

FINDINGS OF FACT AND RECOMMENDATION
OF THE McLEAN COUNTY ZONING BOARD OF APPEALS

This is the findings of fact and the recommendation of the McLean County Zoning Board of Appeals to the McLean County Board concerning an application of Lexington Chenoa Wind Farm LLC by EDP Renewables North America LLC,, in case SU-18-02. It is requesting a special use to allow a Wind Energy Conversion System (WECS) consisting of up to 58 wind turbine generators that are up to 550 feet in height, as well as any access roads, transformers, power lines, communications lines, interconnection lines, substation, construction lay-down yards, and other ancillary facilities or structures, on approximately 4,922 acres in the Agriculture District. The application also requests that the time period to apply for building permits for the Wind Energy Conversion System be extended to three years, rather than two years as provided by the McLean County Zoning Ordinance.

This is on property in sections 13, 24, 25, 26 & 36 in Chenoa Township, in sections 4, 9, 10, 17, 18, 19, 20, 21, 28, 29, 30, 31, 32, 33 & 34 in Yates Township, and in sections 3, 4, 9, 10 & 16 in Lawndale Township, and generally bounded to the west by Old Route 66, to the north by 3200 North Road, to the east by County Highway 13, and the south by the line established by 2300 North Road if it were extended.

After due notice, as required by law, the Zoning Board of Appeals held a public hearing in this case on February 6, 8, 20, 21, 22, 27, 28, March 6, 8 and 12, 2018 in Room 400 of the Government Center, 115 East Washington Street, Bloomington, IL and hereby report their findings of fact and their recommendation as follows:

ANALYSIS OF STANDARDS - After considering all the evidence and testimony presented at the hearing, this Board makes the following analysis of the standards contained in the McLean County Code regarding the recommendation by the Zoning Board of Appeals as to whether the County Board should grant or deny the proposed special use.

STANDARDS FOR RECOMMENDING:

- 1. The proposed special use will not be detrimental to or endanger the health, safety, morals, comfort, or welfare of the public.** This standard is met. The applicant is proposing to build a Wind Energy Conversion System (WECS) consisting of up to 58 wind turbine generators that are up to 550 feet in height that will produce 208 megawatts (MW) of electricity. The applicant intends to use a combination of the Vestas V136 3.45 MW and 3.6 MW turbine models for the project. In their analysis, 27 of the 58 turbines have been assumed to be equipped with serrated trailing edge (STE) blades to reduce acoustic impact. The substation is also included in this analysis. A sound impact assessment was submitted with the application that concludes that all applicable Illinois Pollution Control Board (IPCB) sound regulations at all existing occupied residences in the project area are met. If the applicant changes the type of turbine, an updated sound impact assessment will need to be provided to ensure compliance with IPCB noise regulations. After hearing testimony about noise concerns, this Board recommends turbine numbers 83, 85, and 95 will need to be set back at least 2,000 feet from the Taylor residence on parcel 04-19-200-006; and turbine number 97 will need to be set back at least 2,000 feet from the Jolly residence on parcel 04-32-100-002. This Board also recommends that the applicant will need to complete a sound study within 18 months of the start of commercial operation of the WECS. This sound study shall be completed for any non-participating dwelling that is listed in the sound study with a decibel rating of 40 decibel or greater at the 1,000-Hertz

frequency level. The applicant will need to mitigate the sound level of any non-participating dwelling with a reading over 41 decibels at the 1,000-Hertz frequency level as allowed by the IPCB.

The proposed WECS meets the setback requirements of the Zoning Ordinance. No turbine will be located closer than 1.1 times the total height of the turbine to the property line of a nonparticipating landowner, from the edge of any public road right-of-way, third party transmission lines and communication towers as measured from the tip of the blade. No turbine will be located closer than 1,650 feet to a non-participating occupied residence. Two residences will be located within 1,650 feet of a turbine but they are at least 1,500 feet from a turbine for which the applicant has setback agreements entitling such property owners annual payments for the life of the project.

A professional engineer shall certify, as part of the building permit application, that the foundation and tower design of the WECS is within accepted professional standards. After construction is complete, a professional engineer will verify that they are built according to the approved plans.

