

Minnesota Department of Natural Resources

500 Lafayette Road • St. Paul, MN • 55155-40__



August 24, 2012

Suzanne Steinhauer, State Permit Manager
Energy Facility Permitting
Department of Commerce
85 7th Place East, Suite 500
St. Paul, MN 55101-2198

Re: Turbine Layouts for the Getty Wind Project and Black Oak Wind Project in Stearns County [PUC Docket Nos. IP-6853/CN-11-471; WS-11-831; WS-10-1240]

Dear Ms. Steinhauer:

The Minnesota Department of Natural Resources (DNR) attended the June 26, 2012 public hearing regarding Certificate of Need for the Getty Wind and Black Oak Wind Projects and reviewed pre-filed Direct Testimony of Patrick Smith on behalf of Black Oak Wind, LLC and Getty Wind, LLC dated June 22, 2012. The DNR noted that turbine layouts (enclosed) submitted during the hearing and in the Direct Testimony included alternate turbine locations in addition to previously submitted turbine locations. The DNR has previously assessed turbine layouts for these projects and adjusted an estimate of collision risk for birds and bats based on avoidance of wildlife habitat in the vicinity of the project area. This letter provides an updated risk assessment based on the most recent location of turbines for both the Getty and Black Oak Wind Projects included in Direct Testimony dated June 22, 2012.

Updated turbine layouts for the Getty and Black Oak Wind Projects include the addition of Alternate turbine locations. Getty Wind Alternate turbine locations 1 (MM100 layout) and 4 (V112 layout) are placed in closer proximity than other turbines to a public water along the eastern boundary of the project area. Black Oak Wind Alternate 4 (MM100 layout), along with other turbines, is also sited in close proximity to a public water in the northeastern quarter of Section 14. The DNR assesses overall turbine siting and continues to estimate the risk level to birds and bats to be moderate for these projects due to other efforts to avoid wildlife habitat and public conservation lands in other locations across the sites. Comments in this letter and the enclosed letters should be considered to further improve project siting. The DNR would continue to recommend fatality monitoring using wildlife survey protocols appropriate for a moderate risk site as referenced previously if turbine locations to not move substantially.

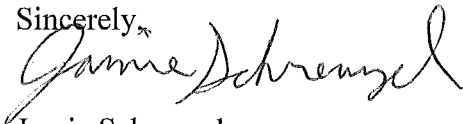
Risk levels included in DNR and USFWS guidance documents are broken down into three categories of Low, Moderate, and High to provide a mechanism for communicating suggested wildlife survey protocols and to inform project siting. This site is located in an area with numerous public lands, public waters, wetlands, and Species of Greatest Conservation Need. The area also includes large tracts of disturbed agricultural lands. Therefore, assessing individual turbine locations has been the driving factor in DNR risk estimates. The more turbines located in proximity to wildlife habitat, the higher the reviewers consider the overall estimated risk. The DNR has therefore provided guidance in this letter and previous letters regarding which turbines



are higher concern than others to help inform any future siting changes and to help inform the project developer of the types of project changes that would "add up" to an overall estimate of high risk and would justify a recommendation for increased post construction survey efforts. It is notable that some turbines are located closer to public waters in the most recent layouts than in previous layouts. If more turbines are located closer to wildlife habitat, then, considering the overall project layout, the DNR risk estimate may move up a category to High.

Thank you for the opportunity to provide comments regarding testimony and turbine layouts dated June 22, 2012. Please contact me with any questions.

