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BEFORE THE OHIO POWER SITING BOARD

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In the Matter of the Application)
of Black Fork Wind Energy, LLC for)
a Certificate to Install Numerous)
Electricity Generating Wind Turbines in)
Crawford and Richland Counties, Ohio)

PUCO

Case No. 10-2865-EL-BGN

DIRECT TESTIMONY OF JAMES MAWHORR

Q.1 Please state your name and business address.

A.1 My name is James Mawhorr, Vice President, Transportation Services, K.E. McCartney & Associates, Inc., 52 North Diamond St., Mansfield, Ohio 44902.

Q.2 What is your educational background?

A.2 I received a Bachelor of Science Degree from the University of Toledo in 1974. I am a Registered Professional Engineer in the State of Ohio and a Registered Professional Surveyor in the State of Ohio. I received my P.E. on May 19, 1984 and my P.S. on July 25, 1980.

Q.3 What is your professional background?

A.3 I started my career in 1974 as a project engineer with a highway contractor, managing highway construction projects in northern Ohio through 1983. At that time, I joined the Ohio Department of Transportation ("ODOT"), working in various capacities including as a project engineer in the construction department, an engineer of highway maintenance operations and in highway management administration. While at ODOT, I was responsible for the direct administration and management of a \$200 million dollar annual highway construction program in northern Ohio. I joined K.E. McCartney &

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Associates, Inc. in 2001 as the Vice-President of Transportation Services. I am a Board Member and Secretary of the Ohio State Board of Registration for Professional Engineers and Surveyors (2009 – present).

Q.4 What are your duties as Vice President, Transportation Services at K.E. McCartney & Associates, Inc.?

A.4. In my capacity as Vice President, Transportation Services at K.E. McCartney & Associates, Inc., I am responsible for the management of project delivery for roadway plans, construction contract administration and construction observation services for public and private customers. In addition to actual design and field work, I oversee a team of professional engineers and roadway construction managers.

Q.5 On whose behalf are you offering testimony?

A.5 I am testifying on behalf of the Applicant in this proceeding, Black Fork Wind Energy, LLC.

Q.6 What is the purpose of your testimony?

A.6 The purpose of my testimony is to describe the transportation studies I and my firm, K.E. McCartney & Associates, Inc. performed on behalf of the Applicant. I am also providing testimony on what road improvements the Applicant may have to undertake prior to construction. Lastly, I will address some of Staff's recommended conditions.

Q.7 Did you perform any studies on behalf of the Applicant?

A.7 Yes. K.E. McCartney & Associates, Inc. completed a Transportation Study on behalf of the Applicant. A copy of that study is attached to the Application in this proceeding as Appendix N.

Q.8 Please describe the studies that you and your firm undertook on behalf of the Applicant.

A.8 Under my direction, K.E. McCartney & Associates, Inc. performed a comprehensive inventory of the public roadway system within the project boundaries. The purpose of the report was to identify existing features which would restrict movements of oversized vehicles and to identify potential impacts to the roadways as a result of the anticipated movements. Following is a summary of the items reviewed on the roadway network for construction access to the project:

1. Reviewed roadways for existing geometric conditions which would restrict movement of oversized loads.
2. Reviewed location of existing utilities (aerial and underground) for potential restrictions of oversized loads.
3. Preliminary review of existing stream crossing structures and culverts for potential restrictions of oversized loads. A detailed load rating analysis of the structures was not performed.
4. Preliminary review of existing pavement conditions/buildup. A detailed pavement analysis was not performed.
5. Addressed concerns/issues regarding roadway infrastructure raised by Crawford and Richland County Engineer's office.
6. Prepared mapping and report with preliminary recommendations for construction access to the project.

Additional detail can be found in the Transportation Study as Appendix N in the Application.

Q.9 Did you and your firm perform any additional studies other than those summarized in the Application?

A.9 Yes. - We looked at construction vehicle traffic that would be anticipated for a typical bridge replacement project on a local road and found the number and type of loads would be similar to the anticipated truck loads for a single wind turbine. A copy of this report is attached as Exhibit A to my testimony.

Q.10 Is it typical to make improvements to transportation routes for construction projects utilizing heavy equipment prior to construction activities?

A.10 In my experience, no. Typically roadway improvements are performed during construction and post construction for adverse impacts to the roadway system as a direct result of construction traffic attributed to a specific project. Local roads used for access to a specific construction site are sometimes designated as a "Haul Road" where the jurisdictional authority (i.e. County, Township, Village) can require immediate and practical repairs to restore the pavement to pre-construction activity condition. I have worked on numerous ODOT projects and bridge replacement projects on local township and county roads that utilized heavy equipment similar to the equipment that will be required for construction of the Applicant's project. In those projects, roadway improvements were performed as needed during and after construction as adverse impacts were identified as a direct result of construction traffic. With that said, it is likely that general improvements to parts of the Applicant's project transportation route that currently restrict vehicle movements will need to be completed prior to construction.

