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July 22, 2011

VIA HAND-DELIVERY

Mr. John H, Jones
Assistant Attorney General
Public Utilities Section
180 E. Broad St., 6th Floor
Columbus, Ohio 43215-3793

Re: OPSB Case No. 10-2865-EL-BGN
Black Fork Wind Energy, LLC

Dear Mr. Jones:

Please find enclosed responses by the Applicant, Black Fork Wind Energy, LLC, to the Ohio Power Siting Board Staff's June 22nd Wildlife/Ecological Questions and Clarifications.

Please call me or Scott Hawken, Black Fork Wind Energy Project Manager, if there are any questions regarding these responses.

Sincerely,

Michael J. Settineri

MJS/drd
Enclosures
cc: Scott Hawken

Black Fork Wind Energy Project
Case No. 10-2865-EL-BGN
July 22, 2011 Responses to June 29, 2011 Data Requests

Wildlife/Ecological questions and clarifications - Black Fork Wind Energy project

June 22, 2011

1. Some of the proposed turbines have collection lines and access roads on separate alignments, necessitating clearing of a total of 40-50 foot wide corridor area for access roads and a 20-30 foot wide corridor for buried collection lines. Please justify why the access roads and collection lines cannot be located within the same corridor area, minimizing the overall clearing required for the project.

   A goal of the project design was to co-locate all access roads and collection lines. However, during the preliminary design phase it was determined that in some instances a consequence of co-location was an increase in the total length of collection line right-of-way (ROW) and correspondingly an increase in the amount of temporary disturbance during construction. For instance, in some locations where a collection line was originally designed to be co-located with an access road that led out to a public road ROW, we were able to significantly reduce the total temporary disturbance and minimize temporary impacts to roads, lawns, driveways, etc) by routing the collection lines through cultivated agriculture lands. In all locations where collection lines are not co-located with an access road ROW, the siting was done such that it resulted in an overall reduction in the temporary disturbance compared to impacts if co-location occurred.

   Additionally, throughout the application, due to the scale of the maps and GIS representations, separate lines were used to depict the collection lines and access roads. On the maps the collection lines and access roads appear to run in parallel paths, when in reality these facilities will be co-located within the same ROW.

2. Please provide an approximate amount of tree/vegetation clearing needed to construct this project. Please provide by; 1. wind turbines, 2. access roads/collection lines, 3. for the O & M facility, substation, switchyard, and concrete batch plant, 4. temporary laydown areas, and 5. permanent met towers.

   Please see the attached table.

3. Page 21 states that the Applicant is attempting to minimize the construction impact (of stream and wetland crossings) by boring where feasible and appropriate. Please provide more specific details and quantification.

   The Applicant will bore all locations where collection lines cross streams. There is only one location where an access road will cross a stream and impacts will be unavoidable (access road to Turbine 37). The access road stream crossing will include the replacement of an

existing culvert currently located in the stream to provide access to the agricultural field where the turbine will be located. To accommodate construction equipment, the length of the culvert will be increased. The Applicant has been in consultation with the U.S. Army Corp of Engineers regarding this stream crossing, and once construction plans are finalized the Applicant will pursue a Section 404/401 permit to allow for the stream impact.

The project has been designed to avoid all impacts to wetlands.

4. Page 33 of the application states "Natural areas will be seeded with an appropriate seed mixture to control erosion and allowed to regenerate to the original plant community". Please provide additional information (more specifics) on the species composition of the "seed mixture."

   The appropriate seed mix will vary depending on the location. The Applicant will work with the individual landowners, ODNR, and the County Soil and Water Conservation District to determine the preferred revegetation plan or seed mix for each natural area that will require reseeding. In non-agricultural areas, an erosion control seed mix that contains species that establish quickly will be used. This could include species such as perennial rye grass, Canada wild rye and a legume such as partridge pea will be used. These sites will then allowed to revegetate naturally via adjacent seed sources. Oats or winter rye may be used to quickly stabilize agricultural land if outside of the planting season. Cover crop selection and final seed mix will be determined when the Storm Water Pollution Prevention Plan (SWPPP) is established and with consultation with individual farmers for agricultural lands.