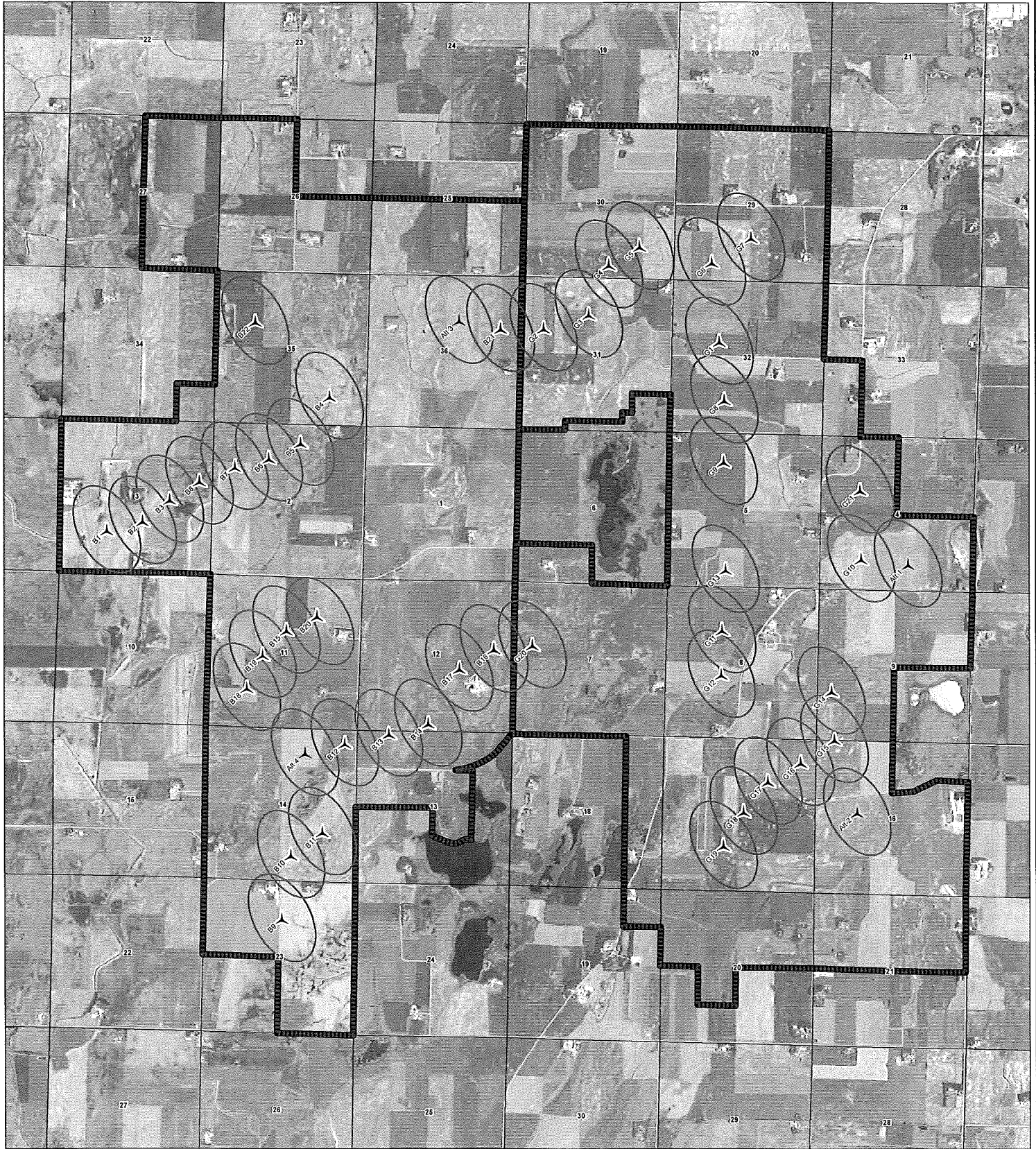
Sincerely,






Jamie Schrenzel
Principal Planner
Environmental Review Unit
(651) 259-5115

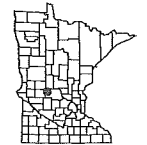
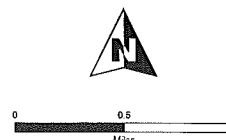
Enclosures: 3

C: Tricia DeBleeckere, PUC
Patrick Smith, Geronimo Wind
Roland Jurgens, Getty Wind, LLC
Melissa Doperalski, DNR



LEGEND

-  MM100 Turbine Layout
-  MM100 Alternate Turbines
-  MM100 Prevailing Wind Setback 3x5 (1000m x 600m)



AREA OF INTEREST

Minnesota Department of Natural Resources

500 Lafayette Road • St. Paul, MN • 55155-40



June 1, 2012

Suzanne Steinhauer, State Permit Manager
Energy Facility Permitting
Department of Commerce
85 7th Place East, Suite 500
St. Paul, MN 55101-2198

Re: Black Oak Wind - Updated Assessment of January 17, 2012 Revised Turbine Layouts

Dear Ms. Steinhauer:

The Minnesota Department of Natural Resources (DNR) has reviewed the revised turbine layouts submitted January 17, 2012 as attachments to the document titled "Updated Turbine Layout Based on Avian Report" for the Black Oak Wind Farm and provides the following comments.

