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November 2, 2009

By E-Mail and U.S. Mail

Mr. Mark Margerum  
Project Manager  
Maine DEP  
17 State House Station  
Augusta, Maine 04333

Re: Oakfield Wind Project/Aroostook County, Maine  
DEP # L-24572-24-A-N/L-24572-TF-B-N

Dear Mark:

The following information is provided in response to the September 10, 2009 submission by Philip A. Powers and the September 28, 2009 objections of the Trustees of Martha A. Powers Trust (the "Powers Trust") to the Oakfield Wind Project (collectively the "Powers Trust Objections").

A. Objections to Visual Impact

Attached as Exhibit A is a response by LandWorks, the applicant's visual consultant and expert, to the specific issues raised by the Powers Trust. Please note that the expert retained by the Powers Trust, Jean Vissering, has neither visited the project site nor made any conclusions about the project's visual impacts. Her failure to do so speaks volumes.

B. Objections to Decommissioning Plan

The Powers Trust argues that the decommissioning plan must be fully funded as a condition of obtaining a permit and mistakenly relies on unallocated language of the Wind Power Act to support its claim. See Powers Trust Objections at 11-12. The unallocated language of the Wind Power Act (PL 661, 123<sup>rd</sup> Legislature) --- incorrectly described by the Powers Trust as a statutory requirement --- requires the DEP and LURC to "specify the submission requirements" for unique provisions associated with wind power. DEP analyzed the Wind Power Act and, as directed, adopted submission requirements for decommissioning in the instructions for a revised Site Location of Development Act application. The language related to decommissioning funding states:

4. *Demonstration in the form of a performance bond, surety bond, letter of credit, parental guarantee or other form of financial assurance as may be acceptable to the*

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*department that upon the end of the useful life of the wind generation facility the applicant will have the necessary financial assurance in place for 100% of the total cost of decommissioning, less salvage value. The applicant may propose securing the necessary financial assurance in phases, as long as the total required financial assurance is in place a minimum of 5 years prior to the expected end of the useful life of the wind generation equipment.*

The relevant language from the DEP application requirements is attached as Exhibit B. LURC has adopted identical guidance language.

<http://www.maine.gov/tools/whatsnew/index.php?topic=lurcfiles&id=61044&v=tplfiles>

Thus, DEP specifically allows an applicant to set aside the necessary funding in phases, as long as the decommissioning plan is fully funded five years prior to the expected end of the useful life of wind generation equipment. This makes practical sense and strikes an appropriate balance between the potential risks associated with decommissioning and the costs and benefits of requiring applicants to set aside funds for a process that may or may not be required at some point 20 years or more in the future. Megawatt-scale wind turbines are designed and certified by independent agencies for a minimum expected operational life of 20 years. As the wind turbines approach the end of their expected life, it is anticipated that technological advances will make available more efficient and cost-effective generators that will economically drive the replacement of the existing generators. Thus, the risk of decommissioning a wind project once it begins energy production is very low.

Additionally, the disassembly and earthwork associated with decommissioning are relatively straightforward tasks and the risks associated with decommissioning a wind project are similar to the risks associated with a number of other developments, including energy generation projects, which do not require an applicant to set aside costs to decommission the project at the onset. Nonetheless, Evergreen II has committed to removing the turbines and infrastructure consistent with the DEP requirements for decommissioning and to ensure that the decommissioning is fully funded by Year 15 of the project. The phased decommissioning funding proposal is consistent with what has been approved by DEP and LURC for other wind power projects.

The Powers Trust also objects to the applicant taking into account the potential salvage value of the equipment. Powers Trust Objections at 12. The DEP submission requirements specifically contemplate the applicant doing so, *and every other wind power project permitted by LURC or DEP in the State of Maine has allowed the applicant to do so.* Again, this makes practical sense. A great deal of the value of the project is in the physical structures. These structures have a high retained value long after they are put into service. This value is tied directly to the project, and is readily recaptured by disassembly of the turbines. While it may be difficult to accurately predict the salvage value 20 years into the future, it is undisputed that there will be significant salvage value associated with the project's component parts. Moreover, the requirement for the applicant to reassess the decommissioning plan costs at year 15, including

estimates as to salvage value, provides a means for ensuring appropriate funds are available in the unlikely event decommissioning is required.

