COMMONWEALTH OF VIRGINIA
BEFORE THE
STATE CORPORATION COMMISSION

Application of

HIGHLAND NEW WIND DEVELOPMENT, LLC **Case No. PUE-2005-00101**

For Approval to Construct, Own and Operate an Electric Generation Facility in Highland County, Virginia pursuant to §§56-46.1 and 56-580 D of the Code of Virginia

APPLICATION

JOHN W. FLORA, ESQUIRE
LISA ANNE HAWKINS, ESQUIRE
Keeler Obenshain, PC
P.O. Box 1287
90 N. Main Street, Suite 201
Harrisonburg, Virginia 22803
(540) 437-3100

HENRY T. MCBRIDE, JR.
Highland New Wind Development, LLC
1583 Ridgedale Road
Harrisonburg, VA 22801
(540) 434-3669

November 7, 2005

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APPLICATION

HIGHLAND NEW WIND DEVELOPMENT, LLC (HNWD) hereby applies to the State Corporation Commission (the "Commission") pursuant to §§56-46.1 and 56-580 D of the Code of Virginia for approval to construct, own and operate an electric generating facility in Highland County, Virginia (the "Project"). HNWD also requests confidential treatment of certain confidential information pursuant to 20 VAC 5-20-170.

HNWD proposes to construct and operate a wind energy power generating facility in Highland County, Virginia near the West Virginia border, just northeast of State Route 250 on Allegheny Mountain, specifically on Red Oak Knob and Tamarack Ridge. The Project will use utility scale wind turbines on Red Oak Knob and Tamarack Ridge to produce electricity in a highly efficient, cost effective and environmentally friendly manner. The facility will be approximately 39 megawatts (MW) in nominal rated capacity. The proposed wind power facility will consist of up to 20 turbines of 2.00 MW nominal capacity each, mounted on free-standing tubular towers.

A map of the proposed Project site with preliminary turbine locations and the surrounding area is attached.

The Project will be interconnected to an existing Allegheny Power Company 69 kilovolt (kV) electric transmission line that bisects the Project site. The interconnection facility shall consist of a new substation, with step up transformers and other equipment.

The Project will provide a clean source of electric power to the region with minimal impacts to the environment and surrounding area. The proposed Project will impose negligible requirements on the existing Highland County infrastructure while providing significant benefits to the area in increased local tax revenues.

INFORMATION REQUIRED BY 20 VAC 5-302-25

In support of its application, HNWD respectfully submits the following, in accordance with 20 VAC 5-302-25:

1. **Legal name of applicant**

The legal name of the applicant is Highland New Wind Development, LLC.

2. **Description of applicant's business structure**

Highland New Wind Development, LLC is a limited liability company organized under the laws of the Commonwealth of Virginia. The Commonwealth of Virginia issued HNWD's certificate of organization on October 8, 2002.

3. **Name and address of principal officer and owner applicant**

HNWD is a wholly owned subsidiary of Red Oak Ranch, L.L.C., a Virginia limited liability company. The manager of HNWD is Henry T. McBride, Jr. The addresses and telephone numbers of the manager of HNWD, Red Oak Ranch, L.L.C. and their attorney are:

MANAGER OF HNWD
Henry T. McBride, Jr.
1583 Ridgedale Road
Harrisonburg, VA 22801
(540) 434-3669
EMAIL: htmcb@aol.com

OWNER OF HNWD
Red Oak Ranch, L.L.C.
Henry T. McBride, Jr., Manager
1583 Ridgedale Road

Harrisonburg, VA 22801
(540) 434-3669
EMAIL: htmcb@aol.com

ATTORNEY FOR HNWD
John W. Flora, Esquire
Keeler Obenshain, PC
P.O. Box 1287
90 N. Main Street, Suite 201
Harrisonburg, Virginia 22803
(540) 437-3111
EMAIL: jflora@kolawfirm.com

4. **Financial information of the applicant; evidence that applicant has the financial resources to complete the proposed Project**.

HNWD does not have two years of operating history. The parent, Red Oak Ranch, L.L.C. is a closely held private company, which owns, free and clear, almost 2,000 acres of land in Highland County and neighboring Pocahontas County, West Virginia, together with other investments as shown on the confidential Balance Sheet filed separately under seal with the Clerk of the Commission.

5. **Applicant qualifications**

a. **Summary of other projects developed by applicant**

HNWD has not developed any other wind generating facilities. Initially, one of its members was a wind farm development company, Community Energy, Inc., but the parties parted ways in early 2004 and Community Energy, Inc. continues to work on wind farm development, but primarily in the northeast.

