**STATE OF VERMONT**
**PUBLIC SERVICE BOARD**

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| Petition of Green Mountain Power Corporation, Vermont Electric Cooperative, Inc., and Vermont Electric Power Company, Inc., for a certificate of public good, pursuant to 30 V.S.A. Section 248, 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. | ) | Docket No. 7628 |

## PETITIONERS' REPLY BRIEF

This Reply Brief is submitted by Petitioners Green Mountain Power Corporation ("GMP"), Vermont Electric Cooperative, Inc. ("VEC"), Vermont Electric Power Co., Inc., and Vermont Transco LLC (together, "VELCO," and with GMP and VEC, the "Petitioners") in response to the briefs of the Lowell Mountains Group, Inc. ("LMG"), Green Mountain Club ("GMC"), the towns of Albany ("Albany") and Craftsbury ("Craftsbury"), Vermont (collectively, "Albany Craftsbury"), the Days, the Nelsons, Dyer Dunn, Inc. ("DDI"), the Vermont Department of Public Service ("Department"), and the Vermont Agency of Natural Resources ("ANR").

In their Proposed Decision and Brief, the Petitioners demonstrated why the Project promotes the general good and therefore should be approved. The Petitioners described the ample evidence supporting positive findings with respect to need, stability and reliability, economic benefit, natural resource and wildlife habitat impacts, visual aesthetics, noise, historic sites, and the remaining Section 248 criteria. The Petitioners identified the significant mitigation efforts they have undertaken, including agreements addressing the concerns of the Department and ANR, and the extensive commitments described in the proposed conditions that the Petitioners were prepared to implement.

Of the eleven parties other than the Petitioners that filed briefs, five support the Project, including the Department, ANR, CLF, VPIRG and the town of Lowell. The other parties do not challenge in any meaningful way the Petitioners' compliance with many of the criteria. Instead, they focus primarily on noise, aesthetics, and natural resource and wildlife habitat impacts.

For the reasons set forth herein, the Board should reject the arguments of LMG, GMC, Albany Craftsbury, the Days, and DDI, and reject requests for additional technical hearings and other requested delays in the issuance of a decision.

## I. THERE IS NO BASIS FOR CHANGING THE BOARD'S NOISE STANDARD OR FOR CONCLUDING THAT THE PROJECT WILL CAUSE UNDUE AIR POLLUTION OR AN UNDUE ADVERSE IMPACT ON AESTHETICS

The Petitioners support the noise standard applied in the Board's most recent wind decisions, consisting of 45 dBA (exterior)(Leq)(1hr) and 30 dBA(interior bedrooms)(Leq)(1hr).[1] Albany, on the other hand, supports 35 dBA(exterior), LMG supports three different standards of 30 dBA(interior), 35 dBA(exterior), and 35 dBA at the property line, and Bonnie Day supports a so-called "compound" sound standard.[2] Neither Albany nor LMG indicate whether their standards are based on an instantaneous maximum, one hour, night or some other period, despite devoting extensive testimony to the alleged need for a short reference period.[3] As a result, it is impossible to tell whether the standards proposed in their briefs are inconsistent with the standards proposed by their witnesses.[4] LMG also fails to explain why the exterior standard is needed in light of the identical standard applicable at the property line.

Albany and LMG claim that their proposed multiple standards are required in order to protect health.[5] Their claims largely consist of arguments adequately addressed in the

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1 *Petition of Georgia Community Wind, LLC,* Docket No. 7508 (Vt. Pub. Serv. Bd. June 11, 2010) ("Georgia Order") at 57; *Amended Petition of Deerfield Wind, LLC*, Docket No. 7250 (Vt. Pub. Serv. Bd. Apr. 16, 2009) ("Deerfield Order") at 67.

2 Albany Brief at 20; LMG Brief at 65. Ms. Day's compound standard would be "daytime 50 Db [sic] 1 hr exterior with no sound higher than 55. Nighttime limits of 35Db [sic] 1 hr exterior with no sound higher than 40, measured at the property line." Her proposed standard would require "[f]urther specifications and requirements . . . for low frequency sound." Day Brief at 15.

3 *E.g.*, James pf. at 19; James reb. at 3-6; Lovko reb. at 5; Lovko surreb. at 15; Blomberg surreb. at 15-16.

4 Through the testimony of their witnesses, Albany and LMG proposed three different standards: 35 dBA(Ldn) at the property line (Blomberg), 30 dBA(exterior)(1hr) (James) and 35 dBA(exterior)(night)(max) (Lovko). GMP Brief at 9, nn. 51, 52, 54.

5 Albany Brief at 3-20; LMG Brief at 87-90, 97-98.

Petitioners' Proposed Decision and Brief.[6] As a result, only a few claims require response herein.

### A. The Board's Noise Standards Are Supported by the 2009 WHO Guidelines

Although both LMG and Albany cite the World Health Organization ("WHO") 2009 Guidelines extensively, they barely acknowledge, much less rebut, the core conclusion of the Guidelines: The "LOAEL[7] of night noise, 40 dBA Lnight outside can be considered a health-based limit value of the night noise guidelines necessary to protect the public, including the most vulnerable groups such as children, the chronically ill and the elderly, from the adverse health effects of noise."[8] The LOAEL represents the lowest level that any adverse health effects have been observed, and the 40 dBA is based on an annual average noise level, unlike the hourly PSB standard.[9]

Project opponents do not challenge this fundamental conclusion. Instead, Albany claims that the Board must adopt a more stringent standard because the WHO's LOAEL "should be seen as a not-to-exceed limit" and there needs to be a "precautionary principle" to ensure the public is protected.[10] This proposal turns the concept of LOAEL on its head; Albany converts the lowest sound level necessary to protect health into a ceiling. Albany attempts to support its position by claiming that "body movements, awakening, self-reported sleep disturbance and arousals" are observed at levels of 30-40 dBA.[11] By suggesting that these types of manifestations result in adverse health effects, however, Albany is substituting its own judgment for that of the WHO, which as indicated above, clearly and unequivocally found that no adverse health effects have been observed below 40 dBA.

