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10/01/2012 02:53 PM

To: "midwestwindhcp@fws.gov" <midwestwindhcp@fws.gov>
cc: Julie Johnson <juliejohnson@ctcn.net>, Jack Van Kley
<jvankley@vankleywalker.com>, Diane McConnell <dem@ctcn.net>
Subject: Comments regarding proposed Midwest Multi-Species
HCP/FWS-R3-ES-2012-N179

Dear Mr. Amidon,

On behalf of my clients Union Neighbors United, Julia F. Johnson, and Robert and Diane McConnell, I am writing to provide comments on the above proposal in response to the Service's *Federal Register* notice of August 30, 2012. On Friday, September 28, I submitted an email request for extension of the October 1 comment deadline in this matter. Without an extension, there is inadequate time to prepare and submit specific comments concerning the proposed Multi-Species HCP (MSHCP).

On March 1, 2010, my clients submitted the attached scoping comments pertaining to a HCP and ITP for the proposed Buckeye Wind facility in Champaign County, Ohio. Although the attached comments are not specific to the MSHCP, they contain information relevant to the protection of the Indiana bat and the development of HCPs for wind energy facilities. Therefore, I am submitting the attached materials for the Service's consideration in this matter. The remaining appendices will follow in subsequent emails this afternoon.

In the event the Service determines to extend the comment deadline, my clients reserve the opportunity to submit more detailed comments concerning this proposal.

Please contact me if you have questions or if I can be of assistance. Thank you for your consideration.

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20100301 USFWS Submittal on Indiana Bats.pdf



Appx. 1, E.ON Ltr.pdf



Appx. 2, Knapp Ltr. to Davis.pdf

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By Electronic Mail

March 1, 2010

Megan Seymour
U.S. Fish and Wildlife Service
Ohio Field Office
4625 Morse Road, Suite 104
Columbus, OH 43230
EverPowerHCP@fws.gov

Re: Scoping for NEPA Decision on EverPower Wind Holdings HCP and ITP
Federal Register Notice

Dear Ms. Seymour:

On behalf of Union Neighbors United, Robert and Diane McConnell, and Julia Johnson (the "Commenters"), we submit these comments in response to the U.S. Fish and Wildlife Service ("USFWS") notice in the Federal Register of January 29, 2010 in regards to a wind energy project proposed by EverPower Wind Holdings, Inc. ("EverPower"). We submit these comments for your consideration in making your decision under the National Environmental Policy Act ("NEPA") about a proposed habitat conservation plan ("HCP") and incidental take permit ("ITP") to address EverPower's anticipated impacts on the endangered Indiana bats found in the vicinity of the planned wind project.

Project Description

EverPower has submitted an application to the Ohio Power Siting Board ("OPSB") requesting a major utility certificate for a wind turbine project in Champaign County, Ohio. As proposed to OPSB, the EverPower project will be a vast complex of 70 wind turbines and associated infrastructure involving 9,000 acres of leased property across six townships in eastern and central Champaign County. EverPower's submittal to the USFWS indicates that the HCP Action Area will encompass 80,500 acres, including 500 acres that will be temporarily impacted by construction and 100 acres on which permanent facilities will be sited. EverPower's wind turbines – each up to 492 feet tall – will dominate the landscape in these agricultural and rural residential communities.

During OPSB's hearing to consider evidence about the project, EverPower's witnesses revealed that the company has secured what it characterized as "additional lease positions" and "additional land positions" for properties on which it has not yet proposed wind turbines. Apparently, EverPower plans to expand its wind project beyond the 70 turbines already disclosed to the public. USFWS' Federal Register notice for the ITP and HCP appears to confirm the company's expansion plans, since the notice describes a 100-turbine project. EverPower has not informed the public in Champaign County about the locations for the additional 30 wind turbines.

In addition to the EverPower project, numerous other developers are proposing wind energy facilities in western Ohio. The regional electric transmission organization, PJM Interconnection, lists about 30 wind projects in western Ohio under study, including many in Champaign, Hardin, and Logan Counties. The total list of projects under evaluation can be accessed at <http://www.pjm.com/planning/generation-interconnection/generation-queue-active.aspx>. Some proposed wind projects known to the Commenters include the following:

- Hardin Wind Farm, which would consist of 200 1.5 MW turbines to be sited on 20,000 acres in Hardin County (<http://www.opsb.ohio.gov/opsb/cases/case.cfm?id=4328>);
- Hardin County North Wind Farm, consisting of between 19-27 turbines of 1.8-2.5 MW capacity to be sited on 3,400 acres of land in Hardin County (<http://www.opsb.ohio.gov/opsb/cases/case.cfm?id=4330>);
- Monroe Wind Farm, a 50-turbine project in Logan County. This project was abandoned by both Babcock & Brown and Pattern Energy due to issues relating to Indiana bat impacts. However, the Commenters believe the project is now being advanced by a new developer, E.ON Climate and Renewables North America, which may have renamed the project the Glacier Ridge Wind Farm. *See* enclosed letter from E.ON (Appx. 1).
- Timber Road Wind Farm, consisting of up to 35 turbines with a generating capacity of up to 2.1 MW to be sited on 5,700 acres in Paulding County (<http://www.opsb.ohio.gov/opsb/cases/case.cfm?id=4348>); and
- Blue Creek Wind Farm, consisting of up to 175 turbines to be sited across 17,000 acres in Paulding and Van Wert Counties (<http://www.opsb.ohio.gov/opsb/cases/case.cfm?id=4345>).