In light of HNWD's lack of experience in developing wind generating facilities, it has assembled a team of experts to develop this project. Those experts and their roles are set forth below:

(i) Wind Analysis and Turbine Siting
- Ed McCarthy (see attached bio).

- Scope of Work - Conducted preliminary assessment of wind feasibility and will team with the turbine manufacturer to make final decisions on exact turbine siting.

(ii) Site Planning, Stormwater, Erosion and Sediment Control Plan
- Ed Blackwell with Blackwell Engineering (see attached bio)

- Scope of Work - Prepared erosion and sediment control plan and will provide additional assistance as needed with regard to site planning and stormwater management.

(iii) Environmental Review
- Bruce Aitkinhead with Malcolm Pirnie, Inc. (see attached bio)

- Scope of Work - Will provide assistance, when and if needed, with regard to FAA clearance, the Joint Permit Application filed with the Virginia Marine Resources Commission and all Virginia requirements other than those related to birds, bats and squirrels.

- Richard C. Curry with Curry & Kerlinger, LLC (see attached bio)

- Scope of Work - responsible for handling bird, bat and squirrel issues as identified in earlier review processes and again in the attached letter dated September 28, 2005 from the U.S. Fish & Wildlife Service, and assembling a group of experts to address those issues.

(iv) Finance and Contracting
- Jeff Paulson with Paulson & Associates (see attached bio)

- Scope of Work - Identify purchaser and negotiate power purchase agreement for the electric power; identify purchaser and negotiate contract for sale of "green tags"; identify and negotiate with tax oriented equity investor; identify and negotiate with lender; and identify and negotiate (1) turbine acquisition (2) balance of plant (BOP) contracts and (3) ongoing equipment maintenance contracts

(v) Site Work, Road Upgrades and Construction. These tasks will be the responsibility of HNWD with assistance from the other experts mentioned above.

b. **Description of any affiliation with an incumbent electric utility**

Neither HNWD, nor its parent, Red Oak Ranch, L.L.C., is affiliated with any electric utility.

6. **Facility site information**

a. **Description of the location**

The facility will be constructed in Highland County, Virginia near the West Virginia border, just northeast of State Route 250 on Allegheny Mountain, specifically on Red Oak Knob and Tamarack Ridge.

b. **Description of the site and topographic map**

The wind turbines will be placed on Tamarack Ridge and Red Oak Knob, both of which have been cleared for many years and have been fenced for pasture use. The pasture site is surrounded by forestland and is bisected by State Route 250 and an Allegheny Power Company 69 kilovolt (kV) electric transmission line. The physical location of the site is shown on the attached topographic maps.

This site was selected because of its Class V Wind Source potential, its proximity to State Route 250, its proximity to the existing transmission line and the minimal impact to the environment and people, given its remote location. The proposed facility will be constructed completely on private property consisting of an almost 4,000 acre tract, only a small portion of which will be dedicated to the Project, approximately 217 acres.

c. **Status of site acquisition**

The site is under lease from Red Oak Ranch, L.L.C. and Tamarack, L.L.C.

7. **General description of the proposed facility**

The Project will provide no more that 39 MW of electricity to be transmitted on the existing 69 kV line crossing the Project site. To complete the Project in 2007, the wind turbines will need to be ordered early next year and current technology suggests that the wind turbine capacity will be 2.0 MW per turbine, which means 19 turbines will be placed on the Project with a 38 MW capacity. PJM's initial feasibility study has indicated that no more than 39 MW can be added to the existing transmission line without substantial upgrades to that line. In addition to the 19 wind turbines, a substation will be located on the Project site.

Final selection of the equipment to be used is underway, but it is anticipated that the towers will be 262 feet (80 meters) in height in order to achieve the highest possible capacity factor. The commitment to Highland County was to limit the height to 400 feet, so the turbine rotor diameter will be approximately 269 feet (82 meters).

The wind turbines to be used will be of the 2.00 MW size, to be selected based on

design, price, reliability, reputation, efficiency and availability. In order to achieve maximum power output, the rotor shall utilize blade pitch regulation that allows the turbines to achieve the highest level of aerodynamic efficiency and increased turbine life. Additional features will include noise insulation of the drive train, sound reduced gearbox, noise reduced nacelle, and reduced blade tip speed.

Transmission and communication cables from the turbines to the proposed substation shall be buried in trenches running along the Project access roads and along the existing 69 kV Allegheny Power transmission line.

Interconnection facilities shall consist of a new substation with step up transformers, along with associated breakers, relays, grounding and other electrical protection and control equipment. The interconnection facilities will convey the power plant's electrical output to the 69 kV Allegheny Power Company transmission lines.

