



LINCOLN-LANCASTER COUNTY  
PLANNING DEPARTMENT  
555 South 10th Street Suite 213 Lincoln, NE 68508  
402-441-7491 fax: 402-441-6377 lincoln.ne.gov



January 11, 2019

RECEIVED

JAN 14 2019

LANCASTER COUNTY  
CLERK

Ms. Ann Post  
Baylor Evnen Law Firm  
1248 O Street, Ste. 600  
Lincoln, NE 68508

RE: County Text Amendment 18016 - Amend Section 13.048 of the Lancaster County Zoning Regulations relating to Commercial Wind Energy System

Ann,

On January 9, 2019, the Lincoln-Lancaster County Planning Commission held public hearing on the above-referenced text amendment and voted 7-1 (Harris dissenting; Beckius absent) to recommend approval of an alternative proposal, as set forth in the staff report prepared by the department.

Please be advised that once the public hearing before Lancaster County Board of Commissioners has been scheduled, appropriate notifications will be sent.

All information regarding the above-referenced application is available in the Planning Department or can be accessed on the internet at [www.lincoln.ne.gov](http://www.lincoln.ne.gov) (Keyword = PATS). Click on the "Selection Screen" under "Featured Links", type in the application number (i.e. TX18016), click on "Search", then "Select" and go to "Related Documents".

Please feel free to contact me if you have any questions or need additional information (402-441-6365) or [plan@lincoln.ne.gov](mailto:plan@lincoln.ne.gov).

Sincerely,

Geri Rorabaugh  
Administrative Officer

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cc: Mark Hunzeker  
David Kuhn  
Curtis and JoEtta Schwainger  
Judy Daugherty  
Joe Dabbs  
Ken Winston  
Russell Miller  
Lou Nelson  
Jenifer Holloway, County Attorney's Office  
Scott Holmes/Chris Schroeder, LLCHD  
Monet McCullen/County Clerk's Office

David Levy  
YaVonne Mihulka  
Mike Reiter  
Charlotte Newman  
David Schwainger  
John Hansen  
Matt Gregory  
Planning Dept. List of Individuals Submitting  
Comments  
Dan Nolte/Cori Beattie, County Clerk's Office




# COUNTY BOARD SUMMARY REPORT

RECEIVED

JAN 15 2019

LANCASTER COUNTY  
CLERK

TO : County Clerk: Attn: Monet McCullen

FROM : David R. Cary, Director of Planning 

RE : **County Text Amendment 18016**  
(Amend Section 13.048 of the Lancaster County Zoning Regulations – Wind Energy)

DATE : January 15, 2019

1. On January 9, 2019, the Planning Commission held a public hearing on County Text Amendment 18016, as submitted by Ann Post on behalf of the Prairie Wind Watchers.
2. Attached is the Planning staff report that includes the proposed text amendment as submitted by Ann Post on behalf of the Prairie Wind Watchers and identified in Exhibit "A", for **County Text Amendment 18016**, to amend Section 13.048 of the Lancaster County Zoning Regulations for Commercial Wind Energy Conversion Systems. The applicant's letter states that the intent of the proposed text amendment is to achieve three objectives, 1) to reduce or eliminate trespass zoning, 2) to ensure a thorough review process for any WECS special permit application, and 3) to ensure ongoing compliance with the terms of any special permit issued in accordance with Lancaster County Zoning Regulations.
3. The staff recommendation of an alternative proposal is based upon the Analysis as set forth on pp.2-5, concluding that the proposed changes to clarify certain conditions and to require post-construction noise level measurements are acceptable and help to ensure the noise levels are being met. The proposed change to setbacks and measuring noise levels at a property line instead of a dwelling are excessive and go beyond protecting property owners. A recommended alternative text amendment is attached (Exhibit "B") that incorporates portions of the applicant's proposal and makes a few additional clarifications.
4. There was significant testimony both in support and in opposition to this proposed change.
5. On January 9, 2019, the Planning Commission voted 7-1 (Harris dissenting; Beckius absent) to recommend approval of the alternative staff recommendation for Text Amendment 18016. The Planning Commission minutes can be found on pp.14-27, and the exhibits submitted by the applicant and public at the hearing can be found on pp. 28-47.
6. To access all public comments and information on this application, click on the following link [www.lincoln.ne.gov](http://www.lincoln.ne.gov) and (Keyword = PATS). Click on the "Selection Screen" under "Featured Links", type in the application number (i.e. TX18016); click on "Search", then "Select". Go to "Related Documents".

The Planning staff is scheduled to brief the County Board on this amendment at their regular staff meeting on Thursday, January 17, 2019, at 9:00 a.m., in Room 113 of the County-City Building, 555 South 10<sup>th</sup> Street, Lincoln, Nebraska. The public hearing before the County Board has been scheduled for Tuesday, February 19, 2019, at 9:00 a.m., in Room 112 of the County-City Building, 555 South 10<sup>th</sup> Street, Lincoln, Nebraska.

If you need any further information, please let me know (402-441-6365).

cc: County Board  
Jenifer Holloway, County Attorney's Office  
Tom Cajka

Ann Ames, County Commissioners  
Kerry Eagan, County Commissioners  
Mark Hunzeker/Ann Post



**LINCOLN/LANCASTER COUNTY PLANNING COMMISSION STAFF REPORT**

FROM THE LINCOLN/LANCASTER COUNTY PLANNING DEPARTMENT, 555 S. 10TH STREET, SUITE 213, LINCOLN, NE 68508

APPLICATION NUMBER Text Amendment #18016	FINAL ACTION? No
PLANNING COMMISSION HEARING DATE January 9, 2019	RELATED APPLICATIONS None

**RECOMMENDATION: APPROVAL OF RECOMMENDED ALTERNATIVE**

**BRIEF SUMMARY OF REQUEST**

This request is to amend Section 13.048 of the Lancaster County Zoning Regulations for Commercial Wind Energy Conversion Systems. The applicant’s letter states that the intent of the proposed text amendment is to achieve three objectives, 1) to reduce or eliminate trespass zoning, 2) to ensure a thorough review process for any WECS special permit application, and 3) to ensure ongoing compliance with the terms of any special permit issued in accordance with Lancaster County Zoning Regulations.

**JUSTIFICATION FOR RECOMMENDATION**

The proposed changes to clarify certain conditions and to require post construction noise level measurements are acceptable and help to ensure the noise levels are being met. The proposed change to setbacks and measuring noise levels at a property line instead of a dwelling are excessive and go beyond protecting property owners. A recommended alternative text amendment is attached that incorporates portions of the applicant’s proposal and makes a few additional clarifications.

**APPLICATION CONTACT**

Ann Post, BaylorEvens, 402-475-1075  
apost@baylorevnen.com

**STAFF CONTACT**

Tom Cajka, (402) 441-5662or  
tcajka@lincoln.ne.gov

**COMPATIBILITY WITH THE COMPREHENSIVE PLAN**

The potential for Commercial wind turbines in Lancaster County are in conformance with the goals of the Comprehensive Plan for renewable energy sources, while protecting the public health.

**KEY QUOTES FROM THE 2040 COMPREHENSIVE PLAN**

The importance of building sustainable communities – communities that conserve and efficiently utilize our economic, social, and environmental resources so that the welfare of future generations is not compromised - has long been recognized. This concept has grown in importance with increased understanding of the limits to energy supplies and community resources, the likelihood that energy costs will continue to increase in the future, the climatic impacts of energy consumption, and the impacts on the physical and economic health of the community. LPlan 2040 describes a community that values natural and human resources, supports advances in technology, and encourages development that improves the health and quality of life of all citizens. (P.1.4)

Efforts are made to attract new and expanding industries that serve the emerging markets for more sustainable products and services. (P. 1.5)

LPlan 2040 supports the preservation of land in the bulk of the County for agricultural and natural resource purposes. (p.7.12)

Promote renewable energy sources. (P. 11.2)

Lincoln must develop a comprehensive strategy of fuel diversity and encourage conservation, alternative forms of energy and modern energy technologies. (P. 11.3)

Energy from renewable resources such as solar, geothermal, and wind technologies generally does not contribute to climate change or local air pollution and generally conserves nonrenewable resources. (P. 11.4)

Continue to encourage and expand wind and solar access to buildings and other land uses. (P. 11.7)

## ANALYSIS

1. This request is to amend Section 13.048 parts d, f, g, h, i, j, k, m and n for Commercial Wind Energy Conversion Systems (turbine) and to add a new condition. As stated in the applicant's letter this application is made on behalf of "residents of Lancaster County who feel there is opportunity for Lancaster County Zoning Regulations to better protect the property rights of and quality of life for landowners who chose not to participate in potential wind farm projects in Lancaster County." Each section is discussed in more detail below.

### 2. Applicants Proposed language Part D;

~~d. Any proposed turbine which is within half mile of any non-participating dwelling shall provide shadow flicker modeling data showing the expected effect of shadow flicker on non-participating properties. Shadow flicker shall not fall upon any non-participating dwelling, or other building which is occupied by humans, for more than a total of 30 hours per any calendar year. If shadow flicker exceeds these limits, measures shall be taken to reduce the effects of shadow flicker on buildings, which may include shutting the turbine down during periods of shadow flicker. If a turbine violates this standard on a non-participating dwelling unit, constructed after the turbine is approved, then the turbine becomes a non-conforming use.~~

In Part D, the applicant is requesting to delete the requirement for shadow flicker modeling and that a turbine would be non-conforming if it violates the shadow flicker on houses built after the turbine is constructed. The modeling only applies if turbines are within half mile of a dwelling. The reason for deleting this section is that the applicant is requesting a setback of one mile from a dwelling to a turbine. The change to a one mile setback is not supported and therefore **no changes to Part d is recommended.**

### 3. Applicants Proposed Language Part F;

~~f. No turbine shall obstruct or impair an identified view corridor or scenic vista of public value, as mapped on the Capitol View Corridors map in the Lincoln/ Lancaster County Comprehensive Plan. The views from prominent environmental areas, such as Nine Mile Prairie and Spring Creek Prairie, shall also be protected from adverse visual or noise impacts. Any application which, upon initial review, poses a possible impact to these views will be required to be relocated or provide view shed mapping, and visual simulations from key observation points for review and approval by the Lincoln-Lancaster County Planning Department.~~

In Part F, the applicant is proposing to add language that view shed mapping and visual simulations be approved by the Lincoln-Lancaster County Planning Department. This requirement is in place to protect any view corridor or scenic vista. Under the current wording the Planning Department would review any view shed mapping or visual simulation because it is part of the special permit conditions. It is implied that any mapping or visual simulation would need to be in a form acceptable to the Planning Department. Although this additional wording is not necessary, **there is no objection to add the proposed text for clarity in Part F.**

4. Applicants Proposed Language Part G;

g. Setbacks to the turbine base:

1. For the purposes of this section, "turbine height" shall be equal to hub height plus the rotor radius.
2. For a non-participating lot, the setback shall be 5,280 feet ~~2 times the turbine height measured to the property line, or 3 + 1/2 times the turbine height, measured to the closest exterior wall of the dwelling unit, whichever is greater, but at a minimum 1,000 feet to the property line.~~
3. For participating dwelling units, the setback shall be 2 times the turbine height measured to the closest exterior wall of the dwelling.
4. The setback to any public right-of-way or private roadway shall be no less than the turbine height.
5. Setbacks to the external boundary of the special permit area shall be no less than as stated above, except that the owner of the adjacent property may sign an agreement allowing that setback to be reduced to the rotor radius plus the setback of the zoning district.

In Part G, the applicant is requesting that turbines be set back 5,280 feet from the lot line of a non-participating property. The current condition requires the turbine be set back 2 times the turbine height from a property line or 3 and one-half times the turbine height from a dwelling, whichever is greater, but at a minimum 1,000 feet from a property line.

