



United States Department of the Interior



FISH AND WILDLIFE SERVICE

3817 Luker Road
Cortland, NY 13045

August 13, 2013

Mr. Kevin Gaines
Vice Chairman
Town of Denmark Planning Board
3717 Roberts Road
Carthage, NY 13619

Dear Mr. Gaines:

The U.S. Fish and Wildlife Service (Service) has reviewed the Draft Environmental Impact Statement (DEIS) for the proposed Copenhagen Wind Farm (Project) in the Town of Denmark, Lewis County, and the Towns of Rutland, Champion, and Watertown, Jefferson County, New York. The Project is proposed by Copenhagen Wind Farm, LLC, a subsidiary of OwnEnergy. The Town of Denmark Planning Board, acting as lead agency in the State Environmental Quality Review Act (SEQRA) process, is considering potential impacts from the construction, operation, maintenance, and eventual decommissioning of up to 49 wind turbines that are expected to generate up to 79.9 megawatts of power. Proposed turbines are the GE 1.6-100 wind turbine with a rated capacity of 1.62 MW. Turbine structures are anticipated to be approximately 492 feet tall from the ground to the highest blade tip position. The Project will also include construction of up to 17 miles of gravel access roads, 24 miles of buried or overhead 34.5 kV electrical collector lines, a collection substation, an 8-acre temporary construction staging area, a 3.5-acre operations and maintenance facility, and three permanent 328-foot tall meteorological towers located in the Town of Denmark. Approximately 9 miles of overhead transmission line (115 kV) is proposed to connect the project at a point of an interconnection station located immediately adjacent to the existing National Grid East Watertown substation through the Towns of Denmark, Rutland, Champion, and Watertown. The anticipated life of the Project is estimated to be a minimum of 25 years.

The Project is situated north of the Tug Hill Plateau in an area primarily comprised of forest and agriculture cover types. The size of the Project area is approximately 9,700 acres.

Our review and comments are being provided under the SEQRA and as technical assistance pursuant to the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*), the Migratory Bird Treaty Act (MBTA) (40 Stat. 755; 16 U.S.C. 703-712), and the Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668-668d). This response does not preclude additional Service comments under other legislation.

It appears that the Project may affect species under the Service's jurisdiction pursuant to the MBTA. Migratory birds, such as waterfowl, passerines, and raptors are federal trust resources and are protected by provisions of the MBTA. The Service is the primary federal agency responsible for administering and enforcing the MBTA. This Act prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests except when specifically authorized by the Service. The word "take" is defined as "to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect." The unauthorized taking of birds is legally considered a "take" under the MBTA and is a violation of the law. Neither the MBTA nor its implementing regulations, 50 CFR Part 21, provide for permitting of "incidental take" of migratory birds that may be killed or injured by wind projects. However, we recognize that some birds may be killed at structures such as wind turbines even if all reasonable measures to avoid it are implemented. Depending on the circumstances, the Service's Office of Law Enforcement may exercise enforcement discretion. The Service focuses on those individuals, companies, or agencies that take migratory birds with disregard for their actions and the law, including when conservation measures have been developed, but are not properly implemented.

The following represents our comments on the text of the DEIS, in order of appearance in the document:

Section 1.0 Executive Summary

Please note that the Summary of Impacts Table erroneously includes the "proximity of proposed wind turbines to the Cortland County landfill."

We recommend that Summary of Mitigation Measures Section should discuss the Project commitments currently being developed in a separate Avian and Bat Protection Plan document.

Finally, text on Page 6 indicates that the project could operate at 35 percent of its nameplate capacity. Nameplate capacity is the maximum amount of electricity that a project could generate under ideal conditions. However, the document does not mention that many wind energy projects in New York only generate a fraction of the nameplate capacity. Data from the New York Independent System Operator (NYISO) indicate that most New York wind energy projects fail to generate more than 23 percent of their nameplate capacity (NYISO 2011). The claim of electricity produced by the project should be clarified and substantiated.