Wind developers have been entering into agreements with landowners for some of these projects.

The Commenters

Union Neighbors United ("UNU") is a nonprofit corporation formed to promote the safety and well-being of the Champaign County community by addressing issues relating to the siting of industrial wind turbines. UNU has nine trustees and officers, all of whom reside in the area that will be affected by the project. The property boundaries of UNU members are located within

648 to 2,656 feet of proposed turbine sites. The majority of the properties of UNU members are situated within 1/3 of a mile of at least one proposed turbine site.

Robert and Diane McConnell reside at 4880 E. U.S. Route 36, Urbana, Ohio. Although the McConnells are members of UNU, they are also commenting in their individual capacities. The McConnells own a home situated on a lot of approximately 50 acres, including 17 acres of woods. Five turbines are planned to be built within a mile behind the McConnells' woods. The closest turbine would be situated about 798 feet from the McConnells' property line, and about 1,750 feet from their home.

Julia Johnson resides at 4891 E. U.S. Route 36, Urbana, Ohio. Like the McConnells, she is a UNU member but is also commenting in her individual capacity. Her home sits on 28 acres of land bordered by woods to the south and west and by the trees and fairways of the Urbana Country Club golf course to the north and east. Ms. Johnson also owns an additional 184 acres of undeveloped property adjacent to her residential property to the south and east. One proposed turbine site is located about 648 feet from the edge of this property.

Although much of the project area is agricultural, the properties of UNU members such as the McConnells and Ms. Johnson contain and adjoin wooded tracts inhabited by wildlife. Consequently, the Commenters have an important interest in preserving wildlife such as Indiana bats that may reside in or visit these areas. Information that they have obtained during the OPSB hearing and from other sources discloses that Indiana bats live in and around the project area, and that EverPower's project may kill and/or harm them. UNU, Robert and Diane McConnell, and Julia Johnson ask the USFWS to protect these Indiana bats.

Indiana Bats In And Near Champaign County

The EverPower project area is dominated by agricultural land uses with fragmented forests and low-to-moderate forest cover. Northeast Champaign County and Logan County also contain forested ridge tops. See the enclosed letter from Mary Knapp of USFWS to Ken Davis of Union Township Zoning Commission dated May 21, 2007 (Appx. 2) at p. 5. A paper authored by Thomas Kunz, *et al.* notes that, while the highest number of bat fatalities have been found at wind energy facilities on forested ridge tops, "relatively large numbers of fatalities have been reported in agricultural regions" at wind projects in northern Iowa and southwestern Alberta, Canada. T.M. Kunz, *et al.*, Ecological Impacts of Wind Energy Development on Bats: Questions, Research Needs, and Hypotheses, *Front. Ecol. Environ.* 2007; 5(6): 317 (Appx. 3).

The USFWS has found that agricultural land with fragmented forests and low-to-moderate forest cover is the type of habitat in which most Indiana bat maternity colonies have been discovered. See the USFWS' Indiana Bat Draft Recovery Plan (April 2007) ("Recovery Plan") at 67-68. According to the Recovery Plan, Indiana bat roosts are typically located within canopy gaps and along edges of forested habitats, but maternity colonies and other roosts also occur in small clumps of trees or isolated trees. Consequently, the protection of both forested ridge tops and agricultural/fragmented forest habitats is vitally important for this species, and both are located in the area in and around EverPower's turbine sites. According to a USFWS letter, 16.3 square kilometers of this Indiana bat habitat were identified within the EverPower project area as it was

configured before removal of the Logan County acreage. *See* the enclosed letter from Mary Knapp of USFWS to Andrew Golembeski of Everpower Renewables dated January 18, 2008 at p. 3 (Appx. 4).

Given the suitability of this habitat, it is not a surprise to find Indiana bats throughout the area in and around EverPower's proposed wind project. Ironically, most of these bats have been discovered by companies other than EverPower. Although EverPower conducted mist net surveys for bats, it failed to find any Indiana bats in the vicinity of the 70 turbines in Champaign County for which it requested the OPSB certificate. However, a consultant for Invenergy, another wind developer, later performed a mist net survey for an adjoining area that it wishes to develop into a wind project, and it found Indiana bats there. In addition, Invenergy's consultant tracked some of the Indiana bats to multiple maternity and/or roosting locations within and near EverPower's project area.

When EverPower conducted its mist net surveys, its project area included territory just across the county line in Logan County, Ohio. EverPower captured Indiana bats in this Logan County area. Another wind developer, Babcock and Brown, has also found Indiana bats in Logan County, Ohio. With all this Indiana bat activity in the area, it is no wonder that the wind companies' surveys have resulted in what has been characterized as "a plethora of Indiana bat captures." *See* the email from Keith Lott of the Ohio Department of Natural Resources to Jeff Gosse of USFWS dated July 15, 2009 (Appx. 5).

Based on these findings, the potential impacts of EverPower's project are not limited to the Indiana bats found near its 70 currently proposed turbine sites. Indiana bats are also prevalent in nearby areas, from which they can fly into EverPower's turbines. Moreover, an even larger number of currently undetected Indiana bats may be affected. As the USFWS has found, maternity colonies are widely dispersed and difficult to locate during summer surveys. *See* the Recovery Plan at 27. Consequently, it is likely that most Indiana bats in and around the project area have not been detected. In addition, the additional 30 EverPower turbines may also be sited in areas inhabited by Indiana bats that have not yet been discovered. Accordingly, EverPower's wind project may affect Indiana bats in greater numbers and over a broader area than currently known to the public.