The feasibility and system impact study of the interconnection are being conducted in conjunction with the PJM Interconnect and Allegheny Power. A completed interconnection agreement is anticipated to be in place by early 2006.

Construction is expected to begin in late 2006 or early 2007 and take about six to eight months. Plant commissioning is anticipated by the end of 2007.

The wind power generating facility is expected to be operational for approximately 20 to 30 years depending on the prevailing power prices, equipment life expectancy and contract terms. At the end of the operation period, the facility shall be decommissioned.

8. **General description of the fuel supply arrangement**

Wind farms require no fuel, only wind.

9. **General description of the economic development impacts**

The Project will have a positive impact on Highland County, Virginia. The primary positive impact is tax revenue. The current projection indicates that annual tax revenue generated by this Project will be between $175,000 and $225,000 per year. The second largest current taxpayer in

Highland County pays approximately $33,000 per year. There is very little industry or business located in Highland County, so this tax revenue stream is extremely significant.

During the construction phase there will be a significant economic boost to the county from (i) 75 to 100 temporary construction jobs and (ii) the construction workers' expenditures at local motels, restaurants and stores. After completion of the Project, approximately one to two full-time positions will be made available, adding about $100,000 of additional payroll in the county.

Economic development and tourism trade associations in this country and around the world continue to report that wind farms are tourist attractions. According to Robert Burns, Executive Director of the Tucker County Development Authority in West Virginia, as reported in the American Wind Energy Association's *Wind Power Myths vs. Facts*:

> "There is so much demand to view the wind turbines that the county is creating a pull-off area and working with the project owner to create an informational kiosk. The wind project has become a destination spot for tourists visiting nearby ski resorts and parks."

10. **Governmental agencies' approvals required and status**

Highland County -

Conditional use permit: ***status - approved by Board of Supervisors***

Building permit: ***status - Will be submitted in 2006***

Virginia -

This permit.

Virginia Department of Transportation Highway Access Permit:
status - See attached preliminary approval letter

Joint Permit Application filed with VMRC, Army Corp of Engineers and DEQ for approval to tunnel under the Laurel Fork stream to bury the electric line connecting the Tamarack Ridge turbines to the substation: ***status - Will be submitted shortly***.

Federal -

PMJ Interconnection Agreement with Allegheny Power:
status - Feasibility study should be completed very soon.

FAA lighting approval: ***status - Will be submitted when turbine manufacturer is***

selected and sites are specifically identified in 2006.

11. **Environmental Impact**

The environmental impact of this Project is minimal. The construction and placement of the wind turbines and substation will require almost no trees to be cut, since both ridges are cleared. The forestry management practices (see attached letter from the Virginia Department of Forestry) conducted by the Applicant's owner on the almost 4000 acres adjacent to the Project will continue without disruption during construction and operation of the wind farm. Existing farm roads will be improved for access during the construction phase. A photo of the site is attached.

a. **Air quality**

There are no emissions from a wind farm.

b. **Water source**

There are no water requirements for a wind farm. Water required during construction and operation will be transported by truck to the Project site. There will be no impact to groundwater availability since no groundwater will be used for construction or operation of the proposed Project.

c. **Discharge of cooling water**

There is no cooling water related to a wind farm.

d. **Wetlands**

There are no wetlands within the site boundary and the site development will have no change on the local run-off patterns. (See attached letter from Army Corp of Engineers dated August 13, 2003.)

e. **Solid and hazardous wastes**

A wind farm generates no material waste.

f. **Natural heritage, threatened and endangered species**

The attached September 28, 2005 U.S. Fish & Wildlife letter summarizes the

endangered species concerns, at least at the federal level. As soon as the Highland County Board of Supervisors approved the Project's Conditional Use Permit, HNWD engaged Curry & Kerlinger, LLC ("C & K") to handle and respond to U.S. Fish & Wildlife concerns as expressed in 2003, 2004 and again in 2005. C & K have been familiar with the McBrides, the Project site and the related environmental concerns as early as 2000.

C & K have extensive experience in analyzing the impact of wind farms on endangered species, and birds and bats in general. They are respected enough to have been engaged by U.S. Fish & Wildlife to participate in a review of avian issues regarding communication towers. C & K have worked in conjunction with U.S. Fish & Wildlife on almost all of the wind farm projects in Region 5, which is the northeast region of U.S. Fish & Wildlife, which covers Virginia and states north.