### C. Objections as to Effect on Property Values

The Powers Trust references a study that purports to demonstrate that wind farms adversely impact the value of adjacent properties. See Powers Trust Objections at 12-13 and Exhibit 20. The study relied on by the Powers Trust consists principally of surveys on opinion as opposed to analysis of actual sales data, and otherwise lacks the detail, rigor, and statistical analysis needed to correlate home transaction prices and the impact, if any, of a wind project on those prices.<sup>1</sup>

The National Research Council for the National Academies undertook a study on the Environmental Impacts of Wind-Energy Projects and specifically addressed the claims regarding the impact of such projects on property values. See Environmental Impacts of Wind-Energy Projects, National Research Council of the National Academies 2007 (“National Research Council Report”), at pp. 163-65 (attached as Exhibit C). As noted in their report, it is very difficult to generalize about the effects of wind-energy projects on property values, and “[f]orecasts of property values in prospective host areas that are based on comparisons with existing host areas are of questionable validity, especially if there are significant differences between the areas.” Id. at 164. Thus, there is no basis for concluding that the results of the surveys reflected in Exhibit 20 to the Powers Trust Objections have any relevance or are a predictor of the impact of the Project on surrounding land values. Indeed, there are a number of studies that conclude the presence of a wind farm did not have any measurable effect on property values. See, e.g., Ben Hoen, Impacts of Windmill Visibility on Property Values in Madison County, New York (April 30, 2006) (absence of measurable effects of wind farm visibility on property transaction values) (attached as Exhibit D); see also National Research Council Report at 163-64 (discussing studies).

### D. Objections Based on Sound

The Powers Trust raises a number of issues related to sound, including the adequacy of the DEP sound regulations and health concerns associated with sound from wind turbines.<sup>2</sup> The health concerns raised by the Powers Trust concerning nighttime noise and their reliance on Dr. Nissenbaum are misplaced.

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<sup>1</sup> While the report also includes a section on sales data, it compares sales of parcels within the alleged influence of the turbines to sales of land outside the alleged influence of the turbines, but does not analyze data on sales of parcels before and after installation of the project and therefore does not provide any direct evidence of the impact of the project on property values.

<sup>2</sup> A complete response to concerns based on sound, including to the specific issues in the E-Coustics Solutions filing, are being provided by Resource Systems Engineering (RSE) and will be forwarded under separate cover.

First, the Powers Trust states that Dr. Nissenbaum's "study," will soon be published in the New England Journal of Medicine. Powers Trust Objections at 8. In fact, Dr. Nissenbaum surveyed persons living in nine homes and hopes that the New England Journal of Medicine will consider publishing the results of his survey. See Affidavit of Nissenbaum, Exhibit 14 to Powers Trust Objections at ¶ 3. Apparently, the draft has not yet been sent to the New England Journal of Medicine for consideration. Id.

Second, as acknowledged by the Powers Trust and reflected in the preamble to Chapter 375, the Board of Environmental Protection specifically recognized the potential adverse effects of noise, including nighttime noise, when it established the noise limits that govern this project. See Powers Trust Objections at 7 (quoting from preamble). The Chapter 375 noise regulations establish a comprehensive program for regulating sound from developments and set daytime and nighttime limits designed to ensure the protection of the public health and welfare. The rulemaking included two public hearings, eight public workshop sessions, several draft rules, and substantial public comment. See Basis statement for Chapter 375 Section 10. (A copy of the Basis Statement is attached as Exhibit E.) As recently as January, 2008, the Department evaluated the sufficiency of its noise regulations to address the noise effects of wind turbines and found the existing regulations to be appropriate and consistent with the best practices of the National Research Council's 2007 report on the Environmental Impacts of Wind-Energy Projects. (A copy of the Departments January 2007 Memorandum is attached as Exhibit F.)

Third, the Town of Oakfield, working with an outside sound expert, evaluated and resolved the very concerns being raised now by the Powers Trust. See Oakfield Report. (This has been previously provided to the DEP by the Town of Oakfield.) Specifically, the Town and its outside experts engaged in a comprehensive process that involved multiple public hearings and the exchange of technical information among experts, with a particular focus on health and sound issues. Their final report discusses a recent study of the acoustic impact of wind turbine farms on residents. That study found that the only health effect was sleep disturbance, *which occurred at a statistically significant level above 45 dBA outside the home*. Oakfield Report at 13. This is a level that exceeds the DEP quiet nighttime limits that govern this project. The Final Report also noted that "after a literature review, the Committee did not find any peer-reviewed medical or public health reports or journal articles that concluded sound and noise from modern wind turbines in a well-designed, properly sited, operated, and maintained wind energy facility can cause adverse health effects." Id. at 14.

The Powers Trust also raises concerns regarding low frequency sound. See Powers Trust Objections at 10. Again, the Town of Oakfield, working with Ken Kaliski, its expert, concluded that "low frequency sound/vibration issues are uncommon with wind energy facilities, and should not be an issue in a well-designed, properly sited, operated and maintained wind energy facility." Oakfield Report at 20. Likewise, data collected by RSE and included in the SWP Compliance Report and presented at the Oakfield workshops documents that low frequency sound from the 1.5 MW GE turbines (the same model proposed for Oakfield) at noise sensitive areas is below any regulatory threshold or other level of potential concern. SWP Compliance Report at Figure 7-14. In fact, the data indicates that ambient sound was a greater contributor to

the low frequency sound than sound associated with the turbines. These findings are consistent with the conclusions of numerous scientific studies, including, without limitation:

- Low Frequency and Infrasound Noise Immissions from Wind Farms and the Potential for Vibroacoustic Diseases, M. Hayes, 2006.
- Infrasound from Wind Turbines – Fact, Fiction or Deception, G. Leventhall, 2006.
- Low Frequency Noise from Large Wind Turbines, DELTA, 2008.
- The Sounds of High Winds, G.P. van den Berg, 2006.
- Noise Annoyance from Wind Turbines, E. Pedersen, Swedish EPA, 2003.

