

PERMIT COMPLIANCE FILING

Permittee:	Big Blue Wind Farm, LLC
Permit Type:	LWECS Site Permit
Project Location:	Faribault County, Jo Daviess Township
Commission Docket Number:	IP-6851/ WS-10-1238
Submission:	Constraint Map & Wind Turbine Noise Analysis
Date of Submission:	10/12/2011

In accordance with Section 5.1 of the site permit for the Big Blue Wind Farm, a constraint map and a noise map are attached. The noise analysis is discussed below.

Big Blue Wind Farm performed a noise analysis on the proposed wind turbine layout to confirm compliance with the Minnesota Pollution Control Agency requirements at dwellings.

The WindPRO Decibel module was used to implement the ISO-9613-2 General model for calculating attenuation of sound during propagation outdoors. The model requires several input parameters, which are described in detail below:

- <u>Wind Turbine Noise Data</u> Noise data for the Gamesa G97 2.0 MW was supplied by the turbine manufacturer.
- <u>Wind Speed</u> The calculation was performed at 10 m/s. At that wind speed, the turbine is emitting maximum noise.
- <u>Ground Attenuation</u> The Alternative case was used to calculate dampening of noise due to ground attenuation.
- <u>Meteorological Coefficient</u> No additional dampening due to special meteorological conditions was included.
- <u>Receiver Height</u> The standard receiver height was set to 3m, or about 10 feet. This represents the height of a typical single story building.

As the attached map shows, the results of the calculation indicate the proposed wind turbine layout complies with MPCA sound requirements.





BIG BLUE WIND FARM



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