

**STATE OF VERMONT
PUBLIC SERVICE BOARD**

Joint Petition of Green Mountain Power Corporation,	)	
Vermont Electric Cooperative, Inc., Vermont Electric	)	June 14, 2011
Power Company, Inc., and Vermont Transco LLC,	)	
for a Certificate of Public Good, pursuant to 30 V.S.A.	)	Docket No. 7628
Section 248, for authority to construct up to a 63 MW	)	
wind electric generation facility and associated facilities	)	
on Lowell Mountain in Lowell, Vermont, and the	)	
installation or upgrade of approximately 16.9 miles of	)	
transmission line and associated substations in Lowell,	)	
Westfield and Jay, Vermont.	)	

**MOTION FOR RECONSIDERATION OF THE TOWNS OF
CRAFTSBURY AND ALBANY, VERMONT**

NOW COME the Towns of Craftsbury and Albany, Vermont, by and through their attorney, Jared M. Margolis, and pursuant to Rule 59(e) of the Vermont Rules of Civil Procedure hereby submit the following Motion for Reconsideration.

MEMORANDUM

1. Introduction

On May 31, 2011, the Public Service Board (“Board”) issued Findings and Order in Docket 7628 (“Order”), and granted the Petitioners a Certificate of Public Good to construct and operate up to a 63 MW wind electric generation facility and associated facilities on the Lowell Mountain Range in Lowell, Vermont, and to install or upgrade approximately 16.9 miles of transmission line and associated substations in Lowell, Westfield, and Jay, Vermont (the “Project”). The Project consists of 21 wind turbines and associated transmission and interconnection facilities. The turbines, each of which is expected to be well over 400 feet tall, would be sited along the Lowell Mountain ridgeline in Lowell, Vermont.

The Towns of Craftsbury and Albany, Vermont (the “Towns”) believe that the Board has erred in several important components of its analysis, and failed to consider or discuss relevant evidence that contradicts its findings that the Project would be in the public good. The Towns respectfully request that the Board reconsider its findings regarding the following matters, and find that the Project, as proposed and designed, fails to meet the requirements of 30 V.S.A. § 248 and would not be in the public good.

2. The Petitioners’ Noise Modeling Indicates That the Project Will Not Meet the Board’s Interior Noise Standard.

The Petitioners have provided modeling, using the Cadna/A software that employs ISO 9613-2 protocols, in order to establish whether the Project would meet the noise standard that this Board has used, and has decided to continue to use, to protect the public health. Noise modeling is important to ensure that the Project will not cause an undue adverse health impact on neighboring residents. While the Board has established an absolute noise standard that must be met, the only way to ensure that it will be met is through a combination of modeling and monitoring. It is not enough to rely on monitoring to ensure that the standard is being met, since noise monitoring is not continuous (and may occur as little as four times per year), and is therefore unlikely to cover all potential meteorological conditions that would result in violations of the noise standard.¹

The Board specifically found that a “maximum project-related noise level of 45 dBA (exterior)(Leq)(1 hr) or 30 dBA (interior)(Leq)(1 hr) level at a residence is necessary to protect health.” Order at 101. It is therefore incongruous that the Board has granted a CPG for this Project when the Petitioners’ noise modeling results indicate that the interior noise standard will

¹ It is very difficult to react to noise issues after the Project is built. Moving turbines is not possible and having to turn them off or reduce power output to avoid noise impacts affects the economic and environmental benefits of the Project. It is therefore necessary to site them in a safe manner using modeling to ensure that there will not be any problems.

not be met. Allowing a project that, at the outset, has not shown it can meet a necessary health standard cannot be in the public good and the Board must reconsider its decision given that the Project would not meet the relevant standard.