As noted in USFWS' Federal Register notice, Indiana bat populations are under assault from a variety of threats, including White-Nose Syndrome and the loss of summer and winter habitats. Unless the USFWS takes the appropriate steps to protect this species and its habitats, the construction and operation of EverPower's turbines will exacerbate the population losses already being experienced.

**The Magnitude Of The Wind Project And Its Potential
Damage To The Indiana Bat Population Necessitate The
Preparation Of An Environmental Impact Statement.**

In light of its impacts on the Indiana bat, the EverPower project, both individually and in combination with other proposed wind energy projects in western Ohio, has the potential for significant impacts on the Indiana bat. The potential for significant adverse impact is further

heightened by concurrent pressures on the species resulting from White Nose Syndrome and habitat loss. For these reasons, an Environmental Impact Statement (EIS) is the appropriate level of review for the EverPower project and the other wind energy projects proposed for western Ohio. These projects should be jointly evaluated through a combined or "programmatic" EIS as provided for in the Council of Environmental Quality (CEQ) NEPA regulations, 40 C.F.R. § 1508.25(a)(2)-(3).

As the USFWS is aware, an EIS is required for any project subject to USFWS control and responsibility (such as permitting) that significantly affects the quality of the human environment. 42 U.S.C. § 4332(C); 43 C.F.R. § 46.100(a). According to the CEQ NEPA regulations, the following are some of the issues that should be considered when evaluating whether a project's effect on the environment is significant:

- a) *The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks (40 C.F.R. § 1508.27(b)(5)).* If constructed, this and the other projects proposed for western Ohio would present unique risks to the Indiana bat insofar as they would be the first wide-scale wind energy facilities in this portion of the species' range. USFWS has also noted that the full impact of wind turbines on bat populations is currently unknown. That fact, in addition to the incompleteness of the wind developers' assessment of the Indiana bat populations in Champaign County and surrounding areas, makes the potential effects of the wind projects on Indiana bats highly uncertain and unknown.
- b) *The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration (40 C.F.R. § 1508.27(b)(6)).* The Commenters are unaware of any existing USFWS-approved HCPs or ITPs relating to impacts of wind energy facilities on the Indiana bat. Moreover, as discussed above, the EverPower project is only the first of a number of proposed wind energy projects in west-central Ohio that will require HCPs and ITPs to mitigate impacts on the Indiana bat. USFWS has proposed the development of a regional HCP that would address these impacts, but that plan has not been completed. Therefore, any action on the HCP or ITP for the EverPower project prior to completion of the regional HCP would establish a precedent for future actions with significant effects, and would represent a decision by the Service about how to mitigate the impacts on the Indiana bat from wind energy projects in Ohio. It may also establish a precedent for mitigation in other states, such as West Virginia, where the Service may be called upon to evaluate the impact of wind energy facilities on the Indiana bat.
- c) *Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. (40 C.F.R. § 1508.27(b)(7)).* The construction and operation of at least seven wind power projects in western Ohio, consisting of a total of more than 500 utility-scale wind turbines, would have a significant cumulative impact on the Indiana Bat. The USFWS should address that impact in its entirety, rather than segmenting the impact in the context of individual projects.

All of these considerations underscore the need for thorough review of the impacts of the EverPower project through an EIS.

The CEQ regulations specifically contemplate the consolidation of NEPA review of multiple proposals where those programs can be grouped geographically (including actions occurring in the same general location, such as a watershed or region), or generically (including actions which have relevant similarities such as common timing, impacts, alternatives, methods of implementation, or subject matter). 40 C.F.R. § 1502.4(c). The proposed western Ohio wind projects meet all of those criteria. Furthermore, the Department of Interior's Department Manual states:

If proposed actions are planned for the same geographic area or are otherwise closely related, environmental analysis should be integrated to ensure adequate consideration of resource use interactions, to reduce resource conflicts, to establish baseline data, to monitor and evaluate changes in such data, to adapt actions or groups of actions accordingly, and to comply with NEPA and the CEQ Regulations.

516 DM 1.5(A)(3). For these reasons, a programmatic EIS would be the most appropriate and efficient means of evaluating the impacts of the EverPower project and other proposed wind farms in western Ohio.

Even if the EverPower project is evaluated on its own, however, the scope of NEPA review must consider the cumulative impacts of the EverPower project with other western Ohio wind projects, since those projects are reasonably foreseeable. 40 C.F.R. § 1508.27(b)(7) (action has "significant" environmental impacts where related to other actions with cumulatively significant impacts); *Id.* § 1508.7 ("cumulative impact" is the impact on the environment which results from the proposed action and other reasonably foreseeable future actions regardless of what agency or person undertakes them). Even if permissible, therefore, there is no practical advantage to reviewing the EverPower project in a stand-alone NEPA analysis.

The EverPower project is not eligible for any categorical exclusion listed under the Department of Interior NEPA regulations (43 C.F.R. § 46.210). Although the USFWS has established a categorical exclusion for "low effect" incidental take permits (516 DM 8.5(C)), that exclusion only applies to "permits that, despite their authorization of some small level of incidental take, *individually and cumulatively* have a minor or negligible effect on the species covered in the HCP." U.S. Fish and Wildlife Service, *Habitat Conservation Planning Handbook* at 1-8 (emphasis added). The individual and cumulative effects of the EverPower project, taking into account the effects of White Nose Syndrome and the additional wind energy projects proposed for western Ohio, cannot be deemed to be "minor or negligible."

