



March 12, 2007

Ms. Shari Koslowsky
Department of Natural Resources
101 S. Webster Street
Madison, WI 53707-7921

Subject: Avian Study Proposal – Cedar Ridge Wind Farm

Dear Ms. Koslowsky,

Based upon final comments received from you on February 22, 2007, Wisconsin Power and Light Company (WPL) has revised the “Avian Sampling Study for the Cedar Ridge Wind Farm” that was submitted to you on January 9, 2007, and subsequently updated and re-submitted to you on February 9, 2007.

Attached is the revised plan which we consider to be in final format.

You indicated in your final comments that “Our largest remaining concerns are with the number of point count locations and the siting of reference count locations”. Our final plan includes monitoring all 41 turbine sites. We have also changed the reference site locations to not be closer than 800 meters from a turbine location. Point count intervals were also changed to match your original recommendations.

WPL considered all comments, and the revised proposals incorporate many of the suggestions. At the end of the plan are responses to other comments you raised in your February 22, 2007 comments. This should clarify our position on those comments.

One critical point I want to re-emphasize is that it is WPL’s position that this study can not delay the project schedule including, the procurement of turbines, construction and/or operation of the project.

WPL will prepare a map of point count locations to share with you in advance of beginning the studies. Our desire is to begin the study in April.

Please respond back in writing with your acceptance to this final proposal.

Please contact me with any questions.

Sincerely,

A handwritten signature in blue ink that reads "Patrick E. Riley".

Patrick E. Riley
Project Director – Cedar Ridge Wind Farm

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Public Service Commission of Wisconsin
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AVIAN SAMPLING STUDY FOR THE CEDAR RIDGE WIND FARM

FOND DU LAC COUNTY, WISCONSIN

Proposed Scope of Work and Budget

December 11, 2006 – Revised February 7, 2007 – Revised March 1, 2007

Prepared for:

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Objectives. An avian use study is proposed for the 41 turbine Cedar Ridge Wind Farm Project (hereafter, the “Project”), Fond du Lac County, Wisconsin. The plan is designed as a means of sampling the presence and abundance of birds, as well as their behavior while they are within the Project area. The data would provide baseline information and data. Data from the study would provide information to state and federal agencies regarding the birdlife present at the site. Data would also be analogous to a preconstruction sample that could be used after construction is completed to determine whether impacts had occurred as a result of construction. The study plan follows a basic BACI or Before-After-Control-Impact type design, in which “Control” or reference plots are used to insure that non-wind power impacts are not mistaken for wind power impacts.

Methods. Methods would be similar to those used in a study designed for the Forward Energy Center in Fond du Lac and Dodge Counties in collaboration with the WI DNR and a study conducted at the Blue Sky Green Fields project in northern Fond du Lac County. A series of about 56 observation sites would be established for sampling bird abundance and behavior within the project boundary. Observation sites would be cited at a combination of turbine sites (N = 41) and away from turbine sites (N = 15), called reference (sometimes referred to as control) sites, so that a representative sampling of these sites is available after the study is completed. The 41 turbine site point counts represent a 100% “sample”. Reference areas would be located not closer than 800 m from a turbine site and to avoid confounding of effects, no reference sites would be within the “matrix” of turbine locations. In other words, point counts in reference areas would be located in habitat similar to the habitat in which turbines are planned to be erected, but reference areas would be at locations not scheduled for wind turbine development.

Observation sites would be located on roads (paved or unpaved) as close to turbine locations as possible (accessibility is paramount). In other words, observations points would be located within about 200-300 m of the actual turbine locations. Observations would be conducted from an automobile or immediately adjacent to an automobile. [Observations cannot be done from actual turbine locations because the presence of a human walking or standing in a field will influence the behavior of birds. Birds will simply avoid fields where humans are present such that observations must be done from areas near the turbine sites. Furthermore, observations done from within an automobile or immediately adjacent to an automobile would not disturb birds as would a human that is walking or standing.]

Habitat at each point count location would be documented at the beginning of the study (or after snow has melted) via orthophotos, as well as during the study. In addition, habitat at each site would be recorded on data sheets at the beginning of the study to reflect the type of crop or natural habitat present. As habitat changes, such changes would be noted on regular bird observation data sheets to include the height of vegetation and whether that vegetation was harvested within the past few days. This determination would be based on the freshness of cut vegetation. In this manner, a dynamic overview of habitat out to about 400 m from the point

count location would be provided during the study. This would include a quantitative description of the habitat within each point count area out to about 400 m at the outset of the project.

Each point count location would be sampled for a duration of six minutes with data being separated into the first and second three minute period. Six minutes is twice the duration of the point count observation periods used for the Blue Sky Green Field avian study. A map of point count locations will be provided after this proposal has been finalized.

