STATE OF VERMONT

PUBLIC SERVICE BOARD

Joint Petition of Green Mountain Power Corporation, Vermont Electric Cooperative, Inc., Vermont Electric Power Company, Inc., and Vermont Transco LLC, for a Certificate of Public Good, pursuant to 30 V.S.A. 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.	)	April 4, 2011 Docket No. 7628

BONNIE DAY

REPLY BRIEF

AESTHETICS:

Reasonable Mitigation:

Have the applicants failed to take generally available mitigating steps which a reasonable person would take to improve the harmony of the project with its surroundings?

GMP's lawyers continue to reference past decisions in wind cases without acknowledging that this project is bigger, louder, more visually prominent and closer to more homes. Is that reasonable? GMP's lawyers continue to ignore the health issues. The mitigation plan submitted by the petitioner is a joke. Is that reasonable? When the state has to bear the cost of the processing of complaints, the mediation with an uncooperative corporate entity and the necessary project oversight, is that a societal benefit?

Visual Aesthetics:

Petitioners, in their initial brief state: "Finally, the Petitioners have thoroughly analyzed other proposed mitigation measures and have rejected them based on economic impact. These include reducing the number of turbines, reducing the turbine height, and relocating the turbines. For these reasons, the Petitioners have taken the types of mitigation measures identified in the Board's other orders and therefore have met this requirement of the Quechee test." P 4

GMP has not mitigated the impact of the turbines; they have aggravated their impact: These are bigger, noisier turbines with no lighting mitigation firmly in place. We have only a stated intention to TRY to get the FAA to approve OCAS, rather than a commitment. They need OCAS for there not to be an undue adverse impact and the Board should not issue a CPG without the condition of implementing OCAS. The project's lighting needs to be mitigated regardless of the availability of the OCAS system or it would still be unduly adverse. Kane Trial Testimony 2/9/11 p.86. This should be required before construction begins. There has been no reduction in the number or size of turbines. GMP's "mitigation" in our case is to make houses disappear in their analysis (see, for example, Mr. Raphael's testimony stating there are only 3 houses within one mile of the project, when in fact there are 15 and only 20 homes qualifying under DPS's shocking and offensive when there are over 100. Kane Surrebuttal p.5; Exhibits-DPS-MK-2, p.7, DPS-MK-SUR-1; *see also* LMG Surrebuttal p.1), Perhaps they do so because there are so many more affected here than there were in prior wind turbine cases before this Board, or to marginalize private homes and thus private citizens. .

Review of prior wind turbine cases shows the difference between how those developers mitigated the effects of the turbines and how GMP is proposing to mitigate here: Deerfield final order, P 63: Finally, Deerfield Wind has taken "generally available mitigating

steps which a reasonable person would take to improve the harmony of the project with its surroundings." Deerfield Wind's original proposal included as many as 24 turbines along the two ridges. Over the course of this proceeding, Deerfield has scaled down the number of turbines to the present 15-turbine configuration. It has also changed other aspects of the proposal, including the location of turbines and other facilities (such as the access roads, collector lines and the substation). Deerfield final order, p 72:279: Deerfield will use narrow track cranes to reduce the necessary clearing width associated with the access roads. In addition, Deerfield has committed to micro-siting the turbines and roads to minimize the number of bear-scarred beech that will be impacted.

In stark contrast, GMP will be micrositing the roads but not with an eye to reducing the number of BSB taken; they will not be reducing the number of turbines; they will not be changing the location of the turbines (nor choosing quieter ones).

Another tactic GMP uses in our case is to assert that "Criterion 8 serves as a mechanism for protecting members of the public from exposure to aesthetic degradation." P 5. According to Kane's analysis of 10 mile view shed there are 170 miles of road within the area. With 25% visibility that calculates out to over 40 miles of roads with direct visibility. Deerfield's visibility was 3%. Raphael said 5% but Kane said 25%. This area includes public areas: Bailey-Hazen Road, Green River Reservoir, Wild Branch Wildlife management Area, and the private residences- downplayed by GMP- where it will become a fabric in their daily lives.