5. Page 37 of the application states that "As a result, should site conditions exist that sensitive resources (e.g. forested areas, wetlands, streams, etc.) are present within the 150 foot area surrounding the turbine center, the construction area will be adjusted to ensure these resources are not impacted by project construction or operation." What turbines would this apply to? It appears that turbine 83 for example, is near or within a wetland. Is this proposed to be offset to not impact the wetland?

   Based on our subsequent field surveys, which included surveys of the 150-foot construction radius surrounding the turbines, we were able to verify that no streams or wetlands will be impacted by construction or operation at any turbine location. Turbine 83 appears to be near a mapped Ohio Wetland Inventory (OWI) wetland however field surveys determined that this wetland was no longer in existence and will not be impacted by construction of the turbine. This is also the case with Turbines 38, 40, and 43, whereby the temporary construction area appears to intersect with OWI wetlands, but our field surveys found that these wetlands are no longer there.

   There are no temporary turbine construction areas that will intersect with forested areas as the Applicant has implemented a 100 meter setback from the turbine center to forested areas, which will prevent any clearing of forests for turbine construction.

6. Page 58 of the application states "of the 21 streams identified during the field surveys, 18 streams will be crossed by electrical collection lines....the collection lines will be installed using horizontally directionally drilled (HDD) method..." Please discuss what the stream impacts will be for any additional streams that will not be crossed by HDD.

   As discussed in our response to Question #3 above, all stream crossings will be constructed through the use of HDD. The only expected stream impact during construction will be due to the replacement of an existing culvert to accommodate the construction of an access road for Turbine 37. The three streams that were identified during field surveys and described within the Application, but not included within the HDD description, are not expected to be impacted by Project construction in any way. These streams were included within the 500-, 300-, and 100-foot field survey corridors for turbines, access roads, and collection lines, respectively, which are larger than the temporary construction corridors to allow for small shifts in the Project infrastructure when finalizing the Project layout. They will be protected during Project construction through the implementation of a SWPPP that will be developed as part of the requirements to obtain a National Pollutant Discharge Elimination System (NPDES) Construction Storm Water General Permit. The SWPPP outlines sediment and erosion control measures and best management practices that will be implemented at the construction site to minimize or eliminate contaminated storm water runoff into nearby waterways.

7. According to the vegetation cover figures, it appears that forested areas and wetland areas are proposed to be impacted by the following collection lines: between turbine 4 and 6, turbines 6 and 7, turbines 10 and 12, turbines 90 and 16, turbines 28 and 29, turbines 29 and 30, turbines 24 and 25, turbines 44 and 43 and turbine 73 and 72 and near turbine 30, turbine 28, turbine 54, turbine 45, and turbine 55. And, it appears that forested habitat and wetland impacts are proposed to be impacted by the following access roads: between turbines 11 and 91, turbines 26 and 27, turbines 44 and 43, turbines 87 and 86 and near turbine 19, turbine 21, turbine 36, turbine 40, turbine 54, turbine 67, turbine 66, turbine 72, turbine 74, turbine 86. Please document if it is possible to adjust collection lines and access roads to preserve additional wildlife habitat and avoid/minimize impacts to forested habitat and wetlands. In addition, it is not clear if wetlands are proposed to be HDD since it states that no wetland impacts are proposed for the project. Please clarify any/all wetland impacts for this project.

   As described in response to Question #5 many of the wetlands depicted in Figure 8-4 – Ecological Communities as OWI wetlands are not, in fact, wetlands as determined during field surveys. A 200-foot and 300-foot corridor along all proposed collection line and access road ROWs, respectively, were surveyed by the Applicant. None of the OWI wetlands identified above were found to be wetlands.

