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Ohio Power Siting Board

Staff Investigation Report and Recommendation

Case No.: 11-3644-EL-BGA

Project: 2nd Amendment to Blue Creek Wind Farm Certificate of Environmental Compatibility and Public Need

Applicant: Blue Creek Wind Farm, LLC

Report Date: 4 August 2011

Waiver Requests: Waiver of OAC Rule 4906-5-10(B)

Inspection Date(s): N/A

Staff Assigned: J. O'Dell

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Summary of Staff Recommendations (see report text for discussion):

Application:	[ ] Approval	[ ] Disapproval	[X] Approval with Conditions
Waiver:	[X] Approval	[ ] Disapproval	[ ] Not Applicable

Operational Noise Assessment

This report addresses and is limited to an evaluation of the Applicant's request to modify its certificate obligations as they relate to operational noise levels. Other statutory criteria have already been addressed in the Board's opinion and order.

In compliance with the filing requirements for its initial application, Case No. 09-1066-EL-BGN, the Applicant conducted a baseline sound study within the project area in order to estimate the project area's actual ambient noise levels. Nine survey locations were acoustically sampled. The noise impact of the wind farm partially depends on the existing ambient noise level of the project area. The Applicant's study determined that recorded ambient noise levels (L_{EQ})[1] for these nine sample locations ranged from 29 to 55 decibels (dBA). Depending on the receptor, a level within this range (29-55 dBA) represents ambient for Condition 43 in Applicant's current Certificate. Condition 43 currently allows for ambient plus 5 dBA.

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[1] L_{EQ} refers to the equivalent continuous sound level, or average sound level, over a specific period of time.

As an attachment to its previously filed amendment application, Case No. 11-1995-EL-BGA, the Applicant provided a new cumulative evaluation[2] of the ambient L_{EQ} and operational noise levels which incorporates a different methodology than that previously submitted. Through regression analysis of the acoustic data, the Applicant determined that the project area nighttime L_{EQ} is 42.3 dBA at the critical wind speed[3] of 8.7 m/s. The critical wind speed methodology takes into account the L_{EQ} only at times when the wind is sufficient for generation and accounts for the increased ambient noise caused by the wind blowing at that speed. This means that the Applicant is not held to a lower baseline requirement (ambient L_{EQ}) if the wind speeds are not sufficient to power the turbine. An allowance would have to be made for non-participating receptors that currently have a measured ambient level that already exceeds the baseline average.

The Applicant's proposed **definition** of the ambient L_{EQ} (45 dBA) in this current amendment application is not supported by materials previously presented within the original application for certification, or its subsequent amendment filing. In addition, applying the plus 5 dBA from Condition 43 to the Applicant's proposed 45 dBA would result in an actual increase to 50 dBA. Staff opposes an increase to 50 dBA for the project site because Applicant's underlying ambient definition of the LEQ is not supported by the record in this case.

Specific noise standards are not defined by statute in the Board's enabling legislation, or by rule. However, among examples of existing recommendations and guidelines in other jurisdictions, Staff notes that a 2001 New York State Department of Environmental Conservation (NYSDEC) document states that "in non-industrial settings the [noise level] should probably not exceed ambient noise by more than 6 dBA at the receptor. An increase of 6 dBA may cause complaints. There may be occasions where an increase in [noise levels] of greater than 6 dBA might be acceptable."[4] The NYSDEC recommends that, while it may be acceptable in some non-industrial settings, an increase in ambient noise levels of greater than 6 dBA warrants further study of potential impacts.

Staff believes utilization of the project area nighttime L_{EQ} of 42.3 dBA as the baseline to which the Applicant would be permitted to add five (5) dBA under operating conditions presents the minimum adverse impact to project area.

Recommended Modification to Condition 43:

That after commencement of commercial operation and upon receipt of a project noise complaint from a non-participating residence, the Applicant shall conduct further review of the project's operational noise impacts. Mitigation shall be required if the project contribution at the exterior of a non-participating residence within one mile of the project boundary exceeds the greater of: (1) the project ambient nighttime L_{EQ} (42.3 dBA) plus five dBA; or (2) the validly measured ambient plus five dBA. The sound measurements must be conducted at the same time as

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[2] 11-1995-EL-BGA, *Application of Blue Creek Wind Farm, LLC to the Ohio Power Siting Board for a Certificate of Environmental Compatibility and Public Need; Appendix T. (Ambient Sound Survey of the Blue Creek Wind Farm Project Area,* April 30, 2011

[3] *Critical wind speed* is defined as the operational condition when the greatest differential occurs between the ambient and wind turbine sound power level at the corresponding wind speed.

[4] NYSDEC. (February 2, 2001). *Assessing and Mitigating Noise Impacts* (p. 14). Albany, New York. Retrieved from the NYSDEC Web site: http://www.dec.ny.gov/docs/permits_ej_operations_pdf/noise2000.pdf

identified in the complaint. Mitigation shall be reviewed by and acceptable to OPSB Staff in coordination with the affected receptor(s).

Recommended Findings

Staff does not oppose the Applicant's waiver requesting that this amendment be submitted in the same manner as an application. Staff recommends that the Board adopt Staff's recommendation to modify Condition 43 of Applicant's Certificate in Case No. 09-1066-EL-BGN.