In conclusion, the Commenters believe that a programmatic EIS, covering the EverPower project and other wind energy facilities proposed for western Ohio, is the appropriate level of NEPA review. However, if the Service initially determines that a full EIS is not appropriate, an Environmental Assessment (EA) is clearly warranted. If the Service elects to prepare an EIS or

EA, the Commenters request an opportunity to review and comment on a draft of the document prior to its finalization.

NEPA Requires The USFWS To Evaluate All Significant Effects Of The Project On The Human Environment.

An EIS must evaluate all significant effects of a project on the quality of the human environment. 40 C.F.R. § 1502.1 (EIS must provide “full and fair discussion of significant environmental impacts” of a project). EverPower’s project will also harm other species of bats, since EverPower’s bat consultant found seven bat species in the project area. These bats included a colony of Northern Myotis found near a proposed turbine site. In addition to impacts on bats, the EverPower project will have other significant impacts on the quality of the human environment, including noise, health effects, and shadow flicker, and adverse socioeconomic impacts such as diminution in property values. These effects are discussed more fully in the Commenters’ briefs submitted to the OPSB, copies of which are enclosed and incorporated by reference herein. Appendices 6, 7. These effects should also be considered by the USFWS in the course of its NEPA review.

If The USFWS Issues An Incidental Take Permit, The Permit Should Contain The Conditions Necessary To Protect The Indiana Bats In The Vicinity And Their Habitat.

Bats are essential to agriculture and the ecosystem. They pollinate plants and eat insects that otherwise would consume the farmers’ crops or cause discomfort to people. For example, Indiana bats eat beetles, flies, mosquitoes, gnats, midges, and “no-see-ums.” The bats are also important for aesthetic and recreational enjoyment.

Unfortunately, bats die by flying into wind turbines, or as the rotating turbine blades hit them. Bats are attracted to moving wind turbines, increasing their chances of flying into the turbines. Bats that venture close to rotating turbines also die from barotrauma when their lungs decompress and collapse in the air pressure from the blades.

Therefore, the Indiana bat is both important and vulnerable. Consequently, the USFWS should require EverPower to implement a number of conditions to protect this valuable species and its habitat. USFWS has found that habitat loss is a significant threat to the Indiana bat. *See the Recovery Plan at 74.* The Commenters suggest the following conditions to protect the species and its habitat.

First, USFWS should prohibit EverPower from damaging any caves that could serve as bat hibernacula. Previously, Diane McConnell submitted information to USFWS about caves thought to be on private property in Champaign County. *See the letter from Diane McConnell to Megan Seymour (Appx. 8).* To the best of Commenters’ knowledge, these caves have not been examined for the presence of Indiana bats. These caves and any other structures with the potential to serve as hibernacula should be protected.

Second, USFWS should protect the trees in which Indiana bats reside while not in hibernacula. As discussed above, Indiana bat roosts are typically located within canopy gaps and along edges of forested habitats, but maternity colonies and other roosts also occur in small clumps of trees or isolated trees. Since the Recovery Plan (at 67-68) finds that most Indiana bat maternity colonies have been discovered in agricultural areas with fragmented forests and low-to-moderate forest cover, it is important to protect this habitat in the EverPower project area. According to EverPower's OPSB application, the company plans to clear 4.1 acres of trees to construct the 70 currently identified turbine sites and associated facilities. If EverPower cuts down trees that are suitable for Indiana bat roosting or nesting, this will exacerbate the habitat loss that is endangering the species, particularly in this area where forest tracts are already fragmented. USFWS recommended a ban on the clearing of forest cover for turbines and infrastructure as one of its potential minimization measures for the Babcock and Brown project in Logan County. *See* the Babcock and Brown Draft Recommendations for Logan County Wind Energy Project (Appx. 9). USFWS should implement this recommendation for the EverPower project and prohibit EverPower from cutting or clearing any forest cover, including any isolated trees that provide suitable habitat for Indiana bats.

Third, if EverPower cuts trees while Indiana bats are roosting in them, the bats may be killed or harmed. Consequently, it is important to protect trees suitable for Indiana bat habitat during the season in which the bats are likely to use them. Indiana bats arrive at their summer habitat as early as late March. *See* the Recovery Plan at 44-45, 49. Most Indiana Bats enter hibernation by the end of November. Recovery Plan at 42. The bats stay active during the fall, when the bats fly in and out of the caves in which they intend to hibernate through the winter. Recovery Plan at 40-42. Consequently, no tree clearing should occur between April 1 and November 30 in areas in which Indiana bats may reside.

Fourth, five-mile setbacks should be imposed to prevent Indiana bats from flying into wind turbines or dying of barotrauma. Mary Knapp's letter of May 21, 2007 recommends that turbines not be placed near bat breeding or maternity colonies or in flight paths between Indiana bat colonies and feeding areas. *See* Appx. 2, p. 4. Five miles is the appropriate distance for a setback, because that is the Indiana bat's travel range from summer roost sites for foraging. The Recovery Plan finds (at 50-51) that Indiana bats have a documented travel range of up to 5.2 miles across open fields and highways to forage for food. EverPower's bat consultant verified during the OPSB hearing that Indiana bats in or near EverPower's survey area in Logan County flew across open areas while being tracked from their capture zones. EverPower should be held to a five-mile standard through a condition requiring all turbines to be at least five miles away from Indiana bat capture and roost locations, including maternity colonies. If an Indiana bat roost is found within five miles of a turbine subsequent to construction, the turbine should be turned off between April 1 and November 30 of each year.