GMP again seeks to minimize the extent of impact: "Mr. Kane testified that the Project was shocking and offensive within a small area to the east of the Project, Second, Mr. Kane's

shocking and offensive conclusion is limited to an area consisting of the Bailey-Hazen Road, and including approximately 20 homes." P 6: The Petitioners are making hundreds of homes disappear from their reckoning. A "small area" as defined by GMP = 3 miles! Nearly 1/3 of entire 10-mile radius has been cut from consideration. What about the other 351 homes within these 3 miles? What about the 4619 homes within the 10 mile view shed?

Compare this to the Deerfield and Georgia Mountain cases. Deerfield final order, P 58, 214: The Project would be visible from a small percentage of the area within a ten-mile radius of the proposed site, due to topography and vegetative screening. It is estimated that a maximum of only 2.5% to 3% of the area in the 10-mile view shed is likely to have year-round views of the Project, and in most cases these views include only portions of the Project. 216. Few of the homes and camps within a three-mile radius would have actual visibility of the proposed Project. Georgia Mt final order, p 48

147. However, the average person viewing the Project will not be shocked or offended because the majority of the public viewing areas are at a sufficient distance from the proposed turbines that the turbines would not dominate the view. 148. There will be limited views of the Project from most of the major public roads in the area. Where the Project will be visible from a road, the visibility will be intermittent due to vegetative screening along the roads and, due to the speed of the vehicle; the duration of the view would be limited.

In contrast, this project will be visible from Canada, Morrisville and New Hampshire. GMP is using all the correct terms, "limited views of the Project", "small portion of the ten-mile Project area,"" equivalent to a whisper,""limited number of people effected" but the meaning behind these terms is not the same as previous cases.,.

Habitat/Natural Resources/Wildlife:

Sheffield final order P 86, 258: The habitat mitigation on the King George Parcel, as established in the UPC-ANR Stipulation represents an outstanding mitigation offer that justifies deviation from the ANR guidelines. Sheffield final order P 87:
The project before the Board has been redesigned to impact only a small number of individual beech trees.

In our case, it will involve the removal and direct impact of 20.7 acres of bear scarred beech and there is nothing in MOU to limit number of BSB that can be logged on proposed mitigation parcels. Sheffield final order, P 102: UPC has, commendably, provided this Board with studies and commitments that allow us adequately to assess the Project's potential impacts on birds and bats. Thus we are not faced with the situation that we encountered in Docket No. 691193, in which we denied approval of a different proposed wind generation facility due to the lack of necessary information on which to assess the potential impacts of that project on birds and bats. In the present case, UPC's willingness to cooperate with ANR and to provide the information and assurances sought by ANR has allowed UPC to demonstrate that the Project complies with the relevant statutory requirements.

In our case, however, ANR stated that GMP did enough with the bat study and (see the ANR/GMP MOU1 concerning bats) I completely disagree that GMP's studies are sufficient. All GMP is doing is setting up a death trap for birds and bats in order to count and assess mortality rates. ANR fails to attend the advice of their own expert. Darling's testimony has stated what adjustments will need to be made to avoid bird and bat

mortality. East Haven (docket 6911) was refused a CPG for just this failure to do adequate bird and bat studies. In our case, both ANR and GMP agree as to the risk turbines pose to bats and how to reduce those risks: i.e.: making cut in speeds at least 5.0 m/s, yet they are allowing 10 turbines to operate below this speed to set up a "test". This is inexcusable given the devastation White Nose Syndrome is causing to bat populations.

Noise:

Sheffield Final Order p 72, The potential for adverse noise impacts from the turbines are one of the principal concerns raised by the parties in this case. In our case, Petitioner Brief: "The EPA Sound Levels Document indicates that a noise standard should take into account not just health issues, but also the cost and technical feasibility of compliance and the benefits of regulated activity. In developing their standards, none of these witnesses took into account these factors. Instead, they limited their analysis to health and annoyance-related factors." P 8: I find this the most disingenuous statement in the petitioner's brief. This portion of the EPA document was discussing reducing existing noise exposures. We do not have preexisting noise in this case. There is NO existing exposure here. GMP is trying to use this reference to justify installing a source of excessive exposure.