Section 2.5 Project Layout and Components

Section 2.5.1 Project Siting Criteria - We understand that final siting of turbines and associated facilities has not yet been decided. Section 5.1 provides some discussion about alternative project areas, but does not go into extensive detail about the decision-making process involved with the final selection of the Project location. We encourage the Project Sponsor to review and apply the Service's "U.S. Fish and Wildlife Service Land-Based Wind Energy Guidelines" (Guidelines) (Service 2012) during the design of the Project.

Section 2.5.3 Electrical System - We support the proposal to install underground cabling for the electrical collector system wherever possible. There are several situations where underground installation is considered “infeasible due to constraints such as rivers, streams, or creek crossings, bedrock, etc.” We recommend that the Final EIS analyze the use of horizontal boring or horizontal directional (HDD) drilling methods for stream crossings.

A description is provided of the proposed nine-mile-long overhead transmission line that will transport generated electricity to the power grid. However, no mention is made of whether this facility is or can be collocated with other utility rights-of-way to limit environmental impacts. The 115 kV transmission line design is preliminary, but anticipated to be carried on steel or treated wood pole structures.

Section 2.5.5 Wind Measurement Tower - Three permanent meteorological towers (100 meters tall) will be built – either guy galvanized tubular or lattice steel structures. Birds are known to collide with support wires resulting in injury or death. The Service recommends a monopole design where no guy wires are used to support the structure. In addition, the towers should be as short as possible since the risk of avian collision increases with tower height (Service 2011a).

Section 2.6 Project Construction

The proposed beginning of construction is spring/summer of 2014. To avoid removing trees when Indiana bats (and other roosting bats) may be present, tree removal should occur between October 31 and March 31 when they have returned to their hibernaculum. These dates will also minimize the take of nests of migratory birds.

Section 2.6.3 Site Preparation for Construction - It is noted that a 100-foot-wide corridor will be cleared of vegetation for construction of turbine access roads. We believe that in most situations this represents an excessive amount of vegetation removal. Other New York wind energy projects have specified widths of 60 feet (e.g., Rolling Upland, Stony Creek). Limiting the amount of vegetation clearing will reduce habitat disturbance and loss.

Section 2.7 Operations and Maintenance

The DEIS states that the wind turbines will be operating when the wind speeds are within the operating range (3 m/s- 25 m/s). We recommend operating turbines during periods when there is lower risk for causing fatalities to bats. For example, at night between the months of April to October, we recommend operating turbines during wind speeds when limited bat activity is likely to occur.

Section 2.9 Required Approvals and Applicable Regulatory Programs

We encourage coordination with the New York State Department of Environmental Conservation (NYSDEC) to determine whether an incidental take permit for any state-listed species may be needed.

We recommend rewriting the description of Service involvement to state “Coordination and/or consultation pursuant to the Endangered Species Act.”

Section 3.2 Water Resources

Section 3.2.2.1.1 Surface Waters and Wetlands (Potential Construction Impacts) - This section includes several siting criteria designed to avoid or minimize permanent impacts to streams and wetlands including:

- avoiding construction of facilities in wetlands;
- routing access road crossings around wetlands whenever possible and utilizing existing crossings and narrow crossing locations;
- avoiding crossing forested wetlands whenever possible, crossing wetlands at narrow points, and utilizing installation techniques that minimize temporary wetland impacts for the 34.5 kV electric interconnect lines; and
- spanning wetlands whenever possible and crossing wetlands at narrow points for the overhead transmission line.

We recommend the co-location of access roads and buried electrical interconnect lines to minimize disturbance to wetlands. We also recommend addressing how the project will avoid introduction or spread of non-native invasive plant species in this section.