   Due to the linear nature of collection lines and access roads, impacts to forested areas cannot be completely avoided. However, through an extensive preliminary siting effort forest impacts have been minimized such that only 3.3 acres will be cleared for construction and all but 0.6 acres will be allowed to revegetate once the Project is operational. For instance,

forest clearing was avoided during site design of the collection line between Turbine 28 and 29 and Turbine 29 and 30 and the access road between Turbine 11 and 91 and Turbine 87 and 86 to follow the field/forest edge instead of cutting directly through the forest, which is the most direct route.

After conducting field surveys with members of the OPSB staff, the majority of the concerns noted above have been resolved by on-site verification. Below is a chart describing the resolution. The Applicant is willing to work with the OPSB to adjust collection lines and access roads to reduce impacts to wildlife habitat (primarily forests) where it is practicable and if in fact there is an impact.

Description of Forest and/or Wetland Impact Concerns and Remedies

Location of Concern	Description	Remedy	Other
Between #4 and #6	Collection lines	Field verified with staff 7/12-7/14	Stream crossing but no associated wetland. At stream crossing the collection line will be installed using HDD.
Between #6 and #7	Collection lines	Field verified with staff 7/12-7/14	Existing road ROW (Hammond Rd) with minimal woodlots and stream crossing which will be crossed via HDD.
Between #10 and #12	Collection lines	Field verified with staff 7/12-7/14	Not impacting woodlots, staying on eastern boundary.
Between #90 and #16	Collection lines	Field verified with staff 7/12-7/14	The route proposed by Staff during a site review is on land not controlled within the project. The Applicant will attempt to re-route directly west, but needs to work with the landowner to gain permission.

Location of Concern	Description	Remedy	Other
Between #28 and #29	Collection lines	Field verified with staff 7/12-7/14	Not impacting woodlots, staying on southern boundary. Wetland is no longer present.
Between #29 and #30	Collection lines	Field verified with staff 7/12-7/14	Not impacting woodlots, staying on northern boundary. Wetland is no longer present.
Between #24 and #25	Collection lines	Field verified with staff 7/12-7/14	Wetland is no longer present. Stream crossing will utilize HDD.
Between #44 and #43	Collection lines and Access Roads	Field verified with staff 7/12-7/14	Wetland complex no longer present. Access road and collection line will stay on northern boundary of woodlot.
Between #73 and #72	Collection lines	Field verified with staff 7/12-7/14	No impact due to break in trees.
Near Turbine #30	Collection lines	Field verified with staff 7/12-7/14	Collection line will be installed under the stream using HDD.
Near Turbine #28	Collection lines	Field verified with staff 7/12-7/14	No impact to woodlots. Wetlands no longer present.
Near Turbine #54	Collection lines and Access Roads	Field verified with staff 7/12-7/14	No forest or wetland present.
Near Turbine #45	Collection lines	Field verified with staff 7/12-7/14	Wetland no longer present.
Near Turbine #55	Collection lines	Field verified with staff 7/12-7/14	No wetland or woodlot impacts.
Between #11 and #91	Access Roads	Field verified with staff 7/12-7/14	No impact, road on northern boundary of woodlot
Between #26 and#27	Access Roads	Field verified with staff 7/12-7/14	Wetland no longer present.
Between #87 and #86	Access Roads	Field verified with staff 7/12-7/14	No impact, road on northern boundary of woodlot. Wetlands