Based on preliminary consultations with Curry & Kerlinger, HNWD has engaged the recommended experts to conduct a suite of studies and assessments of the proposed Project site and environs to address scientifically-based concerns about potential impacts of the proposed Project on wildlife resources, which will be made available as soon as possible within the next several weeks. A sixty-day bird/bat radar study is being conducted by ABR, Inc. (see attached bios and project description). Dr. Edwin Michaels has completed the northern flying squirrels study (see attached bio and study report). Avian and Bat risk assessments should be completed by the end of November. Based on the numerous and recent surveys and studies done for wind projects in West Virginia and Maryland, HNWD has no reason to believe that there will be any problem with any natural heritage, threatened and endangered species.

g. **Erosion and sediment control.** The attached erosion and sediment control plan has been presented to the appropriate authorities, but has not yet been approved.

h. **Archaeological, historic, scenic, cultural, or architectural resources in the area**

The Project is located in a sparsely populated area of the country and in fact, one of the

least populated areas of Highland County. There are homes occupied by three permanent residents, who will be able to see the turbines from their property. View shed issues were hotly debated during the Conditional Use Permit process in Highland County.

Camp Allegheny, a Civil War historic site is located in neighboring Pocahontas County, West Virginia, approximately 1.5 miles from the nearest wind turbine. From the parking lot and the visitors' interpretive area, the turbines will not be seen due to the dense forested area surrounding Camp Allegheny. Visitors to Civil War sites generally are present to to view the historic site itself, which is not impaired in any way by the Project.

Based upon a review of the Virginia Department of Historic Resources DSS database, no historical resources are located at the proposed Project site. The nearest resource is DHR Id# 045-5001, identified as Bridge #1019. This resource is described as a 1-span 43-foot t-beam bridge with cork railings dated to 1939. The bridge is described as historic (50 years or older). The property has not been evaluated for National Register Eligibility Status. This bridge is located approximately one mile southeast from the proposed Project site along Route 250 and appears to span Back Creek. Two other historic properties are listed for Hightown, VA, approximately three miles southeast of the Project site along Route 250. Those are the Jacob Hevener Stores, DHR Id#'s 045-0119 and 045-0002. Both properties are identified as being historic properties (50 years or older). Neither of these properties has been evaluated for National Register Eligibility Status. As a result of distance and local topography, none of these historic resources would be impaired in any way by the Project.

i. **Chesapeake Bay Preservation Area**

The Project is not located in a designated Chesapeake Bay Preservation Area.

j. **Wildlife resources**

Once constructed, the turbines and the substation will take up no more than four acres of land, all of which has been previously cleared. Therefore the Project should not have an adverse impact on wildlife resources.

k. **Recreation, agricultural and forest resources**

Federal forest lands in Highland County are managed by the United States Department of Agriculture Forest Service (USDA Forest Service) and are located in Virginia on the George Washington National Forest and in neighboring West Virginia on the Monongahela National Forest. These national forests provide the public with various recreational opportunities including hiking, camping, hunting and fishing, wildlife viewing, picnicking and solitude. National forest lands are located throughout Highland County and surround, but do not necessarily adjoin, the Project site on all sides. The Laurel Fork Wilderness Study Area (WSA) is located approximately five miles north of the Project site and is part of the George Washington National Forest.

The Virginia Department of Game and Inland Fisheries manages the Highland State Wildlife Management Area (WMA), a 14,000-acre state-owned resource located on three different tracts in Highland County. The closest VMA tract to the Project site is located approximately eight miles to the southeast. These properties provide the public with hiking, picnicking, hunting and primitive camping opportunities.

According to data provided by the Natural Resources Conservation Service (NRCS) no prime farmland or farmlands of statewide importance exists within the proposed Project area.

No state parks or state forests are located in Highland County. There are no federal, state or local parks within a mile of the Project other than the Camp Allegheny historic site reference above.

l. **Pesticides and herbicides**

There is no planned use of pesticides or herbicides during the construction of this Project.

m. **Geology**

The Project site is located on the Valley and Ridge physiographic province of

Virginia. The Valley and Ridge is subdivided into two subregions, the Valley of Virginia and the Allegheny Mountains. The Allegheny Mountains are a series of long, parallel folded mountains with narrow valleys in between. Elevations of ridgelines range from about 3,000 feet above sea level in the northern part of the subregion to about 4,000 feet above sea level in the south.

Project site elevations range from approximately 3,800 feet above the mean seal level (msl) to 4,200 feet above msl. Several headwater tributaries appear to originate on the property and the Project site is bisected by Laurel Fork, a branch of the Potomac River.