We understand that approximately 0.53 acre of permanent impacts and 14 acres of temporary impacts to wetlands/streams are currently anticipated as part of the Project construction. We also understand that wetland delineations have not yet been completed and the acreage of disturbance may change. Once more definitive wetland boundaries are known, the DEIS should be revised to reflect a more accurate impact assessment. Since a majority of the wetlands in the project area are forested, this section should address the potential for fragmentation due to construction activities.

Section 3.2.3 Proposed Mitigation - The DEIS suggests that the Project Sponsor will develop an on-site or off-site compensatory mitigation project, ranging from creation of in-kind wetland to contribution to an agency-approved mitigation bank or in-lieu fee program. Mitigation should be provided for any conversion of forested wetlands to another vegetation community type. The Service will provide comments to the U.S. Army Corps of Engineers (Corps) when the mitigation plan is made available.

The DEIS provides additional details about methods to avoid/minimize impacts to wetlands and surface waters. As stated above, we recommend considering horizontal boring or HDD as an option to further minimize impacts. We also recommend addressing invasive species in this section.

Section 3.3 Biological Resources

3.3.1.1.2 Significant Natural Communities/Rare Plant Species - Field surveys were conducted from August 20 to 23, and October 2 to 4, 2012, when many plants would not be observed or readily identifiable. Field investigations should be conducted at the appropriate time of year to observe these species. The DEIS states that follow-up field surveys will occur prior to construction. We recommend conducting these surveys prior to completing the SEQRA process in order to accurately identify and evaluate all potential impacts that are likely to result from implementation of the Project.

Section 3.3.1.2.4 Fish - This section does not provide adequate fish data for the project area. It is mentioned that no surveys were conducted or existing data obtained from other sources. This section states that, "One state-classified trout stream flows through the Project area, Boynton Creek." However, Section 3.2.1.1 discusses the presence of two class C(t) NYSDEC-protected streams (Boynton Creek and an unnamed tributary to Boynton Creek). We recommend contacting the NYSDEC for data they may have collected or otherwise possess. If no existing data are available, this should be noted in the Final EIS. In that case, a rapid bioassessment could be completed to at least characterize the streams in the Project area.

Section 3.3.1.2.6 Threatened and Endangered Wildlife Species - The DEIS provides some information on the federally- and state-listed endangered Indiana bat (*Myotis sodalis*). As the DEIS states, all but a couple potential turbine locations are located within 20 miles of a known hibernaculum (Glen Park). The transmission line portion of the Project is within approximately 6.2 miles from Glen Park, and 3.7 miles and 6.4 miles of known maternity colony roosts in the Towns of Watertown and LeRay, respectively. Surveys to document the presence/probable absence of a summer maternity colony (colony of females and their young) within the Project area were conducted in 2012. No Indiana bats were captured during mist-netting and several myotid calls were recorded that could not be identified to species between Indiana bat or little brown bat (Sanders 2013).

The DEIS suggests that results from a study that tracked Indiana bats leaving the Glen Park hibernaculum in the spring of 2005 demonstrate that an Indiana bat maternity colony would be unlikely in the vicinity of the Project. The rationale appears to be that Indiana bats generally fly north, northwest, west, southwest, and south of Glen Park. The U.S. Army made a similar determination prior to Indiana bats being documented on the Fort Drum Military Installation (Fort Drum) (~6 miles east/northeast of Glen Park). However, a maternity colony of Indiana bats was subsequently documented on Fort Drum. Given the results of the 2012 surveys and elevation of the Project (>900 feet), we agree that a maternity colony is currently unlikely to occur within the Project area. Also, please note that the DEIS erroneously refers to 71 bats tracked during the 2005 study. This should be corrected as 32 (30 females and 2 males) Indiana bats were fitted with radio transmitters and 26 (24 females and 2 males) were subsequently tracked to at least one roost tree.