In the attached DNR comment letter dated December 8, 2011 regarding the Avian Use Report, the DNR provided the an assessment based on the Tier 1, 2 and 3 assessments of the Getty and Black Oak Wind Projects concluding that the cumulatively these sites have an estimated overall high risk of avian and bat fatalities without avoidance and minimization measures, and a moderate risk of avian and bat fatalities with the proper use of avoidance and minimization measures.

In the attached DNR letter dated February 10, 2011, the DNR provided feedback regarding the turbine layout for the specifically the Black Oak Wind Project based on the Tier 1 and Tier 2 assessments completed at the time and DNR assessment of the site. The DNR estimated that the Black Oak site would have a moderate risk of avian and bat fatalities. This determination was based on the turbine layout at the time, which avoided high quality habitats such as the Regionally Significant Ecological Area located in the southeast portion of the project, Wildlife Management Areas (WMA) and prairie.

The Minnesota Department of Commerce, Energy Facility Permitting unit (EFP) requested an updated risk assessment for the Black Oak Wind Project specifically, considering updated turbine layouts submitted January 17, 2012. Overall, the layouts contain similar avoidance measures as layouts previously reviewed by the DNR and therefore would continue to be estimated to have a moderate risk to avian and bat species. Moderate risk fatality monitoring protocols are recommended, as described in the DNR document titled: "Draft Avian and Bat Survey Protocols for Large Wind Energy Conversion Systems in Minnesota." The EFP also requested a turbine specific analysis similar to an analysis provided for Getty Wind. The layout and turbine analysis below indicates turbines for which the DNR has some concern regarding possible higher impacts to avian and bat species. Improvements in project design should focus on adjustments to these turbines.

Figure 2 Turbine Layout GW87: Overall assessment = Fatality monitoring is recommended using DNR draft avian and bat fatality protocols for moderate risk sites. The GW87 layout contains the highest number of turbines located in lines that may block some of the flyways identified in the Avian Use Report for the Black Oak and Getty Wind Projects. Utilizing another layout may reduce the possibility of creating barriers to movement with continuous lines of turbines.



Turbine	Notes
Turbine B6	Turbine is located adjacent to a wetland and closer than other turbines to the Behnen Waterfowl Production Area (WPA).
Turbine B13	Turbine is located next to the "Unnamed" Public Water.
Turbine B20	Turbine is located next to the "Unnamed" Public Water.

Figure 3 Turbine Layout MM100: Overall assessment = Fatality monitoring is recommended using DNR draft avian and bat fatality protocols for moderate risk sites. The MM100 layout contains fewer turbines, possibly allowing for more avian flight paths than the GW87 layout.

Turbine	Notes
B5	Turbine is located adjacent to a wetland and closer than other turbines to the Behnen WPA.

Figure 4 Turbine Layout V112: Overall assessment = Fatality monitoring is recommended using DNR draft avian and bat fatality protocols for moderate risk sites. The DNR generally recommends using a project layout with fewer turbines, even if the rotor swept zone is larger, considering a balance between concerns regarding the rotor swept zone and overall flyway and habitat impact due to project infrastructure. The V112 layout appears to have a lower overall possible impact to habitat and flyways than the GW87 and MM100 layouts.

Turbine	Notes
B3	Turbine is located next to the "Unnamed" Public Water.

For all turbine layouts, the DNR recommends continued avoidance of wetlands and grasslands in Section 11 and avoidance of wetlands and public waters (Unnamed Public Water indicated above) in Section 14, without siting closer to public conservation lands.

Bird Diverters

Figure 5, included in the document "Updated Turbine Layout Based on Avian Report" dated January 17, 2012, indicates what appears to be an above ground transmission line. Any collector, feeder, distribution, or transmission lines that are not located underground for this project should utilize bird diverters, particularly because the line depicted in Figure 5 traverses areas where high amounts of avian flight activity were found in the Avian Use Report for the Black Oak and Getty Wind Projects.

Thank you for your consideration of these updated recommendations. Please contact me with any questions.

