3600 • Fax 320-656-6393 • www.co.stearns.mn.us

May 4, 2010

Ingrid Bjorklund, Project Manager  
Minnesota Office of Energy Security  
85 7<sup>th</sup> Place East, Suite 500  
St. Paul MN 55101



Re: Paynesville Wind, LLC Application for LWECS Site Permit

Dear Ms. Bjorklund:

In December 2009, Stearns County adopted Ordinance #433 establishing more restrictive standards for Large Wind Energy Conversion Systems (LWECS) and passed a Resolution for the Assumption of LWECS Permit Authority. The Resolution is enclosed with this letter.

Pursuant to Minnesota Statutes, section 216F.081, Stearns County is requesting that our more restrictive standards be applied to the Paynesville Wind, LLC Site Permit.

1. The Application indicates the project will maintain a project boundary setback of 5 rotor diameters (RD) north-south and 3 RD east-west. The County requires a 5 RD setback unless approved otherwise by the County Board.
2. The Application indicates the project will meet the County right-of-way setback of 1.1 times the height of the tower "where feasible." We request that this setback be maintained for the entire project.
3. The Application indicates the internal turbine spacing will be 5RD north-south and 3 RD east-west with no more than 20 percent of the turbines closer than the prescribed setback. We request the 5 RD and 3 RD setback be maintained for all turbines.
4. The Application indicates that both under and above ground cable may be employed to connect turbines, transformers and the interconnect point. The County Ordinance states that all feeder lines "shall be buried underground. Exemptions may be granted...in instances where shallow bedrock interferes with the ability to bury lines." We do not know of any shallow bedrock in the area of the Paynesville project, therefore we request that all cables be buried underground.
5. Stearns County does not allow WECS of 40.01kw or larger in the Shoreland Overlay District. We request that all turbines be placed outside the Shoreland Overlay District.

Additionally, Stearns County has issued Interim Use Permits for two meteorological towers to be located within the project boundary for wind data collection. We request that these two 60 meter towers be removed once the project is up and running.

Sincerely,

Mark K. Sakry  
Chair  
Stearns County Board of Commissioners

Enc.

Stearns County Resolution Number 09-81

**RESOLUTION FOR THE ASSUMPTION OF LARGE WIND ENERGY  
CONVERSION SYSTEMS PERMIT AUTHORITY**

**WHEREAS**, the Stearns County Environmental Services Director will forward all Wind Energy Conversion System (WECS) applications to the Minnesota Public Utilities Commission in determining what jurisdiction has siting authority pursuant to Minnesota Statutes Chapter 216F.011; and

**WHEREAS**, the Minnesota Public Utilities Commission shall consider and apply the Stearns County Land Use and Zoning Ordinance standards as they relate to wind energy conversion systems as amended that are more stringent than commission rules unless the commission finds good cause not to apply the standards pursuant to Minnesota Statutes Chapter 216F.081; and

**WHEREAS**, the Stearns County Board of Commissioners has adopted the following specific standards that are more stringent than the General Wind Turbine Permit Setbacks as cited in Minnesota Public Utilities Commission Order Establishing General Wind Permit Standards, issued January 11, 2008, PUC Docket E,G-999/M-07-1102:

1. Residential Dwellings/Occupied Structures shall have a more stringent setback of 750 feet; and
2. Property Lines shall have a more stringent setback of 1.1 times the total height; and
3. Right of Way shall have a more stringent setback of 250 feet or 1.1 times the total height, whichever is greater; and
4. Project boundary shall have a more stringent setback of 5 times the rotor diameter unless otherwise approved by the Board; and
5. Internal turbine spacing shall be 5 rotor diameters downwind spacing and 3 rotor diameters apart for crosswind spacing.