While we agree that a maternity colony is unlikely to be occur within the Project area, the DEIS fails to address the potential for periodic activity within the Project area during spring and fall

migration, during fall swarming, and by males in the summer. As stated above, virtually the entire Project is located within 20 miles of Glen Park. In the fall, Indiana bats congregate and become more abundant near hibernacula, as mating and swarming occurs in these areas. The larger the hibernacula, the more bats are expected to occur in the immediate vicinity of the cave/mine and the farther away from the hibernacula bats may travel to forage before returning to the cave/mine (Service 2007). For these reasons, current draft guidelines (Service 2011b, question #32) recommend that the area within 20 miles of P1 and P2 hibernacula¹ (Glen Park is a P2 hibernaculum), and the area within 10 miles of P3 and P4 hibernacula, be considered swarming areas. Indiana bats are expected to occur more frequently inside than outside these areas. Indiana bats have been documented to have fidelity to hibernacula (LaVal and LaVal 1980). Due to the tendency of male Indiana bats to spend the summer months near hibernacula, swarming habitat is likely to be used as summer habitat as well. Indiana bats are generally expected to be active (outside of hibernacula) within 20 miles of Glen Park between April 1 to October 31. In addition, Indiana bats may fly through the Project area during spring and fall migration to suitable low elevation habitat along the Black River corridor just east of the Project. The DEIS should be revised to address whether the proposed project is likely to adversely impact Indiana bats.

Either in this section or in Section 3.3.1.2.2, we recommend discussing the fact that the Service is currently evaluating three bat species to determine whether they warrant listing under the ESA. These three species are the northern long-eared bat (*Myotis septentrionalis*), eastern small-footed bat (*Myotis leibii*), and little brown bat (*Myotis lucifugus*). The Service was petitioned to list the northern long-eared and eastern small-footed bat and published a positive 90-day finding for both species in June 29, 2011. This means that sufficient information was provided to conduct a more thorough analysis of their status. We anticipate publishing a 12-month finding for these species in the fall of 2013. In that document, the Service will determine whether the northern long-eared bat or eastern small-footed bat warrant protection under the ESA. If so, the Service will publish a proposal for their listing and solicit public comments on the proposal. The Service is also conducting a status assessment for the little brown bat. Both little brown and northern long-eared bats were documented during the above-mentioned netting and/or acoustic surveys.

We agree that impacts to the federally-endangered piping plover (*Charadrius melodus*) are not anticipated from construction or operation of the Project.

Section 3.3.2.1.1 Vegetation (Potential Impacts from Construction) - Table 8 provides a summary of impacts to “vegetation” by location of activity for the Project. We recommend including a table (or several tables) that breaks “vegetation” into coarse vegetative cover types (e.g., grassland, cropland, deciduous forest). In addition, based upon the proposed number of turbines, access roads and transmission lines, the amount of permanent loss of habitat for the construction of wind turbines and workspaces, 12.4 acres, in Table 8 seems too low. Please confirm the acreage.

Finally, the document indicates that invasive plant species in regulated wetlands, streams, and other riparian areas will be controlled through the use of an Invasive Species Control Plan.

¹ Definitions of Priority numbers are found in the Draft Indiana Bat Recovery Plan (Service 2007).

However, there is no mention of controlling invasive plants on upland areas where a similar effort should be completed.

Section 3.3.2.1.2 Fish and Wildlife (Potential Impacts from Construction) - The DEIS points out that wildlife (including eggs and/or young of nesting birds) may be killed if construction occurs during the nesting season. To avoid impacts to most nesting migratory birds, vegetation removal should not occur between April 1 and July 15. Similarly, the DEIS states that, “it cannot be verified when tree clearing activities will be conducted. Tree clearing during the winter months would present the lowest potential risk to bats by avoiding potential removal of roosting trees.” We agree. Tree removal should not occur between April 1 and October 31 to minimize the likelihood of directly impacting tree-roosting bats.

This section mentions the possibility of silt and sediment deposition within aquatic habitat due to earth-moving activities, but does not mention which areas that might encompass. A more thorough evaluation of this issue should be provided.