Sincerely,



Jamie Schrenzel
Principal Planner
Environmental Review Unit
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Enclosures: 2

Steinhauer 6/1/2012

Minnesota Department of Natural Resources
500 Lafayette Road • St. Paul, MN • 55155-40



June 12, 2012

Roland Jurgens
Getty Wind Company, LLC
P.O. Box 321
Chokio, MN 56221

Re: Updated Turbine Layouts dated May 17, 2012 Submitted for the Getty Wind Project

Dear Mr. Jurgens:

The Minnesota Department of Natural Resources (DNR) has participated in the review of the Getty Wind Project Site Permit Application, Avian Use Report, and also a review of the Avian and Bat Protection Plan (ABPP) and Draft Site Permit. During review of the Site Permit Application and Avian Use Report, the DNR assessed how the turbine layout avoided natural resources and, solely due to the turbine layout, reduced the risk estimate for the project from "high" to "moderate." During review of the ABPP and the Draft Site Permit, the DNR noted changes in the turbine layout, and therefore reassessed the level of estimated risk to birds and bats. The attached DNR comment letter dated May 3, 2012 was submitted with reassessed risk, including an estimate of "high" risk for some layouts, and specifically identified turbine locations of concern. Getty Wind Company, LLC then submitted additional draft turbine layouts dated May 17, 2012 for review by the DNR. This letter reassesses the risk for these revised draft turbine layouts.

GW-87 Layout

Turbines identified as G23, G16, and G8 in the DNR letter dated May 3, 2012 have been removed or moved farther away from public lands. No changes were made to turbines previously labeled as G2 and G24. Overall, the changes made to reduce impacts are appreciated and the draft revised layout dated May 17, 2012 is similar to previous layouts which were generally sited to avoid habitat and flyway impacts. This would bring the level of risk back to moderate for the GW-87 layout. Concern remains regarding flyway impacts and proximity to the Padua WMA for turbines previously labeled G2 and G24 in the Draft Site Permit. Locating an uninterrupted string of turbines through this area seemed inconsistent with flight activity data included in the Avian Use Report.

Note that turbine numbers have changed in this new draft. For example, the DNR commented on the turbine previously number G23. It is now numbered G22 in the draft revised layouts dated May 17, 2012. Previous turbine numbers included in the Draft Site Permit will be used for this letter. Changing numbers frequently is quite confusing for DNR reviewers and may also cause future agency or public confusion.

Repower MM100

No changes are proposed from the Draft Site Permit layout and therefore the risk assessment remains at "moderate." Please note that the Draft ABPP depicted three less turbines than the Draft Site Permit and

this layout. Turbine shown as removed in the ABPP appeared to be located near a flight path identified in the Avian Use Report. Removal of these turbines in the Draft ABPP was viewed as a minimization effort and encouraged. The Draft Site Permit and May 17, 2012 revised turbine layouts depict these turbines as proposed. This should be clarified as it contrasts with presented minimization efforts in the Draft ABPP.

Note that turbine numbering has changed in this layout from the Draft Site Permit.

Vestas V112

Turbines formerly labeled G13 and G11 were either removed or moved out of an area of concern. Overall, the changes made to reduce impacts are appreciated and the draft revised layout dated May 17, 2012 is generally similar to previous layouts that sited to avoid habitat and flyway impacts. This would bring the estimated level of risk back to "moderate" for the Vestas V112 layout.

For all draft revised turbine layouts dated May 17, 2012, the DNR would recommend using draft DNR avian and bat post-construction fatality monitoring protocol for moderate risk sites. The DNR appreciates efforts to adjust the turbine layout to avoid public conservation lands, public waters, and the utilization of micro-siting based on avian flight path data. As previously stated, the DNR is concerned that this project is located in a "high" risk area for impacts to avian and bat species *if* turbines are not sited to avoid natural resources. We recommend the level of survey effort based on avoidance efforts to reduce risk. If turbines are further re-adjusted, an estimate of risk and corresponding level of recommended survey effort would be reassessed because changes may affect avoidance of natural resource features.

Thank you for your correspondence and efforts to minimize impacts to avian and bat species. Please contact me with any questions regarding this letter.

Sincerely,



Jamie Schrenzel
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Enclosures: 4

cc: Suzanne Steinhauer, Minnesota Department of Commerce
Melissa Doperalski, DNR
Patrick Smith, Geronimo Wind