The Petitioners did not provide any specific modeling or analysis of the interior noise standard for this Project, but rely on 15 dBA of attenuation by homes to meet the Board's interior noise standard. PET-KHK-2 at 7. The Board noted that "Albany-Craftsbury and LMG also contend that the Petitioners are unjustifiably relying on 15 dBA attenuation by structures to ensure that a 30 dBA interior standard is met." Order at 99. The Board responds to this by stating that

The WHO Guidelines document indicates that sound levels are usually reduced, when windows are slightly open, by 10 to 15 dBA, and, with windows closed, are typically reduced by somewhat less than 24 dBA and in certain cases as much as 45 dBA, depending on the insulation value of the building. The Petitioners' assumptions about attenuation are consistent with values in the WHO Guidelines, and therefore we conclude that the Petitioners' noise modeling is appropriate. We also note that the indoor standard of 30 dBA (interior bedrooms)(Leq)(1 hr) must be met regardless of the attenuation characteristics of the existing structure.

Order at 99. The Board's analysis on this point misses the mark entirely. The Petitioners' assumptions about attenuation are not consistent with the WHO guidelines, since they assumed a full 15 dBA of attenuation, yet, as the Board notes, WHO assumes only 10-15 dBA attenuation, and then only for windows "slightly open." As Dr. Irwin testified, people should have the right and ability to sleep with their windows entirely open, or even outside their homes without suffering undue adverse health impacts from noise. Irwin, Feb. 24 at 56. The Board must therefore assume, pursuant to the WHO report, that with windows more than slightly open (such as entirely open), expected attenuation would be 10 dBA or less. The results of the Petitioners' noise modeling shows that there are several residences that are expected to experience exterior noise levels above 40 dBA (exterior)(Leq)(1 hr). Consistent with the WHO report findings on

attenuation, these residences would, if their windows were more than slightly open, experience noise levels that exceed the 30 dBA (interior)(Leq)(1 hr) standard. It is simple math.

The Petitioners' reliance on 15 dBA of attenuation to meet the interior standard is therefore not consistent with WHO, and not an appropriate basis for finding that the Project would not pose an undue adverse health risk. In fact, Dr. McCunney and Dr. Irwin agreed that the attenuation of sound by structures from outside to inside varies based on the construction of the house, its age, the quality of the windows, and numerous other factors, and testified that older homes, homes with less insulation and homes with their windows wide open may not be able to attenuate sound by 15 dBA. McCunney, Feb. 10 at 165; Irwin, Feb. 24 at 55-56. Therefore, the Board should only assume 10 dBA of attenuation consistent with WHO and the testimony in the record (to ensure a worst-case scenario), and the results of the Petitioners' noise modeling indicates that 10 dBA of attenuation would not be enough to meet the 30 dBA interior noise standard.²

Therefore, even if the Board were correct in stating that the Petitioners' assumptions about attenuation are consistent with values in the WHO Guidelines, this does not alter the results of the modeling, which shows that attenuation must be at least 15 dBA for the Project to meet the Board's interior standard. Since we can only assume 10-15 dBA of attenuation pursuant to the WHO report that the Petitioners and Board rely on, and must assume even less when windows are more than "slightly open," and whereas the results of the modeling indicate that this will not be sufficient to meet the interior noise standard, the Project poses an undue adverse risk of public health impacts. The Board cannot issue a CPG where the Petitioners' own

² According to the Petitioners' Addendum to their Noise Modeling, at least 16 homes would experience noise above 40 dBA (with NRO) for the chosen turbine model. May 17, 2011 Letter at 3. If these residences only attenuate sound by 10 dBA, then the interior standard would not be met.

modeling shows that the 30 dBA interior standard, which the Board stated “is necessary to protect health,” will not be met. Order at 101.³

3. The Interior Noise Standard Must Be An Instantaneous Standard Pursuant To The WHO Reports.

The Board acknowledged that “Albany-Craftsbury and LMG called for an instantaneous indoor standard of 30 dBA to ensure, given averaging, that standard is not exceeded at any point during the hour”; however, the Board did not accept the Towns’ arguments because the Board found that the Towns “did not address how this instantaneous standard was consistent with WHO standards or other studies.” Order at 98. This is incorrect. The Towns specifically provided the following on page 13 of their Initial Brief (fn. 6):

WHO further has found that when levels exceed 32dBA interior (instantaneous), we can expect sleep disturbance to be a problem. ALB-RJ-6 at 103. This is not a yearly or even hourly averaged level, but rather is an instantaneous level at which WHO states sleep motility begins, and since the averaged time periods used by the Board would not prevent noise from exceeding this instantaneous level, they would not be protective of public health. That is why the WHO 2009 report states that “instantaneous effects such as sleep disturbance are better (correlated) with the maximum level per event LAMax” than with long term sound averages, as discussed herein. Lovko, Nov. 22 pf. at 5.