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6 Petitioners' Proposed Decision at 33, 54-57; Petitioners' Brief at 7-11.

7 Lowest Observed Adverse Effect Level.

8 Exh. ALB-RJ-5 at XVII, 109.

9 Exh. ALB-RJ-5 at XVI, XVII, 108, n. 2; Exh. DPS-WEI-2 at 5-6. Adverse effect includes "any temporary or long-term lowering of physical, psychological or social functioning of humans or human organs." Exh. DPS-WEI-2 at 8 (quoting 1999 WHO definitions).

10 Albany Brief at 12-13; LMG Brief at 101.

11 Albany Brief at 9.

More fundamentally, by focusing exclusively on health-related impacts, Albany ignores the admonition in the EPA Sound Levels Document, which indicates that a noise standard should take into account not only health issues, but also the cost and technical feasibility of compliance and the benefits of regulated activity.[12] If risks to humans were the sole basis for establishing standards, it would be difficult to justify today's highway speed limits, the failure to ban smoking or any number of other permitted practices.

Albany and LMG also attempt to undermine the core conclusion of the WHO 2009 Guidelines that there are no observed adverse health impacts below 40 dBA measured on an annual basis, by claiming that impacts are possible at lower levels. The briefs are replete, for instance, with references that certain impacts "can increase risks," "might be possible," or "may occur" at lower sound levels.[13] In the absence of any quantification of the probability or magnitude of the harm, however, these types of characterizations should be rejected as a basis for a revised noise standard.

Albany and LMG argue that the WHO 2009 Guidelines should be ignored because they relate to "transportation noise," whereas sound from wind turbines is fundamentally different due to the "swooshing" effect.[14] According to LMG, for instance, "WHO notes that 'lower limits will need to be provided...when sounds are not continuous (i.e., fluctuate like wind turbine noise)...' Lovko Rebuttal, p. 3."[15] The cited testimony, however, merely states that the WHO 2009 Guidelines state that "lower sound limits will need to be provided...when sounds are not continuous," without any specific reference to the 2009 WHO Guidelines.[16] The testimony merely refers generally to the Guidelines without identifying any specific statement in the

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12 Petitioners' Brief at 9.

13 *E.g.*, Albany Brief at 5 (sleep "arousals start to occur at sound levels around 35 dBA"), *id.* at 5, "[s]leep deprivation can increase risks," *id.*, "'sleep disturbance may occur at sound levels ... as low as 35 to 40 dB,'" *id.* at 9 (quoting Exh. DPS-WI-2 at 5), "'people start to suffer adverse health effects' at levels below 45 dBA." LMG Brief at 89. One of the few statements that is arguably quantitative, on the other hand, is not adequately supported. LMG claims that "an adverse impact on public health is *likely* when noise exceeds 40 decibels. Lovko, at 4 (citing WHO 2009)" *id.* (emphasis in original). Neither LMG's Brief nor the cited Lovko testimony identify any statement in the WHO 2009 Guidelines supporting this assertion.

14 Albany Brief at 6-7; LMG Brief at 79.

15 LMG Brief at 79 (emphasis and footnote omitted).

16 Lovko reb. at 3.

Guidelines that supports this claim. In fact, the transportation noise described by the Guidelines is no more "continuous" than sound associated with wind turbines. The transportation noise addressed by the Guidelines consists of road traffic (characterized as representing 600 vehicles per night, or slightly more than one per minute based on an eight-hour night), rail traffic and air traffic (characterized as eight flights per night).[17] LMG provides no basis for assuming that wind turbine noise is less "continuous" than traffic noise, or that its frequency has a greater impact on health.

Albany claims that wind turbine noise is more annoying than transportation noise, based on the a graph contained in the first Pedersen study (2004) that purports to compare annoyance levels at similar sound levels between wind turbines, and air, road and rail traffic.[18] As the study authors readily admit, however, "interpretations should be done with care," since, among other things, (1) the wind turbine noise data is based "on only one study," (2) the wind-related annoyance is likely based on exterior noise levels whereas the transportation traffic is likely based on interior levels and "hence the actual noise dose should be reduced by the attenuation of the façade," and (3) it is likely that "aesthetic interference influenced noise annoyance" associated with the wind noise.[19] As the report cited by Mr. James indicated, "[i]t is not clear whether the constant and relatively rapid repetition of wind turbine sound beats will have more or less effect on sleep quality, compared to vehicle or airplane passages."[20]

LMG also argues that the 2009 WHO Guidelines should be ignored because wind turbine noise involves low frequency and infrasound.[21] Its claim, however, is also based solely on a single statement by Dr. Lovko, without citation to any specific statement in the Guidelines. In fact there is nothing in the Guidelines that suggests that its conclusions are limited to certain portions of the frequency spectrum.

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17 Exh. ALB-RJ-5 at XV-XVI.

18 Albany Brief at 10 (citing Exh. Pet.-Cross-3 at 3468, fig. 3).

19 Exh. Pet.-Cross-3 at 3467-68.

20 James reb. at 3; Exh. ALB-RJ-6 at 83.

21 LMG Brief at 79.

For these reasons, the 2009 WHO Guidelines provide strong support for the Board's well-established and more stringent noise standards. As Department witness Dr. Irwin stated, "maintaining sound levels at nighttime from wind turbines below the most recent World Health Organization 40 decibel nighttime average sound level is recommended to protect public health."[22]

### B. The Board Should Reject LMG's and Albany's Attacks on the Petitioners' Witnesses

Several other health-related claims by LMG and Albany require response. Albany claims that Mr. Kaliski's testimony is "biased and untrustworthy," because he cited one statement from a Bureau of Land Management ("BLM") report but failed to cite another statement.[23] Notwithstanding Albany's claim, Mr. Kaliski has testified before this Board in every recent wind case as well as other types of cases, and the Board's findings often rely on his testimony.[24] The portion cited by Mr. Kaliski, however, relates specifically to BLM lands which, as Albany indicates, are relatively rural, whereas the other passage reflects a generic conclusion.

