

**BEFORE
THE OHIO POWER SITING BOARD**

In the Matter of the Application of	:	
Champaign Wind, LLC , for a Certificate	:	Case No. 12-160-EL-BGN
to Construct a Wind-Powered Electric	:	
Generating Facility in Champaign County,	:	
Ohio.	:	

**PREFILED TESTIMONY
OF
ANDREW CONWAY
ON BEHALF OF THE STAFF OF
THE OHIO POWER SITING BOARD**

STAFF EX. _____

November 5, 2012

1 1. Q. Please state your name and business address.

2 A. My name is Andrew Conway. My business address is 180 E. Broad Street,
3 Columbus, Ohio 43215.

4

5 2. Q. By who are you employed?

6 A. I am employed by the Public Utilities Commission of Ohio (Commission)
7 and have assigned duties to investigate applications filed with the Ohio
8 Power Siting Board (OPSB) and assist in preparing reports.

9

10 3. Q. Please describe your job title and duties?

11 A. I am employed as an Engineering Specialist. In that position, I review
12 assigned Applications for a Certificate of Environmental Compatibility and
13 Public Need to construct major utility facilities and economically signifi-
14 cant wind farms and other duties.

15

16 4. Q. Would you briefly state your educational background and work history?

17 A. I have a Bachelor of Science degree in Chemical Engineering and minor in
18 Chemistry from the University of Toledo. I am also a registered profes-
19 sional engineer in the State of Ohio. From 2001 to 2009, I was employed
20 by the Ohio Environmental Protection Agency as an environmental spe-
21 cialist. From 2009 to present, I have been employed at the current position
22 at the Commission.

1 5. Q. Have you previously testified before the OPSB?

2 A. Yes. I previously testified in the Application of Buckeye Wind, LLC for a
3 Certificate to Install Numerous Electricity Generating Wind Turbines, Case
4 Number 08-666-EL-BGN.

5

6 6. Q. What is the purpose of your testimony in this case?

7 A. I am testifying in support of the Staff Report of Investigation (Staff Report)
8 in this case. I am testifying in support of the specific parts of the Staff
9 Report where I was the main contributing author. Specifically, I contrib-
10 uted to the Project Description, Blade Shear, Ice Throw, safety manuals,
11 and Pipeline Protection sections of the Staff Report. I also contributed and
12 recommended the conditions associated with those same sections of the
13 Staff Report.

14

15 7. Q. How did you evaluate the pipeline protection section?

16 A. I reviewed the national pipeline mapping system on the US DOT pipeline
17 and hazardous materials safety administration website. I looked for gas
18 transmission and hazardous liquid pipelines. There were none in the pro-
19 ject area. I asked the Applicant if there were any major natural gas or
20 petroleum pipelines within the project area. I asked that the Applicant pro-
21 vide the distances to the closest wind turbine if there were pipelines within
22 the project area. The Applicant was not aware of any pipelines in the area.

1 I recommended condition 47. This addresses the possibility of a pipeline
2 near the turbine. Panhandle Eastern and United Kingdom Onshore Pipeline
3 Operators Association are organizations familiar with operating and main-
4 taining pipelines and they recommend setbacks from their pipelines.

5
6 8. Q. How did you evaluate the safety manuals section?

7 A. The Applicant provided the safety manuals for the GE 1.6-100, Nordex
8 N100, Gamesa G97, REpower MM92, and REpower MM100 turbine mod-
9 els. I reviewed these safety manuals. I also contacted the manufacturers to
10 determine if they have any minimum setback recommendations/guidance, if
11 anything has changed since the last time we spoke, and if I could get a copy
12 of latest safety manuals or guidelines. I also asked the Applicant if any of
13 the manufacturers have any minimum setback recommendations/guidance.
14 I recommended a phrase in condition 11 that if the GE 2.5-103 turbine
15 model is selected that the safety manual or similar document be provided to
16 staff for review. I recommended condition 41.

17
18 9. Q. How did you evaluate the ice throw section?

19 A. I reviewed the ice throw section of the Application. I inspected the pro-
20 posed project area on August 1, 2012 and looked specifically at four turbine
21 sites closest to residences. I reviewed many studies that discuss ice throw.
22 I also contacted the manufacturers to determine if they have any minimum

1 setback recommendations/guidance, if anything has changed since the last
2 time we spoke, and if I could get a copy of latest safety manuals or guide-
3 lines. I also asked the Applicant if any of the manufacturers have any
4 minimum setback recommendations/guidance. I recommended conditions
5 30, 41, 44, 45, and 46.
6

7 10. Q. Why did you recommend Condition 46?

8 A. GE has developed specific safety standards for ice throw for their turbine
9 models and has recommended the use of an ice detector and other measures
10 if people or objects are within a distance of 150 percent of the sum of the
11 hub height and rotor diameter. GE has mentioned it in three documents
12 entitled "Ice Shedding and Ice Throw – Risk and Mitigation," "Safety
13 Manual," and "Setback Considerations for Wind Turbine Siting." I
14 reviewed the basis for the empirical formula which is an independent study
15 performed by Seifert et al. and supported by the German Wind Energy
16 Institute. Based on this formula, turbines of similar dimension as the GE
17 models would need to be located a distance of approximately 991 feet from
18 any occupied structure. The residences near turbines 87 and 91 are less
19 than this distance. Therefore, I recommended condition 46.
20

1 11. Q. At the public hearing OPSB received information that Turbine 79 is close
2 to a residence. Do you recommend any additional condition regarding
3 Turbine 79?

4 A. Yes, I recommend that the Applicant relocate and/or resize turbine 79 to
5 conform to a setback distance that equals 150 percent of the sum of the hub
6 height and rotor diameter from occupied structures, including businesses.
7

8 12. Q. How did you evaluate the blade shear section?

9 A. I reviewed the blade shear section of the Application. I inspected the pro-
10 posed project area on August 1, 2012 and looked specifically at four turbine
11 sites closest to residences. I reviewed many studies that discuss blade
12 shear. I also contacted the manufacturers to determine if they have any
13 minimum setback recommendations/guidance, if anything has changed
14 since the last time we spoke, and if I could get a copy of latest safety manu-
15 als or guidelines. I also asked the Applicant if any of the manufacturers
16 have any minimum setback recommendations/guidance. I recommended
17 conditions 30 and 41.
18

19 13. Q. What safety measures and technology will the Applicant have in place to
20 minimize the potential impacts from blade shear?

21 A. The Applicant will restrict public access to the facility. The Applicant will
22 comply with the turbine manufacturers' safety manual and retain it onsite.

1 The Applicant will also have the latest safety technology features including
2 two independent braking systems, a pitch control system, a lightning pro-
3 tection system, turbine shut down at excessive wind speeds and at excess
4 blade vibration or stress, and the use of setbacks.

5
6 14. Q. Does this conclude your testimony?

7 A. Yes, it does. However, I reserve the right to submit supplemental testi-
8 mony as described herein, as new information subsequently becomes avail-
9 able or in response to positions taken by other parties.

PROOF OF SERVICE

I hereby certify that a true copy of the foregoing Prefiled Testimony of Andrew Conway, submitted on behalf of the Staff of the Ohio Power Siting Board, was served via electronic mail, upon the following parties of record, this 5th day of November, 2012.

/s/ Werner L. Margard III

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This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

11/5/2012 4:01:08 PM

in

Case No(s). 12-0160-EL-BGN

Summary: Testimony of Andrew Conway submitted by Assistant Attorney General Werner L. Margard III on behalf of the Staff of the Ohio Power Siting Board. electronically filed by Kimberly L Keeton on behalf of Ohio Power Siting Board