**WHEREAS**, the Stearns County Board of Commissioners fully entrusts the Minnesota Public Utilities Commission to ensure full compliance with the General Wind Permit Standards, issued January 11, 2008, PUC Docket E,G-999/M-07-1102 and those more stringent standards as identified within this resolution. The Stearns County Board of Commissioners consider the compliance of the Wind Access Buffer Setback for land and/or wind rights not under permittee's control paramount to the orderly development of Large Wind Energy Conversion System (LWECS) Development in Stearns County; and

**WHEREAS**, the Stearns County Environmental Services Director shall create an integrated process with the Minnesota Public Utilities Commission and notify the Stearns County Board of Commissioners of any actions by the Minnesota Public Utilities Commission or LWECS Permittee that would preclude or hinder the strict

adherence to Murray County's more stringent standards and as cited in the resolution; and

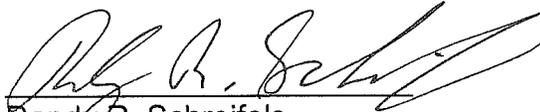
**THEREFORE BE IT RESOLVED**, the Stearns County Board of Commissioners hereby assume responsibility for processing permit applications for LW ECS within Stearns County, Minnesota, with combined nameplates of less than 25,000 kilowatts, pursuant to Minnesota Statutes Chapter 216F.08.

Adopted by the Stearns County Board of Commissioners this 17<sup>th</sup> day of November 2009.



Leigh Lenzmeier, Chair  
Stearns County Board of Commissioners

ATTEST:



Randy R. Schreifels  
Stearns County Auditor-Treasurer  
Clerk, Stearns County Board of Commissioners

**From:** [Jimmy & Julie Jimenez](#)  
**To:** [Bjorklund, Ingrid \(COMM\)](#)  
**Subject:** Fw: Paynesville Wind Farm ( site permit IP-6830/WS-10-49 )  
**Date:** Tuesday, April 27, 2010 1:07:57 PM

---

Dear Ingrid,

My name is Julie Jimenez, and I am within the boundaries of the project. I was present at the scoping meeting. I was the one with the video clip that did not work. Wow, how embarrassing. Well, I do have that clip and a document that I addressed at the scoping meeting. The document, dated March 4, 2010, addresses policy issues, and well as science based technical advice on how best to assess and prevent adverse impacts to wildlife and their habitats while allowing for the development of the Nation's wind energy resources. It addresses laws, and guiding the wind companies to be in the boundaries of those laws, by following the 3 tire approach; in addition to valuable research collected for the future. I believe after extensive research of this document, there needs to be a moratorium to reevaluate this project site. We are working closely and have consulted a lawyer with our concerns only because we feel unqualified to handle and understand all the issues. I believe if Geronimo truly wants what is best they will want a moratorium to research issues that have not been and will take time to address them appropriately. I believe Geronimo should be working closely, with the USFW and DNR, they are the experts when it comes to issues surrounding every aspect of wildlife, which we have many areas of concern.

Thank you for your time,  
Julie Jimenez

Flicker Video: <http://www.youtube.com/watch?v=Mble0iUtelQ&feature=related>

Ice Build Up: <http://www.youtube.com/watch?v=4EmYe2u6J6g&feature=related>

The final Recommendations of the Wind Turbine Guidelines Advisory Committee  
[http://www.fws.gov/habitatconservation/windpower/wind\\_turbine\\_advisory\\_committee.html](http://www.fws.gov/habitatconservation/windpower/wind_turbine_advisory_committee.html)

**From:** [apache@web.lmic.state.mn.us](mailto:apache@web.lmic.state.mn.us)  
**To:** [Bjorklund, Ingrid \(COMM\)](#)  
**Subject:** Westrum Fri May 7 13:22:12 2010 IP-6830/WS-10-49  
**Date:** Friday, May 07, 2010 1:25:53 PM

---

This public comment has been sent via the form at:  
[www.energyfacilities.puc.state.mn.us/publicComments.html](http://www.energyfacilities.puc.state.mn.us/publicComments.html)

You are receiving it because you are listed as the contact for this project.

Project Name: Paynesville Wind Farm

Docket number: IP-6830/WS-10-49

User Name: Darrell Westrum

County:

City: Paynesville

Email:

Phone:

Impact: Spending State and Federal monies to subsidize loser alternative energy projects is an injustice to Americans and citizens of Minnesota. The current financial crisis makes the need for complete elimination of alternative energy assistance vividly obvious. To continue is irresponsible to all present and future generations.