GMP has declined to select "turbines designed to minimize noise impacts." The indisputable fact is that they have modified the project in the opposite direction, choosing larger, noisier turbines mid-hearing. This leads to concern that they hope to substitute political power and pressure for "reasonable mitigation." The price of "the cost and technical feasibility of compliance" is considerably lower if the plan is realistic in the first place. Compliance is more likely if turbines are selected to MINIMIZE noise, rather than to maximize noise. Compliance is

more likely if there are setbacks from homes and property lines. There will be no "the benefits of regulated activity" if the design is such that no modification is possible causing the "cessation of turbine(s) operation." GMP also has the choice to move the turbines further away but they don't want that, either, EVEN THOUGH THEY CREATED THE PRBOLEM BY (1) too many turbines on limited terrain and (2) noisier turbines requiring NRO nearly every night which will also reduce the projected output. Should we not be concerned with the health related effects? If we do not deal with expected effects prior to construction it is possible that the situation will develop that GMP will be unable to operate this very costly project.

Every Board order on the issue of wind turbine sound contains the phrase:"shall take all remedial steps necessary to bring the sound levels produced by the turbine(s) into compliance with allowable levels, including modification or cessation of turbine(s) operation."

Sheffield final order, p 73: UPC shall construct and operate the Project so that they emit no prominent discrete tones pursuant to ANSI standards at the receptor locations identified in findings 189-194, and indoor sound levels at any King George School structure and any surrounding **residences do not exceed 30 dBA** (Ldn). In the event noise from operation of the Project exceeds the maximum allowable levels, UPC shall take all remedial steps necessary to bring the sound levels produced by the turbine(s) into compliance with allowable levels, including modification or cessation of turbine(s) operation. Deerfield final order, P 101: 28. Deerfield shall construct and operate the Project so that the turbines emit no prominent discrete tones pursuant to ANSI standards at the receptor locations; and Project- related sound levels at any existing surrounding residences do not exceed 45 dBA (exterior)(Leq)(1 hr) or 30 dBA

(interior bedrooms)(Leq)(1 hr). .29. In the event noise from operation of the Project exceeds the maximum allowable levels, Deerfield shall take all remedial steps necessary to bring the sound levels produced by the turbine(s) into compliance with allowable levels, including modification or cessation of turbine(s) operation. Georgia Mt final order, p 91: 22. GMCW shall construct and operate the Project so that it emits no prominent discrete tones pursuant to American National Standards Institute (ANSI) standards at the receptor locations; and Project-related sound levels at any existing surrounding residences do not exceed 45 dBA (exterior)(Leq)(1 hr) or 30 dBA (interior bedrooms)(Leq)(1 hr). 23. In the event noise from operation of the Project exceeds the maximum allowable levels, the Petitioner shall take all remedial steps necessary to bring the sound levels produced by the turbine(s) into compliance with allowable levels, including modification or cessation of turbine(s) operation.

GMP claims, "The Petitioners demonstrated, however, that the Board's standard was sufficient to protect health." They may have demonstrated that **they think** the prior standard is protective, but there was testimony from McCunney, James, Lovco and Blumberg that with the impulsive nature of wind turbine noise the previous standard will not be fully protective. The low pre-existing background levels make the proposed standard here too high. Kaliski reported that 16Db is the 90% average, meaning 10% of readings are even lower! How low? We don't know because Kaliski chose not to report it- just like he chose not to report low frequency.

There is no mention of the fact that the Board's standard has not been PROVEN effective. At this time there are no operating wind facilities using the standard GMP is requesting ((45 dBA (exterior) and with 30 dBA (interior)). We do not KNOW that the sound levels used in previous cases are protective of health. The testimony in this case casts some

doubt that it is. We have more turbines and more people affected than any case to date. Will we err on the side of caution, or go on doing what was done before in the hope that it will all come out right?

The technical feasibility is addressed in Georgia Mt. thus: Georgia Mt final order, p 57 Petitioner also contends that it has taken or will take reasonable steps to mitigate any potential noise impacts associated with the Project such as: (1) conducting sound modeling; (2) using **turbines designed to minimize noise impacts;** and (3) **conducting pre-construction turbulence modeling to ensure additional noise due to excessive turbulence is avoided**.