Albany claims Dr. McCunney's conclusion that the "risk of any direct adverse health effect at levels below 45 dB (A) is virtually non-existent,"[25] is "beyond belief...unsupported and clearly biased" because, according to Albany, he relies solely on the so-called Miedema paper, which only analyzes noise levels above 45 dBA.[26] The paper is the only cited source identified in his rebuttal testimony; however, Dr. McCunney made clear that his conclusion was also based on the 2009 WHO Guidelines chart, reproduced below, which indicates that the number of

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22 Irwin pf. at 2.

23 Albany Brief at 31-32. Albany did not challenge any of Mr. Kaliski's seven other citations to the BLM report. Albany Brief at 31-32; Exh. Pet.-KHK-2 at 8-9.

24 *E.g.*, *Amended Petition of UPC Vermont Wind*, Docket No. 7156 (Vt. Pub. Serv. Bd. Aug. 8, 2007) ("Sheffield Order") at 70; Deerfield Order at 65; Georgia Order at 55-56; *Joint Petition of Vermont Electric Power Co., etc.*, Docket No. 7032 (Vt. Pub. Serv. Bd. March 16, 2006) at 32-33; *Petitions of Vermont Electric Power Co., Inc.,* Docket No. 6860 (Vt. Pub. Serv. Bd. Jan. 28, 2005) at 143-44.

25 McCunney reb. at 3.

26 Albany Brief at 17.

annual noise-induced sleep awakenings at 45 dBA and below is essentially zero.[27] The Guidelines' conclusion applies below 45 dBA because it reflects a "worst case scenario" that is based on a mathematical formula permitting extrapolations where "no exact data is available."[28] Simply put and with all due respect, the reliance on the Miedema report for this fundamental conclusion by the WHO, consisting of an international body of experts, is more persuasive than the analysis of Albany's counsel.

EFFECTS ON SLEEP 51

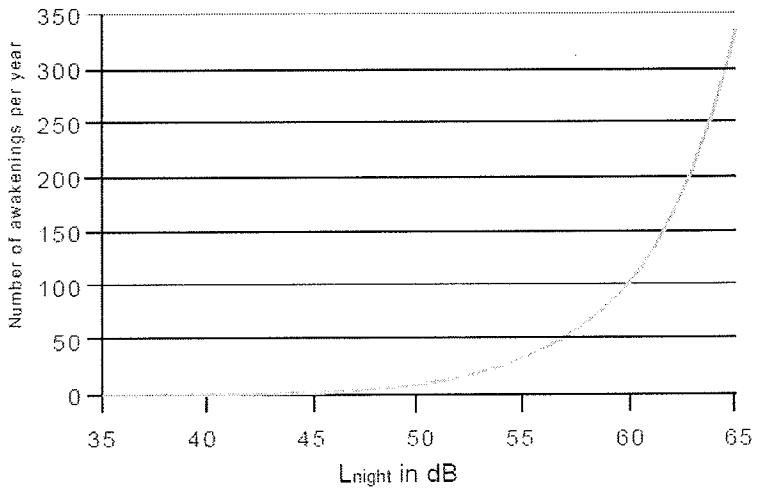


Fig. 3.1
Worst case prediction of noise-induced behavioural awakenings.
$L_{night}$, converted from inside relation with [3] on page 10.

*Source: Miedema, Passchier-Vermeer and Vos, 2003*

Among other statements requiring a response are the following:

1. According to LMG, the WHO "recognizes annoyance as a critical health effect."[29] The WHO statement, however, is based on sound levels in outdoor living areas of 50-55 dBA, well above the 45 dBA exterior limit established by the Board.[30]

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27 Tr. 2-10-11 at 77 (McCunney) (citing Exh. ALB-RJ-5 at 51).

28 Exh. ALB-RJ-5 at 50.

29 LMG Brief at 35.

30 Exh. DPS-Cross-4 at 5.

2. LMG cites Dr. Irwin's testimony for the proposition that "a noise limit of 30 dBA inside is required to avoid [sic] sleep interruption."[31] In fact Dr. Irwin testified only that 30 dBA is "adequate to protect the sleeping person."[32]
3. LMG states that "[a]dverse health effects have been observed at 40 dBA," citing the 2009 WHO Guidelines.[33] In fact, the statement refers to a range of "40 to 55 dB."[34]
4. According to LMG, Dr McCunney stated that "the fluctuating sound from wind turbines is a major concern."[35] In fact, Dr. McCunney stated that "the major cause of concern from that noise" is the fluctuating nature of it.[36]
5. LMG claims that "an adverse impact on public health is *likely* when noise exceeds 40 decibels," citing Dr. Lovko and the 2009 WHO Guidelines.[37] Similarly, Albany states that the Guidelines state that "levels of 40 dbA and higher are clearly harmful."[38] In fact, the Guidelines state only that "adverse health effects are observed" at the 40-55 dBA range, without indicating the probability of adverse health effects.[39]

### C. The Quechee Analysis Supports a Conclusion that the Project Will Not Result in an Undue Adverse Effect on Aesthetics

Albany claims that it is "alarming" that the Petitioners failed to conduct a Quechee analysis[40] and that, based on Quechee, Project noise will have an undue adverse effect on aesthetics.[41] Yet the Board has never explicitly conducted a Quechee analysis with respect to wind turbine noise, instead concluding that there is no undue adverse impact on aesthetics as long as a Project complies with its noise standards.[42] As the Board stated in the Deerfield Order, "noise level standards are a necessary and appropriate means of ensuring that the public is not

