

600 East Capitol Avenue | Pierre, SD 57501 P605.773.3361 F605.773.5683



December 5, 2019

RECEIVED

DEC 06 2019

**SOUTH DAKOTA PUBLIC
UTILITIES COMMISSION**

South Dakota Public Utilities Commission
ATTN: Amanda Reiss
Capitol Building, 1st Floor
500 East Capitol Avenue
Pierre, SD 57501

RE: PUC Docket EL19-027-Crowned Ridge Wind II

Dear Attorney Reiss:

The South Dakota Department of Health has been requested to comment on the potential health impacts associated with wind facilities. Consistent with our prior statement and based on the studies we have reviewed to date, the South Dakota Department of Health has not taken a formal position on the issue of wind turbines and human health. A number of state public health agencies have studied the issue, including the Massachusetts Department of Public Health¹ and the Minnesota Department of Health². These studies generally conclude that there is insufficient evidence to establish a significant risk to human health. Annoyance and quality of life are the most common complaints associated with wind turbines, and the studies indicate that those issues may be minimized by incorporating best practices into the planning guidelines.

Sincerely,

A handwritten signature in cursive script that reads 'Kim Malsam-Rysdon'.

Kim Malsam-Rysdon
Secretary of Health

1. <http://www.mass.gov/eea/docs/dep/energy/wind/turbine-impact-study.pdf>
2. www.health.state.mn.us/divs/eh/hazardous/topics/windturbines.pdf

004051



Gary Hanson, Chairman
Chris Nelson, Vice Chairman
Kristie Fiegen, Commissioner

South Dakota

PUBLIC UTILITIES COMMISSION

500 East Capitol Avenue
Pierre, South Dakota 57501-5070
www.puc.sd.gov

(605) 773-3201

Consumer Hotline
1-800-332-1782

Email
puc@state.sd.us

VIA EMAIL

March 26, 2019

Mr. Brian Walsh
Environmental Scientist Manager, Ground Water Quality
SD DENR
Joe Foss Building
523 E Capitol
Pierre, SD 57501

Subject: Request for DENR Comment on Deuel Harvest North Wind Farm

Dear Mr. Walsh,

The South Dakota Public Utilities Commission Staff (PUC Staff) is reviewing a wind farm siting application for the Deuel Harvest North wind farm, located in Deuel County SD. Several concerned residents with homes near the project area intervened in the docket to raise their concerns before the Commission for consideration. One of the concerns raised by these individuals is the impact that wind farm construction and operation may have on aquifers and springs.

Concerns raised regarding aquifers and springs include the following:

- 1) the potential adverse impacts to the environment due to oil and chemical spills used during wind turbine construction or operation;
- 2) the potential for the project to contaminate, disrupt the flow, or disturb aquifers/springs due to the concrete in wind turbine foundations;
- 3) the potential for the project to contaminate, disrupt the flow, or disturb aquifers/springs during construction of the project;
- 4) the potential for the project to contaminate, disrupt the flow, or disturb aquifers/springs during wind turbine operation as a result of ground vibration; and
- 5) the request for a hydrogeological study to demonstrate that aquifers/springs will not be adversely impacted by the construction or operation of the project.

Through this letter, PUC Staff is reaching out the Department of Environment and Natural Resources (DENR) for comment on the concerns listed above. Specifically, PUC Staff would like the DENR to provide an opinion on the concerns and identify if, in the DENR's opinion, the requested hydrogeological study is necessary to understand potential impacts to aquifers/springs as a result of wind turbine construction and operation.

Sincerely,

Darren Kearney
Utility Analyst
SD PUC

Cc: Jon Thurber, Amanda Reiss, Kristen Edwards

004052



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

March 29, 2019

Mr. Darin Kearney
Public Utilities Commission
500 E Capitol
Pierre, SD 57501

Subject: Response to PUC's Request for DENR Comment on Deuel Harvest North Wind Farm

Dear Mr. Kearney:

The following is the Department of Environment and Natural Resource's response to the questions contained in your March 26, 2019 letter to Brian Walsh, with the DENR's Ground Water Quality Program.

PUC Questions followed by DENR's response:

- 1) the potential adverse impacts to the environment due to oil and chemical spills used during wind turbine construction or operation;
 - a. *The Department of Environment and Natural Resources has rules and regulations (SDCL 34A-12 and ARSD 74:34:01) which require the reporting, assessment and cleanup of oil and chemical spills that may occur during the construction or operation of wind farms.*
 - b. *Previously reported oil spills from operating wind farms have been minor and were easily addressed. Based upon the quantity of oil and chemicals present at these sites, it does not appear that these sites pose a significant oil or chemical risk to ground water.*

- 2) the potential for the project to contaminate, disrupt the flow, or disturb aquifers/springs due to the concrete in wind turbine foundations;

The department does not consider a concrete foundation to be a source of ground water contamination. Foundations will not be constructed in any major aquifer.

- 3) the potential for the project to contaminate, disrupt the flow, or disturb aquifers/springs during construction of the project;

Based upon the depth and spacing of the concrete wind turbine foundations and the depth of the aquifer, construction of the wind farm will not contaminate or cause disruption of ground water flow, nor a disturbance of the aquifer underlying the site.

- 4) the potential for the project to contaminate, disrupt the flow, or disturb aquifers/springs during wind turbine operation as a result of ground vibration; and

Based upon the depth of the aquifer and spacing of the wind turbines, vibrations from the towers will not contaminate and are unlikely to cause disruption of ground water flow, nor a disturbance of the aquifer underlying the site.

- 5) the request for a hydrogeological study to demonstrate that aquifers/springs will not be adversely impacted by the construction or operation of the project.

Previous geological studies performed by DENR and the United States Geological Survey to map the ground water resources have shown that the major aquifer in this area is greater than 100 feet deep. Therefore, the construction and operation of the wind farm will not impact the major aquifer under this wind farm.

Sincerely,



Kim McIntosh, Administrator
Ground Water Quality Program
Department of Environment and Natural Resources