Approximately 192 acres of forest will be impacted by construction activities. This habitat type is important for a number of wildlife species and also because it is less common in the immediate Project area. Therefore, all efforts should be made to limit the amount of forest disturbance. Further, larger patches of forest and those that provide corridors that connect patches should be maintained. We recommend that the Project Sponsor reevaluate the project design and move project infrastructure out of forest areas as much as possible. Roads, buried electric cable, and turbine pad installation within forests can result in reduced habitat quality, smaller forest patch size, and changes in vegetation structure. Fragmentation can also lead to increased predation, lower productivity, and the spread of invasive species. Mitigation for forest removal should be provided to replace lost habitat functions and values. Tree planting can be included as part of the Project to mitigate for habitat loss and fragmentation.

The DEIS states that, “None of the construction-related impacts described above will be significant enough to affect local populations of any resident or migratory wildlife species.” Data should be provided to substantiate this statement or it should be removed.

Section 3.3.2.1.3 Threatened and Endangered Species (Potential Impacts from Construction) - As discussed above, tree removal should not occur between April 1 and October 31 to minimize the likelihood of directly impacting Indiana bats. Impacts to bat species that are being considered for federal listing should be addressed in this section or in Section 3.3.2.1.2.

Section 3.3.2.2.1 Vegetation (Potential Impacts from Operation) - The first paragraph in this section discusses construction impacts to vegetation and not operating impacts. Therefore, this paragraph should be moved to Section 3.3.2.1.1.

Section 3.3.2.2.2 Fish and Wildlife (Potential Impacts from Operation) - A reference is made to a New York State Energy Research and Development Authority (NYSERDA) report that compares potential impacts of various forms of energy development to wildlife (NYSERDA

2009). We note that this is a generic report and does not contain site-specific information. Therefore, it is inappropriate to compare this Project to other forms of energy development in specific terms.

This section of the DEIS discusses the potential impacts of forest fragmentation on forest-interior birds. It should note how many patches of forest habitat will be fragmented by project roads, utilities, and wind turbine pads. Also, the initial and proposed sizes of these areas should be discussed to inform the reader on the degree of forest fragmentation attributable to the project.

The DEIS addresses bird collision risk with turbine rotors, guy wires, and turbine towers in this section. However, the assessment of avian impacts relies on outdated information (e.g., 2003 estimates of bird collisions) and should be updated with the most recent fatalities estimates. The Final EIS should include a discussion of the data collected at the adjacent Maple Ridge project. Specifically, the data collected at Maple Ridge is relevant to the potential impacts of the Project. It can also help inform the assessment of cumulative impacts from multiple projects. The number of birds killed per turbine at Maple Ridge ranged from 3.13 to 9.59 during studies conducted in 2006-2008 (Jain et al. 2007, 2009a, and 2009b). If similar levels of mortality are observed at the Project, then the cumulative impacts to some species may be high. Therefore, we recommend that the impact assessment for the Copenhagen Wind project be revised taking into consideration data from the Maple Ridge Wind project and be compared to the most recent fatality data available for projects of this type and location.

The DEIS states that there is a lack of open water habitat in the Project area and waterbirds typically migrate at high altitudes; therefore, the collision risk to waterbirds is low. However, the Project area does contain a fairly large number of wetland areas that could attract a number of species, including mallard (*Anas platyrhynchos*), great blue heron (*Ardea herodias*), and Canada goose (*Branta canadensis*). The Project Sponsor should re-evaluate the risk potential with this information taken into consideration.

This section of the DEIS should have addressed the risk of avian mortality due to collisions with power lines and poles. Avian electrocutions can occur if structures are not properly designed. Please refer to the Avian Protection Plan Guidelines (Avian Power Line Interaction Committee and U.S. Fish and Wildlife Service 2005) for more information on developing an avian protection plan for the Project's transmission lines. We note that Section 4.1 (General Minimization and Avoidance Measures) includes the following minimization measure: "Minimizing overhead transmission lines and designing any overhead transmission line in accordance with Avian Power Line Interaction Committee (APLIC) guidelines to minimize impacts on birds." The Final EIS should include further discussion of this in Section 3.3.2.2.2.