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31 LMG Brief at 37.
32 Tr. 2-24-11 at 61-62 (Irwin).
33 LMG Brief at 88.
34 Exh. ALB-RJ-5 at XVII.
35 LMG Brief at 79.
36 Tr. 2-10-11 at 57 (McCunney) (citing Exh. ALB-Cross-7 at 28 (emphasis added)).
37 LMG Brief at 89 (emphasis in original).
38 Albany Brief at 11.
39 Exh. ALB-RJ-5 at XVII.
40 Albany Brief at 28. LMG makes the same claim in less colorful terms. LMG Brief at 67.
41 Albany Brief at 29-34; LMG Brief at 81-87.
42 Sheffield Order at 72-73; Deerfield Order at 66-67; Georgia Order at 57-58.

subject to adverse noise impacts from the construction and operation of the Project."[43] Neither Albany nor LMG provide any basis for concluding that this Project must be reviewed based on an entirely different analytical framework.

LMG's and Albany's claims that the Project fails to meet the Quechee test should be rejected. First, there is no applicable clearly-written community standard. The Lowell Plan merely states that the Lowell ridgeline should be subject to very low intensity development and encourages wind development. Nothing in the Plan can be read as precluding noise at levels below the Board's standard[44] and, in any event, it represents generalized goals that do not qualify as a clear written policy.[45] The Board has previously found that zoning ordinances are an inappropriate source of community policy for purposes of the Quechee test.[46]

Second, there is no basis for concluding that the Petitioners have failed to take reasonable mitigating steps due to their failure to conduct a preconstruction turbulence monitoring plan, implement setback restrictions, select turbines that "minimized sound," and use smaller turbines.[47] Yet LMG and Albany identify no Board order requiring any of these measures.[48] The Petitioners demonstrated, moreover, why smaller turbines would render the Project uneconomic.[49]

Third, Albany claims that the Project sound levels would be shocking and offensive, because Mr. Kaliski testified in the Sheffield case that an increase of 10-15 dBA would "dominate" over the background noise,[50] and "will be well more than twice as loud" as ambient

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43 Deerfield Order at 66.

44 Petitioners' Proposed Decision at 58.

45 Petitioners' Brief at 2-3.

46 *Id.* at 2, n. 4.

47 LMG Brief at 85; Albany Brief at 33.

48 Rather than imposing a mitigation requirement, for instance, LMG and Albany (in remarkably similar language) state only that "the Board noted" that the developer mitigated the impacts of the project through turbines that minimized the sound and a preconstruction monitoring plan addressing wind turbulence. LMG Brief at 85; Albany Brief at 33. Even this claim is overstated, since the Board merely acknowledged that the "petitioner also contends" that these steps represent reasonable mitigation. Georgia Order at 57.

49 Petitioners' Brief at 4; Raphael reb. at 7.

50 Albany Brief at 31.

sound levels.[51] Mr. Kaliski made clear, however, that his use of the term "dominate" simply meant that it would be "louder than the sources around it."[52] Irrespective of whether Albany accurately describes ambient sound levels,[53] Albany fails to identify any Board decision that concludes that a ten decibel sound increase in ambient levels is shocking and offensive. Mr. Kaliski did not conclude in Sheffield that the Project noise levels would be shocking or offensive, or result in an undue adverse impact on aesthetics,[54] notwithstanding Albany's reliance on his testimony for precisely that purpose.[55] Most importantly, the Project meets both the 2009 WHO Guidelines and Board standards outside each adjacent, non-participating residence.[56] As a result, the Project noise will not cause any undue adverse effect on aesthetics.

### D. LMG's and Albany's Other Claims Should be Rejected

Albany and LMG also devote significant portions of their briefs to issues relating to background noise monitoring results,[57] noise modeling[58] and the post-construction sound monitoring plan.[59] It is the actual noise produced by the turbines that is important, rather than current background sound levels or estimated turbine noise levels, and the actual noise will be measured by means of a post-construction sound monitoring plan that will be addressed and reviewed after issuance of the Board's order.[60]

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51 *Id.*

52 Tr. 2-22-11 at 219 (Kaliski).

53 Albany's claim that ambient levels are 15 dBA is based on the lowest 10% of sound levels at a single location. Albany Brief at 31. In fact, the average sound levels measured by Mr. Kaliski at the six locations were 36-48 (Leq)(day) and 31-44(Leq)(night). Exh. Pet.-KHK-2 at 22 (revised).

54 Exh. ALB-Cross-9.

55 Albany Brief at 30-31.

56 Kaliski dir. at 4, Exh. Pet.-KHK-2 at 30, Kaliski reb. at 28, and Exh. Pet.-KHK-2 (Supp)

57 Albany Brief 22-28; LMG Brief at 66-67, 73-78, 96-97.

58 Albany Brief at 34-52; LMG Brief at 69-73.

59 Albany Brief at 63-65; LMG Brief at 80-81, 91-93.

60 *See* Sheffield Order at 73; Deerfield Order at 67; Georgia Order at 58. For this reason, the Department's proposed condition that any turbine exceeding the maximum allowable noise levels "shall cease operation," (Department Brief at 30), which would preclude the more conventional alternative of reducing output, should be

Although the Petitioners adequately addressed these issues in their initial filing,[61] a few claims require response.