Mitigation: Kill the Paynesville Wind Farm Project immediately. It's no more complicated than that.

Submission date: Fri May 7 13:22:12 2010

This information has also been entered into a centralized database for future analysis.

For questions about the database or the functioning of this tool, contact:

Andrew Koebrick  
[andrew.koebrick@state.mn.us](mailto:andrew.koebrick@state.mn.us)

**From:** [agnes lieser](#)  
**To:** [Bjorklund, Ingrid \(COMM\)](#)  
**Subject:** paynesvillewindfarmPUCDocketNos.IP6830/WS-19-49,IP-6830/CN-09-1110  
**Date:** Monday, May 10, 2010 7:42:11 PM

---

Ms. Bjorklund:

My concerns are:

1. Has an environmental impact study been done? If not, why not?
2. Is there a chance of groundwater contamination by the depth of the foundation of the turbines?
3. How is Geronimo going to contain the electrical field contamination from the underground wire?
4. Geronimo or you were unable to satisfactorily answer questions about--flicker, noise pollution and ice throw.
5. I am also concerned about the setback distances, tower placement(too close to non-participating owners property lines).
6. Non-participated land owners NEED to have a say in tower locations!
7. I am also concerned about turbines in watershed areas as well as designated wildlife areas.
8. There is a conflict of interest because the gentleman from Worthington is trying to sell his turbines to Geronimo..
9. Why weren't people from Odin or Marshall at the meeting?
10. The wind turbines seem to be inefficient because, it appears they are down for maintenance more frequently than they are running.
11. The turbines outside MY front window would NOT be beautiful!

Thank you,

Agnes Lieser  
29802 CoRd 32  
Paynesville, MN 56362  
avlieser@hotmail.com

---

Hotmail is redefining busy with tools for the New Busy. Get more from your inbox. [See how.](#)

**From:** [Nick and Mesa Lieser](#)  
**To:** [Bjorklund, Ingrid \(COMM\)](#)  
**Subject:** PUC Docket No. IP-6830 Paynesville Wind Farm  
**Date:** Thursday, May 06, 2010 9:58:08 PM

---

Dear Ingrid Bjorklund,

As concerned citizens of the city of Lake Henry, we are filing a report in regards to the potential Paynesville Wind Farm. As you aware the map of the projected towers reside very close to the city limits. Our concern is the impact that the wind towers have on the property values as well as the wild life that have their habitat in the area. We value our community and try to maintain its appeal to continue to grow as a prosperous community. With the placement or proximity, it will have an impact that will potentially hurt our community and reverse any positive actions that the wind farm may bring.

We are in favor of 'green' energy, when there will be no adverse effects such as health or property values such as utilizing a less populated area. We feel that it may happen if the project remains as it. Please consider our opinions valuable and try to work to make the Paynesville Wind Farm as prosperous for all involved. Thank you for your time.

Sincerely,

Nicholas and Mesa Lieser  
32953 Cartway Drive  
Paynesville, MN 56362

May 10, 2010

Ingrid Bjorklund  
Minnesota Office of Energy Security  
85 7<sup>th</sup> Place East Suite 500  
St. Paul MN 55101-2198

RE: PUC Docket Nos. IP-6830/WS-10-49 (Site Permit),  
IP-6830/CN-09-1110 (Certificate of Need)

Ms. Bjorklund,

I would like to take this opportunity to comment on the current situation many Minnesota communities are finding themselves in, namely seeing their pristine landscape being overrun by giant wind turbines. I would like to lend my support to those who oppose the proposed Paynesville Wind Farm (Lake Henry and Zion townships in Stearns County). The concerns we express are legitimate. Below I have listed several items which I implore you to take into consideration when developing the draft site permit pertaining to this ***industrial wind farm***.

Along with many major issues connected to the development of an industrial wind farm, I am concerned with these two issues: 1) potential health risks to those living too close to wind turbines; 2) potential property diminution to those living within 3 miles of wind turbines/wind farm. In this letter, I would like to address both issues and provide studies to back up my concerns.