Although EverPower has identified the sites at which it wishes to locate 70 of its turbines, these sites are not yet cast in stone. According to testimony at the OPSB hearing, EverPower has only entered into pre-leases with participating landowners. Therefore, EverPower is not contractually obligated to use its currently proposed turbine sites and can still change the turbine locations. Even if turbines are removed from the project to protect the Indiana bat, EverPower has the means to keep its project viable by substituting more suitable locations as turbine sites. The fact

that it apparently plans to develop an additional 30 turbine sites shows that alternative locations are available. Consequently, EverPower has the ability to comply with a reasonable setback from capture and roost locations.

Fifth, the USFWS should require a 10-mile setback from hibernacula. Mary Knapp's letter of May 21, 2007 recommends that turbines not be sited near bat hibernation colonies. *See* Appx. 2, p. 4. According to the Recovery Plan (at 40), Indiana bats arrive at their hibernacula as early as July and may remain active at these sites through mid-October or later. During this time, the bats travel more than five miles to find food, and have been documented at distances of 9 and 19 miles from the cave. Recovery Plan at 41. For that reason, a setback of 10 miles from Indiana bat hibernacula would be a reasonable measure to protect swarming Indiana bats.

Sixth, Indiana bats are known to follow riparian corridors and streams when they travel. Therefore, the USFWS should establish a suitable setback between this habitat and the turbines.

Seventh, EverPower should be required to shut down its turbines at night during low wind so that Indiana bats will not be struck by the blades during calmer conditions in which they are more likely to fly. A study for the Bats and Wind Energy Cooperative, a consortium of state and federal agencies, wind industry, academic institutions, and non-governmental organizations, found that such curtailment can reduce bat fatalities by 53% to 87%. *See* Arnett, et al., Effectiveness of Changing Wind Turbine Cut-in Speed to Reduce Bat Fatalities at Wind Facilities, An Annual Report Submitted to the Bats and Wind Energy Cooperative, April 2009 (Appx. 10). This can be done with a minimum of lost energy production. *See* the Arnett report at 3 (finding that a 23-turbine project would lose only 1% of its total annual output with curtailment at and below 6.5 meters per second). USFWS recommended curtailment during wind speeds of seven meters per second or less between April 1 and October 31 annually as one of its potential minimization measures for the Babcock and Brown project in Logan County. *See* the Babcock and Brown Draft Recommendations for Logan County Wind Energy Project (Appx. 9). Consequently, curtailment will cause little loss of electrical production, and the USFWS should require this common sense measure for reducing bat mortality.

Eighth, EverPower should submit a meaningful post-construction bat mortality plan that not only counts and records the number of bat deaths, but also prevents excessive bat deaths. The paper by Kunz, *et al.* (at 320-21) recommends research objectives that can be incorporated into mortality plans and which we request that the USFWS consider for the EverPower project. We request that the eight monitoring procedures listed as "Required Monitoring" in USFWS' Babcock and Brown draft recommendations be incorporated into EverPower's HCP and ITP. Appx. 9. To obtain accurate results, all wind turbines should be monitored daily using dogs trained for that purpose. In addition, to prevent biased results, the monitoring should be conducted by an independent consultant under contract with USFWS using funds provided by EverPower to USFWS. The mortality plan should identify the number of bat fatalities deemed to be unacceptably high, and should specify the minimization measures that EverPower must undertake to reduce these deaths to an acceptable number.

Ninth, USFWS should require EverPower to use a phased approach to project development. For the first two years, EverPower should be allowed to construct and operate 1/5 of the planned

turbines while monitoring the turbines' effects on Indiana bats pursuant to its post-construction mortality plan. The results of this monitoring should be used to determine whether additional turbines may be installed. This is another potential minimization measure that USFWS identified for the Babcock and Brown wind project, and it makes sense for an EverPower project that could affect substantial numbers of Indiana bats. *See* Appx. 9. The results of this monitoring can then be used to plan the schedule for the remaining turbines that may be constructed if bat deaths are not significant.

This project will drastically affect the Commenters' community, and we thank you for the opportunity to comment on it. Please feel free to contact us about our comments.

Sincerely,



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Appendices:

1. Letter from E.ON
2. Letter from Mary Knapp of USFWS to Ken Davis of Union Township Zoning Commission dated May 21, 2007
3. T.M. Kunz, *et al.*, Ecological Impacts of Wind Energy Development on Bats: Questions, Research Needs, and Hypotheses, *Front. Ecol. Environ.* 2007; 5(6)
4. Letter from Mary Knapp of USFWS to Andrew Golembeski of Everpower Renewables dated January 18, 2008
5. Email from Keith Lott of the Ohio Department of Natural Resources to Jeff Gosse of USFWS dated July 15, 2009
6. UNU Intervenors' Post-Hearing Brief, *In re Buckeye Wind LLC*
7. UNU Intervenors' Post-Hearing Reply Brief, *In re Buckeye Wind LLC*
8. Letter from Diane McConnell to Megan Seymour
9. Babock and Brown Draft Recommendations for Logan County Wind Energy Project
10. Arnett, et al., Effectiveness of Changing Wind Turbine Cut-in Speed to Reduce Bat Fatalities at Wind Facilities, An Annual Report Submitted to the Bats and Wind Energy Cooperative, April 2009



E.ON Climate & Renewables North America, Inc. (E.ON) has been actively developing our Glacier Ridge Wind Farm. Many of your neighbors are already part of the project and it is our sincere hope that you join as well.

The Glacier Ridge Wind Farm project is quickly moving from the "site control stage" to the "permitting stage" and this requires a firm project boundary to allow for environmental work and permitting. This means our project timeline requires that E.ON identify who will be participating.