Reviewing other counties in Nebraska found smaller setbacks then what is proposed. These include:

- Gage County: 1,980 feet or 3 times the turbine height from a dwelling, whichever is greater.  
2 times the turbine height from a property line to the turbine.
- Webster County: 2 times the turbine height, minimum 1,000 feet to a dwelling  
2 times the turbine blade length to the property line.
- Jefferson County: 1,320 feet from a dwelling.  
600 feet from a property line to the turbine.
- Seward County: 1,000 feet from a dwelling  
150 feet from a property line.
- Saline County: 2 times the turbine height, minimum 1,000 feet to a dwelling.  
1.1 times turbine height from a property line to the turbine.

The current setbacks in conjunction with the limits on noise decibels gives protection to non-participating properties. It is important to understand that a turbine must not only meet the setbacks but also the noise levels. In some instances this would mean that the turbine would need to be setback far further than what is required due to the noise standard. A noise model submitted by NextEra as part of a previous text amendment showed that the setback could be as much as one mile from a non-participating property. The strict noise standards of 40 dBA daytime and 37dBA nighttime protect non-participating residents adequately. This proposed 5,280' setback is not necessary. The current setbacks were established in 2015 as part of an extensive public process that weighed the positive and negative aspects of wind turbines in a rural setting. This proposal is contrary to that process that resulted in a balance between protecting the public's health while providing an option for commercial wind energy. Thus, for all these reasons the proposed changes to Part G should be rejected.

5. Applicants Proposed Language Part H;

~~h. The turbine(s) shall not impact a non-participating lot, (vacant or occupied; of any size), to the extent that, because of the location of turbine(s), the lot owner is left with less than 3 acres of land outside of the CWECs setbacks and or the noise impact area in Section (i) below, unless they are part of an agreement with the CWECs owner/operator.~~

In Part H, the applicant is proposing to delete the entire section. If the turbines were required to be setback one mile from a property line, this section would not be needed. This condition was adopted to ensure that a vacant lot of a non-participating property would have at a minimum a 3 acre area that would be outside the turbine setback and noise impact area. **Since the setback change in Part G is recommended for denial, Part H should be retained.**

#### 6. Applicants Proposed Language Part I;

i. Noise: No CWECs or combination of CWECs turbine(s) shall be located as to cause an exceedance of the following as measured at the closest exterior wall of any dwelling located on ~~the a participating property or at the property line of any non-participating property. If a turbine violates a noise standard on a dwelling unit, constructed after the turbine is approved, then the turbine becomes a non-conforming use.~~

For nonparticipating properties:

##### 1. From the hours of 7 am to 10 pm:

- i. Forty (40) dBA maximum 10 minute Leq or;
- ii. Three (3) dBA maximum 10 minute Leq above background level as determined by a pre-construction noise study. The background level shall be a Leq measured over a representative 15 hour period.

##### 2. From the hours of 10 pm to 7 am:

- i. Thirty-seven (37) dBA maximum 10 minute Leq or;
- ii. Three (3) dBA maximum 10 minute Leq above background level as determined by a pre-construction noise study. The background level shall be a Leq measured over a representative 9 hour period.

For participating properties:

##### 1. Fifty (50) dBA maximum 10 minutes Leq for all hours of the day and night.

In Part I the applicant is requesting that noise level be measured from the property line instead of a dwelling on a non-participating property. The proposed text would require that the turbine could not exceed the 40 and 37 dBA **at the property line of non-participating properties**. Currently it is measured at the **closest exterior wall of a dwelling**. In reviewing zoning regulations pertaining to wind turbines in the counties of Gage, Webster, Jefferson and Seward none required noise to be measured at a property line. A recent text amendment to this section to allow noise levels to be different for participating and non-participating residents was approved by the Lancaster County Board of Commissioners on December 18, 2018. The change to measuring noise at the property line of non-participating residents is not supported and therefore **no changes to Part I is recommended.**

#### 7. Applicants Proposed Language Part J;

j. ~~Each application shall include a~~ A professional pre-construction noise study ~~shall be conducted~~ which includes all property within one mile of a tower support base. The protocol and methodology for such studies shall be submitted to the Lincoln-Lancaster County Health Department for review and approval. Such studies shall include noise modeling for all four seasons and include typical and worst case scenarios for noise propagation. The complete results and full study report shall be submitted to the Lincoln-Lancaster County Health Department for review and approval.

In Part J, the applicant is proposing to add language that emphasizes that a pre-construction noise study is required with the special permit application and that the Lincoln-Lancaster County Health Department (LLCHD) must approve the noise study. LLCHD proposes to add language after "tower support base" in the 1st sentence to clarify that the noise study be in compliance with the noise standards. This additional language is in the Recommended Alternative. **It is implied that the study would be submitted with the application and approved**

by LLCHD, however the proposed changes to Part J add clarity and are acceptable.

8. Applicants Proposed Language Part K;

k. Each application shall include a Prior to the commencement of construction of any turbine, pre-construction noise monitoring may be conducted study to determine ambient sound levels in accordance with procedures acceptable to the Lincoln-Lancaster County Health Department. The complete results and full study report shall be submitted to the Lincoln-Lancaster County Health Department for review and approval.

In Part K, the applicant is proposing that pre-construction noise monitoring shall be required and approved by LLCHD. Currently, pre-construction noise monitoring may be done to establish a base background noise level, but that testing is not required and may not be necessary. LLCHD does not support this modification because the purpose of conducting preconstruction noise monitoring is to establish higher noise limits above ambient noise levels, such as may be due to highway background noise. For example, a turbine is near a highway with noise levels already well over 40dBA. Thus the proposed change is not acceptable and there should be no changes to Part K.

9. Applicants Proposed Language Part M;

m. At the discretion of the County Board, Post-construction noise level measurements may be required to shall be performed in accordance with procedures acceptable to the Lincoln-Lancaster County Health Department within one year of completion of construction and every two years thereafter to determine if the permittee is in compliance with this title and the terms of its special permit. Noise level measurements shall be taken by parties and in accordance with procedures as approved by the Lincoln-Lancaster County Health Department and shall be performed at the expense of the holder of the Special Permit. Any report, information or documentation produced in accordance with such study or measurements shall be provided to the Lincoln-Lancaster County Health Department and shall be a public document subject to Nebraska's public records laws.

In Part M, the applicant is proposing to make it mandatory that post construction noise level measurements be performed in accordance with procedures acceptable to LLCHD within one year of completion of the wind turbine and every two years thereafter. Currently this requirement is at the discretion of the County Board. Additional proposed language includes requirements that noise level measurements be taken in accordance with procedures approved by LLCHD and shall be performed at the expense of the Special Permit holder. The requirement for testing every two years is arbitrary and should not be included. If the turbine is operating properly without complaint, there is no need for testing. If a property owner believes the noise levels are being violated, that property owner could file a complaint with the County Board and the County Board could require noise levels measurements at that time. Requiring post construction noise level measurement will ensure that the wind turbine meets the required noise levels. LLCHD recommends replacing the word "parties" in the 2<sup>nd</sup> sentence with, "third party professional acoustician or engineering firms specializing in noise measurement." Thus the proposed changes, with the exception of the "every two years monitoring", and additional text proposed by LLCHD is acceptable.

10. Applicants Proposed Language Part N;

n. All noise complaints regarding the operation of any CWECs shall be referred to the County Board. The County Board shall determine if noise monitoring in addition to that required under the paragraph above shall be required to determine whether a violation has occurred. If the Lancaster County Board of Commissioners determines that such noise monitoring shall be required, it shall be done at the expense of the holder of the Special Permit in accordance with procedures and by parties approved by the Lincoln Lancaster County Health Department. The results of such monitoring shall be provided directly from the party or parties conducting the monitoring to the Lincoln Lancaster County Health Department for review and reporting to the Lancaster County

Board of Commissioners.

In Part N, the applicant is proposing to add language that if noise monitoring is required after construction of a wind turbine due to a complaint, it shall be done at the expense of the holder of the Special Permit. LLCHD recommends replacing the word “parties” in the 5<sup>th</sup> line with, “third party professional acoustician or engineering firms specializing in noise measurement”. **Otherwise the changes are mostly to clarify the process and are acceptable.**

**11. Applicants Proposed Language Part O;**

o. Agreements entered into between participating property owners and an applicant regarding any CWECS, before and after the issuance of a special permit shall be provided to the Lincoln-Lancaster County Planning Department and shall be public documents subject to Nebraska’s public records laws.

Part O is a new condition proposed by the applicant. These contracts are between two private parties. It is inappropriate to make contracts between private parties a matter of public record. This is not required for any special permit in the Lancaster County Zoning Regulations. This is not a condition that protects the health, safety and welfare of property owners. **The proposed change should be rejected in its entirety.**

12. The applicant’s letter states that one of the reasons for the proposed text change is to reduce or eliminate “trespass zoning.” According to The American Planning Association “trespass zoning” is not a legal term. A search of the use of term found that it is used by opponents of wind energy projects. The Lancaster County Attorney’s office also researched “trespass zoning” and found no case law that used the term. There is no reference to “trespass zoning” in any Nebraska State Statute.

13. The complete version of the recommended alternative is shown in Exhibit B. It includes all the recommended changes.

Prepared by

\_\_\_\_\_  
Tom Cajka, Planner

Date:

Applicant: Ann Post  
BaylorEvens  
1248 “O” Street  
Suite 600  
Lincoln, NE 68508

Contact: Same as applicant

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 Peter W. Katt

\*Admitted In Other States

December 11, 2018

Lincoln/Lancaster County Planning Department  
 555 South 10<sup>th</sup> Street  
 Lincoln, NE 68508

RE: Application for Text Amendment

To the Lincoln/Lancaster County Planning Commission:

Enclosed please find a proposed text amendment to Lancaster County Zoning Regulations Chapter 13.048 Wind Energy Conversion Systems (WECS). I represent residents of Lancaster County who feel there is opportunity for Lancaster County Zoning Regulations to better protect the property rights of and quality of life for landowners who choose not to participate in potential wind farm projects in Lancaster County. Therefore, we developed this proposed text amendment to achieve three objectives, 1) to reduce or eliminate instances of "trespass zoning," 2) to ensure a thorough review process for any WECS special permit application, and 3) to ensure ongoing compliance with the terms of any special permit issued in accordance with Lancaster County Zoning Regulations.

We look forward to reviewing the details of this proposal with you at your earliest convenience.

Sincerely,

Ann K. Post  
 For the Firm  
 APost@baylorevnen.com

APO/apo

2327194

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## EXHIBIT A

### Proposed Amendments to County Zoning Regulations

#### Article 13 Special Permit

##### 13.048. Commercial Wind Energy Conversion System

A Commercial Wind Energy Conversion System (CWECS) may be allowed in the AG District by special permit under the conditions listed below:

- a. In cases where CWECS wind turbines are part of a unified plan, parcels which are separated from one another only by the presence of public right-of-way may be combined into one special permit application. When a special permit covers multiple premises, the lease or easement holder may sign the application rather than the lot owner.
- b. Turbines shall meet all FAA requirements, including but not limited to lighting and radar interference issues. Strobe lighting shall be avoided if alternative lighting is allowed. Color and finish shall be white, gray or another non-obtrusive, non-reflective finish. There shall be no advertising, logo, or other symbols painted on the turbine other than those required by the FAA or other governing body. Each turbine shall have onsite a name plate which is clearly legible from the public right-of-way and contains contact information of the operator of the wind facility.
- c. Each application shall have a decommissioning plan outlining the means, procedures and cost of removing the turbine(s) and all related supporting infrastructure and a bond or equivalent enforceable resource to guarantee removal and restoration upon discontinuance, decommissioning or abandonment. Each tower shall be removed within one year of decommissioning or revocation of the special permit. Upon removal of the tower, there shall be four feet of soil between the ground level and former tower's cement base.
- d. ~~Any proposed turbine which is within half mile of any non-participating dwelling shall provide shadow flicker modeling data showing the expected effect of shadow flicker on non-participating properties. Shadow flicker shall not fall upon any non-participating dwelling, or other building which is occupied by humans, for more than a total of 30 hours per any calendar year. If shadow flicker exceeds these limits, measures shall be taken to reduce the effects of shadow flicker on buildings, which may include shutting the turbine down during periods of shadow flicker. If a turbine violates this standard on a non-participating dwelling unit, constructed after the turbine is approved, then the turbine becomes a non-conforming use.~~
- e. Construction and operation shall not adversely impact identified State or Federal threatened or endangered species such as saline wetlands, or rare natural resources such as native prairie and grasslands.
- f. No turbine shall obstruct or impair an identified view corridor or scenic vista of public value, as mapped on the Capitol View Corridors map in the Lincoln/Lancaster County Comprehensive Plan. The views from prominent environmental areas, such as Nine Mile Prairie and Spring Creek Prairie, shall also be protected from adverse visual or noise impacts. Any application which, upon initial review, poses a possible impact to these views will be required to be

relocated or provide view shed mapping, and visual simulations from key observation points for review and approval by the Lincoln-Lancaster County Planning Department.

g. Setbacks to the turbine base:

1. For the purposes of this section, "turbine height" shall be equal to hub height plus the rotor radius.
2. For a non-participating lot, the setback shall be 5280 feet ~~2 times the turbine height measured to the property line, or 3 1/2 times the turbine height, measured to the closest exterior wall of the dwelling unit, whichever is greater, but at a minimum 1,000 feet to the property line.~~
3. For participating dwelling units, the setback shall be 2 times the turbine height measured to the closest exterior wall of the dwelling.
4. The setback to any public right-of-way or private roadway shall be no less than the turbine height.
5. Setbacks to the external boundary of the special permit area shall be no less than as stated above, except that the owner of the adjacent property may sign an agreement allowing that setback to be reduced to the rotor radius plus the setback of the zoning district.

