



JOHN R. SWEET

**US 220 South
HCR 4, Box 305
Mustoe, VA 24468
540-468-2222**

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Clerk of the State Corporation Commission
Document Control Center
P O Box 2118
Richmond, VA 23218-2118

Re: PUE-2005-00101 Highland New Wind Development (HNWD)

This application is the first for a wind-powered generating plant in Virginia. I urge the Commission to give every aspect of this matter a thorough review. Your decision on this will set the precedent that will apply to all future wind power applications in the state. If this application is approved more will follow as surely as the night follows the day. If hasty decisions are made here it will be much harder to control wind development in future cases.

In the introductory paragraphs of its application, HNWD makes statements as if they were fact that are speculative at best. In paragraph two they state that the project will “produce electricity in a highly efficient, cost effective and environmentally friendly manner.” Continuing in paragraph five, “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.”

1. **The project will be highly efficient.** It is well known that wind turbines are an inefficient means of generating electricity in the Appalachian region, where average capacity factors are typically in the 30% range.¹ This number is even lower in summer, typically falling to about 15%.² On hot afternoons when electricity demand is greatest, there is often little or no wind, resulting in an output of zero.
2. **The project will be cost effective.** Wind projects in this region are never cost effective. In fact, a wind project cannot stand on its own. Without the promise of generous subsidies from the federal government it is unlikely that this application would have been filed at all. The wind industry reports that as much as 65% of the capital costs of a project will be covered by government subsidies.³

¹ U.S. Department of Energy, Energy Information Administration, 906-920 monthly reports.
http://www.eia.doe.gov/cneaf/electricity/page/eia906_920.html

² *ibid*

³ Keith Martin, Tax Issues and Incentives for Wind Power, in *Financing Windpower Projects*, December 2003. http://www.pmaconference.com/wind2_bro2_pma.pdf

3. **The project will be environmentally friendly.** The environmental benefits of wind turbines are wildly overstated by the wind industry while the environmental costs are largely ignored or minimized. Turbines do not emit pollutants or greenhouse gases while in operation but their manufacture and installation are pollution sources. Their operation has serious impacts on wildlife and they produce significant noise and light pollution when installed, as is common, in areas otherwise free of industrial development.
4. **There will be minimal impacts to the area.** In addition to the environmental impacts noted above, there will be major impacts on the view sheds of what is arguably the most scenic and least developed county in the state. At least one business in the immediate area is very likely to suffer substantial losses.⁴ Property values and Highland County's all-important tourist industry are likely to be impacted as well.
5. **There will be a significant increase in local tax revenue.** This highly speculative claim is probably the main reason that Highland County's board of supervisors approved this project. There is no guarantee of increased revenue over the long haul and certainly no guarantee that such an increase would be "significant." There is a bill in the legislature that would set local tax revenue from wind turbines so that, if enacted, Highland County would receive \$190,000 per year from this project.⁵ If twenty families decide not to build upscale homes here because of the presence of wind turbines, that could halve the effective net tax received in the first year. Those homes, if they had been built, would be expected to appreciate in value with each reassessment so that after 20 years the lost tax revenue from homes not built could easily exceed the tax revenue received from the wind project.

Later in the application, in section 9, the matter of tax revenue is raised again, along with jobs and tourism. It states that there will be "75 to 100 temporary construction jobs" and "one to two full-time positions . . . adding about \$100,000 of additional payroll in the county." It goes on to state that "wind farms [sic] are tourist attractions." They do not point out that the vast majority of the construction jobs require specialized skills and equipment, so it is highly unlikely that many of them will go to Highland County citizens but rather to experienced outside contractors. Full-time jobs will entail basic maintenance of the site, so it is unlikely that even two salaries (and certainly not one) could add up to \$100,000 annually.

There is no doubt that a wind turbine will be a tourist attraction as long as they are oddities but it is the stop-and-gawk-for-a-few-minutes type of tourism, which generates little revenue and can, in no way, replace the multi-day, come-back-again visitors that Highland County has now.⁶ This type of visitor is seeking peace and quiet, open vistas of fields, forests, and mountains, and dark skies that permit viewing the stars in a way not possible in most other areas. Huge industrial installations with flashing strobe lights are repellent, not attractive, to the type of visitor Highland County wishes to attract.