Once the permitting work begins, E.ON will not be able to change the project boundaries nor accommodate new property into our project boundary. It is my goal, as the project moves forward to make sure everyone has a chance to share in the benefits of this potential project before the opportunity passes.

I look forward to the opportunity to sit down with you and run through a presentation which will only take up about an hour of your time. I will make myself available for you at your convenience.

Thank you,

George Obsuth
E.ONC&R
Project Development Manager
Tel: 1-862-219-3169

Glacier Ridge Wind Farm - Term Sheet

Note: The final amount of MW will be determined by wind analysis, environmental restrictions, permitting and setback requirements.

# Turbines	MW
1	1.5

DEVELOPMENT PERIOD PAYMENTS

Yr. 1	\$	15.00	per acre
Yr. 2	\$	15.00	per acre
Yr. 3	\$	15.00	per acre
Yr. 4	\$	15.00	per acre
Yr. 5	\$	15.00	per acre
Yr. 6	\$	15.00	per acre

Signing Bonus - Upon Signing - **\$5,000** per legal entity

CONSTRUCTION PAYMENTS - Upon Moving to Construction Period - **\$5,000** per turbine

ROYALTIES - Upon Commercial Operation

Note: Assumes 33% Capacity Factor, all-in energy scenarios of \$55, \$65 & \$75 with no escalation.

One Turbine Scenario (1.5MW) - Annual Payments

All-In Energy		\$55		\$65		\$75		Min. Payment (\$3,000/MW)
yrs 1 - 10	5%	\$	11,925	\$	14,093	\$	16,261	\$ 4,500
yrs 11 - 20	6%	\$	14,309	\$	16,911	\$	19,513	\$ 4,500
yrs 21 - 30	7%	\$	16,694	\$	19,730	\$	22,765	\$ 4,500
Extension								
yrs 31 - 40	7%	\$	16,694	\$	19,730	\$	22,765	\$ 4,500
yrs 41 - 50	7%	\$	16,694	\$	19,730	\$	22,765	\$ 4,500

(Actual royalty payments will be dependant upon the number & MWs of turbines, capacity factor and all-in energy value)

Appendix 1

Term Sheet

Prepared by : George Obsuth
 Note: The final amount of MW may be impacted by GEO Tech. Wind Resource, Environmental, Permitting, and Sel-back requirements.

Acres	# Turbines	MW
		1.5

WIND TURBINE OPTION TO LEASE

"Option" Period Payments Signing Bonus - Upon Signing - \$5,000
 Term = 6 Years

	Dollar / Acre / Month	Number of Acres	Annual Payment	Plus# of entities	Per entity Bonus	Total entity bonus amount	Total1yr development paymeht
Yr. 1	\$15.00	x			5,000	<u>\$5,000.00</u>	!
Yr. 2	\$15.00	x					
Yr. 3	\$15.00	x					
Yr. 4	\$15.00	x					
Yr. 5	\$15.00	x					
Yr. 6	\$15.00	x					



Appendix 1

PIN	Acreage	LO Label



Appendix 2
United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
6950 Americana Parkway, Suite H
Reynoldsburg, Ohio 43068-4127

(614) 469-6923 voice
(614) 469-6919 fax

May 21, 2007

Mr. Ken Davis

Secretary, Union Township Zoning Commission
3892 Dowds Dr.
Urbana, OH 43078

Dear Mr. Davis:

This is in response to the recent e-mails and telephone calls between yourself and staff biologist Megan Seymour regarding proposed wind power developments in Champaign County, Ohio, and potential impacts on wildlife due to the proposed turbines. As background, Champaign County is located in west-central Ohio, and is typically a rural, agricultural area. Scattered blocks of wildlife habitat exist in relatively isolated privately-held woodlots, within state properties such as Cedar Bog State Nature Preserve and Kiser Lake State Park, and in and around scattered kettle wetland areas.

These comments are being provided pursuant to the Endangered Species Act (ESA), Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act, and Fish and Wildlife Act of 1956. This information is being provided to assist you in making an informed decision regarding local zoning relative to wind power and wildlife issues, site selection, project design, and compliance with applicable laws. As we have not seen a specific proposal, we are unable to provide detailed, site-specific recommendations at this time.

The Fish and Wildlife Service (Service) supports the development of wind power as an alternative energy source, however, wind farms can have negative impacts on wildlife and their habitats if not sited and designed with potential wildlife and habitat impacts in mind. Selection of the best sites for turbine placement is enhanced by ruling out sites with known, high concentrations of birds and/or bats passing within the rotoswept area of the turbines or where the effects of habitat fragmentation will be detrimental. In support of wind power generation as a wildlife-friendly, renewable source of power, development sites with comparatively low bird, bat and other wildlife values, would be preferable and would have relatively lower impacts on wildlife.

WATER RESOURCE COMMENTS:

The Service recommends that impacts to streams and wetlands be avoided, and buffers surrounding these systems be preserved. Streams and wetlands provide valuable habitat for fish and wildlife resources, and the filtering capacity of wetlands helps to improve water quality. Naturally vegetated buffers surrounding these systems are also important in preserving their wildlife-habitat and water quality-enhancement properties. Furthermore, forested riparian systems (wooded areas adjacent to streams) provide important stopover habitat for birds migrating through the region. The proposed activities do not constitute a water-dependent activity, as described in the Section 404(b)(1) guidelines, 40 CFR 230.10. Therefore,

practicable alternatives that do not impact aquatic sites are presumed to be available, unless clearly demonstrated otherwise. Therefore, before applying for a Section 404 permit, the client should closely evaluate all project alternatives that do not affect streams or wetlands, and if possible, select an alternative that avoids impacts to the aquatic resource. If water resources will be impacted, the Huntington District of the Corps of Engineers should be contacted for possible need of a Section 404 permit.