The applicant has submitted an Obstruction Evaluation and Airspace Analysis, a Microwave Beam Path report, an Off-Air TV Reception Analysis, an AM and FM Analysis and a Land Mobile Emergency Services Report. The Microwave Beam Path report will verify that the WECS will not interfere with any existing microwave beams used for communication within the project area. Neighbors living within close proximity to the project are eligible to sign a neighbor agreement which entitles them to annual payments for the life of the project. The applicant will work to remedy or mitigate any problems caused by the project by maintaining a hotline for 24 hour access during construction. After the project is complete, the applicant will maintain an on-site complaint resolution process at their local operating and maintenance facility. The application states that the applicant commits to meet with participating and nonparticipating landowners in the project area upon request and will attempt to resolve issues of concern, including any involving noise, shadow or flicker effect, telecommunications, aerial application to agricultural land, traffic, or other operational aspects of the Project.

The application states that in the event that a public safety entity believes its coverage has been compromised by the presence of the wind energy facility, it has many options to improve its signal coverage to the area through optimization of a nearby base station or even adding a repeater site. Utility towers, meteorological towers or even the turbine towers within the wind project area can serve as the platform for a base station or repeater site.

The Application includes an Emergency Action Plan (EAP) that establishes procedures required to effectively respond to emergencies that may affect the project or the surrounding community. The EAP will be prepared and implemented throughout the construction and operation of the project. It is necessary for the applicant to coordinate and provide aid to local fire districts to promote safety and emergency response procedures.

The applicant shall fulfill the decommissioning use standard of the Zoning Ordinance by complying with the Decommissioning Plan submitted with the signed and approved Agricultural Mitigation Agreement (AIMA) with the Illinois Department of Agriculture. The applicant shall re-evaluate the estimate costs of deconstruction after the tenth anniversary and

every five years thereafter. Based on such a re-evaluation, the County shall require changes in the level of financial assurance.

The application includes a site characterization study where it is reported that the applicant conducted wildlife studies in consultation with the Illinois Department of Natural Resources (IDNR) and United States Fish and Wildlife Service (USFWS) to verify the results of the study.

The application indicates the following studies addressing all relevant species have been completed, as recommended by IDNR and USFWS:

- Land Cover Mapping – 2009
- Avian Use Surveys – 2009 - 2010
- Raptor Nest Survey – 2009 -2010
- Land Cover Mapping – 2009
- Acoustic Bat Surveys – 2009
- Stage 1 Eagle Risk Assessment – 2016
- Avian Use Surveys – December 2016 to December 2017
- Raptor Nest Survey – 28 February 2017 through 1 March 2017
- American Golden-Plover Surveys – 18 April 2017 through 9 May 2017
- Bat Habitat Assessment – 2017

The application states that prior to operations, the applicant will submit a post-construction study plan, including methodology for post-construction bird and bat fatality monitoring, to IDNR and USFWS for review. A minimum of one year post-construction fatality monitoring will be conducted at the project, the results of which will be submitted to the IDNR and USFWS. The Applicant will minimize potential bat mortality caused by operation of the project by implementing turbine operational adjustments. The Applicant will feather turbine blades when wind speeds are below the manufacturer's cut-in speed at night during the fall migration period. The Applicant will consult with IDNR and USFWS on any follow-up issues raised with respect to the results of these post-construction studies.

IDNR Recommendations - Article VI Section 350-43.00 (2) (Use Standards for WECS) requires implementation of Illinois Department of Natural Resources (IDNR) recommendations based on pre-siting study results, unless credible evidence is presented against the recommendation. The Zoning Board of Appeals found that the applicant shall fulfill Recommendations #1, #3 and #4 and presented credible evidence to provide modified compliance with Recommendations #2, #5 and #6. If the applicant provides modified compliance rather than follows IDNR recommendations, the studies for modified compliance will be coordinated with IDNR and USFWS and with counsel from Dr. Angelo Capparella, Conservation Chair, JWP Audubon Society and Associate Professor of Vertebrate Zoology, Illinois State University. This Board found that the IDNR recommendations and the proposed modifications listed in Stipulation #9 below help meet this standard.

There has been no communication submitted from the Illinois Historical Preservation Agency (IHPA). The applicant will need to complete consultation with the IHPA before construction can begin.

The McLean County Regional Comprehensive Plan approved on November 17, 2009, proposes that the project area remain in agricultural land use and states that wind energy

developments are an opportunity for preserving local farmland and agricultural heritage. The Plan goes on to state in reference to the two wind farms that had already been approved at the time, “Besides adding significant tax dollars, both projects will assist local farmers as some take advantage of annual turbine rental fees for allowing the energy firms to erect turbines on private property”.