Bat fatalities are discussed in this section in terms of state, regional, and national mortality rates. It is estimated that the Project fatality rate will fall with the range of other New York wind projects. We believe it is more appropriate to state that the bat mortality is likely to resemble the mortality rates at the adjacent Maple Ridge Wind Farm (as it is in close proximity to the Project), which is among the highest in the state. Therefore, the Final EIS should estimate the number of bat fatalities based on this data. Using the information in Table 10, an average bat fatality rate of

17 bats per turbine would result in the annual death of 833 bats (17 bats/turbine x 49 turbines) or 24,990 bats over the 30-year life of the Project. This information should be factored into the cumulative impact assessment.

Section 3.3.2.2.3 Threatened and Endangered Species (Potential Impacts from Operation) -

The DEIS has found that the potential for mortality or injury, or disturbance, displacement, or habitat impacts to the bald eagle (*Haliaeetus leucocephalus*) is low. Data collected during spring and fall raptor migration surveys suggest that bald eagle use of the Project area during these time periods is low (one bald eagle observed during 1043 survey hours); however, no data are provided to illustrate bald eagle use during the summer or winter months. According to the Service's eagle fatality assessment model, the Project fatality rate will fall below 1 eagle over the lifetime of the Project and, therefore, a permit for take of bald eagles is not necessary at this time. It is important to note that this calculation is based on risk during the migration period only and increased use during the summer or winter months may result in a higher fatality estimate. We recommend that the Project Sponsor consult bald eagle resources and include additional information identifying the closest bald eagle nests to the project location and the presence or absence of over-wintering bald eagles in this area. If bald eagle populations in the local Project area (10 miles from the Project boundary) increase over the lifetime of the Project, or a bald eagle nest is established within 4 miles of the project, we recommend that the Project Sponsor contact the Service to reassess the risk associated with their project.

The upland sandpiper (*Bartramia longicauda*) is a species listed as threatened by the State of New York and has been found in the Project area. Upland sandpipers are also considered a species of conservation concern by the Service in the Northeast. This species uses a courtship flight up to 400 feet in the air (Houston and Bowen 2001) which increases the risk for collision with wind turbine blades. Similar to the upland sandpiper, other State-listed grassland bird species breed in the Project area. The DEIS does not provide sufficient information on potential impacts to these species from the project, but only states that current active agriculture would result in greater impacts. It is not clear how many turbines are proposed in active agriculture areas. Also, it is not clear if proposed turbine locations would cause displacement of these open-area species. While one study from Wyoming County was cited, no adequate studies have yet been completed for this area of New York. A previous displacement study at Maple Ridge was inconclusive.

We believe more details should be provided in this section of the DEIS, such as number of turbines proposed in active agriculture areas including the number of cropland turbines versus turbines proposed in pasture, fallow, and successional fields and a comparison of these areas to where rare grassland bird species have been documented. Turbines proposed in areas where rare species are breeding should be moved to areas where impacts would not occur.

Similar to Section 3.3.1.2.6, this section of the DEIS focuses on the likelihood of the presence of an Indiana bat maternity colony within the Project area. However, the DEIS fails to address the potential for periodic activity within the Project area during spring and fall migration, during fall swarming, and by males in the summer.

The risk of bat exposure to operating turbine blades appears to vary seasonally depending on the location of a given project. Indiana bats emerge from their hibernacula in the spring and the females move relatively quickly to their summer habitat. In some cases maternity colonies occur within close proximity to hibernacula, but we do not expect maternity colony activity within the Project area. In addition, males and non-reproductive females may spend the summer within the swarming habitat buffers. Both sexes return to the swarming habitat in the fall for several weeks of mating and foraging in preparation for hibernation.