Petitioner asserts: "The opposing witnesses also claimed that wind turbines cause low frequency sound and/or infrasound at levels that are potentially harmful to health."And "Infrasound from wind turbines is not a health problem." GMP seems to be ignoring the extensive testimony (McCunney as well as James, Blomberg, Lovko) that low frequency sound and annoyance lead to stress and stress leads to multiple, serious health consequences. The mind set this displays makes me wonder if they can be trusted to provide fair and honest sound monitoring. Georgia Mt final order, p 57: However, the Department argues that the Project will be audible at residential receptors and that the Petitioner's noise study does not sufficiently address this issue.

And in Lowell Mountains, as in Georgia Mountain, the petitioner's noise study does not sufficiently address the issue.

Sound levels, absolute or averaged?

In reviewing previous Board decisions I have encountered, what appears to me to be a contradiction in terms. It would be helpful if the Board could be clearer in this case.
There appears to me to be a problem with some sound level definitions. PSB states in both Deerfield and Georgia that they are applying an **absolute** standard and then cite a standard based on averages. **Sheffield:** Sound levels at "any surrounding residences do not exceed 30 dBA (Ldn)." **Georgia Mt**: "We impose noise standards that the Project cannot exceed at residences." And "the imposition of absolute standards with regard to noise levels at the nearest receptor locations is an appropriate means to ensure these areas are not adversely impacted." **Georgia Mt and Deerfield:** Not exceed 45 dBA (exterior)(Leq)(1 hr) or 30 dBA (interior bedrooms)(Leq1 hr).

Absolute standard vs. averaged standard: To my understanding an Absolute value is a number, no average, no manipulation. 40 is 40, period. Absolute standard is where any sound over the limit is out of compliance. Averages allow significant deviation when some of the numbers entered into the equation are low, corresponding numbers can be very high and still meet the average. An absolute standard would be very welcomed in this case, most especially if an unrelated, unaffiliated party is designated to monitor.

Sound Monitoring:

"The Petitioners will file for Board approval a noise monitoring plan designed to assure that the turbines operate in a manner consistent with the Board standards." P 11: This statement is consistent with other projects before the Board, but will require all parties to revisit and reassess the plan at a later date. Sheffield final order, P 114: 10. UPC shall submit to the Board

for review and approval a noise-monitoring plan to be implemented during the first full year of operation. The Plan shall establish a monitoring program to confirm under a variety of seasonal and climactic conditions compliance with the maximum allowable sound levels described above. Deerfield final order, P 101: 30. Deerfield shall submit to the Board for review and approval a noise-monitoring plan to be implemented during the first full year of operation. The Plan shall establish a monitoring program to confirm under a variety of seasonal and climactic conditions compliance with the maximum allowable sound levels described above. Georgia Mt final order, p 91: 24. GMCW shall submit, for Board approval, a noise-monitoring plan to be implemented during the first full year of operation. The plan shall establish a monitoring program to confirm under a variety of seasonal and climatic conditions compliance with the maximum allowable sound levels described above. Parties will have three weeks, from the date this plan is filed with the Board, to comment on the plan. GMCW cannot commence operations until the plan is approved.

Setbacks:

Georgia Mt final order, p 32-33: The testimony presented by GMCW indicates that ice throw could affect neighboring landowners and that turbine collapse, while rare, can occur. Accordingly, a wind turbine with its base set as close as one rotor radius from the property line of an adjoining property owner has the potential to impact that owner. Furthermore, while the Board may impose conditions on GMCW to prevent public safety risks on its property, the Board does not have the authority to impose similar conditions (for example, signs to warn snowmobilers of potential ice throw) on adjoining landowners. For this reason, we conclude that

a condition requiring GMCW to place the turbines a reasonable distance away from a property line is appropriate to mitigate potential public safety risks associated with ice throw and collapse.