2. **The proposed special use will not be injurious to the use and enjoyment of other property in the immediate vicinity for purposes already permitted or substantially diminish property values in the immediate area.** This standard is met. The surrounding property that is currently used for crop production will continue to be desirable for such use, and will continue to be farmed. The proposed wind farm is compatible with agricultural operations in the project area, and these agricultural operations will not likely be negatively impacted. This Board found that evidence was presented on both sides of residential property values (higher and lower). It was found that credible evidence was not presented that the value of residential property values would go down.

The application meets the setback requirements of the Zoning Ordinance. Compliance with these setback requirements ensures that project improvements are located at safe distances from other uses. The application demonstrates that the project will comply with noise standards of the IPCB. The noise analysis and the turbine setback requirements from occupied residences show that the project will not injure nearby residents.

The applicant is requesting to be allowed to apply for a building permit up to three years after County Board approval rather than two years as allowed. This is a reasonable request and has been approved for other wind farms in the County.

Site approval for each wind turbine within the project area needs to be approved by the Federal Aviation Administration (FAA) before construction can begin. Lighting on turbines shall meet the FAA lighting requirements. The application states that no more intensive lighting will be installed than is required to meet minimum FAA lighting requirements.

None of the proposed turbines is within 1½ miles of a municipal boundary.

This Board found that the IDNR recommendations and the proposed modifications listed in Stipulation #9 below help meet this standard.

3. **The proposed special use will not impede the orderly development of the surrounding property for uses permitted in the district.** This standard is met. The Agriculture District is very restrictive for establishing non-agricultural residential uses. Nearby land that is suitable for crop production will continue to be suitable for such use. In the limited areas where residences are located, turbines will be set back 1,650 feet or three times the turbine height from occupied residences except for two residences for which the applicant has homeowner agreements. The application meets the requirements of the Zoning Ordinance with respect to decommissioning. The applicant shall fulfill the decommissioning use standard of the Zoning Ordinance by complying with the Decommissioning Plan submitted with the signed and approved Agricultural Mitigation Agreement (AIMA) with the Illinois Department of Agriculture. The applicant shall re-evaluate the estimate costs of deconstruction after the tenth anniversary and every five years thereafter. Based on such a reevaluation, the County shall require changes in the level of financial assurance.

The applicant indicates that there are two private airports located within a 10-mile radius of the proposed Site. Mays Aviation Airport, located within the Site in section 19 of Yates Township, and Thacker Airport is located approximately 1.7 miles northwest of the Site.

The application indicates turbines are arranged in lines running east to west parallel to property lines based on feedback from landowners and aerial applicators.

4. **Adequate utilities, access roads, drainage and/or other necessary facilities have been or will be provided.** This standard is met. The applicant will protect the existing drainage near the project and repair any damage made to drain tile or any other drainage improvements. The applicant is proposing to build gravel access roads to each tower. Drainage problems have developed along and through some of these access roads in the already built Twin Groves Wind Farm. It is necessary to install vegetated strips along the upstream side of access roads that are prone to washing out, particularly where the access roads cross waterways. To minimize erosion along access roads, waterways should be improved before access roads are installed.
5. **Adequate measures have been or will be taken to provide ingress and egress so designed as to minimize traffic congestion in the public streets.** This standard is met. The applicant has been working with the County and townships to obtain road use agreements to maintain the public roads and provide adequate access during the construction process. A road use agreement has been approved with the County for use of County roads. A written road use agreement with the applicable township road commissioners will need to be obtained before construction permits are issued.
6. **The establishment, maintenance and operation of the special use will be in conformance with the intent of the district in which the special use is proposed to be located.** This standard is met. The intent of the Agricultural District states, "Provide for the location and govern the establishment and operation of land uses which are compatible with agriculture and are of such a nature that their location away from residential, commercial and industrial areas is most desirable."
7. **The proposed special use, in all other respects, conforms to the applicable regulations of the Agriculture District.** This standard is met.

After considering all the evidence and testimony presented, this Board finds that the application meets all the standards as found in the McLean County Code, provided compliance with the following stipulations:

1. A written road use agreement shall be obtained with the applicable township road commissioners before construction permits are issued.
2. Development shall follow the plans and documents submitted with the application and with Zoning Regulations including Article VI Section 350-43.OO (2) (Use Standards for WECS).
3. Vegetated strips shall be installed along the upstream side of access roads that are prone to washing out, particularly where the access roads cross waterways. To minimize erosion along access roads, waterways shall be improved before access roads are installed.