The DEIS should have included a discussion of the five documented Indiana bat fatalities from four wind projects and the likely under-representation of actual fatalities that have occurred to date. At this point, we disagree with the statement that the risk to the Indiana bat is considered low. We anticipate take² of Indiana bats from the operation (and potentially the construction) of the proposed project. However, we do not understand Project details sufficiently to discuss the extent of adverse effects. We expect to explore measures to avoid, minimize, and compensate for impacts to Indiana bats with the Project Sponsor.

This section also addresses the potential for impacts to the eastern small-footed bat. Impacts to the northern long-eared bat and little brown bat should also be addressed in this section or in Section 3.3.2.2.2.

Section 3.3.3.2 Fish and Wildlife (Proposed Mitigation) - This section should include discussion of a time-of-year restriction for vegetation removal to address potential impacts to bats and birds during the breeding season.

The DEIS states that implementation of the Project can be considered mitigation for the impacts caused by coal, oil, etc. We disagree with this statement. The DEIS should address mitigation for the impacts to fish and wildlife caused by the Project, including the expected lethal impacts to migratory birds and bats.

It is stated in the DEIS that the Project could potentially kill a large number of bats per year based on estimates from other projects. Since bats have a low reproductive output and usually produce only one to two pups per year, this level of mortality could have substantial effects on local or regional populations when taken into consideration with other mortality factors. However, no mitigation measures are provided in the DEIS to offset potential impacts to bats. Therefore, we disagree with the statement that the Project has been adequately designed to minimize bat collision mortality. We believe that adverse impacts to Indiana bats and other bat species are likely from the Project, but these can be avoided through operational measures. For example, we recommend the Project Sponsor commit to operational restrictions on turbines to limit bat fatalities. Several studies have indicated that minor operational adjustments in cut-in speeds can greatly reduce fatalities (Arnett et al. 2009, Arnett et al. 2011, Baerwald et al. 2009). We recommend that the Lead Agency require the Project Sponsor to use a cut-in speed that reduces bat mortality as a mitigation measure.

² Take is defined in Section 3 of the ESA as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.

In addition, as we are continuing to learn more about possible ways to avoid or minimize impacts to bats from turbine operation, the mitigation should include a strong adaptive management component to implement various mitigation strategies. This program should be developed prior to completion of the Final EIS. We note that post-construction mortality monitoring is not a minimization measure. However, incorporation of results into a robust adaptive management plan that includes various measures is appropriate.

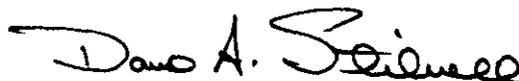
Section 8.0 Cumulative Impacts

The DEIS discusses two other wind projects in this section – the proposed Roaring Brook Wind Energy Project (39 turbines) and the operating Maple Ridge Wind Energy Project located in Lewis County (195 turbines). We recommend expanding the discussion to address other proposed and operating turbines in Jefferson County, New York, and Ontario, Canada (e.g., the proposed Cape Vincent Wind Energy Project [124 turbines] and the operating Wolfe Island Wind Energy Project [86 turbines]). A total of approximately 500 turbines are planned for the region. It is feasible that other projects would be proposed and built in the region as well. Many more projects are proposed on ridges south of the state, but within migration pathways of birds and bats. We have concerns about the potential collective impacts of the projects.

Conclusion

We appreciate the opportunity to provide comments on the DEIS. We look forward to working with the Project Sponsor and the Lead Agency on reviewing additional project information. If you have any questions regarding this letter, please contact Robyn Niver or Timothy Sullivan at 607-753-9334.