~~h. The turbine(s) shall not impact a non-participating lot, (vacant or occupied; of any size), to the extent that, because of the location of turbine(s), the lot owner is left with less than 3 acres of land outside of the CW ECS setbacks and or the noise impact area in Section (i) below, unless they are part of an agreement with the CW ECS owner/operator.~~

hi. Noise: No CW ECS or combination of CW ECS turbine(s) shall be located as to cause an exceedance of the following as measured at the closest exterior wall of any dwelling located on the a participating property or at the property line of any non-participating property. ~~If a turbine violates a noise standard on a dwelling unit, constructed after the turbine is approved, then the turbine becomes a non-conforming use. For both participating and nonparticipating properties:~~

1. From the hours of 7 am to 10 pm:
  - i. Forty (40) dBA maximum 10 minute Leq or;
  - ii. Three (3) dBA maximum 10 minute Leq above background level as determined by a pre-construction noise study. The background level shall be a Leq measured over a representative 15 hour period.
2. From the hours of 10 pm to 7 am:
  - i. Thirty-seven (37) dBA maximum 10 minute Leq or;
  - ii. Three (3) dBA maximum 10 minute Leq above background level as determined by a pre-construction noise study. The background level shall be a Leq measured over a representative 9 hour period.

For participating properties:

1. Fifty (50) dBA maximum 10 minute Leq for all hours of the day and night.

ij. Each application shall include a professional pre-construction noise study ~~shall be conducted~~ which includes all property within one mile of a tower support base. The protocol and methodology for such studies shall be submitted to the Lincoln-

Lancaster County Health Department for review and approval. Such studies shall include noise modeling for all four seasons and include typical and worst case scenarios for noise propagation. The complete results and full study report shall be submitted to the Lincoln-Lancaster County Health Department for review and approval.

- ~~jk.~~ Each application shall include ~~Prior to the commencement of construction of any turbine, a pre-construction noise monitoring may be conducted study~~ to determine ambient sound levels in accordance with procedures acceptable to the Lincoln-Lancaster County Health Department. The complete results and full study report shall be submitted to the Lincoln-Lancaster County Health Department for review and approval.
- ~~kl.~~ Prior to the commencement of construction of any turbine, the applicant shall enter into an agreement with the County Engineer regarding use of County roads during construction.
- ~~lm.~~ ~~At the discretion of the County Board, P~~post-construction noise level measurements ~~may be required teshall~~ be performed in accordance with procedures acceptable to the Lincoln-Lancaster County Health Department within one year of completion of construction and every two years thereafter to determine if the permittee is in compliance with this title and the terms of its special permit. Noise level measurements shall be taken by parties and in accordance with procedures as approved by the Lincoln-Lancaster County Health Department and shall be performed at the expense of the holder of the special permit. Any report, information or documentation produced in accordance with such study or measurements shall be provided directly from or party or parties conducting the study or measurements to the Lincoln-Lancaster County Health Department and shall be a public document subject to Nebraska's public records laws.
- ~~mn.~~ All noise complaints regarding the operation of any CWECS shall be referred to the County Board. The County Board shall determine if noise monitoring in addition to that required under the paragraph above shall be required to determine whether a violation has occurred. If the Lancaster County Board of Commissioners determines that such noise monitoring shall be required, it shall be done at the expense of the holder of the special permit in accordance with procedures and by parties approved by the Lincoln Lancaster County Health Department. The results of such monitoring shall be provided directly from the party or parties conducting the monitoring to the Lincoln Lancaster County Health Department for review and reporting to the Lancaster County Board of Commissioners.
- ~~n.~~ Agreements entered into between participating property owners and an applicant regarding any CWECS, before and after the issuance of a special permit shall be provided to the Lincoln-Lancaster County Planning Department and shall be public documents subject to Nebraska's public records laws.

## EXHIBIT B

### RECOMMENDED ALTERNATIVE

#### **13.048. Commercial Wind Energy Conversion System (CWECS)**

A Commercial Wind Energy Conversion System (CWECS) may be allowed in the AG District by special permit under the conditions listed below:

- a. In cases where CWECS wind turbines are part of a unified plan, parcels which are separated from one another only by the presence of public right-of-way may be combined into one special permit application. When a special permit covers multiple premises, the lease or easement holder may sign the application rather than the lot owner.
- b. Turbines shall meet all FAA requirements, including but not limited to lighting and radar interference issues. Strobe lighting shall be avoided if alternative lighting is allowed. Color and finish shall be white, gray or another non-obtrusive, non-reflective finish. There shall be no advertising, logo, or other symbols painted on the turbine other than those required by the FAA or other governing body. Each turbine shall have onsite a name plate which is clearly legible from the public right-of-way and contains contact information of the operator of the wind facility.
- c. Each application shall have a decommissioning plan outlining the means, procedures and cost of removing the turbine(s) and all related supporting infrastructure and a bond or equivalent enforceable resource to guarantee removal and restoration upon discontinuance, decommissioning or abandonment. Each tower shall be removed within one year of decommissioning or revocation of the special permit. Upon removal of the tower, there shall be four feet of soil between the ground level and former tower's cement base.
- d. Any proposed turbine which is within half mile of any non-participating dwelling shall provide shadow flicker modeling data showing the expected effect of shadow flicker on non-participating properties. Shadow flicker shall not fall upon any non-participating dwelling, or other building which is occupied by humans, for more than a total of 30 hours per any calendar year. If shadow flicker exceeds these limits, measures shall be taken to reduce the effects of shadow flicker on buildings, which may include shutting the turbine down during periods of shadow flicker. If a turbine violates this standard on a non-participating dwelling unit, constructed after the turbine is approved, then the turbine becomes a non-conforming use.
- e. Construction and operation shall not adversely impact identified State or Federal threatened or endangered species such as saline wetlands, or rare natural resources such as native prairie and grasslands.
- f. No turbine shall obstruct or impair an identified view corridor or scenic vista of public value, as mapped on the Capitol View Corridors map in the Lincoln/ Lancaster County Comprehensive Plan. The views

from prominent environmental areas, such as Nine Mile Prairie and Spring Creek Prairie, shall also be protected from adverse visual or noise impacts. Any application which, upon initial review, poses a possible impact to these views will be required to be relocated or provide view shed mapping, and visual simulations from key observation points for review and approval by the Lincoln-Lancaster County Planning Department.

g. Setbacks to the turbine base:

1. For the purposes of this section, "turbine height" shall be equal to hub height plus the rotor radius.
2. For a non-participating lot, the setback shall be 2 times the turbine height measured to the property line, or 3 ½ times the turbine height, measured to the closest exterior wall of the dwelling unit, whichever is greater, but at a minimum 1,000 feet to the property line.
3. For participating dwelling units, the setback shall be 2 times the turbine height measured to the closest exterior wall of the dwelling.
4. The setback to any public right-of-way or private roadway shall be no less than the turbine height.
5. Setbacks to the external boundary of the special permit area shall be no less than as stated above, except that the owner of the adjacent property may sign an agreement allowing that setback to be reduced to the rotor radius plus the setback of the zoning district.

h. The turbine(s) shall not impact a non-participating lot, (vacant or occupied; of any size), to the extent that, because of the location of turbine(s), the lot owner is left with less than three (3) acres of land outside of the CWECs setbacks and the noise impact area in Section (i) below, unless they are part of an agreement with the CWECs owner/operator.

i. Noise: No CWECs or combination of CWECs turbine(s) shall be located as to cause an exceedance of the following as measured at the closest exterior wall of any dwelling located on the property. If a turbine violates a noise standard on a dwelling unit, constructed after the turbine is approved, then the turbine becomes a non-conforming use. For nonparticipating properties:

1. From the hours of 7 am to 10 pm:

- i. Forty (40) dBA maximum 10 minute Leq or;
- ii. Three (3) dBA maximum 10 minute Leq above background level as determined by a pre-construction noise study. The background level shall be a Leq measured over a representative 15 hour period.

2. From the hours of 10 pm to 7 am:

- i. Thirty-seven (37) dBA maximum 10 minute Leq or;
- ii. Three (3) dBA maximum 10 minute Leq above background level as determined by a pre-construction noise study. The background level shall be a Leq measured over a representative 9 hour period.

For Participating Properties:

1. Fifty (50) dBA maximum 10 minute Leq for all hours of the day and night.
- j. **Each application shall include a** A professional pre-construction noise study ~~shall be conducted~~ which includes all property within at least one mile of a tower support base **and must be able to demonstrate compliance with the noise standards in paragraph (i).** The protocol and methodology for such studies shall be submitted to the Lincoln-Lancaster County Health Department for review and approval. Such studies shall include noise modeling for all four seasons and include typical and worst case scenarios for noise propagation. The complete results and full study report shall be submitted to the Lincoln-Lancaster County Health Department for review **and approval.**
- k. Prior to the commencement of construction of any turbine, pre-construction noise monitoring may be conducted to determine ambient sound levels in accordance with procedures acceptable to the Lincoln-Lancaster County Health Department.
- l. Prior to the commencement of construction of any turbine, the applicant shall enter into an agreement with the County Engineer regarding use of County roads during construction.
- m. ~~At the discretion of the County Board, p~~ **Post-construction noise level measurements may be required to shall be performed in accordance with procedures acceptable to the Lincoln-Lancaster County Health Department, within one year of completion of construction to determine if the permittee is in compliance with this title and the terms of its special permit. Noise level measurements shall be taken by third party professional acousticians or engineering firms specializing in noise measurements and in accordance with procedures as approved by the Lincoln-Lancaster County Health Department and shall be performed at the expense of the holder of the Special Permit. Any report, information or documentation produced in accordance with such study or measurements shall be provided to the Lincoln-Lancaster County Health Department and shall be a public document subject to Nebraska's public records laws.**
- n. All noise complaints regarding the operation of any CWECs shall be referred to the County Board. The County Board shall determine if noise monitoring **in addition to that required under the paragraph above** shall be required to determine whether a violation has occurred. **If the Lancaster County Board of Commissioners determines that such noise monitoring shall be required, it shall be done at the expense of the holder of the Special Permit in accordance with procedures and by third party professional acousticians or engineering firms specializing in noise measurement approved by the Lincoln-Lancaster County Health Department. The results of such monitoring shall be provided directly from the party or parties conducting the monitoring to the Lincoln-Lancaster County Health Department for review and reporting to the Lancaster County Board of Commissioners.**

## MEETING RECORD

**NAME OF GROUP:** PLANNING COMMISSION

**DATE, TIME AND PLACE OF MEETING:** Wednesday, January 9, 2019, 1:00 p.m., Hearing Room 112 on the first floor of the County-City Building, 555 S. 10<sup>th</sup> Street, Lincoln, Nebraska

**MEMBERS IN ATTENDANCE:** Dick Campbell, Tracy Corr, Tracy Edgerton, Deane Finnegan, Maja Harris, Cristy Joy, Dennis Scheer and Sändra Washington; (Tom Beckius absent). David Cary, Steve Henrichsen, Tom Cajka, Brian Will, Dessie Redmond, George Wesselhoft, Stacey Hageman, Amy Huffman and Teresa McKinstry of the Planning Department; media and other interested citizens.