⁴ Bear Mountain Retreat is adjacent to the project area. Clients go there to enjoy the peace and quiet, the dark sky, and the wilderness atmosphere. This project would change all that.

⁵ Senate Bill 404 has passed the Senate and is under consideration by the House.

⁶ Letter from Raymond T. Fernald, Virginia Department of Game and Inland Fisheries, to Ernst Ashenbach, Virginia Department of Environmental Quality, 24 February 2006, p. 17-18.

Note that the application frequently uses the words “wind farm” in describing the project. Highland County is a rural area. We know a farm when we see one. This proposed project is an industrial plant, not a farm, and should be referred to as such. A pig in a dress is still a pig.

In section 11, the application states that “The environmental impact of this Project is minimal.” In fact, many of the impacts are known to be significant and the overall impact is unknown because the appropriate studies have not been done and the applicants are trying mightily to wriggle out of having to have these studies carried out. In section 11.b it states that “there will be no impact to groundwater” but the reality is that the impact is unknown. If any blasting is required to set foundations or widen roads it could affect water sources. A transmission line will be required to cross the Laurel Fork, a listed State Trout Water, the construction of which may well affect that stream, its tributaries, and/or associated wetlands, despite the assertion in 11.d that “there are no wetlands within the site boundary.” This stream crossing is a matter of concern for the Army Corps of Engineers.⁷

Section 11.f totally glosses over the various wildlife issues. Allegheny Mountain is a known bird and bat concentration area, hosting unusually large numbers during both spring and fall migrations as well as resident populations. A 60-day study is totally inadequate.⁸ Detailed studies must be carried out at different seasons and over a period of several years to get anything like an accurate picture of bird and bat movements. Remarkably high mortality rates were reported at the Mountaineer facility just a few miles to the northwest. Since those reports appeared, the owner, Florida Power and Light, has refused access to scientists seeking to further study the problem.⁹ Furthermore, the Commission should be skeptical of any study paid for by the applicants. There is always the risk that the results of a study will mimic the results desired by those writing the check.

Section 11.h dismisses any concerns for historic resources. The Civil War sites in Highland County and vicinity are considered to be less impacted by modern intrusions than any others. Camp Allegheny still looks much as it did 140 years ago. The application states that “the turbines will not be seen due to the dense forested area surrounding Camp Allegheny . . . which is not impaired in any way by the Project.” It is hard for this observer to see how fifty-foot trees will be able to screen 400-foot turbines from view. While they will not loom directly over the camp, the presence of a modern industrial facility adjacent to a Civil War encampment looks like an intrusion to me. This is one of several issues of concern to the Virginia Department of Historic Resources.¹⁰

This section goes on to describe an historic bridge “along Route 250.” I am not familiar with this structure but if it does carry US 250 it will also have to carry the extreme loads of the turbine components as they are trucked to the site. This is a lot to ask of a bridge which is now approaching 70 years of age.

⁷ Letter from Michael A. Schwinn, Chief, Western Virginia Regulatory Section, to Susan T. Murdock, counsel for Highland New Wind Development, 23 January 2006.

⁸ Fernald, *op cit*, p. 19.

⁹ Merlin D. Tuttle, *Bats* 23(3), p. 3, Fall 2005.

¹⁰ Letter from Roger W. Kirchen, Virginia Department of Historic Resources, to Ernst Ashenbach, Virginia Department of Environmental Quality, 23 February 2006.

Section 11.j returns to the wildlife issue, again stating that there is no issue. I believe it to be highly speculative to assume that the noise, movement, and flashing lights of this industrial complex will have no effect of any kind on wildlife populations. This is an area that must receive further study to ascertain the potential extent of the impacts.

I support the findings of the Virginia Department of Game and Inland Fisheries, with the exception that the proposed one year of preconstruction research¹¹ is inadequate and should be extended to three years, and the interim guidelines of the U. S. Fish and Wildlife Service,¹² which does indicate that multi-year, multi-seasonal studies should be conducted to determine the potential impacts on birds and bats prior to erection of wind turbines. Post-construction studies must also be required, if construction is allowed at all. The very limited studies that have so far been done at the HNWD site show that it is a concentration area for birds and bats during the fall migration, with more radar targets detected than for other sites.