1. LMG and Albany criticize Mr. Kaliski's background sound monitoring for failure to adhere to certain American National Standards Institute ("ANSI") standards.[62] Mr. Kaliski testified that those standards are applicable where monitoring sites are chosen on a random basis, unlike here,[63] that he did comply with the applicable ANSI standards where appropriate, including sound meter accuracy and calibration,[64] and that "the sound levels we monitored are absolutely appropriate and accurate, and meet the accuracy requirements that are sufficient" to support the conclusions reflected in his report.[65] In addition, the Board should reject any suggestion Mr. Kaliski's one-week monitoring evaluation for all tested sites was less rigorous than Mr. Blomberg's monitoring, which consisted of varying snippets of as little as 31 minutes at one site and which was designed to eliminate common rural noises.[66]
2. LMG claims that Mr. Kaliski inappropriately failed to monitor sound levels at camps.[67] This is incorrect. He modeled the adjacent camps on non-participating property,[68] even though the Board has never defined them to be included within the definition of residences subject to its noise standards and LMG does not claim otherwise.
3. LMG claims that Mr. Kaliski "performed no analysis of low frequency or infrasound."[69] This is clearly incorrect.[70]
4. LMG and Albany claim that the use of Cadna/A acoustical modeling software modeling standard is inappropriate.[71] Yet this software is "an internationally accepted acoustical model, used by many other noise control professionals in the

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addressed in connection with the review of the Petitioners' proposed post-construction modeling plan, to be filed after issuance of the Board's Order.

61 Petitioners' Proposed Decision at 51-53, 58-61.

62 LMG Brief at 66; Albany Brief at 23-24.

63 Tr. 2-22-11 at 76-77 (Kaliski). In addition, the ANSI S12.9 Part 3 standard cited extensively by LMG, LMG Brief at 73-77, applies to measurements with an observer present, rather than the unmanned measurements that Mr. Kaliski took. Albany Brief at 27, n. 22.

64 Tr. 2-22-11 at 203-04 (Kaliski).

65 Tr. 2-22-11 at 73 (Kaliski).

66 Petitioners' Proposed Decision at 53.

67 LMG Brief at 66-67.

68 Exh. Pet.KHK-2 at 20, App. at 1; Tr. 2-22-11 at 159-60 (Kaliski).

69 LMG Brief at 69.

70 Exh. Pet.-KHK-2 at 25, 30-31; Kaliski reb. at 19-24.

71 LMG Brief at 71-73; Albany Brief at 34-37, 39-52.

United States and abroad,"[72] and "implements the only current international standard for sound propagation, ISO 9613."[73] In a calibration study, the modeled sound level at the Project site was, on average, 4.8 dB higher than the monitored level, rendering the model extremely conservative.[74] The Swedish model supported by LMG[75] was designed for off-shore facilities, where there is far less sound attenuation away from the source and is not supported under the Swedish guidelines for use in terrestrial environments.[76]

5. LMG claims that Mr. Kaliski's model did not analyze the worst-case scenario -- a severe temperature inversion.[77] This is incorrect; he modeled for all stability classes.[78]
6. Although Albany engages in a lengthy criticism of the CONCAWE meteorological adjustments built into the Cadna/A software, the adjustments were conservative, because "along with the nonspectral ground attenuation [they] consistently overestimated monitored sound levels."[79]
7. LMG claims that its three proposed standards are "consistent with the testimony of...hundreds of experts from around the world."[80] The basis for this claim consists of Mr. Blomberg's statement that some unknown number of experts agreed that "they would not want to live with wind turbine levels of 45 dBA," but they "were not surveyed to determine which level would be acceptable to them," including the levels proposed by LMG.[81] There is no indication that these experts' opinions were based on an objective evaluation of health-related data, or whether they reflect issues of cost and feasibility, which must be taken into account in setting a standard.

For these reasons, LMG's and Albany's noise-related claims should be rejected.

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72 Exh. Pet.-KHK-2 at 25.

73 Kaliski reb. at 10.

74 Kaliski reb. at 10.

75 LMG Brief at 71.

76 Kaliski reb. at 17-18.

77 LMG Brief at 72.

78 Exh. Pet.-KHK-2 at 29; tr. 2-22-11 at 34-35 (Kaliski).

79 Exh. ALB-Cross-18 at 13.

80 LMG Brief at 65.

81 Blomberg pf. at 13.

## II. THE PROJECT WILL NOT RESULT IN AN UNDUE ADVERSE IMPACT ON AESTHETICS

### A. The Project's Societal Benefits Should Be Reflected in the Quechee Analysis

Although the individual elements of the Quechee analysis are addressed below, it is important to first address claims relating to the analysis used in reaching a determination as to whether the Project has an undue adverse effect on aesthetics. 30 V.S.A. § 248(b)(5). The Department concludes that the Project "will have an undue adverse impact on a small but significant number of people."[82] Its conclusion is based on Mr. Kane's testimony that persons in and around Bayley Hazen Road will be shocked and offended and therefore the Project "has an undue adverse aesthetic impact on people in this area."[83] The Department further concludes, however, that the overall societal benefits of the Project outweigh those impacts,"[84] relying on the Board's analysis in the East Haven Order.[85]

Albany claims that as a result of Mr. Kane's testimony, "a permit may not be issued pursuant to 30 V.S.A. § 248(b)(5)."[86] According to Albany, Mr. Kane's conclusion of undue adverse aesthetic impact must be considered binding and, consequently, Section 248(b)(5) precludes the type of balancing reflected in the Department's analysis.[87] Similarly, LMG claims that "since the project was repeatedly found to have an undue adverse effect on aesthetics,"

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82 Department Brief at 17. The Department states that the number of affected homes "could be as high as 120," whereas the Petitioners claim the number is approximately 20. Department Brief at 19; Petitioners' Brief at 6-7. In either case, the number of affected homes is very small relative to the entire Project area.

83 Department Brief at 25. Its later statement that the "wind project...will have an undue adverse aesthetic impact," Department Brief at 26, is merely a truncated paraphrase of its earlier conclusions that the impact affects a limited number of people, since it is not based on any additional analysis.

84 Department Brief at 17, 26.

85 *Petition of EMDC*, Docket No. 6911 (Vt. Pub. Serv. Bd. July 17, 2006) ("East Haven Order") at 103, n. 125.