**STATED PURPOSE OF MEETING:** Regular Planning Commission Hearing

Chair Scheer called the meeting to order and acknowledged the posting of the Open Meetings Act in the room.

Scheer then requested a motion approving the minutes for the regular Planning Commission hearing held December 12, 2018. Motion for approval made by Campbell, seconded by Washington and carried 8-0: Campbell, Corr, Edgerton, Finnegan, Harris, Joy, Scheer and Washington voting 'yes'; Beckius absent.

### CONSENT AGENDA

#### PUBLIC HEARING & ADMINISTRATIVE ACTION

##### BEFORE PLANNING COMMISSION:

January 9, 2019

Members present: Campbell, Corr, Edgerton, Finnegan, Harris, Joy, Scheer and Washington; Beckius absent.

The Consent Agenda consisted of the following item: **CHANGE OF ZONE 18032, SPECIAL PERMIT 18041, CHANGE OF ZONE 18033, CHANGE OF ZONE 18034, SPECIAL PERMIT 872J AND SPECIAL PERMIT 18003A.**

Campbell moved approval of the Consent Agenda, seconded by Finnegan and carried 8-0: Campbell, Corr, Edgerton, Finnegan, Harris, Joy, Scheer and Washington voting 'yes'; Beckius absent.



Note: This is FINAL ACTION on SPECIAL PERMIT 18041, SPECIAL PERMIT 872J and SPECIAL PERMIT 18003 unless appealed by filing a Letter of Appeal with the Office of the City Clerk within 14 days.

Scheer called for Requests for Deferral.

**STREET AND ALLEY VACATION 18005**  
**TO VACATE P STREET STUB FROM THE EAST RIGHT-OF-WAY LINE OF 70<sup>TH</sup> STREET TO APPROXIMATELY 100 FEET TO THE EAST, LOCATED ADJACENT TO LOT 83 I.T., GENERALLY LOCATED AT NORTH 70<sup>TH</sup> AND P STREETS**  
**PUBLIC HEARING:** **January 9, 2019**

Members present: Campbell, Corr, Edgerton, Finnegan, Harris, Joy, Scheer and Washington; Beckius absent.

**Staff recommendation:** No recommendation.

There were no ex parte communications disclosed on this item.

The applicant has requested to defer public hearing and action on this item until further notice.

Washington moved to defer public hearing and action, seconded by Edgerton and carried 8-0: Campbell, Corr, Edgerton, Finnegan, Harris, Joy, Scheer and Washington voting 'yes'; Beckius absent.

**CHANGE OF ZONE 05061C**  
**TO AMEND THE PLANNED UNIT DEVELOPMENT (PUD) INCLUDING THE SITE PLAN AND PHASING AND TO ADD EXCAVATING AS A CONDITIONAL USE, ON PROPERTY GENERALLY LOCATED AT SOUTH 1<sup>ST</sup> AND WEST DENTON ROAD**  
**PUBLIC HEARING:** **January 9, 2019**

Members present: Campbell, Corr, Edgerton, Finnegan, Harris, Joy, Scheer and Washington; Beckius absent.

**Staff recommendation:** Conditional Approval

There were no ex parte communications disclosed on this item.

**Staff Presentation:** Dessie Redmond of the Planning Department stated this is a request to amend the site plan for Phase 2. This is where the horse track is proposed to be located. This original PUD (Planned Unit Development) was approved in 2006. This amendment is consistent

with the PUD. She pointed out the boundaries of the PUD. The northern part is B-2 zoning with Agricultural to the south. These areas generally follow the zoning regulations. Any deviations are spelled out in the development plan. The applicant is generally decreasing the size of the horse track with this proposal. The realignment of S. 1<sup>st</sup> St. is no longer needed with the decrease in size. Currently, the applicant doesn't have all the details to provide all the conditions. They will provide those terms to us at a later date and those will be reviewed administratively. They will also be required to vacate a portion of S. 1<sup>st</sup> St. There is currently a driveway that provides access to a property outside the PUD, but takes access through the PUD site. They will be required to dedicate a public access easement.

Washington inquired if the delay in providing information is a common request. Redmond is unaware if this happens a lot, but this is part of the PUD process. It will all be reviewed by staff.

**Applicant:**

**Lynne Schuller, 7055 S. 1<sup>st</sup> St., Lincoln Nebraska** of the **Nebraska Benevolent Horse Association**. They have decided to relocate S. 1<sup>st</sup> St. They feel this doesn't impede the safety of the rider and animals. This will have the same turns as Churchill Downs. We feel this doesn't take away from the safety. The turns are the key. When you have an oval, it is problematic if you are going to use the infill for a lot of other purposes. We had discussed excavating the middle. It is full of lean clay that is needed, and we felt a pond would be beneficial. That is why we are asking for this to be added as an option.

Campbell inquired about the size of the track at the old State Fairgrounds site. Schuller responded it was 5/8 of a mile.

**Craig Wulf, 1501 Longs Peak Circle, Lincoln Nebraska** stated that the goal is to have the track prepared late August or early September 2019. We will probably run a three-day meet. Schuller added this has been a tradition in Nebraska for many years.

**DaNay Kalkowski** stated that the applicant agrees with all conditions.

There was no testimony in support or opposition.

**ACTION:**

Campbell moved Conditional Approval, seconded by Corr.

Edgerton said it is great that they are able to move forward and she supports this application.

Washington supports this as well.

Motion for Conditional Approval carried 8-0: Campbell, Corr, Edgerton, Finnegan, Harris, Joy, Scheer and Washington voting 'yes'; Beckius absent.

**TEXT AMENDMENT 18016**  
**TO AMEND SECTION 13.048 OF THE LANCASTER COUNTY ZONING REGULATIONS RELATING TO WIND ENERGY CONVERSION SYSTEM**

**PUBLIC HEARING:**

**January 9, 2019**

Members present: Campbell, Corr, Edgerton, Finnegan, Harris, Joy, Scheer and Washington; Beckius absent.

**Staff recommendation:** Approval of the Recommended Alternative

There were no ex parte communications disclosed on this item.

**Staff Presentation:** Tom Cajka of the Planning Department this application is to amend regulations related to wind energy. He stated that the Planning staff have offered an Exhibit B, Recommended Alternative. The first section he addressed was Section D. The applicant has proposed to delete the shadow flicker modeling. This is based on the assumption with turbines set back one mile from the road. In Section F, language was added to clarify that if mapping was required, it would be approved by the Planning Dept. Staff doesn't think this wording is necessary, as it would be reviewed as part of a special permit. Section G states that the applicant is proposing the turbine is set back 1,280 feet from a property line. Cajka indicated that current setbacks and noise levels give protection to non-participating properties. It is also important to remember that a turbine has to meet this setback level as well as the noise level. We feel that this change to Section G is contrary to the process and there is already a balance to protect the public health, while providing for the wind energy process. We recommend no change to this section. The applicant is recommending that Section H be deleted stating that a 3-acre property would meet the setbacks for noise. Staff is recommending this part stay. In Section I, they are requesting a change to the way setbacks are measured. This was just recently reviewed extensively. Staff does not support this change. Section J speaks to a pre-construction noise study. Some of the changes are rewording for clarity. Staff does not object to this. Section K is requesting that each application include a pre-construction noise monitoring study to be reviewed by the Health Department. This is currently a 'may be' conducted study. The applicant feels that this could be a problem.

**Chris Schroeder of the Health Department** stated that when you look at the existing code, the intent is to allow higher noise limits. If they opt to do a pre-construction noise study, it establishes background noises. You could go a little higher.

Cajka continued that Section M is the noise study. It shall be a requirement. The applicant would like this one year after construction, and then every two years after. Planning staff doesn't object to the post construction noise measurements. We don't feel that two years after construction is necessary. Property owners still have the right to file a complaint if they feel the noise is excessive. Any expense occurred would be by the special permit holder. Section N clarifies who pays for noise monitoring, if required. There was a change recommended by the Health Department that the word 'parties' be changed to 'third party professional acoustician or voice professional'. Section O is something new. It is an added condition that agreements be provided to the Planning Department and be a public document. We feel these agreements are between public parties and we do not require these for anything else in the special permit code. The applicant letter talks about trespass zoning. He contacted the APA (American Planning Association) legal department and trespass zoning is not a legal term and is used by anti- wind turbine people.

Washington would like clarification on Section M. Staff supports language asking for post construction assessment, but reject the monitoring every two years. She inquired if this is based on technical specifications or an understanding that the motors don't change over time. Schroeder responded that typically they don't change a lot over time. If there was a gear box failure or such, a noise complaint could be filed. Washington wanted to know who the adjacent land owners can complain to, if they feel it is too loud. Schroeder stated they would complain to the County Board or the Health Department. All complaints go to the County Board, and the Health Department could go out to do testing. This could be lengthy. We felt it was a good approach for these complaints to go to the County Board.

Corr wondered about neighbors that continually complain, since they didn't want this in the first place. She is concerned if the special permit holder has to continually pay for a noise study. Schroeder noted that is why these complaints go to the County board. They can review and decide.

Harris questioned if there is any confusion about who pays for the noise study as the language is written. Cajka stated when we receive noise complaints, the Health Department investigates. In the City when we receive a lighting complaint per say, Building and Safety goes out and investigates. There could be an assumption that this would be at no cost. Health Department has said they don't have the right equipment to monitor that. He thinks it is a good idea to spell out who pays for this. Harris wondered if any other county in Nebraska spells this out. Cajka said no, not that he could find. Harris asked about the post-construction study. Cajka looked at Nebraska. Gage County was the only one who talked about a post-construction level. It is at the discretion of the county as to who pays for this. Saline County and other counties he looked at didn't even address it.

Harris inquired if staff could provide an example of another special permit for agricultural use

where there is mandatory testing in any time period to check for compliance. Cajka is not sure. There are noise restrictions on race tracks, but he doesn't know if there is a condition for a post-construction study.

Edgerton inquired if the turbine violates the setback standard, does it become a non-conforming use? Cajka stated that a non-conforming use can continue to operate. Washington wondered if this is a permanent clause or can it come up for reassessment at some point. Cajka answered that in the zoning code, if a non-conforming or non-standard property ceases to be used for two years, it must go away. Edgerton asked if the modeling data must be reflected in what the restrictions are, perhaps the model is wrong. Can it still continue, but as non-conforming? Cajka noted the last sentence of Section G addresses if the turbine is already up and it doesn't meet the shadow flicker, if a house is built and the turbine is non-conforming.

Campbell questioned Section J, why the pre-construction noise study is conducted one mile away, when requirements for the turbine to hit the noise level is less than that. Cajka responded that was placed in the original text in 2015. Campbell believes it seems inconsistent. Schroeder stated that when we asked for modeling existing noise levels, modeling showed dwellings needed to be a minimum of one mile away.

Scheer would like to go back and contrast for distance setback and noise setback. Through all the processes, his understanding is that the annoyance is the noise. The distance to alleviate the noise annoyance is what we are concerned about. The distance setback he has understood to be from a turbine collapsing. Schroeder stated he was correct.

Cajka stated that these setbacks were determined for safety. He doesn't know if there could be a situation where a turbine could be located less distance and still meet the noise requirements. This gives an added level of security.