Q.11 What general improvements to the transportation route do you foresee the Applicant will need to complete prior to construction?

A.11 General improvements to the transportation routes anticipated to be completed prior to construction could be but not limited to the following:

1. Widening of pavement (permanent and/or temporary) at intersections to accommodate wide turning movements.
2. Corrections to profile grades on pavement to accommodate low clearance of transport trailers.
3. Improvements (permanent and/or temporary) to substandard stream crossing structures to accommodate heavy loads.
4. Coordination with utility owners to relocate (permanent and/or temporary) facilities such as poles, aerial crossings, or ground mounted hardware which may be in conflict with construction vehicle movements.

Q.12 Are there any variables which could potentially impact the need for improvements to the transportation routes?

A.12 The Transportation Study emphasized that the roadways in this area are frost susceptible and the load bearing capacities are greatly reduced in the spring (February thru May). The impact of construction traffic could vary considerably according to the time of year of construction activities. The range of impact I would anticipate is severe for when the roadways are subject to frost and isolated for all other times.

Q.13 Do you believe it is necessary to make wholesale upgrades to transportation route roads prior to construction?

A.13 No – only those required to address identified deficiencies which would restrict the movement of transport vehicles in the construction of wind turbines. Some of those improvements are listed above in my testimony. Also, as mentioned in the Transportation Study (Appendix N) construction activities anticipated for this project typically produce the largest stresses on pavements at the point of sharp turning movements. Therefore, it is anticipated that each “access point” or location where the project site roads meet public roads, will be most prone to failure. These areas may require structural improvements on the public roads prior to construction activities.

Q.14 Have you reviewed the Staff Report issued in this proceeding?

A.14 Yes.

Q.15 At pages 59 through 60 of the Staff Report, Staff recommends three conditions (46, 47 and 48) relating to the Applicant’s use of public roads. Do you have any concerns with those conditions?

A.15 The Staff Report recommendation item 46 (on page 59) requires the Applicant to complete a study on the final equipment delivery route to determine what improvements will be needed in order to transport equipment to the wind turbine construction sites. The Transportation Study (Appendix N) included a review of the preliminary proposed routing of construction vehicles and addressed each of the Staff Report requirements. Item 47 (page 59) recommends provisions for the Applicant to repair damage to public roads and bridges caused by construction activity. The Staff Report recommendation is appropriate for this type of project and is consistent with Q/A. 10 of this testimony.

Item 48 (page 60) recommends provisions for the Applicant to repair damage to public roads and bridges caused by decommissioning activity. The Staff Report recommendation is appropriate for this type of project.


Q.16 Does this conclude your direct testimony?

A.16 Yes, it does.

CERTIFICATE OF SERVICE

I certify that a copy of the foregoing document was served by hand delivery upon John Jones and Stephen Reilly, Assistant Attorneys General, Public Utilities Section, 180 E. Broad Street, 6th Floor, Columbus, OH 43215 and via U.S. Mail upon the following persons listed below this 8th day of September 2011:

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Michael J. Settineri

Comparison of anticipated construction vehicle traffic for a typical bridge replacement project and a wind turbine construction site.

Richland County - Stein Road Bridge

<u>Description</u>	<u>Quantity</u>	<u># of Loads</u>	<u># of Permit Loads</u>
Mobe \ De-mobe Equipment (Exc., Dozer, Compactor, Pile Driving, Crane for Beams, Paving Equip.)		20	5
Misc. Material Deliveries (Drainage, Guardrail, Seeding, Etc.)		3	
Aggregate Base	169 c.y.	16	
301 Asphalt Base	57 c.y.	5	
Tack & Prime Coat		1	
Int. & Surface Asphalt	65 c.y.	6	
411 Shoulder Aggregate	47 c.y.	3	
Rock Channel Protection	315 c.y.	16	
Structure Removed		4	
Piling Delivery		1	
Resteel Delivery		1	
Class C Concrete	65 c.y.	9	
Prestressed Beams	7 ea.	7	7
Concrete Approach Slabs	52 c.y.	7	
Misc. Bridge Materials		2	
Bridge Deck Asphalt Overlay	17 c.y.	2	
	Total Loads	103	12

Wind Turbine site

Concrete	30	
Rebar	2	
Roadbase Aggregate	10	
Backhoes & Cranes	8	8
Turbine Equipment	9	9
Collection Cabling	20	
Restoration	5	
	Total Loads	84
		17

Prepared By K.E.McCartney & Associates, Inc.