Dr. Dora Mills, the Director of the Maine Center for Disease Control (MCDC) and Maine's chief health officer, researched the issue of wind turbine noise and stated the following: "I found no evidence in peer reviewed medical and public health literature of adverse health effects from the kinds of noise and vibrations heard by wind turbines other than occasional reports of annoyances, and these are mitigated or disappear with proper placement of the turbines from nearby residences." See Wind Turbine Neuro-Acoustical Issues, Dora Anne Mills, June, 2009, at p.2, attached as Exhibit G.<sup>3</sup>

Finally, there has been substantial work done nationally and internationally, as well as work done in the State of Maine, in response to noise and health concerns. Attached as Exhibit I is a letter from the Independent Energy Producers of Maine summarizing some of that work.

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<sup>3</sup> The Powers Trust's reliance on a recent Maine Medical Association (MMA) resolution to discredit Dr. Mills on this issue is unavailing. First, the resolution is not based on any evidence indicating that wind turbines result in adverse health impacts. For example, the resolution states that "assessing the potential health impact of wind turbines has been difficult to measure but if present would be of significant concern" (emphasis added). In fact, nowhere in the resolution does the MMA state that it is aware of any credible medical evidence that wind turbines have a negative effect on public health. The resolution does not cite any facts or studies. On the contrary, it states that there is a need for "appropriate evidence-based scientific research." In sum, the resolution amounts to a general statement by the MMA that it is concerned with public health and that if wind turbines were a threat to public health, then that would be a cause for concern. As such, the resolution does not provide any evidence to counter the conclusions of Dr. Mills, which are in full accord with the conclusions of the Town of Oakfield's independent expert, Ken Kaliski, and supported by peer-reviewed literature. Second, the resolution was passed under circumstances that undercut its potential value as evidence. Specifically, the MMA membership passed the Resolution without any substantive examination of the subject, despite the fact that the MMA's Public Health Committee voted 8-1 to reject a similar resolution. Unlike the resolution passed by the MMA's general membership, the Public Health Committee's vote took place after it had studied the potential health effects of wind turbines over the course of several months. During that process, the Public Health Committee heard evidence from stakeholders that included both wind power critics and developers. Due to the complexity of the subject, the Public Health Committee created a special Wind Energy Subcommittee to further examine potential health impacts. The Public Health Committee and the Wind Power Subcommittee devoted part or all of six meetings from February 2009 to August 2009 to discussion and study of the issue. The result of that investigation was an 8-1 vote by the Public Health Committee against forwarding a resolution on wind turbine health effects to the MMA general membership. The minutes from the MMA Public Health Committee meetings regarding wind power are attached as Exhibit H.

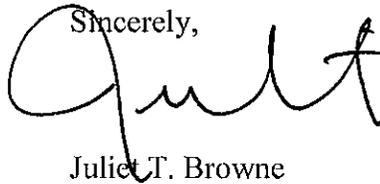
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Thank you for consideration of this material, and if you have any questions, please do not hesitate to contact me, Brooke Barnes from Stantec, or Alec Jarvis, from First Wind.

Sincerely,

A handwritten signature in black ink, appearing to read "Juliet". The signature is fluid and cursive, with a large initial "J" and a long, sweeping tail.

Juliet T. Browne

JTB/mtr

Enclosures

cc: Alec Jarvis (w/encls.)  
Brooke Barnes (w/encls.)  
Charlie Wallace (w/encls.)

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## APPENDIX OF EXHIBITS

- A. LandWorks Visual Impact Report
- B. Site Location of Development Law Application Instructions § 29 (Decommissioning)
- C. Environmental Impacts of Wind-Energy Projects, National Research Council of the National Academies (2007)
- D. Ben Hoen, Impacts of Windmill Visibility on Property Values in Madison County, New York (April 30, 2006)
- E. Basis Statement for DEP Rules Ch. 375 § 10
- F. Memorandum from Andrew Fisk to David Littell regarding DEP Noise Standards (Jan. 10, 2008)
- G. Wind Turbine Neuro-Acoustical Issues, Dr. Dora Anne Mills (June 2009)
- H. Letter from Independent Energy Producers of Maine to Maine Medical Association Committee on Public Health regarding Wind Turbine Health Effects (May 19, 2009)
- I. Minutes of Committee on Public Health of Maine Medical Association Public Health Committee (February-August 2009)