Location of Concern	Description	Remedy	Other
			no longer present.
Near Turbine #19	Access Roads	Field verified with staff 7/12-7/14	No impact, road on western boundary of woodlots along existing farm lane.
Near Turbine #21	Access Roads	Field verified with staff 7/12-7/14	Wetlands no longer present.
Near Turbine#36	Access Roads	Field verified with staff 7/12-7/14	No impact, road on southern boundary of woodlot. Wetlands no longer present.
Near Turbine #40	Access Roads	Field verified with staff 7/12-7/14	No impact, existing farm lane. Wetlands no longer present.
Near Turbine #67	Access Roads	Field verified with staff 7/12-7/14	No impact, road on western boundary of woodlot.
Near Turbine #66	Access Roads	Field verified with staff 7/12-7/14	No impact, road on southern boundary of woodlot.
Near Turbine #72	Access Roads	Field verified with staff 7/12-7/14	Road will be routed to avoid northeast corner of the woodlot.
Near Turbine #74	Access Roads	Field verified with staff 7/12-7/14	No impact, road on southern boundary of woodlot. Wetland no longer present.
Near Turbine #86	Access Roads	Field verified with staff 7/12-7/14	No impact, road on northern boundary of woodlot. Wetland no longer present.

8. Page 115 Major Species states"...due to lack of nesting habitat within the project area and the infrequency in which these species were identified passing through, it is not expected that operation of the project will impact these state listed species." In addition to the state listed species mentioned in this paragraph, the osprey and sharp-shinned hawk (and possibly others) were not included but were detected in diurnal surveys. Please provide a table of state listed species detected during all wildlife surveys for the proposed project.

***Included below is a table listing all Ohio endangered, threatened, and special concern species* that were identified during wildlife surveys for the proposed project. With the exception of big brown and northern Myotis bats, all state-listed species were found infrequently and are not anticipated to be impacted by operation of the Project.**

State-Listed Endangered, Threatened, and Species of Concern Species Identified During Wildlife Surveys

Scientific Name	Common Name	Status
Circus cyaneus	Northern Harrier	SE
Junco hyemalis	Dark-eyed Junco	ST
Catharus guttatus	Hermit Thrush	ST
Empidonax minimus	Least Flycatcher	ST
Haliaeetus leucocephalus	Bald Eagle	ST
Pandion haliaetus	Osprey	ST
Myotis lucifugus	Little brown bat	SSC
Eptesicus fuscus	Big brown bat	SSC
Myotis septentrionalis	Northern Myotis	SSC
Accipiter striatus	Sharp-shinned Hawk	SSC
Protonotaria citrea	Prothonotary Warbler	SSC

Data sources: ODNR 2010

Key:
SE = State-Listed Endangered.
ST = State-Listed Threatened.
SSC = State Species of Concern

9. Please provide a table showing the distance of each turbine footprint proposed from the nearest woodlot and riparian corridor.

Included below is a table that provides the approximate distance (0-100 meters, 100-200 m, 200-300 m, and >300 m) from each turbine to the nearest forest edge or NHD stream. The Applicant enacted a minimum setback of 100 m from the turbine center to the forest edge, following setbacks as a guide from best management practices and industry experience.

Distance from Turbine to Nearest NHD Stream and Forest Block

Turbine Number	Distance to NHD Stream[1] (meters)	Distance to Forest Block[2] (meters)
1	100-200	100-200
2	200-300	100-200
3	200-300	100-200
4	200-300	200-300
5	200-300	100-200
6	100-200	100-200
7	0-100	> 300
8	100-200	100-200
9	> 300	100-200
10	200-300	> 300
11	0-100	100-200
12	> 300	200-300
13	0-100	> 300
14	> 300	200-300
15	100-200	100-200
16	100-200	> 300
17	200-300	100-200
18	200-300	> 300
19	100-200	100-200
20	> 300	> 300
21	> 300	100-200
22	200-300	> 300
23	200-300	> 300
24	100-200	> 300
25	0-100	> 300
26	> 300	> 300
27	> 300	200-300
28	> 300	100-200
29	200-300	100-200
30	0-100	> 300
31	0-100	100-200
32	200-300	200-300
33	200-300	100-200
34	200-300	100-200
35	0-100	100-200
36	200-300	100-200
37	0-100	100-200
38	> 300	100-200
39	> 300	> 300
40	> 300	> 300
41	> 300	> 300
42	100-200	> 300
43	100-200	100-200
44	200-300	> 300
45	0-100	100-200