The Towns provided a similar statement on page 14 of their Brief, stating that “the WHO 2009 report in fact states that ‘instantaneous effects such as sleep disturbance are better (correlated) with the maximum level per event LAMax’ than with long term sound averages. Lovko, Nov. 22 pf. at 5.” For the Board to find that the Towns “did not address how this

³ This matter could have been resolved had the Board required the Petitioners to conduct the appropriate attenuation testing, using the ASTM E966-04 outside to inside level reduction test, on those residences that are expected to experience noise above 40 dBA (exterior). See Craftsby-Albany Initial Brief at 55-61. This test can be used to determine whether the pre-construction modeling results provided by the petitioner would meet the 30 dBA interior standard for the most at-risk homes. It is not clear why the Board chose not to require this, but instead has allowed the Petitioner to rely on a 15 dBA attenuation that is not supported by the WHO guidelines, and may allow the Project to move forward even though it may violate a standard that is necessary to protect public health. The Board has thereby failed to take reasonable and necessary steps to ensure that the turbines are sited so as to protect the public from undue adverse health impacts.

instantaneous standard was consistent with WHO standards” is therefore in error since it was taken directly from the WHO document itself. This should be corrected on reconsideration. See *Osborn v. Osborn*, 147 Vt. 432, 433, 519 A.2d 1161, 1162-63 (1986) (the purpose of Rule 59(e) is to allow the court to avoid the unjust result arising from the mistake or inadvertence of the court). The Towns therefore contend that the current Board Order will not be protective of public health, since the noise standard adopted by the Board would allow interior noise to exceed 32 dBA (instantaneous).⁴

The Board appears to have based their decision regarding this issue on the mistaken claim that “the evidence in the record does not indicate there will be significant changes in sound levels from the proposed turbines across a one-hour period, especially given the continuous nature of noise from a wind turbine while the wind is blowing. We conclude that a one-hour average indoor standard is appropriate.” Order at 98. This is incorrect, and ignores the testimony of even GMP’s expert, Dr. McCunney, as well as the testimony of Dr. Lovko, Mr. James and Mr. Blomberg, all of whom stated that wind turbine noise is not continuous in nature.⁵ Due to amplitude modulation, which GMP’s expert Dr. McCunney testified causes a “swish-swish” effect that creates peaks of noise more annoying than that of transportation noise,⁶ averaging

⁴ As discussed above, the results of the Petitioners’ noise modeling indicates that some residences may even experience noise levels exceeding 32 dBA averaged over an hour, which would violate the Board’s 30 dBA (1-hour ave.) standard, as well as WHO’s 32 dBA (instantaneous) standard.

⁵ See *Dr. McCunney*, Feb. 10, 2011 Transcript at 142-143 (stating that wind turbine noise is “not continuous noise”); See also Lovko, Nov. 22 pf. at 3; James, Nov. 22 pf. at 3; Blomberg, Oct. 22 pf. at 11 (stating that lower sound limits are required when sounds are not continuous (i.e. fluctuate like wind turbine noise)). Dr. McCunney further stated that “the major cause of concern from [wind turbine] noise at least based on our review of the literature, and mine in particular, is the **fluctuating nature** of it. The noise may be more perceptible at night than daytime when people have no other competing sources of noise, but there’s no question people do report that.” ALB-Cross-7 at 28 (emphasis added). Since wind turbine noise fluctuates by as much as 5-10 dBA due to amplitude modulation, it cannot be considered “continuous noise.”

⁶ See ALB-Cross-7 at 57.

noise levels over a one-hour period will not protect the public from undue adverse health impacts.