As you know the Office of Energy Security requested for the MN Department of Health to investigate potential health problems of those persons living near and inside an industrial wind farm. The Department of Health released a White Paper on May 22, 2009 detailing their findings. Part of the problem with this aggressive "push" for large scale wind energy being instituted in more densely populated areas, is that there has not been a chance for more research to be done on the effects of the low frequency vibrations on persons living near these towers. The report does acknowledge findings from the National Research Council (NRC) regarding the "effects of low frequency (infrasound) vibrations (less than 20 Hz) on humans are not well understood, but have been asserted to disturb some people." (Pg. 6: *Public Health Issues of Wind Turbines*) As the report states, everyone is affected differently. How can a person be asked to live next to one of these wind turbines with the potential to be adversely affected by the low frequency vibrations?

Noise is definitely an issue for persons living in an industrial wind farm. I understand that the set-back for non-participating land owners is three rotor-diameters non-prevailing wind direction and five rotor-diameters prevailing wind direction. Depending on the size of the wind turbine, this is probably anywhere from 800-900 ft. non-prevailing wind direction and 1300-1400 ft. prevailing wind direction. I refer to page 6 again in the "white paper" stating that the NRC concluded that noise from giant wind turbines is not an issue beyond a ***half a mile***, which is 2640 feet. This statement concurs with a similar statement published in the

Congressional Research Service Report for Congress dated June 20, 2008 “Wind Power in the United States: Technology, Economic, and Policy Issues”. The statement reads as quoted, **“For residences over 1 kilometer (.6 miles) from a wind turbine, noise is generally not an issue.”** This report was authored by Jeffrey Logan and Stan Mark Kaplan, Specialists in Energy Policy with the Resources, Science and Industry Division. With both of these reputable agency’s findings to be the same, I believe that the MN Public Utilities Commission should strongly take this into consideration and put in place greater minimum setbacks of at **least one-half mile for non-participating property owners.**

The MN state statute for noise pollution at nighttime sets the standard of 50 dB (A) not to be exceeded more than 50% of any given hour. That standard should have a lower threshold. The “white paper” mentions that complaints have been heard from those experiencing noise levels as low as 35 dB (A). Some problems that arise with this can be sleeplessness along with headaches. The report states that more problems surface when the noise levels exceed 35 dB (A). I site another report, “Wind Turbine Sound and Health Effects: An Expert Panel Review”, prepared by a group of doctors for the American Wind Energy Association and the Canadian Wind Energy Association. Even though this report concluded that there are no direct adverse physiological effects from wind turbines, when you read the entire study there are bits and pieces that make a person wonder how they came up with this conclusion. Included in this report, “About 5% of respondents were annoyed at noise levels between 35-40 dBA and 18% to 40 to 45 dBA.” (pg. 3-16) When I look at the predicted noise level maps for the Paynesville Wind Farm, I see that there are many homes within the 40-45 dB(A) level. Have all these people signed on for this? Is the computer accurately predicting the sound levels, or will the sound levels be greater? I have listened to many people who live near wind turbines and how they have been affected by the noise levels. Those people, who testify that they suffer from sleeplessness and ultimately have other issues because of this, cannot be discounted. They need to be heard and listened to.

Another concern for the non-participating property owner is “shadow flicker”. Persons living inside 1000 feet from a wind turbine and are between the sun and turbine, are expected to experience 1.5 hours of “flicker” each day the sun shines. Again the CRS report states that shadow flicker can be annoying for anyone who lives very close to a wind turbine: **“Shadow flicker generally does not affect residences located 10 rotor diameters or more (.6 miles) from the turbine, except possibly early in the morning or late in the evening when shadows are long”**. Shadow flicker is not something you can get away from. It affects you outside your residence as well as inside your residence. Are the setbacks from a roadway great enough for the shadow flicker not to distract drivers? Ireland wants turbines setback as far as 984 feet from a road so shadow flicker does not distract the driver. Again, minimum setbacks need to be increased to avoid this hazard.