4. Turbine numbers 83, 85, and 95 shall be set back at least 2,000 feet from the Taylor residence on parcel 04-19-200-006; and turbine number 97 shall be set back at least 2,000 feet from the Jolly residence on parcel 04-32-100-002.
5. The applicant shall complete a sound study within 18 months of the start of commercial operation of the WECS. This sound study shall be completed at any non-participating dwelling that is listed in the sound study with a decibel rating of 40 decibel or greater at the 1,000-Hertz frequency level. The applicant shall mitigate the sound level of any non-participating dwelling with a reading over 41 decibels at the 1,000-Hertz frequency level as allowed by the IPCB. This sound study will only be required for non-participating property owners who agree to a sound study at their dwellings.
6. The applicant shall maintain a hotline for 24 hour access during construction to address problems/issues. After construction, the applicant shall provide specific contact information to address problems/issues and shall notify the Director of Building and Zoning when ownership is transferred and inform the Director who the contact will be.
7. Adequate financial assurance acceptable to the County shall be submitted with the County according to the application and the Decommissioning Plan submitted with the Agricultural Mitigation Agreement (AIMA) with the Illinois Department of Agriculture. This assurance requires 10% of the estimated deconstruction cost on or before the first year, 50% on or before the sixth year and 100% on or before the 11th year. The applicant shall re-evaluate the estimate costs of deconstruction after the tenth anniversary and every five years thereafter. Based on such a re-evaluation, the County shall require changes in the level of financial assurance.
8. If decommissioning is triggered, all facilities will be removed as required under the Agricultural Impact Mitigation Agreement (AIMA) including the turbine foundations to a depth of 5 feet below grade.
9. **IDNR Recommendations** - The applicant shall fulfill Recommendations #1, #3 and #4 and presented credible evidence to provide modified compliance with Recommendations #2, #5 and #6. If the applicant provides modified compliance as clarified below rather than follows IDNR recommendations, the studies for modified compliance shall be coordinated with IDNR and USFWS and with counsel from Dr. Angelo Capparella, Conservation Chair, JWP Audubon Society and Associate Professor of Vertebrate Zoology, Illinois State University, and submitted to the Department of Building and Zoning. The following are the IDNR recommendations and the proposed modifications:

Recommendation #1: The Department recommends the County consider imposing a requirement for the applicant to avoid siting wind turbines within one mile of Weston Cemetery Prairie Nature Preserve.

Recommendation #2: The Department recommends the County consider imposing a requirement for the applicant to curtail turbine operations below wind speeds of 5.0 meters per second during the period from July 15 through October 15 to conserve endangered, threatened, and non-listed bats. This measure will likely prevent the prohibited taking of endangered or threatened bats, and will reduce the mortality of non-listed bats by approximately fifty percent. While the project area is essentially treeless, migrating bats will still be subject to significant mortality.

Recommendation #3: The Department recommends the County consider imposing a requirement to conduct three years of mortality monitoring to statistically quantify bird and bat mortality by species due to turbine operations. If the County cannot do so, or chooses not to do so, the applicant should consider implementing such a program to demonstrate the level of mortality experienced and the species affected.

Recommendation #4: The Department recommends the County consider imposing a requirement for the applicant to perform and report fish & mussel surveys 100 meters up and downstream of any proposed physical disturbance of a perennial stream channel or drain associated with Rooks Creek prior to disturbance of the channel. This includes bridge or culvert improvements to facilitate transportation of turbine components. If the County cannot do so, or chooses not to do so, the applicant should consider doing so to avoid prohibited taking of previously undocumented State-listed aquatic animals which may be present.

Recommendation #5: The Department recommends the County consider imposing a requirement for the applicant to avoid siting turbines within 500 feet of a perennial stream. While this requirement will not eliminate effects to aquatic habitats from noise, vibration, and flicker, those effects, resulting from wave forms (noise and vibration), generally conform to the inverse-square law of physics, where doubling the distance reduces the impact to one-fourth. The Department does not believe 500 feet is adequate to fully-eliminate such effects, and such effects may still be significant at that distance, but a 500-foot setback is consistent with other setbacks applied to wind turbines and will assure such effects within the stream are diminished. Turbine operations will then be less likely to adversely affect populations of listed aquatic species. If the County cannot do so, or chooses not to do so, the applicant should consider voluntarily not siting turbines within 500 feet of perennial streams. Alternatively, the applicant could consider sponsoring scientific research to measure and report the effects of turbine noise, vibration, and flicker on aquatic organisms.