**Applicant:**

**Mark Hunzeker, Baylor Evnen Law Firm** appeared on behalf of Prairie Wind Watchers. He expressed concern about the process whereby staff are allowed to provide an extended amount of time to explain their position but the applicant is limited to 5 minutes. Hunzeker stated that this application addresses setbacks and noise monitoring. These were all largely ignored in 2015. These issues need to be addressed now. The proposed amendments protect these areas. We spent some time on the separation area. These separations need to be measured from the property line of the non-participating property. We need to have the ability to use the property for residences, church, day care and other uses. All would have the same impact. We have no other uses in the entire county where measurements are taken other than to the applicant property line. Why would you restrict what someone can do in the future? Consider this line. There are other issues of noise leveling. It is useful to establish a baseline. Post-

construction noise measures need to be required. The County Board can require these things under the developer's expense. Previously, there was an opportunity to complain to the County Board. With respect to contract provisions, an alternative would be to adopt a recommendation that says it will be against County Board policy to penalize participating owners complaining about other aspects of development. Then you wouldn't be prohibited from complaining. It is not the reported annoyance level by people who are being paid to endure the noise. It is another thing if they are being subjected to noise and losing something if they complain.

**Proponents:**

**1. Ann Post, Baylor Evnen Law Firm** appeared. Today's proposed text amendment achieves a lot. She wants to touch on trespass zoning. This is not a legal term, but it is a term that describes a phenomenon. Trespass zoning occurs where zoning levels are measured from outside the dwelling to the property line on a non-participating property. If they were to build a home, they are going to experience noise at a heightened level. The best way to demonstrate this is with pictures. She presented a hypothetical example of a wind turbine location. She showed the locations where non-participating owners would experience noise. She noted the areas where someone would have to move outside the noise level area to escape the noise from the turbine. These are extreme, but likely examples of how these could affect property owners. She showed another parcel where someone might lose most of their property to noise and adverse consequences. This issue of trespass zoning is one that disappears when you measure noise at the property line as opposed to somewhere in the property line. She would ask that this amendment be adopted.

**2. Larry Alder, Cortland, Nebraska.** To put this in perspective for people who live in town, your neighbor builds an eyesore and it annoys you. On top of that, he plays his stereo loud at odd hours. You can hear the noise in your house. The back of your property has a playground where the noise gets louder. When you are on the other side of the house, it is within sound limits. If our property has less than three acres in the setback, if we don't keep it from the property line, the decibel levels can be higher than the participating properties. This amendment needs to be set. The setback should be from the property line.

**3. Yvonne Mihulka Poole, 2331 W. Ash Rd., Cortland, Nebraska.** Ms. Poole provided copies of a zoning map of Lancaster County (see Exhibit "1"). Her farm is in the crosshairs of this. There is a 1-mile buffer zone around the surrounding towns. Health and property rights are protected. This can't be built within one mile of these towns. She wonders why she doesn't deserve the same protection as other properties. Big wind and big money have asked for changes. This amendment is necessary for everyone's health. We all agree with renewable energy. Wind energy can find a place, but not within one mile of someone's house. This is a densely populated area. Our landscapes deserve a viable setback.

**4. Curtis Schwaninger, 3750 W. Hallam Rd., Hallam, Nebraska.** He received a call a few weeks ago from the company that had purchased the Volkswind property. He was offered \$200.00 an acre. They said they were from NextEra looking at solar. He was offered \$400.00 an acre from someone who came to his house. The next week he heard that NextEra had talked to Lancaster County and Gage County about wind farms. He believes this is deceptive. They can't be trusted to do what they say. He believes very strict rules need to be laid down to protect owners from bullies. Prairie Wind Watchers have over 200 contacts that oppose the wind farm. He believes the majority should have the say. It is a proven fact that wind towers cause health problems. This will also keep the county from being polluted with towers that helicopters would have to dodge. Wind towers, if we need to have them, should be in open areas where their health hazards can be dealt with.

**5. Joetta Schwaninger, 3750 W. Hallam Rd., Hallam, Nebraska.** In November and December 2018, the Health Department talked about certain studies and noted they were peer reviewed. Tough questions should have been asked. How old were the studies, how accurate were they, were they by mail-in or visit? Regarding peer review, how many reviews were there? Noise annoyance is a minor factor. Health hazards are real. She read from a letter of someone who did not do their research on a wind project. Someone asked for more information and believes all they received were lies. The commissioners looked at money for the county. The towers were too close to houses and they could be heard. Everyone needs to research areas where towers have been for a while. This letter was from an adjuster for Farm Bureau, Holt County, Nebraska. We need an amendment for at least a 1-mile setback.

**6. Mike Woodward, 2715 SW. 14<sup>th</sup> St., Cortland, Nebraska.** Part of his concern is the manipulation of noise testing. He provided some research. Noise testing was only done between June and October. This is probably the least windy time of year. He believes there is manipulation of the wind research. There are many factors. Landscape is one. Prince Edward Island and Ontario, Canada have trees, sound absorbing landscape. His other concern with the noise standards versus the mile setback is the placement of the turbine. If someone complains about the noise, data can be manipulated. The rotation can be slowed down to skew the testing. How are we going to control that? The only real control of noise is distance or something absorbent. He has concerns with the way the testing will be conducted. There are factors and variables. With a 1-mile setback, this will probably be the only guarantee we have. The noise modeling that NextEra presented supports the mile setback. He asks for a 1-mile setback to be approved.

**7. Judy Daugherty, P.O. Box 193, Hallam, Nebraska.** Ms. Daugherty provided copies of articles relating to wind farms in DeKalb County, Missouri (see Exhibit "2") and Saginaw County, Michigan (see Exhibit "3"). She lives on three acres in the middle of the proposed wind project. She believes that NextEra lies and spews partial truths. She heard from the project manager

that they go with the manufacturers setbacks. GE recommends a safety zone of 1.1 times the turbine height. She is really tired of hearing that. That is for the fall zone only. They are trying to imply that this covers everything. We asked Volkswind for a year and a half to produce the safety manual they were going to use. It was never produced. Now NextEra is doing the same thing. We would like to see documentation from the manufacturer. She believes we haven't seen it because it is not in line with what they want to do. Many of us have repeatedly tried to get a safety manual, with no success. This company is far from ethical. NextEra testified that they try not to place a turbine within 1,600 feet of a dwelling. This is not true. We heard from two people from Missouri who have towers placed less than 1,600 feet. Homeowners who have homes in the project area have banded together to protect themselves from these wind turbines. The project footprint encompasses many acres. This is a fact that the marketability of our homes will be affected. We don't like what we have heard from NextEra. We deserve to be safe on our properties.

**8. Charlotte Newman, 1500 Pella Rd., Martell, Nebraska.** She lives two miles north of Hallam Road. She believes the Commission has heard some good testimony. She appreciates the time that has been taken to hear testimony. She has heard that non-participants are well protected. She doesn't agree. It is easier to measure distance than noise. Measurement from the property line protects future use. Personal testimony says that noise under one mile is a problem. She would beg to differ with assessment of noise annoyance. She believes a lot of safety issues with wind turbines haven't been studied long enough. She thinks this still comes down to putting a large intrusive industry in an agricultural community. This is an industrial project. We have heard many times about big financial gains. When you consider the amount that NextEra has said they will give to participants, you have a small amount of reimbursement for participants. This is not enough to save anyone's family farm or to make a difference. It is not a substantial reimbursement. She asks that this amendment be considered and the ramifications that this brings to the non participants.

**9. Joe Dabbs, 26240 SW. 84<sup>th</sup> St., Hallam, Nebraska.** He believes the 1-mile setback from the property line is the best. The last text amendment that raised the decibel level, Deb Schorr voted no primarily because of the population density in Nebraska. He agrees.

#### **Opposition:**

**1. David Levy, 1700 Farnam Street, Omaha, NE, on behalf of NextEra Energy.** He also expressed concern about the process, as their application was before the County Board three weeks ago and decisions were made at that time, yet here we are again. NextEra took this application very seriously. We went through it line by line. Some items were reasonable such as pre-construction modeling and noise modeling down the road. NextEra supports the staff recommendation. He also wants to focus on the idea of trespass zoning. This is a 1-mile setback from a property line. The noise modeling has a limit of 37 decibels. Now they are



talking one mile to a property line. This is a property line versus a dwelling unit. There is no evidence of a direct health impact. Let's also remember that this is an agricultural district. Some of the maps shown were extreme examples. The circle was a 50 decibel circle. Noise doesn't drop off to zero at the end of the circle. The rule of thumb between 37 and 50 decibels is probably one half mile to one mile. The maps don't paint an accurate picture. The reasoning for the physical distance setback is an important point. We are ignoring the reason that there are setbacks.

Harris asked if the post construction mandatory noise studies are industry standard. Levy doesn't know if they are standard, but is aware of other counties that do them. Continuing them later is probably a good idea, but there is no reason to keep doing them. One year post construction is not uncommon. Harris questioned if there are any other counties that require a post-construction study. Levy responded Webster County.

**2. David Kuhn from NextEra Energy, representing the Blue Prairie Wind Project.** He supports the staff recommendation. He addressed some of the comments made about NextEra, including the specific comment about GE recommended setbacks. The recommended setbacks are 1.1 times the tip height. He emailed a copy of these guidelines to Steve Henrichsen with the Planning Department about the specifics (see Exhibit "6"). He would highly recommend you go through public comments from Missouri. This group brought some people to testify. The presiding commissioner from Missouri saw that and broadcasted his comments.

**2. David Schwaninger, 28500 SW. 14<sup>th</sup> St., Martell, Nebraska.** He is a fourth generation farmer and landowner. No one is taking into consideration his loss of monetary gain. He pays taxes of \$45,000.00 a year. Half of that goes to Norris school. These wind turbines are estimated to generate about \$10,000.00 a year each. This would make a huge contribution to his income. A monolith company is building a large building in Hallam and he hasn't heard anyone complain. His wife is from Burwell, Nebraska, where there are several windmills. They got stopped from road construction and couldn't even hear the windmills. He believes it is made up science from people who want to live on a smaller property. He is a fourth generation farmer and property taxes have gone off the rails and Governor Ricketts isn't going to do anything about it.

**3. Ken Winston** represents **Nebraska Interfaith Power and Light.** Mr. Winston provided copies of a letter of opposition (see Exhibit "4"). He wants to focus on the testimony. This would upend the recently decided balance. We are specifically opposed to the 1-mile setback. We have already spoken about our concerns with climate change. People have the right to have their own views on wind development, but we would like a decision made on verifiable impacts. Most complaints are based on annoyance which is a subjective standard. If adopted, the amendment would set a precedent. The commission should be prepared for anything else that some member of the public finds annoying.

**5. John Hansen, 1305 Plum St., Lincoln, Nebraska.** He is in opposition to the original text proposal. He agrees with the current revised staff proposal. He is president of the Nebraska Farming Association. These regulations go to the heart of working out compromises that work. He has been through a lot of the state's history and sometimes it is just not possible to make everyone happy. You hope to come up with solutions that are fair and reasonable. Being a good neighbor cuts both ways. At some point, you have to meet in the middle. We want to utilize every tool we can to augment our income. On average, we live in the margins. Many farmers have other jobs to supplement their income. This is an important supplemental income. There are a lot of communities across the state that are desperate to have wind developers come to their county. He is a bit surprised that the developer is willing to accept the staff recommendations, but believes it speaks to them that they are willing to do so.

**6. Russell Miller, 341 S. 52<sup>nd</sup> St., Lincoln, Nebraska.** Mr. Miller provided a copy of his testimony for the record (see Exhibit "5"). As a resident of Lancaster County, he is in favor of wind farms for the positive impact it will have on the air quality. It will be a benefit to all of Lancaster County. The coal plant close to Hallam, Nebraska, hopefully won't have to be used as much. The particulates released into the air magnify many health problems. The second positive impact is the tax revenue that they will produce. Norris and Crete Schools will benefit from the taxes. The obvious intent of this application is to make it difficult to have wind towers. He urges this commission to vote against the entire request or to approve only the changes recommended by staff.

**7. Matt Gregory** is a clean energy advocate. He is in opposition to the language that establishes a 1-mile setback. It will essentially kill wind companies from doing business, which he believes is the intent. He has previously spoke to a study that states many Nebraskans would like to see alternative energy sources developed. There is no peer-reviewed research on ill health effects of wind energy. This is about their annoyance to the sound. A national survey of wind power was correlated to renewable energy sources. One land owner shouldn't have to wait around to see what another land owner is going to do.