Further, we note that other state and local public agencies have addressed potential public health and safety impacts of wind turbines by establishing setbacks based on the size of the turbine, including the blades.36 Setbacks are not an uncommon requirement in land-use planning; the Vermont Supreme Court in *In re Letourneau*, 168 Vt. 539, 544 (1998) found that setback requirements, which reasonably relate to the public health, safety, and welfare, are a generally valid land-use tool.37

Georgia Mt final order, p 33-34: We conclude that the record in this proceeding lacks sufficient evidence to determine a reasonable setback requirement for this Project. Accordingly, our approval of this Project is conditioned on our determination of a reasonable setback requirement in further proceedings to be held in this docket should GMCW choose to proceed with this Project

Why are they ignoring the setbacks recommended by their own safety expert? It is the combined dangers of ice throw, tower collapse, blade throw, flicker, noise and aesthetics that cause concern These cannot be divided and minimized, as GMP is trying to do by saying flicker is only 30 minutes, by saying most ice will fall, by saying the danger from tower collapse is remote. Does trivializing the dangers make them less real?

Property Values:

Petitioner asserts that "annoyance relating to wind turbines is far more influenced by the visibility of the turbines and the existence of economic benefit than it is by noise. At 35 dBA (exterior), noise-related annoyance is somewhat lower than 20% where there is no economic

benefit and 0% where there is." P 10: They fail, however to connect these facts in their petition, testimony or brief. The simplest mitigation would be to enter into agreements that provide "economic benefit" or, at least protect neighboring property owners from suffering undue, adverse financial effects from GMP's actions or lack thereof. An agreement that provides for the pre wind value of the home with closing and moving costs would go a long way towards relieving the anxiety of neighbors and abutters. They say that since such low risk there is no need to offer guarantee. If really such low risk, why insert those clauses in lease agreements? If GMP is being honest in their assurances that there will be no loss of property value, the agreement will never be used, hence will cost them nothing. If, however, they are wrong, this is an equitable mitigation. It also shows that half-truths and misdirection will not be effective before this Board.

Even though the Lawrence Berkeley National Laboratory (LBNL) study was shown in hearings to be an unreliable source, the petitioner continues to use it to defend doing nothing to compensate landowners for the proposed impositions on their lives and property.

Deerfield final order, P 38 First, both IWAG/SVR and the Town of Wilmington argue that the Project poses an undue adverse impact on real property values and tourism visitation at the town and county level. Both parties contend that Deerfield relied heavily on limited and faulty statistical data, and that Deerfield drew inaccurate conclusions and comparisons from that information concerning properties that were part of the study and properties located near the Project. As described below, we conclude that there is no empirical evidence to indicate that the Project would result in such impacts and, to the extent that such impacts arise, **we have adopted a condition that would require**

Deerfield to mitigate them. Georgia Mountain final order was influenced by "the Lawrence Berkeley National Laboratory study." P 25: This is the same study shown in 7628 testimony to be unreliable even by wind proponents.

Rushing the process:

Throughout this process GMP has asserted the need to rush. They have used political pressure to shortcut the system. Their unseemly haste has been openly admitted to be the desire to obtain Federal tax subsidies. Their studies have been shorted, appearing from the outside to be mere lip service. Why are we all rushing this for them? GMP shows no concern for the people or the permanent environmental impacts. This is in stark contrast to Deerfield and Sheffield.

Deerfield final order, P 7 On January 10, 2008, the Board issued an Order revising and extending the schedule for the docket in response to several requests for extension from the other parties in the case. The deadline for filing of prefiled testimony for parties other than Deerfield was extended from December 21, 2007, to April 28, 2008.

Sheffield final order, P 89: 263. UPC's bird and bat consultant conducted a number of initial bird and bat studies in the project area. During the fall of 2004, a visual survey of raptor migration, a radar survey of night-time bird and bat migration, and a detector survey for migrating bats were conducted. These same surveys were repeated in the spring of 2005. Bat detector data were collected during a third season, in late-summer and the fall of 2005. In the fall of 2005, potential eastern small footed bat (Myotis leibii) habitat was assessed. 264. Additional field surveys were conducted in 2006, based on consultation

with ANR's Department of Fish and Wildlife. The additional field work included bat detector surveys in the project area from spring to fall, avian acoustic surveys during the spring and fall migration seasons, and bat detector data collection at Duck Pond.