Distance from Turbine to Nearest NHD Stream and Forest Block

Turbine Number	Distance to NHD Stream[1] (meters)	Distance to Forest Block[2] (meters)
46	200-300	> 300
47	100-200	> 300
48	200-300	100-200
49	> 300	100-200
50	0-100	100-200
51	> 300	> 300
52	> 300	200-300
53	200-300	200-300
54	100-200	> 300
55	> 300	> 300
56	100-200	> 300
57	> 300	> 300
58	> 300	> 300
59	0-100	200-300
60	> 300	> 300
61	200-300	200-300
62	> 300	> 300
63	100-200	100-200
64	> 300	100-200
65	200-300	100-200
66	200-300	200-300
67	> 300	100-200
68	> 300	100-200
69	> 300	200-300
70	> 300	100-200
71	> 300	100-200
72	200-300	100-200
73	0-100	100-200
74	> 300	> 300
75	> 300	100-200
76	> 300	100-200
77	> 300	100-200
78	200-300	100-200
79	> 300	> 300
80	100-200	> 300
81	> 300	100-200
82	> 300	100-200
83	100-200	100-200
84	200-300	200-300
85	> 300	100-200
86	200-300	100-200
87	> 300	100-200
88	> 300	100-200
89	0-100	> 300
90	100-200	> 300

Distance from Turbine to Nearest NHD Stream and Forest Block

Turbine Number	Distance to NHD Stream[1] (meters)	Distance to Forest Block[2] (meters)
91	0-100	100-200

[1]USGS NHD 2008
[2]E & E 2009

10. Page 116 (c) states "The secondary mitigation measure to reduce potential significant bird and bat impacts was lighting and structural mitigation....In order to reduce this potential, the applicant will equip the turbines with slow blinking lights as recommended by ODNR." Please be more specific on lighting to be used.

Turbines are required to be marked to satisfy Federal Aviation Administration (FAA) requirements for visibility per Advisory Circular AC 70/7460-1K (Obstruction Marking and Lighting). The Applicant will work with FAA to develop a final lighting plan that will use the fewest number of lights, with the minimum number of flashes per minute that the FAA allows in order to minimize the attractiveness of the turbines to birds and bats. Consistent with the USFWS Guidelines, the Applicant will propose a lighting plan that will:

- **Employ only red, or dual red and white strobe, strobe-like, or flashing lights, not steady burning lights, for all wind turbines and permanent met towers**
- **Only a portion of the turbines within the wind project should be lighted, and all pilot warning lights should fire synchronously.**
- **At both operation and maintenance facilities and substations located within half a mile of the turbines to the minimum required:**
    - **Use lights with motion or heat sensors and switches to keep lights off when not required; and**
    - **Lights hooded and directed downward to minimize horizontal and skyward illumination**

Tree and Vegetation Clearing for Construction and Operation

Feature	Agriculture		Forest		Old Field		Residential/ Developed		Transportation		Public Utility/ Airport		Wetland		Total Impact	
	Temp	Perm	Temp	Perm	Temp	Perm	Temp	Perm	Temp	Perm	Temp	Perm	Temp	Perm	Temp	Perm
Wind Turbine	30.8	4.1	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**31.0**	**4.1**
Access Road/Collection Line	139.2	53.8	3.3	0.6	1.0	0.5	2.9	0.9	2.9	0.6	0.1	0.0	0.9	0.3	**150.3**	**56.7**
O&M Building/Substation /Switchyard/ Concrete Batch Plant	19.0*	9.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**19.0***	**9.0**
Temporary Laydown Area	10.0*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**10.0***	**0.0**
Met Towers	0.04	0.04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.04**	**0.04**
Grand Total	**170.04**	**66.94**	**3.3**	**0.6**	**1.2**	**0.5**	**2.9**	**0.9**	**2.9**	**0.6**	**0.1**	**0.0**	**0.9**	**0.3**	**181.34**	**69.84**