



STATE OF MINNESOTA PUBLIC UTILITIES COMMISSION

DATE: July 21, 2009

TO: Interested Persons

FROM: Burl Haar
Executive Secretary 

DOCKET: E-999/CI-09-845

SUBJECT: In the Matter of the Commission Investigation into Large Wind Energy Conversion Systems Permit Conditions on Setbacks and the Minnesota Department of Health Environmental Health Division's White Paper on Public Health Impacts of Wind Turbines

RE: **Notice of Comment Period**

On May 22, 2009 the Minnesota Department of Health (MDH) Environmental Health Division issued the white paper *Public Health Impacts of Wind Turbines*. The white paper was prepared by the MDH in response to the Department of Commerce Office of Energy Security (OES) request to evaluate possible health effects associated with low frequency vibrations and sound, and shadow flicker arising from large wind energy conversion systems (LWECS). A link to the MDH's white paper can be found under 'Recent Documents and Resources' on the Commission's Energy Facilities Permitting webpage: www.energyfacilities.puc.state.mn.us.

Please take note that the Commission is soliciting comments from interested stakeholders on the existing permit conditions used for permitting LWECS and the MDH white paper, *Public Health Impacts of Wind Turbines*. The Commission is gathering information to determine if current permit conditions on setbacks remain appropriate and reasonable. Initial comments will be accepted **on or before September 16, 2009 at 4:30 p.m.**, reply comments will be accepted **on or before October 14, 2009 at 4:30 p.m.** Comments should be filed using the Commission's eDockets system at www.puc.state.mn.us.

The current permit conditions typically used in LWECS site permits issued by the Commission are provided with this notice for reference. Questions regarding this matter can be addressed to Tricia DeBleeckere at tricia.debleeckere@state.mn.us, (651) 201-2254 or to Bret Eknes at bret.eknes@state.mn.us, (651) 201-2236.

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**Typical Wind Turbine Permit Setback Conditions for
Large Wind Energy Conversion Systems in Minnesota**

Resource Category	General Permit Setback	Minimum Setback
Wind Access Buffer (setback from lands and/or wind rights not under permittee's control)	Wind turbine towers shall not be placed less than 5 rotor diameters (RD) from all boundaries of developer's site control area (wind and land rights) on the predominant wind axis (typically north-south access) and 3 rotor diameters (RD) on the secondary wind axis (typically east-west axis), without the approval of the permitting authority. This setback applies to all parcels for which the permittee does not control land and wind rights, including all public lands.	3 RD (763-985 ft) on east-west axis and 5 RD (1280-1640 ft) on north-south using turbines with 78-100 meter rotor diameters.
Internal Turbine Spacing	The turbine towers shall be spaced no closer than 3 rotor diameters (RD) for crosswind spacing (distance between towers) and 5 RD downwind spacing (distance between strings of towers). If required during final micro siting of the turbine towers to account for topographic conditions, up to 20 percent of the towers may be sited closer to the above spacing but the permittee shall minimize the need to site the turbine towers closer.	5 RD downwind spacing 3 RD apart for crosswind spacing
Noise Standard	Project must meet Minnesota Noise Standards, Minnesota Rules Chapter 7030, at all residential receivers (homes). Residential noise standard NAC 1, L50 50 dBA during overnight hours. Setback distances calculated on site layout and turbine for each residential receiver.	Typically 750 - 1500 ft is required to meet noise standards depending on turbine model, layout, site specific conditions.
Homes	At least 500 ft <u>and</u> sufficient distance to meet state noise standard.	500 feet + distance required to meet state noise standard.
Public Roads and Recreational Trails	The turbine towers shall be placed no closer than 250 feet from the edge of public road rights-of-way. Setbacks from state trails and other recreational trails shall be considered on a case-by-case basis.	Minimum 250 feet
Meteorological Towers	Meteorological towers shall be placed no closer than 250 feet from the edge of road rights-of-way and from the boundaries of developer's site control (wind and land rights). Setbacks from state trails and other recreational trails shall be considered on a case-by-case basis.	Minimum 250 feet

Wetlands	No turbines, towers or associated facilities shall be located in public water wetlands. However, electric collector and feeder lines may cross or be placed in public waters or public water wetlands subject to DNR, FWS, and/or USACOE permits.	No setback required pending further PUC action.
Native Prairie	Turbines and associated facilities shall not be placed in native prairie unless approved in native prairie protection plan (see native prairie standard below). Native prairie protection plan shall be submitted if native prairie is present.	No setback required.
Sand and Gravel Operations	No turbines, towers or associated facilities in active sand and gravel operations, unless negotiated with the landowner.	
Aviation (public and private airports)	No turbines, towers or associated facilities shall be located so as to create an obstruction to navigable airspace of public and private airports in Minnesota or adjacent states and/or providences.	Setbacks or other limitations determined in accordance with MNDOT Department of Aviation and Federal Aviation Administration requirements.