86 Albany Brief at 72.
Albany also claims that Mr. Lamont's conclusion, reflecting the balancing described above, reflected a "baseless change in position" in a "desperate attempt by the Department to appease the Governor." Albany Brief at 96. This is not the only example of Albany's counsel's zealous representation of his client. He characterized Mr. Raphael's testimony as "wholly misguided," containing "imprudent manipulations," "twisted," "ridiculous," "alarming," "preposterous," "specious," "deceptive and unreliable," and "incredibly biased and misleading." Albany Brief at 70, 71, 74, 76, 82, 83. Not to be outdone, GMC's counsel stated that Mr. Raphael's testimony "substantially misrepresented the views," "misled the reader," and "severely understated the impacts," and was "flawed," "skewed," and "laced." GMC Brief at 26, 49, 61.

87 Albany Brief at 97.

approval can be granted "only if the adverse effects were somehow ameliorated so as to no longer be 'undue.'"[88]

These claims do not warrant rejection of the Project, for three reasons. First, as a general principle of administrative law and notwithstanding Albany's and LMG's claims, the Department's testimony does not constitute Board findings nor is it otherwise binding on the Board. The Board is free to reject any testimony that it does not find credible.[89] As a result, it is free to apply the Department's balancing analysis to the determination of whether the adverse aesthetic effect is undue.

Second, the Department concluded that the Project has an undue adverse impact "on the people in [the Bayley Hazen Road] area"; it did not conclude that the Project overall had such an impact.[90] Nothing requires the Board to determine that a Project as a whole is shocking or offensive, and has an undue adverse impact on aesthetics, merely because it is shocking and offensive within a limited area.[91] Otherwise no project could be approved if it were shocking and offensive from a single viewpoint, no matter how small a portion of the project area it represents. Because the shocking and offensive conclusion is limited to a small area, there is ample basis for the Board to conclude that the aesthetics criterion is met without the need for any balancing.

Finally, LMG and Albany's arguments reflect an exercise in semantics rather than substance. The Department's conclusion is clearly based on the Board's East Haven analysis.[92] That analysis and the earlier analysis in the Board's Northern Loop Order,[93] reflect the fact that the Board's determination of whether a project is shocking or offensive, or fails to meet another

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88 LMG Brief at 58.

89 3 V.S.A. § 810; *Vermont Electric Power Co., Inc. v. Bandel*, 135 Vt. 141, 147 (1977).

90 Department Brief at 17, 25.

91 *Petition of Vermont Electric Company, Inc.*, Docket No. 7373 (Vt. Pub. Serv. Bd. Feb. 11, 2009) ("Southern Loop Order") at 101 ("[E]ven with the best mitigation efforts, a transmission project of this magnitude could well create views at some locations that reasonable people may find visually shocking or offensive or violate community standards.").

92 Department Brief at 25-26.

93 *Joint Petition of Vermont Electric Power Co., Inc.*, Docket No. 6792 (Vt. Pub. Serv. Bd. July 17, 2003) ("Northern Loop Order") at 28.

Quechee test associated with the issue of undue adverse effect, can be informed by societal benefits.[94] The claim that the Project must be denied because the Department applied its balancing to the ultimate issue of undue adverse effect, rather than to the subordinate issue of shocking and offensive, ignores the essence of the Department's analysis and elevates form over substance.

GMC and Albany also claim that Mr. Raphael improperly balanced societal benefits in arriving at his conclusion that the Project would not have an undue adverse impact on aesthetics, because his report is replete with descriptions of the benefits of wind.[95] They are incorrect. Rather than addressing the societal test, his descriptions relate to the other aspects of the Quechee and other analyses, including (1) whether the Project is compatible with its surroundings, including references to other renewable projects,[96] (2) recognition that, as a practical matter, wind projects must be sited on ridgelines,[97] (3) whether the Project is shocking and offensive to the average person, including public opinion towards wind,[98] and (4) orderly development, including the NVDA plans advocacy in favor of renewable investment.[99] Mr. Raphael testified unequivocally, moreover, that he did not take into consideration the fact that the Project "provides energy benefits to Green Mountain Power."[100]

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94 *Id.*; East Haven Order at 103, n. 125. In this regard, the Board's analysis in addressing whether a project has an undue adverse aesthetic impact is not restricted to the analysis employed under Act 250. Instead it merely must give "due consideration" to the Act 250 criteria. 30 V.S.A. § 248(b)(5).

95 GMC Brief at 25, 49, 60; Albany Brief at 82.

96 Exh. Pet.-DR-2 at 17-18.

97 Exh. Pet.-DR2- at 48. As the Board stated, "if the state is to develop wind generation as a renewable resource, these types of projects must be located at these very visible, high locations to capture sufficient wind energy to make them viable economically." *Petition of Green Mountain Power Corp.*, Docket No. 5823 (Vt. Pub. Serv. Bd. May 16, 1996) ("Searsburg Order") at 28.

98 Exh. Pet.-DR-2 at 53-60.

99 Exh. Pet.-DR-2 at 68-69.

100 Tr. 2-8-11 at 67 (Raphael).

### B. The Quechee Analysis Supports a Conclusion that Visual Aspects of the Project Have No Undue Adverse Impact on Aesthetics

There are several substantive aspects of the parties' Quechee analysis that also require response. The Department proposes a condition that the Obstacle Collision Avoidance System ("OCAS") "must be installed prior to operation."[101] Similarly, GMC requests the Board to "require implementation of the OCAS system."[102] The evidence does not support this proposed condition. Mr. Kane testified that the Petitioners had "taken generally available mitigating steps," which included installation of OCAS, based on the assumption that the Petitioners had "agreed to include such a system as a condition of approval."[103] In fact, Mr. Pughe testified that GMP was seeking to install OCAS, but that there was no assurance it would be installed since it had not yet been approved by the FAA.[104] Ms. Vissering stated that the Project could meet the aesthetics criterion without OCAS if there were other acceptable mitigation, such as additional off-site mitigation or revegetation.[105] Although the Petitioners are aggressively pursuing OCAS, if it is not permitted by the FAA, the Board should provide the Petitioners with an opportunity to pursue other forms of mitigation, rather than rejecting the Project.