Point counts would be conducted at 3 day intervals (on average, depending upon inclement weather) throughout the migration periods (March 15-May 15; August 15-November 15) and at 7 day intervals during the period May 15-August 15, which includes a portion of the nesting and post-nesting dispersal season. For winter, sampling would be at 7 day intervals commencing on December 1, 2007 and continue to January 15, 2008. Observations should be conducted during conditions when visibility is rated as fair to excellent and should not be conducted during times when fog, heavy snow, or heavy rain reduce visibility significantly. If possible during the migration seasons, an effort will be made to conduct surveys at times of maximum stopover of migrants, which would include days that follow days and nights when weather was favorable for migration, but might not be suitable for onward migration.

During the nesting season – April 15 through July 15 (to include all types of species that nest in this portion of Wisconsin), observations would commence one-half hour before sunrise and continue for, at least 4-5 hours. Because the spring migration season overlaps with the nesting season of certain species, birds that sing early in the day during migration and during nesting would be detected. Observations in other seasons, would commence about 1-2 hours after the sun rises and continue for up to eight hours.

Note that the number of point count locations and field survey days in this study is much greater than used for the Blue Sky Green Fields avian surveys, despite that project being more than twice the size (land area and number of turbines) of the Cedar Ridge project. Thus, the relative survey effort of the proposed study is on the order of four times what it was for the Blue Sky Green Fields avian study.

Data would be collected for all bird species observed during the point counts. Incidental sightings (birds observed while walking to or from the point counts or driving between point count locations) would also be recorded, but would not be included in the quantitative analyses. Data would include the height of birds in 3 categories (below, within, and above the rotor swept height), direction of flight, type of flight used, other behaviors (singing, hunting, perching, carrying food, feeding young, and other behavioral categories), all of which are standard data collected in avian studies at wind power facilities. For all listed species (US or Wisconsin endangered or threatened) and Wisconsin species of special concern observed, GPS locations would be recorded, for mapping at a later date.

Product: The final product resulting from the avian monitoring study will be a written report that details the findings and conclusions of an analysis of the data collected. The analyses would be divided into spring migration, nesting and summer dispersal period, fall migration, and winter

for analysis and a presentation of each of these datasets would be provided in the report as separate chapters or units. All listed and rare (species of special concern) would be provided with adequate coverage, analysis-wise, in the final report. Data summaries in the form of tables, graphs, and appendices would permit comparison among sites. Abundance (absolute and relative), frequency, and behavioral data (altitude, distance from turbine location, type of flight, nesting or territorial behavior, etc.) will be included in the analyses. The avian monitoring report will be provided in both hardcopy and electronic format, and will be delivered in PDF format to protect the integrity of the document.

Completion Date: The avian monitoring study will be initiated with the authorization of the client pursuant to the terms of this agreement. Field work will be conducted as stipulated above. A draft report is typically provided about 60 days following the field work. Final drafts are generally available 1 week after review of the draft report has been completed by the client. The migration report will be delivered in the PDF format to protect the integrity of the document. Time involved in revising the report per comments and reviews from the WDNR and USFWS are not included in the budget estimates for this project.

Response to Comments from WDNR/USFWS – 22 February 2007

- On page 2 – bottom paragraph. “For grassland or open field sites, it may be appropriate to site reference sites up to a mile from turbine locations...”

We have increased the distance to 800 m (about ½ mile). We feel this is an adequate distance based on previous research on open country birds and grassland nesting species studied at wind power (see Leddy et al. 1999 in Wilson Bulletin for empirical information on displacement of grassland nesting birds) and other types of development. Note that if prairie grouse were involved, a mile might be an appropriate distance. These species are not present within many miles. If 800 m is not acceptable to WDNR and USFWS, we request that specific references showing that displacement impacts of a mile have been demonstrated empirically at wind power or other types of projects (roads, communication towers, housing developments, transmission lines, etc.) .

- Page 3 second to last paragraph. “Distance from the observer to a bird Should also be estimated so that this can be used in post-construction turbine effects.”

Distance of some species (listed and special concern, as well as nesting birds, raptors, waterfowl, and shorebirds) would be estimated and recorded. The distance would be from turbine locations. It is not wise to measure distances for common birds like blackbirds, robins, starlings, pigeons, and many others. Such measurements would take an undue amount of time and would be of little value. We would like the WDNR and USFWS for recommendations regarding which species should be examined with respect to distances.

- “ ‘Observer efficiency during the pre-construction surveys should also be estimated – as we do with search efficiency during mortality studies.’ Indicate how the sampling method will address this.”

Observer efficiency could be included in the data, although we request that the WDNR and USFWS provide examples of how this has been done at other projects for which these agencies have had input. Most importantly, we would like the actual protocols used by WDNR or USFWS for this purpose in previous projects. It is important to note that observer efficiency is not used for the USGS Breeding Bird Survey and most other standardized methodologies used for determining avian presence, abundance, and use. If such a measure is incorporated, it will provide data that cannot be used to compare with other sites and types of research, as most other research at wind power and other projects have never used such efficiency measures. Please provide rationale for this method, methods to be used, and detailed examples of how this has been used in other WDNR and USFWS projects.