ENDANGERED SPECIES COMMENTS:

Because of the potential for wind power projects to impact endangered bird, bat, or other listed species, they are subject to the Endangered Species Act (16 U.S.C. 1531-1544) section 9 provisions governing "take", similar to any other development project. Take incidental to a lawful activity may be authorized through the initiation of formal consultation, if a Federal agency, is involved; or if a Federal agency, Federal funding, or a Federal permit are not involved in the project, an incidental take permit pursuant to section 10(a)(1)(B) of the ESA may be obtained upon completion of a satisfactory habitat conservation plan for the listed species. However, there is no mechanism for authorizing incidental take "after-the-fact."

The proposed project lies within the range of the **Indiana bat** (*Myotis sodalis*), a Federally-listed endangered species. Since first listed as endangered in 1967, their population has declined by nearly 60%. Several factors have contributed to the decline of the Indiana bat, including the loss and degradation of suitable hibernacula, human disturbance during hibernation, pesticides, and the loss and degradation of forested habitat, particularly stands of large, mature trees. Fragmentation of forest habitat may also contribute to declines. Summer habitat requirements for the species are not well defined but the following are considered important:

1. Dead or live trees and snags with peeling or exfoliating bark, split tree trunk and/or branches, or cavities, which may be used as maternity roost areas.
2. Live trees (such as shagbark hickory and oaks) which have exfoliating bark.
3. Stream corridors, riparian areas, and upland woodlots which provide forage sites.

The Service currently has no records for Indiana bats within Champaign County, however this is due to an absence of survey data for this area. This region does lie within an area primarily underlain with limestone or dolomite, indicating that the presence of caves is possible. Please see the Ohio Department of Natural Resources, Division of Geological Survey Ohio Karst Areas Map (www.dnr.state.oh.us/geosurvey/pdf/karstmap.pdf, attached), for additional information. If caves or sinkholes are present within the project area, we recommend further coordination with this office.

Because wind turbines have been documented to kill bats in other states such as Pennsylvania and West Virginia, we recommend that the Applicant first determine if mortality of Indiana bats is likely within the proposed project area, and therefore, if formal consultation to authorize take of the bat under Section 10 or 7 of the Endangered Species Act should be initiated. In order to determine the presence or likely absence of the bat within the project area, the Service recommends that the project area be examined to determine if suitable Indiana bat habitat exists, and if turbines will be constructed in or near suitable habitat. If suitable habitat exists and will be impacted by turbine construction, a pre-construction mist net survey for the Indiana bat should be performed. The survey must be completed by a person/firm permitted to perform such surveys, and the survey protocol must be coordinated with the Endangered Species Coordinator in this office. A list of permitted surveyors is attached for your use. Based on the results of the mist net survey as well as a more detailed project description, the Service will work with the

Applicant to determine whether or not formal consultation relative to the Indiana bat will be necessary, and/or to identify any necessary avoidance and minimization measures that should be implemented to protect the bat and its habitat.

The project lies within the range of the eastern massasauga (*Sistrurus catenatus catenatus*), a docile rattlesnake that is declining throughout its national range and is currently a Federal Candidate species. The snake is currently listed as endangered by the State of Ohio. Your proactive efforts to conserve this species now may help avoid the need to list the species under the Endangered Species Act in the future. Due to their reclusive nature, we encourage early project coordination to avoid potential impacts to massasaugas and their habitat. At a minimum, project evaluations should contain delineations of whether or not massasauga habitat occurs within project boundaries.

The massasauga is often found in or near wet areas, including wetlands, wet prairie, or nearby woodland or shrub edge habitat. This often includes dry goldenrod meadows with a mosaic of early successional woody species such as dogwood or multiflora rose. Wet habitat and nearby dry edges are utilized by the snakes, especially during the spring and fall. Dry upland areas up to 1.5 miles away are utilized during the summer, if available. For additional information on the eastern massasauga, including project management ideas, please visit the following website:

<http://www.fws.gov/midwest/Endangered/lists/candidat.html#massasauga> or contact this office directly.

If suitable habitat is found within the project area, this office should be contacted to determine if quantitative surveys for the species should be conducted.

The proposed project lies within the range of the rayed bean mussel (*Villosa fabalis*), a Federal Candidate species. The rayed bean is generally known from smaller, headwater creeks, but records exist in larger rivers. They are usually found in or near shoal or riffle areas, and in the shallow, wave-washed areas of lakes. Substrates typically include gravel and sand, and they are often associated with, and buried under the roots of, vegetation, including water willow (*Justicia americana*) and water milfoil (*Myriophyllum* sp.). The rayed bean has been recorded in Little Darby Creek, and is potentially present in its tributaries. Should the proposed project directly or indirectly impact any of the habitat types described above, we recommend that a survey be conducted to determine the presence or probable absence of rayed bean mussels in the vicinity of the proposed site.

MIGRATORY BIRD COMMENTS:

The Migratory Bird Treaty Act (16 U.S.C. 703-712; MBTA) implements four treaties that provide for international protection of migratory birds. The MBTA prohibits taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Department of the Interior. Bald and golden eagles are afforded additional legal protection under the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d). Unlike the Endangered Species Act, neither the MBTA nor its implementing regulations at 50 CFR Part 21, provide for permitting of "incidental take" of migratory birds.