**8. Lou Nelson, Center for Rural Affairs, 145 Main St., Lyons, Nebraska.** He is in opposition to this amendment. He echoes many of the thoughts which have already been expressed. There is no peer-reviewed research for adverse health effects. He believes the standard was balanced out last year. He thinks it is essential to go with either the staff recommendation or reject the application completely. This issue was already researched and voted on.

#### **Staff Questions:**

Harris inquired with the current language as it stands, and asked if are we the most conservative county in Nebraska as it relates to wind energy, or the most restrictive. Cajka responded that

for the six or seven counties he looked at—Gage, Saline and Seward Counties are the closest to us. We are the most restrictive. Harris asked if there was confusion about who pays for noise studies. Suggested language regarding pre-construction noise monitoring doesn't specify who pays for that monitoring. Cajka doesn't believe that is confusing. It is part of the application process. It is at the applicant's expense. The question was after there was a complaint.

Campbell was told that 50 decibels is like two people talking. Schroeder agreed that general conversation is 50 to 60 decibels but cautioned in terms of comparison, as wind turbines are perceived as more annoying.

Corr wondered about the post-construction noise testing or a complaint. She questioned if the owners of the project will be notified of the specific date of testing. Schroeder doesn't believe so. Best practice would be not to let them know. We subcontract that.

Scheer inquired if during the application process or the post-construction testing, if staff is confident how the test results will come back or if there is any ambiguity. Schroeder doesn't support that. Post-construction noise testing would be done through a third party. Scheer wondered if the information you get during the application process is to verify distance that the turbine will be sited from the dwelling, pre-construction modeling. Schroeder stated that we have to sign off on protocol. We will work on the modeling protocol and this would be submitted to the company. Scheer can see that argument of one mile is easily defined. Based on information you get from modeling or testing, he questioned if that is reliable to make that distance. Schroeder is confident. Results are conservative. They would predict higher noise modeling to make sure that testing is accurate.

**Applicant Rebuttal:**

Hunzeker stated that we tried hard to get these issues considered last time. Because they were not considered, they made a separate application. In the staff report of November 14, 2018, on the previous text amendment, reference was made to an analysis by Epsilon Associates that wind turbines would need to be a minimum of one mile from a dwelling. This was a study paid for by NextEra. He presented a drawing of the one mile surrounding area. We aren't talking about a noise level drop-off. The contours must be measured to the property line. This has a real impact on people who choose not to participate. This forces a developer of an industrial use in an agricultural use to account for the noise on land which is participating on the project. Don't force that onto non-participants. This isn't a matter of trying to unbalance the public health, safety and welfare of landowners. This needs to be done on every zoning decision you make. Don't allow a project to foreclose the possibility of development on a non-participating property.

**ACTION:**

Campbell moved Approval of the Recommended Alternative as proposed by staff, seconded by Corr.

Campbell believes the Planning staff has done a good job in looking at all the different proposals that have come forward. He is still in favor of the project and feels that it is something that can move forward in Lancaster County and doesn't support the more difficult restrictions.

Harris will not support the option. Not because she thinks this is the second bite of the apple, but the applicant has the right to come forward. We have had an extensive public input process and extensive hearings that she has been a part of since Volkswind was here originally. She feels that she has received a massive amount of data to support her original vote. She feels it would almost be an insult to clarify a few things that are already implied. She is not willing to support any of the material changes, including the post construction noise monitoring. We have perhaps the most restrictive noise ordinance already. There is nothing that stops this from being a voluntary requirement. Developers have done these things in the past.

Washington was a little concerned at first about rehashing this. She believes the proposal provides some assurances that she wanted to have in place for protecting non-participating landowners. She will support the staff recommendation. She would have offered to amend for post-construction monitoring in two years. Models don't always give you what you expect. She wants to make clear her vote for these additional assurances for non-participating landowners. She won't negate her previous decisions in Gage County.

Campbell doesn't believe the expense of doing this every two years is necessary. Washington would encourage landowners to be thoughtful and diligent. She doesn't want these to get noisier and noisier.

Finnegan will support Campbell's motion.

Joy will support the motion as well. She believes the staff recommendation will serve this well.

Corr thinks a lot of the push for the one-mile rule is because it is easy to understand and measure. She thinks what we have now is fine. She will support Campbell's motion. It becomes confusing when we have people not in the industry trying to interpret this.

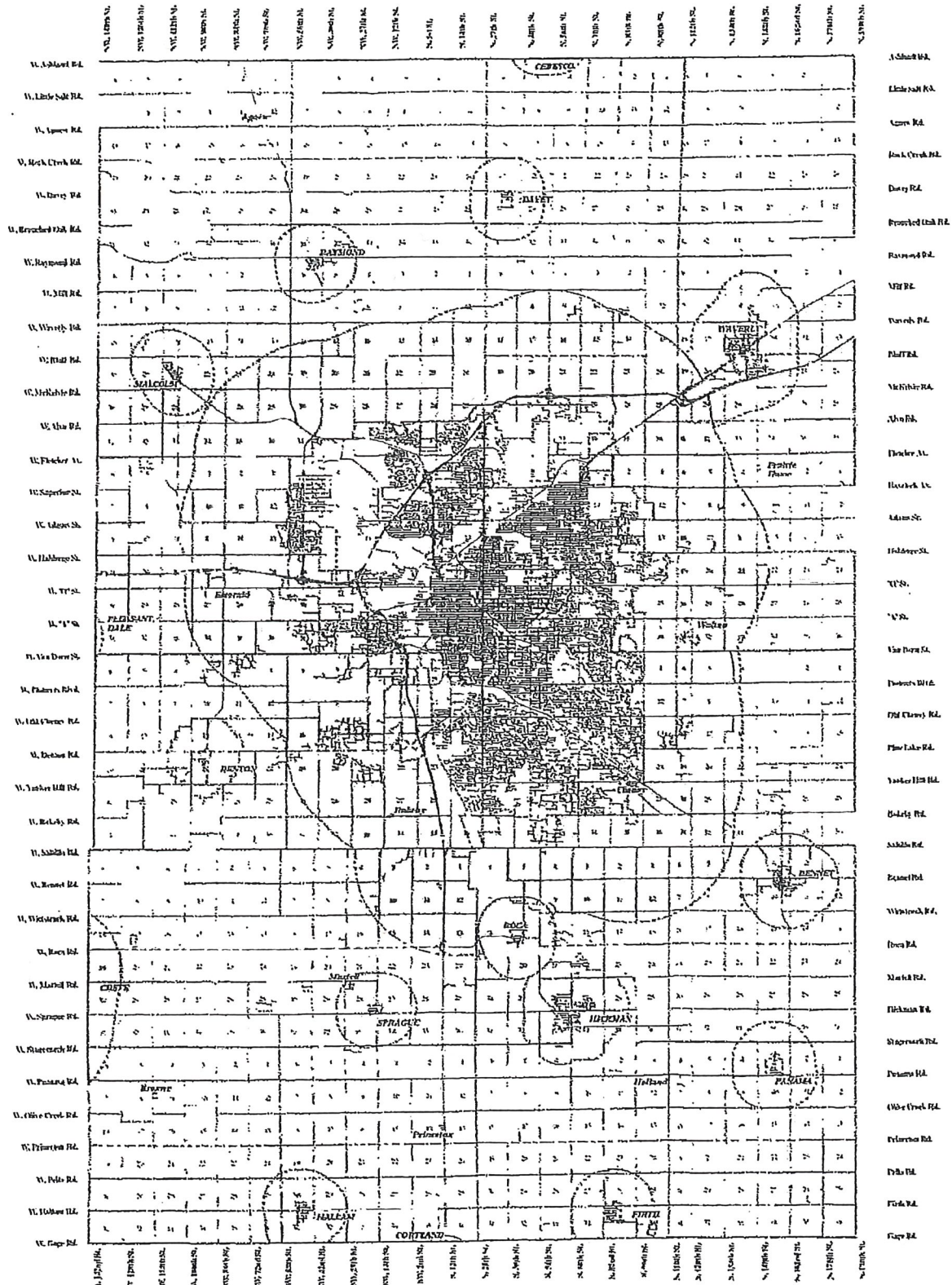
Scheer agreed. He wouldn't be in favor of changing the parameter of annoyance to be on distance instead of sound. He thinks what we have is good. In terms of context, this is his third time through this as well. He will vote in favor of this motion. He believes it is a good compromise. He questioned the Health Dept on monitoring. He believes they are confident in their ability to monitor.

Motion for approval carried 7-1: Campbell, Corr, Edgerton, Finnegan, Joy, Scheer and Washington voting 'yes' Harris voting 'no'; Beckius absent.

There being no further business to come before the Commission, the meeting was adjourned at 3:25 p.m.

Note: These minutes will not be formally approved by the Planning Commission until their next regular meeting on Wednesday, January 23, 2019.

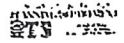
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# ZONING JURISDICTIONS IN LANCASTER COUNTY

One Mile Jurisdiction of Incorporated Villages  
 Two Mile Jurisdiction of Cyle

Three Mile Jurisdiction of Elwood  
 Lancaster County Jurisdiction



As of 1/1/19, the map shows the zoning jurisdiction of Lancaster County.

**St. Joseph News-Press eEDITION**

[http://www.newspressnow.com/news/local\\_news/wind-farm-still-causing-concern-in-dekalb-county/article\\_9da661b4-abac-5cc6-be1f-265d8da51fef.html](http://www.newspressnow.com/news/local_news/wind-farm-still-causing-concern-in-dekalb-county/article_9da661b4-abac-5cc6-be1f-265d8da51fef.html)

TOP STORY

## Wind farm still causing concern in DeKalb County

By Margaret Slayton News-Press Now May 27, 2017



Kim Tindel of Osborn, Missouri, stands on her property surrounded by several wind turbines, which are operated by Florida-based NextEra Energy. She said the closest turbine is 1,400 feet from her property and she has documented items in her house shaking.

**Buy Now**

Mark Zinn News-Press Now

Concerns continue to be raised by residents in DeKalb County over the operation of

a commercial wind turbine project in Missouri.

ADVERTISING

NextEra Energy Resources based in Florida began operating 97 wind turbines near Osborn, Missouri, in December. The project in DeKalb County was one of the first by NextEra Energy to use wind turbines that were manufactured to be 500 feet tall.

Some residents in the county have expressed concern over effects from light flicker, noise levels, vibration of buildings and a lack of access to television and weather emergency services.

Barbara Shatto, owner of Shatto Milk Company, said a concern she has pertains to red lights flashing every few seconds at night near her business and home.

“When you come home at night and you’ve got bright red lights flashing, it’s not exactly a pleasant experience,” Shatto said. “I have window shutters and they do a good job at times to block out the light, but it doesn’t do it completely. You’re just stuck with it. Blocking out the lights is very difficult to do.”



Kim Tindel said there are around 30 turbines within five miles of her residence, with the nearest tower located around 1,400 feet from her home. Tindel said she has documented items in her house shaking.

“The house shakes and it trembles,” Tindel said. “I do have a shelf in my laundry room and stuff has fallen off my shelf. My pictures move. I put a Mason jar on the shelf with water in it and the water is moving.”

Tindel said she hears two noises associated with the project and she has covered her windows to block out the lights.

“It sounds like airplanes hovering 24 hours a day,” Tindel said. “We can hear it over the sound of television and over lawn mowers. Then there’s another sound other than the blades constantly moving. Sometimes it’s a high-pitch sound that’s hard to describe that I can hear outside, but I cannot hear it inside my house.”

Billy and Sherri Sonderegger said there are around 10 wind turbines within two miles of their home.

“I describe it as an airplane flying off in the distance but it never goes anywhere,” Billy Sonderegger said. “It’s always there. The sound just keeps coming. I’ve come home at 11 or 12 at night to unload cattle and left my pickup trailer running and I can hear it above the noise of the pickup.”

While the state of Missouri has no regulations pertaining to the placement or noise levels of wind turbine development aside from county regulations, the state of Vermont’s Public Service Board created rules this spring addressing tower height, light flicker and noise levels.