Wind turbine noise is not continuous in nature, but fluctuates with wind conditions, and can vary by several decibels (5-10 dBA) in higher wind shear conditions (which causes the “swish-swish” effect or amplitude modulation). See James, Jan. 24 pf. at 6-7. Even GMP’s expert, Dr. McCunney, stated that it is the “fluctuating nature” of wind turbine noise that makes it problematic, and leads to disturbance and annoyance at lower noise levels than other sources, such as transportation. ALB-Cross-7 at 28, 57.

Since amplitude modulation causes fluctuating noise with short peaks of higher sound at intervals, the average over an hour might remain within the 30 dBA interior standard, yet the amplitude modulation would cause peaks that exceed 32 dBA (instantaneous), and therefore cause sleep disturbance or annoyance as set forth in the WHO Guidelines. The Board’s Order omitted this relevant and documented evidence, and the result is a noise standard that will not be protective of public health. Whereas WHO has found that when levels exceed 32 dBA interior (instantaneous) we can expect sleep disturbance to be a problem, and a 30 dBA 1-hour average will not prevent noises from exceeding 32 dBA (instantaneous), this is an issue that the Towns believe the Board should reconsider in order to ensure protection of the public’s health. See *In re Robinson/Keir Partnership*, 154 Vt. 50, 54; 573 A.2d 1188, 1192 (1990) (under Rule 59(e), the Board may reconsider issues previously before it, and examine the correctness of the judgment itself); *Osborn v. Osborn*, 147 Vt. 432, 433, 519 A.2d 1161, 1162-63 (1986) (the purpose of Rule 59(e) is to allow the court to avoid the unjust result arising from the mistake or inadvertence of the court). An instantaneous standard is necessary to ensure that neighboring residents are protected from undue adverse health impacts.

4. The Board's Findings Regarding The EPA Levels Document Are Erroneous and Unsupported by the Record

The Board's reliance on the EPA Levels Document is misplaced, and the noise standard that has been employed is not supported by that document or the testimony in the record. The Board found that "the Environmental Protection Agency ("EPA") Sounds Levels Document identifies a level of 55 dBA (exterior)(Ldn) as the level that is protective of human health and welfare. This is the equivalent of 45 dBA during the night and 55 dBA during the day, averaged over the course of a year." Order at 92. This finding is incomplete and erroneous. First, the EPA Levels Document noise standards were NOT meant to protect the public from sleep disturbance and annoyance – the most pressing concerns regarding health impacts from wind turbine noise. On page D-34 of the Levels Document it says that the only guideline levels which can be identified to protect public health and welfare are the levels which are required to assure that speech communication in the home and outdoors is adequate (LMG-LB-12, page D-34).⁷ The Levels Document states that "the level of 55 dB is identified as maximum level compatible with adequate speech communication indoors and outdoors." (LMG-LB-12, page D-36). The EPA Levels Document does not, therefore, take into account the health and welfare issues associated with wind turbine noise, which even Dr. McCunney (GMP's expert) testified can cause sleep disturbance and annoyance at levels below 45 dBA (exterior).⁸

Furthermore, the EPA Levels Document is an outdated and unreliable source of information, and the Board's reliance on it is unfounded. In fact, in the Sheffield wind project case GMP's expert, Mr. Kaliski, specifically stated that the EPA guidelines for noise were

⁷ This matter was discussed at length in Mr. Blomberg's Surrebuttal Prefiled testimony.

⁸ Dr. McCunney testified that there can be indirect health impacts from turbine levels below 45 decibels including sleep disturbance or deprivation, annoyance, and stress. McCunney, Feb. 10 at 40-41. He further stated that health effects associated with sleep disturbance may be experienced at noise levels under 45 decibels, *Id.* at 41, and that these may cause an adverse effect on people's health and well being. *Id.* Sleep deprivation can even increase risks of high blood pressure and myocardial infarction. *Id.* at 56.

outdated and unreliable, since more recent studies suggested that lower noise levels were needed than the EPA guidelines to be protective of public health. (ALB-Cross-10 at 4). This suggests that a lower standard is required to protect the public's health.