I ask that the Commission should review this and make permits available only if the Commission can be assured that the noise levels will not exceed 35 dB(A) when placing a tower for a non-participating resident. Also included in the “white paper” on page 14 is a list of reports which state that aerodynamic modulation is often underestimated when noise estimates are calculated. Placements of towers are usually calculated by computer programs. I contend that with so many variables ranging from wind speed to the land’s terrain, it

is nearly impossible to know 100% for sure that a person next to the wind turbine will not be affected by the noise. When one is constructed 1000 feet away from a resident, then it is too late!

One more aspect affecting people's health is the issue of medical helicopters not landing inside of a wind farm. To me that is blatant discrimination for those of us who choose to be non-participating land owners but yet are forced to live in an industrial wind farm. Where are our rights? Why should I be punished if someone at my house needs immediate medical attention which only a medical helicopter can provide?

The second major issue I am concerned with is property diminution. As more and more of these industrial wind farm are popping up over the country, more studies are available from property appraisers, real estate agents, etc. testifying to the loss of property value for those in and around wind turbines. Below I have listed five such reports and where to look for these finds.

**Chris Luxemburger: "Living With the Impact Of Windmills"** -(real estate broker from Canada) Chris did a study involving the sale of 600 homes in and around wind farms in a 3 year span. He concluded that if you can see a wind turbine, (he used the standard of 3 nautical miles as a guide) the value of your property can decline. He found that a) days on the market nearly doubled if you're within 3 nm of a wind farm vs. not; b) the average price was reduced \$48,000 lower (for homes in the range of \$250,000 – 329,000); and c)homes not sold in the 3 nm area was 11% compared to 3% elsewhere.

**McCann Appraisal LLC – Michael McCann CRA:** (Chicago area): Michael was asked to contribute findings to a report by a so-called independent entity on the decline of property values of homes inside large wind farms. When he read the draft of the report, he states that some of the information he gave was either not included or misconstrued. He stated a finding of a drop of 25% of property value to homes near the wind farm studied.

**Gardner Appraisal Group, Inc:** go to [www.windactiongroup.org/documents/20145](http://www.windactiongroup.org/documents/20145)

Texas: They produced an excellent slide show of their findings about property decline of land near or inside a wind farm in Texas. Their findings: a) property with a view adds value; b) If you even see a turbine from your property, the property declines 10-30% of land inside wind farm vs. outside wind farm; c) depending on how close you are to turbines, property value had dropped anywhere from 25%-37%; d) other things involved with wind farm construction like transmission line, roads to and from turbines, additional traffic because of maintenance, etc. and electrical substations will also have a declining effect on property value.

**Lake Ontario Realty: Northern New York State**

[www.watertowndailytimes.com/article/20100407/NEWS03/304079990](http://www.watertowndailytimes.com/article/20100407/NEWS03/304079990)

Report on the decline of waterfront property in Cape Vincent as compared to waterfront property in four other comparable non-wind farm communities. Property value was reported to decline 25% in the Cape Vincent area. Also days on the market increased 58.5% per year while the other four non-wind farm communities only declined 10%.

**Appraisal Group: Wind Turbine Impact Study:** go to [www.wind-watch.org/documents/wind-turbine-impact-study](http://www.wind-watch.org/documents/wind-turbine-impact-study)

September 2009: Looked at property in Wisconsin focusing on Dodge and Fond du Lac counties where three large wind farms are located: Blue Sky Green Field – 88 turbines; Forward Wind Energy – 86 turbines; Cedar Ridge Wind Farm – 41 turbines. Please go to this site and read this report. There are many aspects to this report about property loss.

Thank you for allowing me to provide some insight into this situation. I live in Stearns County also, and we are facing a proposed wind farm in our area too. Geronimo is trying to get land signed up in our area and proposes to set up 80-130 wind turbines in Luxemburg Township. So we have a personal stake in the decisions you make for the Paynesville Wind Farm. Please call or email me if you have any more questions.

Sincerely,

Betty Lutgen

15969 County Road 21

Watkins MN 55389

320-76-2043