GMC claims that the Project violates a clear, written community standard because the Petitioners did not submit a comprehensive decommissioning plan, despite the alleged requirement to do so under the NVDA Plan.[106] There is no basis, however, for concluding that the plan proposed by the Petitioners in their filing[107] fails to meet the NVDA's definition of comprehensive (whatever it is). More importantly, rejecting a Section 248 project on the basis of a prescriptive requirement in a regional plan, as with a similar zoning requirement, would

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101 Department Brief at 26.

102 GMC Brief at 5.

103 Kane surreb. at 11.

104 Pughe reb. at 5.

105 Tr. 2-9-11 at 119-21 (Vissering). This type of mitigation is precisely what will be accomplished under the ANR Stipulation, Exh. GMP-ANR-1, and it is therefore ironic that GMC devotes large portions of its brief claiming that these efforts are inadequate. GMC Brief at 3, 31, 56-59.

106 GMC Brief at 62-63.

107 Exh. Pet.-CP-6.

conflict with the requirement that these types of enactments are advisory rather than controlling.[108]

Albany criticizes Mr. Raphael's statement that persons boating on Little Hosmer Pond could avoid any adverse view of the Project by using other portions of the pond.[109] Mr. Raphael's statement, however, merely reflects the underlying principle that the issue of undue adverse impact depends in part on the proportion of all views that are unduly adverse.[110] Albany's extensive response to Mr. Raphael's statement that roads should not be considered significant public vantage points unless designated as scenic roads is a tempest in a tea pot.[111] Because the term "significant" has no specialized meaning in this context, the issue merely reflects a disagreement as to the extent to which road-based viewpoints should contribute to the ultimate aesthetic determination. In any event, Mr. Raphael addressed road views extensively in his report.[112]

For these reasons, the Board should reject claims that the Project will have an undue adverse impact on aesthetics.

## III. THE PROJECT WILL NOT RESULT IN AN UNDUE ADVERSE EFFECT ON THE NATURAL ENVIRONMENT

As a result of the Petitioners' extensive mitigation efforts, and the ANR MOU and the Bird and Bat MOU, the record in this case demonstrates that the Project will not result in an undue adverse effect on the natural environment. The Board should reject parties' claims to the contrary because they misinterpret the record and Board precedent.

### A. The Board Should Reject Claims by GMC, LMG and Albany that the Terms of the ANR MOU Are Inadequate

LMG claims that (1) the ANR MOU does not address ANR's concerns (based largely on testimony provided prior to the MOU), (2) the ANR MOU does not adequately address wetlands

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108 Petitioners' Brief at 2, n. 4.

109 Albany Brief at 73-74.

110 *See* Southern Loop Order at 101.

111 Albany Brief at 74-77.

112 Exh. Pet.-DR-2 at App. 5 (numerous photographs from roads), App. 7 ("View from the Road").

issues and (3) the Petitioners should be required to specify a funding source for enforcement of ANR MOU obligations.[113] GMC claims that the ANR MOU is inadequate, because it (1) does not require permanent conservation of the entire ridgeline,[114] (2) does not provide for the revegetation of the access road or the associated stormwater management system,[115] and (3) is merely a "framework" worked out in a "fast and frantic manner" over a few days.[116] Albany complains that the ANR MOU (1) does not protect the Montane Spruce-Fir and Montane Yellow Birch-Red Spruce Forests, (2) does not address all of ANR's concerns regarding project habitat and fragmentation impacts, (3) does not permanently conserve the entire ridgeline, and (4) does not address every detail of the conservation easements to be acquired.[117] Each of these criticisms should be rejected, for the reasons set forth below.

According to LMG, ANR witness John Austin testified that, "there will be significant and profound fragmentation effects from a project of this scale,"[118] and "[i]f permitted, the project will displace black bears from necessary Bear Scarred Beach [sic] ("BSB") habitat."[119] Mr. Austin's February 7 testimony, however, reflected the level of proposed mitigation prior to the ANR MOU. The ANR MOU states that "provided the mitigation outlined in this Stipulation is implemented and applied, the Project will not result in an undue adverse effect on black bear scarred beech habitat, state significant natural communities, and the natural environment effects caused by the fragmenting effects of the Project."[120] The ANR MOU includes significant concessions in response to the ANR concerns raised in Eric Sorenson's surrebuttal testimony, at a projected incremental cost of approximately $.0014/kWh.[121] While Mr. Sorenson conceded

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113 LMG Brief at 10-22.

114 GMC Brief at 67.

115 GMC Brief at 3,6.

116 GMC Brief at 55.

117 Albany Brief at 98-101.

118 LMG Brief at 10.

119 LMG Brief at 14.

120 Exh. GMP-ANR-1 at 1.

121 Corresp. B. Marks to S. Hudson dated March 24, 2011 (consisting of estimates of ANR MOU costs and stating that Petitioners have no objection to admission of this information into the record).

that the ANR MOU involved compromises, he made clear that the six major concerns identified in his surrebuttal testimony had been addressed[122] and that while he viewed project impacts as adverse, they would not be unduly adverse as a result of the ANR MOU.[123] Thus, the ANR MOU adequately addresses ANR's bear habitat and fragmentation concerns.

LMG also claims that the Petitioners "have not proposed any mitigation that preserves wetlands comparable to those that would be destroyed by the project, and the ANR/GMP MOU does not alter the originally proposed mitigation plan relative to wetlands."[124] This is incorrect. The map attached as Exhibit A to the ANR MOU[125] identifies additional high elevation wetlands that will be conserved, in the area of overlap between proposed mitigation parcels 2 and 4, near the ridgeline to the northwest of Turbine 16. As set forth in the ANR MOU, moreover, mitigation parcel 2 will be subject to a permanent conservation easement.[126] The ANR MOU thus does provide for conservation of additional high-elevation wetlands that were not part of Petitioners' original mitigation proposal.