The Service's Office of Law Enforcement serves its mission to protect Federal trust wildlife species, in part, by actively monitoring industries known to negatively impact wildlife, and assessing their compliance with Federal law. These industries include oil/gas production sites, cyanide heap/leach mining operations, industrial waste water sites, and wind power sites. There is no threshold as to the number of birds incidentally killed by wind power sites, or other industry, past which the Service will seek to initiate enforcement action. However, the Service is less likely to prioritize enforcement action against a site operator that is cooperative in seeking and implementing measures to mitigate takes of protected wildlife.

The Service's "voluntary" Interim Guidance on Avoiding and Minimizing Impacts from Wind Turbines may be helpful as you evaluate your proposed wind power generation site.

(<http://www.fws.gov/habitatconservation/wind.htm>). The guidance contains a pre-development site evaluation and ranking process to assess potential project impacts, as well as recommendations for conducting post-construction monitoring. We recommend that you reference these voluntary guidelines when recommending/requiring pre- and post-construction wildlife monitoring of wind power projects within Champaign County. Pre-construction monitoring generally includes several steps: first, assessment of the physical habitat of the project area must occur to determine if suitable for birds and/or bats exists and will be impacted (see the checklists in the Service's Interim Guidance). If suitable habitat is present and will be impacted, additional studies including point counts, breeding bird surveys, radar surveys, acoustical surveys, mist netting and/or other studies may be recommended.

We encourage any company/licensee proposing a new wind farm to consider the following excerpted suggestions from the guidelines in an effort to minimize impacts to migratory birds and bats.

- 1) Pre-development evaluations of potential wind farm sites to be conducted by a team of Federal and/or State agency wildlife professions with no vested interest in potential sites;
- 2) Rank potential sites by risk to wildlife;
- 3) Avoid placing turbines in documented locations of federally-listed species;
- 4) Avoid locating turbines in known bird flyways or migration pathways, or near areas of high bird concentrations (i.e., rookeries, leks, refuges, riparian corridors, etc.);
- 5) Avoid locating turbines near known bat hibernation, breeding, or maternity colonies, in migration corridors, or in flight paths between colonies and feeding areas;
- 6) Configure turbine arrays to avoid potential avian mortality where feasible. Implement storm water management practices that do not create attractions for birds, and maintain contiguous habitat for area-sensitive species;
- 7) Avoid fragmenting large, contiguous tracts of wildlife habitat;
- 8) Use tubular supports with pointed tops rather than lattice supports to minimize bird perching and nesting opportunities;
- 9) If taller turbines (top of rotorswept area is greater than 199 feet above ground level) require lights for aviation safety, the minimum amount of lighting specified by the Federal Aviation Administration (FAA) should be used. Unless otherwise requested by the FAA, only white strobe lights should be used at night, and should be of the minimum intensity and frequency of flashes allowable. Red lights should not be used, as they appear to attract night-migrating birds at a higher rate than white lights;
- 10) Adjust tower height to reduce risk of strikes in areas of high risk for wildlife.

The guidance also contains more information on the applicable laws and permitting aspects, in Appendices 3 and 5. Service staff welcome the opportunity to work with representatives of your county or the wind industry in development of both pre- and post-construction monitoring and would appreciate the opportunity to review study proposals in advance of implementation.

Furthermore, you requested samples of survey protocol that may be applied to your particular situation. Enclosed please find the draft monitoring protocol for the proposed Twin Groves, IL wind power project. This is an example of a post-construction monitoring protocol that incorporates a scientifically rigorous proposal that will account for both searcher efficiency and scavenger removal of dead animals. We also suggest that you examine the National Wind Coordinating Committee's "Studying wind energy/bird interactions: a guidance document," which can be found at:

http://www.nationalwind.org/publications/wildlife/avian99/Avian_booklet.pdf

This document contains recommendations on designing appropriate pre-construction wildlife studies for wind power projects.

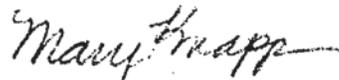
GENERAL WILDLIFE COMMENTS:

As noted above, wind turbines in other states have been known to kill birds and bats and to fragment suitable habitat causing avoidance behavior in birds.

Wind power developments on forested ridge tops, such as occur in Logan County and northeast Champaign County, have been known to result in potentially high mortality rates for bats in particular in Pennsylvania and West Virginia. Bats found susceptible to turbine strikes include species that occur in Ohio. Furthermore, projects in Canada grasslands/farmlands have also been found to kill unexpectedly high numbers of bats. Bats typically produce only one offspring per year, so even small amounts of additive mortality can impact populations over time. In order to document pre-construction bat populations, we recommend that the above suggested pre-construction studies include bat habitat evaluations and potentially mist net and acoustical surveys to document genus/species of bats in the area, and the results used to infer bat use of the project area and potential impact. Should bat use of the project area seem significant, further coordination with this office should be pursued. Furthermore, if post-construction surveys document high levels of bat mortality, resource agencies should be contacted to determine if mitigation measures are necessary.

Thank you for the opportunity to provide comments on the development of wind power in Champaign County, Ohio. Please contact biologist Megan Seymour at extension 16 in this office if we can be of further assistance.

Sincerely,



Mary Kpapp, Ph.D.
Supervisor

- Attachments:
- (1) Indiana bat consultant list
 - (2) Ohio Karst Areas Map
 - (3) Twin Groves Monitoring Protocol 11-30-2006