Moreover, the Board does not explain their omission of the adjustments contained in the EPA Levels Document, provided on page D-18 in LMG-LB-11, which show that the EPA recommended noise standard must be adjusted down 10 decibels for quiet suburban or rural communities, and for communities with no prior experience with intruding noise should be adjusted another 5 decibels. Noise that has tones or is impulsive in character (such as wind turbines) should be adjusted another 5 dBA. Therefore, for the quiet rural lands around Lowell, where there has been no prior intruding noise, that would mean the EPA Levels Document would recommend a standard of 35 dBA. *See* Blomberg Oct. 22 pf. at 14-15. The Board's finding that "The Environmental Protection Agency ("EPA") Sounds Levels Document identifies a level of 55 dBA (exterior)(Ldn) as the level that is protective of human health and welfare," is therefore not supported by the document itself, as it would be applied to this Project in this location.⁹

The EPA Levels Document is consistent with the testimony provided by Albany-Craftsbury's expert witnesses that a standard of 35 dBA is necessary to protect public health (and this should be considered conservative since Mr. Kaliski stated that more recent studies suggested that lower noise levels are needed than the EPA guidelines to be protective of public health (ALB-Cross-10 at 4)). It is also consistent with Dr. McCunney's statements when he participated in a seminar last summer, wherein he made it very clear that if it was his home in the vicinity of a wind farm, he would want the noise levels to be kept "below 35 decibels; something

⁹ This was covered in Mr. Blomberg's prefiled surrebuttal testimony. While the Board cites Mr. Blomberg's prefiled surrebuttal at 21 for its finding in ¶292 regarding the EPA Levels Document, the Board ignores, without explanation, the testimony Mr. Blomberg provided on October, 22, and which clearly shows how the EPA Levels Document would apply to this Project, once the applicable adjustments are taken into account.

along those lines; maybe 40,” as measured outside the building. ALB-Cross-7 at 38. The Board’s incomplete finding regarding the EPA standard and failure to address this in the Order is clear error that should be corrected on reconsideration. *See Osborn v. Osborn*, 147 Vt. 432, 433, 519 A.2d 1161, 1162-63 (1986) (the purpose of Rule 59(e) is to allow the court to avoid the unjust result arising from the mistake or inadvertence of the court). Pursuant to the EPA Levels Document and the testimony in the record, a 35-40 dBA exterior standard is necessary to protect the public health.

5. The Project Will Have A Disproportionately Negative Impact On Albany

In balancing the costs and benefits of the proposed project, the Board found:

The net present value of the benefits from the education property tax payments, annual payments to Lowell, and the Good Neighbor Fund payments is approximately \$10.8 million. If it is assumed that all of the properties within 3 miles of the proposed project are devalued by 10%, this would result in an approximately \$5.6 million reduction in property values. Using this conservative assumption as to devaluation, the proposed project still provides approximately \$5.2 million in net benefits.

Order at 35.¹⁰ What the Board apparently fails to consider is that these costs and benefits are highly disproportionate. While Lowell will receive a majority of the purported economic benefits, almost all of the property devaluation experienced by the properties discussed in the Board’s finding would occur in Albany, which would receive very little compensation (most likely \$10,000/yr) through the Good Neighbor Fund. That small benefit to Albany from the Good Neighbor Fund must be balanced against the many millions of dollars in property devaluation that Albany is expected to suffer.

¹⁰ The Towns note that the Board refers to this as a “conservative assumption”; however, DPS provided a letter from McCann Appraisal – a leading appraisal firm and the ONLY opinion in the record in this matter from an actual appraiser – which states that in their experience, “the sale price per square foot of residential living area was discernibly different for those homes nearest the wind farm, with an average price about **20% lower** than the unit price of the more distant homes.” DPS-JB-6 at 5 (emphasis added).