Recommendation #6: The Department recommends the County consider assuring no wind turbines are sited within one-half mile of the Mackinaw River INAI Site (Henline Creek). If the County cannot do so, or chooses not to do so, the applicant should consider voluntarily not siting turbines within half a mile of Henline Creek. Doing so will minimize any effects to the INAI Site and its essential habitat for State-listed species from wind turbine operations.

As an alternative to Recommendation #2, the applicant proposed and this Board agrees with the following modification:

- Despite extensive post-construction monitoring at sites in central Illinois, no fatalities of threatened and endangered bat species have been discovered.
- Proposes to address potential risk to threatened and endangered bat species, and non-listed bats, using an adaptive management framework consistent with the US Fish and Wildlife Service Land-Based Wind-Energy Guidelines (USFWS 2012).
- Follow the American Wind Energy Association's voluntary best management practice and feather blades below manufacturer cut-in-speeds to reduce bat mortality, which has

been shown to reduce bat mortality by approximately 30% at Fowler Ridge, Indiana (Good et al. 2012), during the first fall season of operation.

- Lexington Chenoa Wind Farm will monitor the Project's effects on bats using an intensive post-construction monitoring survey during the first three years of operations.
- If overall mortality for non-listed bats exceeds the number recorded at the nearby Twin Grove facility (12.4 bats/MW/year), adaptive management measures (e.g., operational curtailment, deterrents) to reduce overall mortality to non-listed species will be applied.

As an alternative to Recommendation #5, the applicant proposed and this Board agrees with the following modification:

- The applicant shall sponsor scientific research to measure and report the effects of turbine noise, vibration, and flicker on aquatic organisms for any turbines located within 500 feet of a perennial stream.

As an alternative to Recommendation #6, the applicant proposed and this Board agrees with the following modification:

- Five turbines (T-76, T-94, T-60, T-61, and T-162) are sited within ½ mile of Henline Creek.
 - IDNR bases its Recommendation #6 on impacts to aquatic habitats from noise, vibration, and flicker. Currently, no scientific studies are available to support this recommendation, and are needed to further scientific knowledge used for appropriate wind energy facility siting in Illinois.
 - A minimum setback of 500 feet from Henline Creek will be observed to reduce impacts to aquatic species, and conduct scientific pre- and post construction monitoring of the stream section of Henline Creek closest to the turbines.
 - Survey methodologies will be coordinated with the IDNR, and will include at minimum the following: Pre-construction inventory survey of aquatic species along the section of Henline Creek closest to the five wind turbines (approximately 2000-meter length of stream). Post-construction inventory of aquatic species at the conclusion of years one and five of operation. EDPR is currently assessing the logistics of also implementing a pre- and post-construction hydro-acoustic study that would measure the baseline noise in the stream before construction begins, and compare to post-construction noise levels.
 - Additionally, the applicant will commit to the highest standards of protection to avoid impacts to Henline Creek, and implement a robust Storm Water Pollution Prevention Plan with additional measures to ensure protective provisions are continuously intact (e.g., weekly inspections, inspections after significant rain events).
10. Vestas V136 3.45 MW and 3.6 MW turbine models shall be installed in this project according to the project layout submitted with the application. If the applicant changes the type of turbine, an updated sound impact assessment will need to be provided to ensure compliance with IPCB noise regulations.
 11. The applicant shall complete consultation with the Illinois Historical Preservation Agency (IHPA) before construction can begin.

12. The applicant shall rectify any television and internet connection problems in the project area and return them to at least the level of service that occurred before the turbines were installed. A Microwave Beam Path report shall verify that the WECS will not interfere with any existing microwave beam used for communication within the project area.
13. No lighting shall be installed that is more intensive than the minimum required by the FAA.
14. The applicant will coordinate and provide aid to local fire districts to promote safety and emergency response procedures.

Therefore, this Board recommends that a special use be granted on the property described above for a Wind Energy Conversion System consisting of up to 58 wind turbine generators that are up to 550 feet in height, as well as any access roads, transformers, power lines, communications lines, interconnection lines, substation, construction lay-down yards, and other ancillary facilities or structures in the Agriculture District. This Board also recommends to allow the time period to apply for building permits for the Wind Energy Conversion System be extended to three years, rather than two years, provided there is compliance with the above stipulations.

ROLL CALL VOTE - The roll call vote was six members for the motion to recommend granting, none opposed and Members Zimmerman, Kuritz and Judd were absent.

Respectfully submitted by the McLean County Zoning Board of Appeals


Chair

3/14/18
Date

James Finnigan, Chair
Rick Dean
Julia Turner
Brian Bangert
Chris Carlton, Alternate Member
Mary Beth Taylor, Alternate Member