If passed, the rules would impose a 42-decibel daytime noise limit and a 39-decibel limit at night. There also would be a setback requirement of 10 times the turbine’s height, meaning that a 500-foot-high turbine would need to be at least 5,000 feet away from an occupied building.

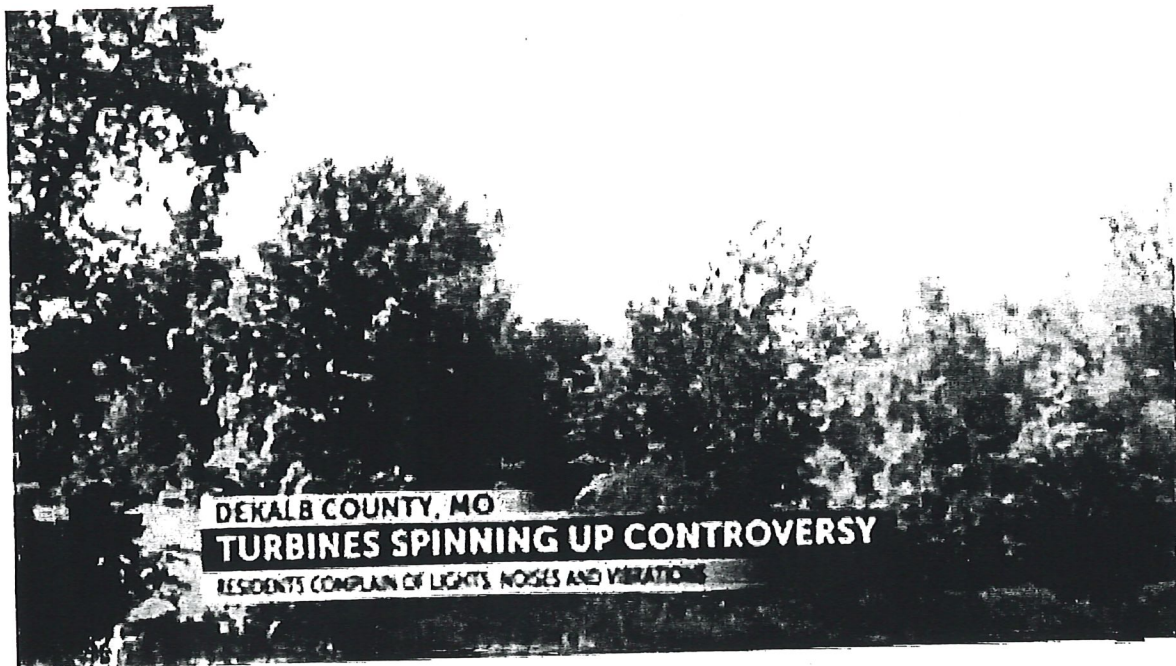
Steve Stengel, communication director for NextEra Energy, said the company has received one complaint from a landowner pertaining to concerns over noise and lights.

“While we have received a number of complaints about TV reception interference that we are currently addressing with individual landowners, we have only received one complaint from a landowner related to noise or light issues,” Stengel stated in an email. “We have investigated that complaint and found that our wind turbines were operating normally.”

Stengel said the company monitors the performance and operating conditions of the turbines around the clock, but he declined to state what decibel level the project is functioning.

“There is not a specified sound requirement in the special use permit granted for the project,” Stengel said. “However, I can tell you that this site has been and continues to operate normally.”

Margaret Slayton can be reached at [npsports@newspressnow.com](mailto:npsports@newspressnow.com).



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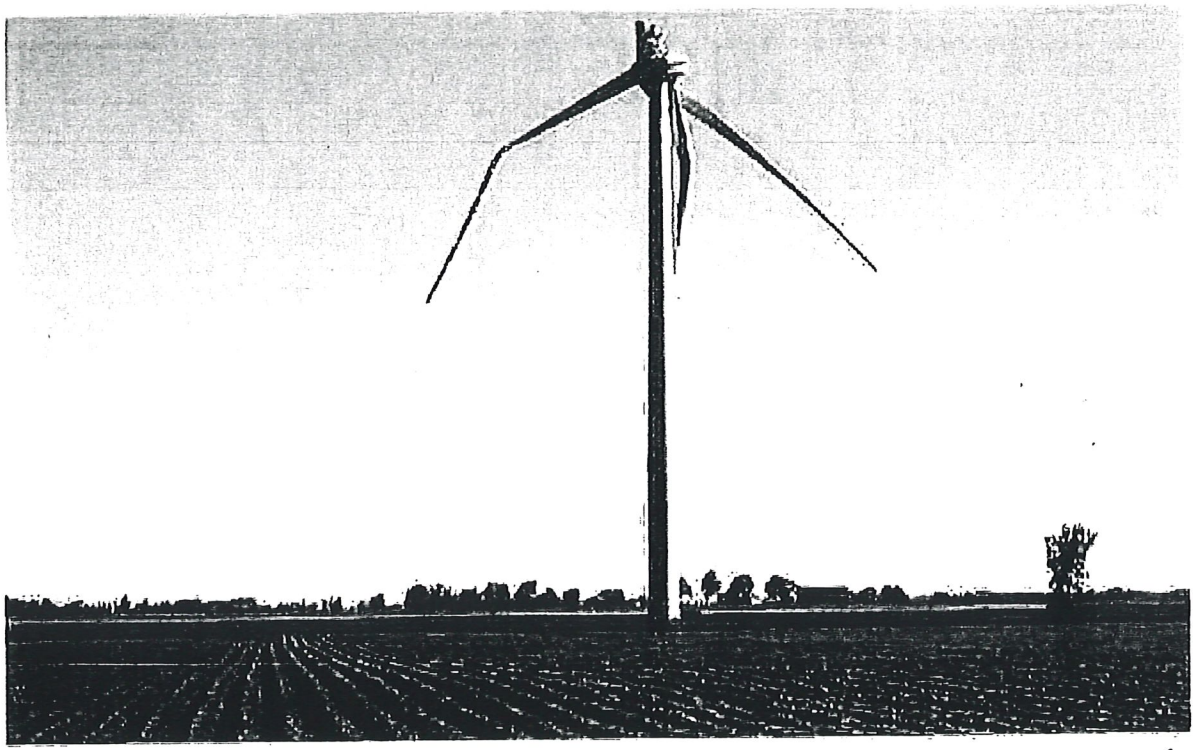
# ENR

Engineering News-Record

Wind Power **7-13-17**

## Are Four Wind-Turbine Failures in Five Weeks Too Many for NextEra Energy?

Out of the ordinary but not a surprise with thousands spinning, company says



**Blades fail at rate of 3,800 a year!**

NextEra suffered four wind-turbine failures in recent weeks. The mishaps at the four different sites included broken blades, a fire and a turbine collapse.

*PHOTO BY JEFF SCHRIER/THE SAGINAW NEWS VIA AP*

*July 13, 2017*

*Jeff Yoders*

The business of wind generation is less than breezy these days for clean-energy producer NextEra Energy Resources.

In Saginaw County, Mich., in late June, a blade on a 160-ft turbine snapped and was left dangling from its rotor (ENR 7/10 p. 4). The turbine is one of 75 at the 120-megawatt Tuscola Bay Wind Energy Center. Earlier in June at the Steele Flats wind farm in Nebraska, one of 44 turbines collapsed.

On June 5, a 2.5-megawatt turbine at the Endeavor I Energy Center in northwestern Iowa caught fire, and one of its blades fell to the ground. On May 31, near Enid, Okla., another blade fell from a turbine at the 98-MW Breckinridge Wind Energy Center.

NextEra would not comment on potential causes of the failures, but spokesman Bryan Garner says, "These are four different issues at four different sites involving two different equipment manufacturers. Two of the issues involved turbine blades, one was a tower, and one was a fire in the nacelle. Yes, we are investigating each incident, as we would with any equipment issue. ... We view these as isolated equipment issues. I should also point out there were no injuries."

NextEra's runs General Electric-manufactured turbines at its Tuscola Bay, Breckinridge and Steele Flats facilities. Cedar Rapids, Iowa-based Clipper is the manufacturer of the turbines at Endeavor.

NextEra Energy Resources owns and operates nearly 10,000 wind turbines across the country. Of the turbines' combined 30,000 blades, there are only five or six blade failures a year, so two in a month is out of the ordinary, Garner notes.

"There is nothing to indicate there are more than would be expected for the volume of turbines we have in operation," Garner says.

Juno Beach, Fla.-based NextEra, the largest owner and operator of wind turbines in the U.S., has 117 wind farms in the U.S. and Canada that generate more than 13,850 MW of net power a year.

## **By the Wind-Turbine Numbers**

There are currently about 53,000 turbines in the U.S. Wind-turbine rotor blades fail at a rate of approximately 3,800 a year, 0.54% of the 700,000 or so blades that were in operation worldwide at the time of a 2015 study by renewable-energy insurance underwriter GCube.

The National Renewable Energy Laboratory's 2013 review of drive-part failures in wind turbines found that electrical systems had the highest failure rate of internal turbine parts.

"We work with the respective manufacturers to investigate each incident and replace the impacted equipment. We site the turbines safely and responsibly and diligently maintain the equipment, so failures are rare," Garner notes.

"We don't have any specific data points on this, but I can say wind-turbine failures are extremely rare. Wind turbines consist of rugged, sophisticated equipment that enables them to operate reliably under near-constant wind conditions," says Evan Vaughan, media relations officer of the American Wind Energy Association, Washington, D.C. "And wind farms are resilient. Should one turbine fail in a project, the others continue to operate."

Recent Articles By Jeff Yoders

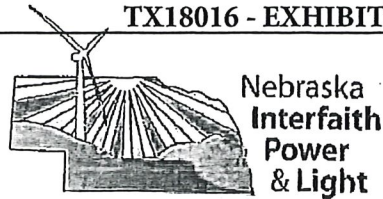
**Q4 Cost Report: Tariff Issues, Cost Increases Show Few Signs of Ending in 2019**

**ENR Midwest Names 2019 Top Young Professionals**

**Honda Invests in Lean Production in Canada**



ENR Midwest Editor and Associate Technology Editor Jeff Yoders has been writing about design and construction innovations for 16 years. He is a two-time Jesse H. Neal award winner and multiple ASBPE winner for his tech coverage. Jeff previously launched Building Design + Construction's building information modeling blog and wrote a geographic information systems column at CE News. He also wrote about materials prices, construction procurement and estimation for MetalMiner.com. He lives in Chicago, the birthplace of the skyscraper, where the pace of innovation never leaves him without a story to chase.



January 9, 2019

Dennis Scheer, Chairperson  
Members of the Lincoln Lancaster County Planning Commission

RE: Commercial Wind Setback Increase

Dear Chairman Scheer and Members of Planning Commission:

**Nebraska Interfaith Power & Light opposes the commercial wind setback amendment being proposed by opponents of wind development.** The proposal to increase the setbacks to a distance of one mile seeks to undo the common-sense change that was supported by this Commission in November and adopted by the County Board last month. This proposal appears intended solely to prevent wind development in Lancaster County and would upend the recently-adopted balance between participants and non-participants. The well-reasoned staff report also opposes this proposal.

**Climate change is the most important moral issue of the 21<sup>st</sup> century,** with the potential to impact every person on the planet. Its impacts will be felt most severely by the earth's poorest citizens, "the least of these" among us. Our faith traditions command us to protect and care for creation and stand up for our most vulnerable brothers and sisters.

**Nebraska Interfaith Power & Light is a statewide interfaith, nonpartisan, nondenominational organization providing a moral message on issues related to climate change and care of creation. Action on climate change is now more important than ever.** There have been several recent reports that have pointed out the increasing risks of climate change including one from the Intergovernmental Panel on Climate Change and one prepared by a wide array of scientists on behalf of the United States government.

**The good news is that there are positive responses to climate change.** Renewable energy, such as wind development, is a vital component of that response. Significantly, wind generation emits no greenhouse gases and uses no water, unlike fossil fuel generation such as coal. Wind generation also emits no pollutants like mercury, a dangerous neurotoxin, or Sulphur dioxide or nitrogen oxides, all of which have been objectively linked to numerous health problems.