Moreover, the impacts of this property devaluation will be felt by more than the dozens of landowners directly affected. This loss of property values will reduce Albany's tax base, thereby impacting the entire town – over 800 people. The subsequent loss of tax revenue also implicates various issues that this Board must consider, including the ability of the Town of Albany to maintain its roads and provide municipal services. *See* 10 V.S.A. § 6086(a)(7).¹¹ The balance of costs and benefits that the Board has relied on does not, therefore, paint an accurate picture of the actual impacts of this Project. The Board has failed to explain how it is in the public good to sacrifice not only the individual properties that will be devalued, but the entire Town of Albany, which will be negatively affected by this Project.

While the basic math provided by the Board shows a net benefit overall, it conceals the costs that many people will experience. These are members of the public, and the impacts to such a large number of people (as well as the proper concerns of the municipality in which they live) deserve the Board's attention. The Board's Order, however, downplays these effects, and ignores Albany's concerns. Because the loss of property values in Albany has the potential to harm a large number of the public living in the vicinity of the Project, and affect the ability of the Town to provide municipal services, the Board must reconsider whether, given the disproportionate impacts that will fall most heavily on Albany, this Project would be in the public good.

¹¹ Mr. Becker testified that for the property owners the impact of a reduction in property value can result in a lower selling price, hence less cash received at the time of sale. Also even if the property isn't sold, the property owner could be affected by a reduction in property value as it may hinder the owner's ability to refinance or obtain a home equity loan based on the new value of the property. If certain properties are devalued as a result of this wind Project and are reassessed by the town's lister for property tax purposes at this lower value, the property owners will be paying a lower amount in property taxes based on their lower assessed value. Becker, Oct. 22 Pf. at 6.

6. The Board has Provided Insufficient Time to Review Additional Filings

Lastly, the Towns take issue with the Board's provision of only two weeks to review the various plans that Petitioners must file and other conditions that need to be met by the Petitioners prior to construction and/or operation of the Project. Throughout the Board's Order, the issuance of a CPG is conditioned on various plans being developed (such as a wetland mitigation plan, a transportation plan, decommissioning plan etc.), or the Petitioners obtaining easements – such as the fragmentation connectivity parcels. These plans and easements are central to the Board's conditioned approval and necessary to support the finding that the Project is in the public good. The Board, however, in providing only two weeks for review and comment on these plans, has provided inadequate time for the parties to analyze and evaluate the submissions. This has due process implications that the Board must consider.

The Board must take into account the fact that the parties are not able to schedule, in advance, when they will need to review these various plans and easements, since there is no specific date by which the Petitioners must file them. This makes it difficult to hire experts to review the plans, and to ensure that the necessary people are available for the limited time provided for review. Furthermore, if the Petitioners provide many of the outstanding plans at the same time, it will be very difficult to review them all and submit comments within two weeks.¹²

¹² As a perfect example, within the past week or so the Petitioners have filed several post-certification plans and supplementary materials that the Towns must review and comment on, and their filing letter indicates that more submissions are expected soon. At the same time, the Towns have had to prepare this Motion for Reconsideration. It further appears from the Petitioners' June 6, 2011 cover letter filed with their submissions, that the Petitioners plan on filing a Motion for Reconsideration on several issues (the letter states that the deadlines for the filing of archaeological studies and the fragmentation connectivity easements will be addressed in a separate filing). The Towns would therefore have to review the many plans and other submissions made by the Petitioners, as well as respond to their Motion for Reconsideration all within the next two weeks. This is not possible for a solo-practitioner, and does not provide an adequate opportunity for the undersigned attorney to effectively represent the Towns in this matter. A three week review period is necessary to provide sufficient time for adequate review and the submission of comments.

The Board must further keep in mind that the undersigned attorney is a solo practitioner, without the benefit of associates or staff. Reviewing all of the post-CPG filings is a burdensome undertaking, and it is possible, depending on when the Petitioners submit these additional materials, for there to be a conflict with the two-week response period. The Towns therefore request that the parties be given at least three (3) weeks to respond to these submissions, and that the Board be flexible if more time is required due to the availability of experts or attorneys – especially given that many people take vacation time during the summer months.

7. Conclusion

For the foregoing reasons, the Board should reconsider its decision and find that the Project does not meet the requirements to receive a Certificate of Public Good.

Dated at Jericho, VT this 14th day of June, 2011.

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