UPC did three years of bird and bat studies. The Board commended them for the thoroughness of their studies and their willingness to cooperate with ANR. It is difficult to imagine the Board commending GMP for their thoroughness and willingness to cooperate in this case.

Discussion

Does 248 allow for societal benefit? I read it and reread, where does it say that societal benefit trumps undue adverse effects? What are the societal benefits we are being offered by GMP? Seventeen net megawatts and two jobs does not seem to be that great a benefit for blasting the top of a mountain, killing birds and bats, fragmenting wilderness, risking the destruction of our tourism businesses, destroying irreplaceable forest communities, disenfranchising over 3000 homeowners and opening the way for this devastation to be visited on other mountain ridges. Is creating electricity with all these costs, at twice the price of conventional electricity a societal benefit? Lamont and Smith both indicate that the market price of natural gas over the foreseeable future makes the cost-effectiveness calculations for this project even more problematic. The petitioner has counted the federal tax dollars that they will receive, but has the fact that that money is coming out of all of our pockets as part of the cost? Federal dollars are not FREE.

All these after the CPG "plans" result in more time and money for all concerned. Perhaps this is done on purpose? This lack of thoroughness, lack of transparency makes this process harder on the Board and all of the parties. It certainly makes it harder and more expensive to fight. If Board requires all plans and research before issuing a CPG why are we still waiting for them? Are they omitting these reports to hide evidence that this project is not feasible? Will we learn this before construction begins, before the damage is done, before wasting taxpayer dollars?

Approving this project with incomplete plans and unanswered questions will be saying:

- Yes to environmental degradation.
- Yes to habitat fragmentation
- Yes to incomplete, insufficient mitigation (see MOU)
- Yes to incomplete plans
- Yes to changing title to lands without filing with town clerk
- Yes to endangering birds, bats and raptors
- Yes to moose, bear and deer displacement
- Yes to biased noise modeling and inaccurate background monitoring
- Yes to turbines that are guaranteed to exceed noise limits
- Yes to safety zones on uncontracted private property
- Yes to taller, louder turbines
- Yes to 175 acres of clear cutting
- Yes to 14 concurrent acres of earth disturbance (SWM permit application)
- Yes to class 2 wetland disturbance (see MORRISON and AUSTIN)

- Yes to headwater disturbance
- Yes to irreparable degradation of state significant natural resources
- Yes to substandard studies
- Yes to outstanding permit applications
- Yes to incomplete cost-effectiveness study
- Yes to reliance on same catch phrases with no substance

If we say "yes" to this, the biggest proposed project in Vermont, and the least well planned, how will we say no to the others just waiting to see if GMP's strategy works? There are many companies with wind projects in the works just waiting to see what happens here, including:

- Lowell Mountain, Eden - BNE Energy
- Vermont Community Wind, Ira, West Rutland, Poultney
- Grandpa's Knob (West Rutland, Castleton, Hubbardton, Pittsford) Reunion Power
- Northfield Ridge (Waitsfield) - Citizens Energy
- Northfield Ridge (Moretown) - Citizens Energy
- Ricker Mountain (Bolton) -- Green Mountain Clean Energy
- Glebe Mountain (Londonderry and Windham) - Volkswind
- Little Equinox Mountain (Manchester) -- Endless Energy
- Dutch Hill (Heartwellville) - Noble Environmental Power
- Mt. Snow (Dover)
- Coventry
- Wilmington (Chimney Hill)

- Washington – Horizon
- Hurricane Hill (White River Junction)
- East Haven, Ferdinand, Brighton - EMDC
- Stratton Mountain -- Stratton Planning Commission
- Cold Hollow Mountains (Belvidere, Bakersfield)
- Windham, Townshend, Grafton - UPC Wind Partners (a.k.a. First Wind)
- Kirby Mountain -- Enxco
- Umpire Mountain (Victory)

How will history judge our actions in this case? Will this open the door to wholesale destruction of our (non renewable) mountain ridges? Will this be the next step to the greatest man made ecological disaster in Vermont since the asbestos mine? You decide, let history be the judge.

DATED: April 4, 2011

Respectfully submitted,

BONNIE DAY

LOWELL, VERMONT