Section 11.n states that “there may be delays on State Route 250 when the turbines are transported up to Allegheny Mountain.” Given the size of these things and the nature of the highway, “there may be delays” does not seem to properly describe the situation. One might expect complete traffic blockages for extended periods of time as the turbines and tower sections are maneuvered around the many tight curves of this highway, occupying both lanes in the process. US 250 is the only significant east-west highway in Highland County, meaning that each traffic blockage will be a serious inconvenience for both residents and travelers.

Section 13 indicates that “this type of project is ‘not contrary to the public interest’ and receives overwhelming public support.” While that might be true in some locations, for this particular project the exact opposite is true as it has received overwhelming public opposition from its inception. In fact, opposition to industrial wind utilities is growing in practically every area where they have been proposed as people become more aware of the problems that these machines bring with them and realize that wind does not create pure, ‘green’ energy without environmental or social consequences.

At the first public hearing on this project, only counsel for the developer spoke favorably of the proposal while 33 people spoke against it. Subsequently, the board of supervisors asked its Industrial Development Authority to investigate wind energy. After three public meetings and considerable research, the IDA voted unanimously against making the zoning and comprehensive plan changes that would be necessary to accommodate wind turbines. Afterward the Chairman of the IDA tried to ‘spin’ the motion voted on to make it appear that the authority favored wind development. While one member recanted his vote, five of the six voting members have remained steadfast that the motion was straightforward and that they are opposed to utility-scale wind development.

When the Planning Commission held its public hearing on amendments to the zoning ordinance that would make wind turbines possible, counsel for the developer again spoke in favor, this time joined by one citizen of Highland County, while 31 people spoke against. The Commission then voted 3 to 2 against the amendments. Despite the overwhelming public opposition and the negative vote of the Planning Commission, the board of supervisors voted 2 to 1 to adopt the amendments.

¹¹ Fernald, *op cit*, p. 19, section 3.

¹² *Service Interim Guidance on Avoiding and Minimizing Wildlife Impacts from Wind Turbines*, <http://www.fws.gov/habitatconservation/wind.htm>

The stage was then set for the public hearing on the conditional use permit for the wind turbines themselves. Those in favor spoke first, three representatives of the developer, then 19 others, including two who are paid promoters of wind energy. Two people spoke who were undecided. It is impossible to know precisely how many of those present were opponents of the project. At least 73 spoke in person and at least seven more had statements presented on their behalf. The hearing lasted until 2:00 a.m. and many of those who had signed up to speak in opposition left because of the late hour. The supervisors again ignored the overwhelming opposition and voted their approval by the same 2 to 1 margin as before.

I understand that local zoning and land use issues are not normally within the scope of an SCC review; however, since the applicant has raised the question of "overwhelming public support," it seems to me important for the Commission to understand that there is overwhelming public opposition to the changes that would make this project possible.

In closing I ask that the Commission look beyond this one small project and consider the cumulative impacts of wind energy development. To attain the level of renewable energy being discussed in the legislature would require about 4000 turbines. If these are all erected on the high ridges of western Virginia they will cover about 500 miles of ridge line.¹³ Much of our most pristine, undeveloped rural and pastoral landscape will be given over to industrial development. Unimaginable numbers of birds and bats will be slaughtered, leading to population-level impacts and possibly extinctions. The door must not be opened for this type of development without careful, long-term studies that result in mitigation techniques to minimize the impacts. Part of this preparation should entail setting up a scoring system to rate and rank potential wind energy sites. I feel confident that, if such a scoring system was in use today, the HNWD site would receive a low score and be found unsuitable for such development.

I urge the Commission to deny this application outright and to make it clear that any wind development in Virginia must be preceded by extensive studies of wildlife impacts and other issues, development of measures to mitigate those impacts, and a detailed scoring system for evaluating wind-energy sites statewide.

Sincerely,



John R. Sweet

¹³ John R. Sweet, *Renewable Portfolio Standards*, February 2006, p. 2.
<http://johnrsweet.com/Personal/Wind/PDF/RPS-VA-20060211.pdf>