A soil survey has not yet been published for Highland County. However, the soils for the Project area have been mapped by the NRCS. Soils are comprised of three main series: Snowdog, Macove and Paddyknob. The Snowdog series are on gently sloping to very steep slopes along drainage ways and are moderately well drained with rapid runoff. Nearly all areas are in second growth woodland supporting growth of red spruce, black cherry, yellow birch, red maple and eastern hemlock. The Macove series are commonly found on mountain foot slopes and benches. They are well drained with medium to moderately rapid runoff. Native vegetation is mixed hardwoods and pines; these areas are commonly used for pasture. The Paddyknob series are found on summits and shoulders of ridges at elevations of 3,200 to 5,000 feet and are well drained with rapid permeability. This series is mainly in forest and are not widely distributed.

Natural gas is believed to exist on the property and there may be some drilling in the future. There are no other known mineral resources, caves or sinkholes on the Project.

n. **Transportation infrastructure**

The Project will have minimal effect on the local transportation infrastructure during the construction phase and no impact once constructed unless tourist demand requires a turn-off or kiosk to be built, which has occurred in other jurisdictions in the northeast. There may be delays on State Route 250 when the turbines are transported up to Allegheny Mountain to navigate a few of the difficult turns. Preliminary approval from the Virginia Department of Transportation for an entrance

permit is attached.

12. **General discussion of reliability impact**

a. **Description of transmission interconnection requirements and needed interconnection facilities**

The Project will be connected at the existing Allegheny Power 69 kV line and according to its initial feasibility study, no additional infrastructure requirements will be necessary. The most recent PJM feasibility study update is attached.

b. **Description of potential impact on the interconnected transmission system**

PJM has determined that the Project will have no impact upon the transmission system or distribution system.

c. **Description of anticipated services that may be provided to transmission service provider**

None.

d. **Discussion of impact of proposed facility on generation reserves in the region**

The Project will have no significant impact on generation reserves in the region.

13. **Additional information demonstrating that the proposed Project is not contrary to public interest**

Renewable energy and in particular wind generated renewable energy is endorsed and supported by various United States agencies. The U.S. Fish & Wildlife Service website pertaining to wind energy, reports that "development of wind energy is strongly endorsed by the Secretary of Interior as expressed in the Secretary's Renewable Energy on Public Land Initiative." The U.S. Department of Energy, as evidenced by the attached Wind Energy Benefits April 2005 website document, indicates in item 10 that this type of project is "not contrary to public interest" and receives overwhelming public support. There is significant demand for "green power" in Virginia, particularly in Northern Virginia

where individual consumers, large corporations, military installations and local governments are all demanding renewable energy as part of their fuel mix. At the local level, the Board of Supervisors, as evidenced by their support of the Project, believes it is not contrary to the public interest.

Globally there is tremendous demand for wind generated electric power, all as evidenced by the report by the Global Wind Energy Council, which is attached from its website.

14. **Discussion as to how the proposed Project furthers the goals of advancement of electric competition in Virginia**

The ultimate marketer or seller of the "green tags," the value of the green energy component often separated from the value of the energy itself, may be marketed to Virginians, who have expressed significant interest in this type of renewable energy. The reality may be that all of the output from this Project may go to northeastern states that have adopted and implemented renewable energy portfolio standards. Utilities from those jurisdictions with renewable energy portfolio requirements are likely to purchase all that this Project can produce. However, HNWD has a preference for trying to sell its output to Virginians if that becomes economically feasible.

WHEREFORE, HNWD respectfully requests the Commission approve this application to construct, own and operate an electrical generating facility in Highland County, Virginia.

Respectfully submitted,

Highland New Wind Development, LLC

By: _____

Counsel for Highland New Wind Development, LLC

Dated:_____

JWF/mga/52865

Attachments

Introduction - Site Map

4. Confidential Balance Sheet - Filed separately under seal with the Clerk

5. Biographical Information pertaining to Experts

Edward F. McCarthy, CCM
Blackwell Engineering, PLC
Malcolm Pirnie, Inc.
Curry & Kerlinger, LLC
Jeff Paulson

5a. (iii) September 28, 2005 U.S. Fish & Wildlife Letter

6b. Topographic Maps

11. Letter from the Virginia Department of Forestry

Photo of the Site

11d. Letter from Army Corps of Engineers

11f. September 28, 2004 U.S. Fish & Wildlife Letter to USDA - (see 5a(iii) above)

ABR Proposal for Bird & Bat Study

ABR, Inc. Biographical Information

Northern Flying Squirrel Survey

Dr. Edwin D. Michael Biographical Information

11g. Erosion and Sediment Control Plan

11h. Preliminary approval from VDOT for entrance permits

12a. PJM Feasibility Study

13. U.S. Fish & Wildlife Service Website Document

U.S. Department of Energy Wind Energy Benefits Website Document

Global Wind Energy Council Report