We recognize and respect the fact that residents have the right to their own views on wind development. However, we ask that the Planning Commission make its decision based on objectively verifiable information. The Health Department extensively examined the potential of negative health impacts related to wind development and concluded that almost all reported negative impacts are related to annoyance, a completely subjective standard.

This proposal is a collateral attack on a decision that has previously been made by this body and endorsed by the County Board. If adopted, it would establish a precedent for collateral attack on almost any development proposal approved by public officials. If annoyance is the standard, and a one-mile setback is required, the Commission should be prepared for a request for the same setback when new roads, new neighborhoods or any other developments that some members of the public find annoying are being considered.

For the above reasons, we ask the Commission to oppose the proposed increase in setbacks in the commercial wind zoning requirements.

Sincerely,

/s/Kenneth C. Winston

Kenneth C. Winston

Director of Policy and Outreach

Nebraska Interfaith Power & Light

[kwinston@inebraska.com](mailto:kwinston@inebraska.com) 402-212-3737

From : Russell Miller  
341 S. 52  
Lincoln, Nebraska 68510

9 January 2019

To : Lincoln/Lancaster County Planning Commissioner

Enclosure 1: Sheldon's power plant 2017 emissions

Subject : Text Amendment 18016 (wind turbine noise limits)

Hello,

As a resident of Lancaster County I am in favor of wind farms because of the positive impact it will have on our air quality AND Lancaster County tax base. Despite the opposition of a small group of County residents, the entire County population will benefit from wind farms and I hope you consider what is best for all 300,000 of our citizens.

The first benefit is that the coal burning electric generation plant located near Hallam will not have to be used as much. In the year 2017, Sheldon, which will be a next-door neighbor to a wind farm, emitted 1,400 tons of nitrogen oxides and 1,900 tons of sulfur dioxide. It is well documented both of these pollutants are particularly harmful to children under 5 years of age, elderly persons, and all persons with breathing problems. These two pollutants cause or magnify asthma, COPD and other lung diseases.

The second benefit will be for all of Lancaster County residents because of the increased tax base that wind farms will produce. It is expected the the proposed project by NextEra will generate about \$800,000 in new tax revenue annually. The big winners from these new taxes will be Norris and Crete Public Schools which receive about 70% of the total assessed taxes. The rural fire departments will also benefit.

The obvious intent of this text amendment as proposed by the applicant is to make it very difficult to have wind farms. This is because of their opposition to the towers. It has nothing to do with safety or health. I urge this Commission to vote against the entire request or accept only the changes as recommended by your staff.

Thank you,

Russell Miller



Enclosure 1: Sheldon's power plant 2017 emissions

On Aug 21, 2018, at 3:17 PM, Gary R. Bergstrom <gbergstrom@lincoln.ne.gov> wrote:

Mr. Miller,

The most recent full year of plant-wide emissions from the Nebraska Public Power District's (NPPD) Sheldon Station that we have available is for calendar year 2017. I have provided that information in the table below.

Pollutant	Emissions (tons)
PM10 (particulate matter >10 µm)	7.42
NOx (Nitrogen oxides)	1,406.13
SO <sub>2</sub> (Sulfur dioxide)	1,961.79
VOC (Volatile Organic Compounds)	26.31
CO (Carbon Monoxide)	665.49
HAPs (Hazardous Air Pollutants — Combined)	32.34
<b>Total</b>	<b>4,099.48</b>

Additionally, I do want to correct one misconception on the plant's operations. NPPD Sheldon Station has not yet converted either of its two coal-fired boilers to hydrogen, and that conversion is not anticipated to occur for at least the next couple of years.

We do not have any data on how far the pollutants travel, as air pollution dispersion is heavily dependent on weather patterns. Some emissions may impact the nearby area, while some emissions may be transported hundreds of miles or more.

I hope you find this information helpful. Please let me know if you have any questions.

---

Gary R. Bergstrom                      august 13, 2018 at 1:37pm

RE: request for Sheldon's power plant air pollution  
To : Russell Miller

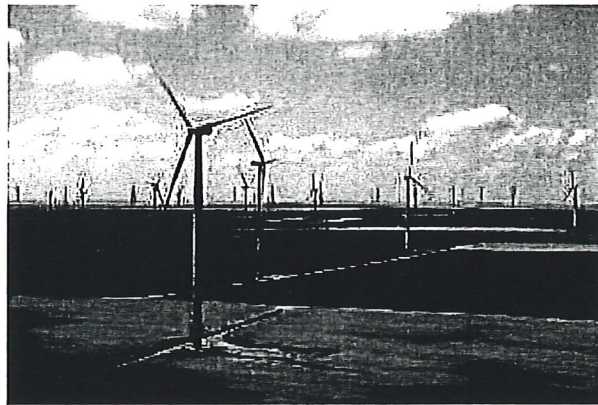
The reduction in emissions at Sheldon Station is due to a combination of factors. They did add emission controls to reduce their emissions air pollution emissions, but they have also seen lower levels of operation due to being part of the 'Southwest Power Pool'. I don't know exactly how much impact wind and solar power generation have had on power generation at Sheldon Station, but I would recommend contacting NPPD for questions on that matter.

The emissions of mercury are included in the 32.34 tons of HAP emissions. Mercury emissions in 2017 came to a total of 3 pounds, substantially lower than the 36 pounds emitted in 2014. Again, that reduction is due to a combination of emission controls and reduced power generation. For reference, 3 pounds of mercury equates to just under 7 tablespoons.

# Technical Documentation

## Wind Turbine Generator Systems

### All Onshore Turbine Types



## General Description

### Setback Considerations for Wind Turbine Siting



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All technical data is subject to change in line with ongoing technical development!

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## 1 Introduction

This document provides setback guidance for the siting of wind turbines. This guidance considers potential safety risks associated with wind turbines such as objects (maintenance tools, ice, etc.) directly falling from the wind turbine, unlikely occurrences such as tower collapse and blade failure, and environmental / operational risks such as ice throw. The guidance is general in nature, and is based on the published advice of recognized industry associations. Local codes and other factors may dictate setbacks greater than the guidance in this document. The owner and the developer bear ultimate responsibility to determine whether a wind turbine should be installed at a particular location, and they are encouraged to seek the advice of qualified professionals for siting decisions. It is strongly suggested that wind developers site turbines so that they do not endanger the public.

## 2 Falling Objects

There is the potential for objects to directly fall from the turbine. The objects may be parts dislodged from the turbine, or dropped objects such as tools. Falling objects create a potential safety risk for anyone who is within close proximity to the turbine, i.e., within approximately a blade length from the turbine.

## 3 Tower Collapse

In very rare circumstances a tower may collapse due to unstable ground, a violent storm, an extreme earthquake, unpredictable structural fatigue, or other catastrophic events. Tower collapse presents a possible risk to anyone who is within the distance equal to the turbine tip height (hub height plus  $\frac{1}{2}$  rotor diameter) from the turbine.

## 4 Ice Shedding and Ice Throw

As with any structure, wind turbines can accumulate ice under certain atmospheric conditions. A wind turbine may shed accumulated ice due to gravity, and mechanical forces of the rotating blades. Accumulated ice on stationary components such as the tower and nacelle will typically fall directly below the turbine. Ice that has accumulated on the blades will likewise typically fall directly below the turbine, especially during start-up. However, during turbine operation under icing conditions, the mechanical forces of the blades have the potential to throw the ice beyond the immediate area of the turbine.

## 5 Blade Failure

During operation, there is the remote possibility of turbine blade failure due to fatigue, severe weather, or other events not related to the turbine itself. If one of these events should occur, pieces of the blade may be thrown from the turbine. The pieces may or may not break up in flight, and are expected to behave similarly to ice thrown from the blade. Blade failure presents a possible risk for anyone beyond the immediate area of the turbine.

## 6 Industry Best Practices

Recognized industry practices suggest the following actions be considered when siting turbines in order to mitigate risk resulting from the hazards listed above:

- Place physical and visual warnings such as fences and warning signs as appropriate for the protection of site personnel and the public.
- Remotely stop the turbine when ice accumulation is detected by site personnel or other means. Additionally, the wind turbine controller may have the capability to shut down or curtail an individual turbine based on the detection of certain atmospheric conditions or turbine operating characteristics.
- Restrict site personnel access to a wind turbine if ice is present on any turbine surface such as the tower, nacelle or blades. If site personnel absolutely must access a turbine with ice accumulation, safety precautions should include but are not limited to remotely shutting down the turbine, yawing the turbine to position the rotor on the side opposite from the tower door, parking vehicles at a safe distance from the turbine, and restarting the turbine remotely when the site is clear. As always, appropriate personnel protective gear must be worn.

## 7 Setback Considerations

Setback considerations include adjoining population density, usage frequency of adjoining roads, land availability, and proximity to other publicly accessed areas and buildings. Table 1 provides setback guidance for wind turbines given these considerations. GE recommends using the generally accepted guidelines listed in Table 1, in addition to any requirements from local codes or specific direction of the local authorities, when siting wind turbines.

Setback Distance from center of turbine tower	Objects of concern within the setback distance
All turbine sites (blade failure/ice throw): 1.1 x tip height <sup>1</sup> , with a minimum setback distance of 170 meters	<ul style="list-style-type: none"> <li>- Public use areas</li> <li>- Residences</li> <li>- Office buildings</li> <li>- Public buildings</li> <li>- Parking lots</li> <li>- Public roads                             <ul style="list-style-type: none"> <li>- Moderately or heavily traveled roads if icing is likely</li> <li>- Heavily traveled multi-lane freeways and motorways if icing is not likely</li> </ul> </li> <li>- Passenger railroads</li> </ul>
All turbine sites (tower collapse): 1.1 x tip height <sup>1</sup>	<ul style="list-style-type: none"> <li>- Public use areas</li> <li>- Residences</li> <li>- Office buildings</li> <li>- Public buildings</li> <li>- Parking lots</li> <li>- Heavily traveled multi-lane freeways and motorways</li> <li>- Sensitive above ground services<sup>2</sup></li> </ul>
All turbine sites (rotor sweep/falling objects): 1.1 x blade length <sup>3</sup>	<ul style="list-style-type: none"> <li>- Property not owned by wind farm participants<sup>4</sup></li> <li>- Buildings</li> <li>- Non-building structures</li> <li>- Public and private roads</li> <li>- Railroads</li> <li>- Sensitive above ground services</li> </ul>

Table 1: Setback recommendations

The wind turbine buyer should perform a safety review of the proposed turbine location(s). Note that there may be objects of concern within the recommended setback distances that may not create a significant safety risk, but may warrant further analysis. If the location of a particular wind turbine does not meet the Table 1 recommended guidelines, contact GE for guidance, and include the information listed in Table 2 as applicable.

1 The maximum height of any blade tip when the blade is straight up (hub height + ½ rotor diameter).

2 Services that if damaged could result in significant hazard to people or the environment or extended loss of services to a significant population. Examples include pipelines or electrical transmission lines.

3 Use ½ rotor diameter to approximate blade length for this calculation.

4 Property boundaries to vacant areas where there is a remote chance of future development or inhabitancy during the life of the wind farm.



Condition/object within setback circle	Data Required
If icing is likely at the wind turbine site	- Annual number of icing days
Residences	- Number of residences within recommended setback distance - Any abandoned residences within setback distance
For industrial buildings (warehouse/shop)	- Average number of persons-hours in area during shift - Number of work shifts per week - Any abandoned buildings within setback distance
For open industrial areas (storage/parking lot)	- Average number of persons-hours in area during shift - Number of shifts per week - Any abandoned buildings within setback distance
For sports/assembly areas	- Average number of persons in area per day - Average number of hours occupied per day - Number of days area occupied per week - If area covered, what type of cover
For roads/waterways	- Plot of road/waterway vs. turbine(s) - Average number of vehicles per day - Type of road and speed limit (residential, country, # of lanes, etc.)
For paths/trails (walk, hike, run, bike, ski)	- Plot of paths/trails vs. turbine(s) - Average number # of persons per day by type of presence (walk, hike, etc.) - Flat or uneven/hilly terrain

Table 2: Setback recommendations