Sincerely,



David A. Stilwell
Field Supervisor

*Additional information referred to above may be found on our website at:
<http://www.fws.gov/northeast/nyfo/es/section7.htm>

References:

- Arnett, E.B., M. Schirmacher, M.M.P. Huso, and J.P. Hayes. 2009. 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. Bat Conservation International. Austin, Texas, USA
- Arnett, E.B., M. M. P. Huso, J. P. Hayes, and M. Schirmacher. 2011. Altering turbine wind speed reduces bat mortality at wind-energy facilities. *Frontiers in Ecology and*

- Environment 9(4):209-214. Baerwald, E.F., J. Edworthy, M. Holder, and R.M.R. Barclay. 2008. A large-scale mitigation experiment to reduce bat fatalities at wind energy facilities. *Journal of Wildlife Management* 73(7):1077-1081.
- Avian Power Line Interaction Committee and U.S. Fish and Wildlife Service. 2005. Avian Protection Plan Guidelines.
- Baerwald, E.F., J. Edworthy, M. Holder, and R.M.R. Barclay. 2009. A large-scale mitigation experiment to reduce bat fatalities at wind energy facilities. *Journal of Wildlife Management* 73:1077-81.
- Houston, C.S. and D.E. Bowen, Jr. 2001. Upland Sandpiper (*Bartramia longicauda*). In *The Birds of North America*, No 580 (A. Poole and F. Gill, eds.). The Birds of North America, Inc., Philadelphia, PA.
- Jain, A., P. Kerlinger, R. Curry, and L. Slobonik. 2007. Annual Report for the Maple Ridge Wind Project Post-Construction Bird and Bat Fatality Study – 2006. Report prepared for PPM Energy and Horizon Energy and Technical Advisory Committee for the Maple Ridge Project Study.
- _____. 2009a. Annual Report for the Maple Ridge Wind Project Post-Construction Bird and Bat Fatality Study – 2007. Report prepared for PPM Energy and Horizon Energy.
- _____. 2009b. Annual Report for the Maple Ridge Wind Project Post-Construction Bird and Bat Fatality Study – 2008. Report prepared for PPM Energy and Horizon Energy.
- LaVal, R.K. and M.L. LaVal. 1980. Ecological studies and management of Missouri bats, with emphasis on cave-dwelling species. Missouri Department of Conservation.
- New York Independent System Operator. 2011. Gold Book – 2011 Load and Capacity Data. Available: <http://www.nyiso.com>
- New York State Energy and Research Development Authority. 2009. Comparison of Reported Effects and Risks to Vertebrate Wildlife From Six Electricity Generation Types In the New York/New England Region. Report 09-02, 87pp.
- Sanders Environmental, Inc. 2013. Report on Indiana bat (*Myotis sodalis*) sampling at twenty-six sites on the proposed Copenhagen Wind Farm. Sanders Environmental, Inc., Bellafonte, Pennsylvania.
- U.S. Fish and Wildlife Service. 2007. Indiana Bat (*Myotis sodalis*) Draft Recovery Plan: First Revision. U.S. Fish and Wildlife Service, Fort Snelling, MN. 258 pp.

U.S. Fish and Wildlife Service. 2011a. Avian collisions at communication towers - sources of information. Available at:
<http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>

U.S. Fish and Wildlife Service. 2011b. Indiana Bat Section 7 and Section 10 Guidance for Wind Energy Projects document located at:
<http://www.fws.gov/midwest/endangered/mammals/inba/WindEnergyGuidance.html>

U.S. Fish and Wildlife Service. 2012. U.S. Fish and Wildlife Service Land-Based Wind Energy Guidelines.

cc: Copenhagen Wind Farm, LLC, Brooklyn, NY (J. Damon)
NYSDEC, Watertown, NY (J. Farquhar)
NYSDEC, Albany, NY (B. Gary, C. Herzog, S. Tomasik)
COE, Auburn, NY (Attn: M. Crawford)

RNiver; TSullivan
Biologist Files
BR & Project Files
ES:NYFO:RNiver:TSullivan:rn:ts:mvd