LMG also complains that "[t]he GMP/ANR MOU does not provide any funding source for enforcement of the contemplated easements, nor is any stewardship plan included to ensure compliance with any Conservation Easements."[127] Yet ANR routinely enters into settlement agreements with utilities in contested cases before the Board without specifying the source of enforcement funding.[128] In addition, Certificates of Public Good ("CPG") routinely contain a

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122 Tr. 2-24-11 at 205 (Sorenson).

123 Tr. 2-24-11 at 195 (Sorenson).

124 LMG Brief at 14 (citing Tr. 2-24-11 at 155 (Morrison)).

125 Exh. GMP-ANR-1. An updated version of this map showing water resources included at LMG's request was filed on March 10, 2011.

126 Exh. GMP-ANR-1 at 4.

127 LMG Brief at 11.

128 No funding sources were referenced in the Board's description of ANR agreements in the following cases: *In re Petition of Vermont Transco LLC*, Docket No. 7460 (Vt. Pub. Serv. Bd. Nov. 23, 2007) at 35-39, 50-51 (Exh. GO/JC-11 (ANR MOU)); *Petition of Vermont Transco LLC*, Docket No. 7314 (Vt. Pub. Serv. Bd. May 29, 2008) at 56 (Exh. ANR-RP-REB 1 (ANR MOU)); *see also Petition of Green Mountain Power*, Docket No. 7601 (Vt. Pub. Serv. Bd. May 4, 2010) at 17.

condition requiring petitioners to comply with the conditions of all permits related to a particular project.[129] Utilities are subject to sanctions if they do not comply with the CPG conditions.[130]

GMC claims that the ANR MOU must require permanent conservation of the entire ridgeline following project decommissioning to avoid an adverse effect on the Long Trail. There is no support in the record for this claim. The Petitioners' commitments, including the ANR MOU, address the majority of the mitigation steps identified in Ms. Vissering's direct and surrebuttal testimony: road slopes will be covered in organic material following project construction, the crane path will be subject to deep-ripping, the central portion of the ridgeline will be subject to easements prohibiting residential development, the Petitioners will fund off-site conservation of land specifically benefiting GMC, and the Petitioners are aggressively pursuing the OCAS system.[131] In addition, the portions of the ridgeline about which GMC complains still will be subject to remediation,[132] and will not be subject to significant development pressure because the crane path will be removed after decommissioning.

GMC complains that the access road and stormwater treatment practices will not be revegetated upon decommissioning.[133] Revegetation, however, would interfere with the landowner's right to use the access road for his own purposes, including logging, following decommissioning.

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129 *See, e.g.*, Deerfield Order at 97.

130 *See, e.g.*, *In re Petitions of VELCO and GMP*, Docket No. 6860 (Vt. Pub. Serv. Bd. July 13, 2010) at 7.

131 *See* Vissering pf. at 18; GMP-ANR 1 at 11 (5. Revegetation following construction); Vissering pf. at 19, GMP-ANR 1 at 9 (4.1 Deep-ripping/scarification of the crane path); Vissering surreb. at 8-9; GMP-ANR at 7 (residential development/3.1.2 prohibition of future development other than telecom or renewable energy); Vissering pf. at 19; Dostis reb. at 2-3 (off-site mitigation, Villeneuve parcel conservation reimbursement); Vissering surreb. at 7, 10; Pughe reb. at 5 (night lighting/aggressive pursuit of OCAS).

132 *See* GMP-ANR-1, § 4.10 ("GMP agrees to work in good faith with ANR at the time of decommissioning to provide appropriate enhancements to restoration activities on non-Landowner ridgeline properties as these areas are indicated in Exhibit A (those ridgeline crane path and turbine pad areas that are not included in the Parcel 4 easement area). The goal for these enhancements is to prudently facilitate the return of the ridgeline to a natural and undeveloped condition.").

133 GMC Brief at 3, 6.

GMC's characterization of the ANR MOU, as reflecting only a framework negotiated very quickly, does not provide a basis for its rejection. In addition, any implication of surprise concerning the introduction of the ANR MOU is not persuasive.[134]

Albany's claims that the ANR MOU does not adequately address natural resource issues are beyond the scope of its intervention. The towns of Albany and Craftsbury were granted intervention regarding 248(b)(5) only with respect to Project impacts within those towns.[135] Because the entire Project is being constructed within the Town of Lowell and because Albany's ANR MOU criticisms do not concern Project natural resource impacts within Albany or Craftsbury, their arguments concerning the ANR MOU should be disregarded. In addition, the substance of many of their concerns has been addressed above.

### B. The ANR MOU Does Not Result in Excessive Delegation of the Board's Authority

LMG claims that if the ANR MOU is approved, the Board will be delegating its 30 V.S.A. § 248 responsibilities to ANR.[136] The Board should reject this claim for three reasons. First, almost all the specific plans developed under the ANR MOU must be filed with the parties for comment and the Board for approval.[137] Second, LMG cites no legal principle or precedent

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134 The ANR MOU was the result of extended negotiations, the fact of which was described to the parties. For instance, John Austin's October 22, 2010 direct testimony stated that he had "met with the Petitioner and their consulting experts on numerous occasions to discuss the results of their bird and other wildlife surveys [and] participated in 2 site visits with the Petitioner and their consulting experts." Austin pf. at 6. Similarly, Eric Sorenson's January 12, 2011 surrebuttal testimony notes "productive discussions" and "meaningful revisions" made by the Petitioners in response to ANR's concerns. Sorenson surreb. at 12.

135 *See In re Petition of Green Mountain Power*, Docket No. 7628 (Vt. Pub. Serv. Bd. Sept. 3, 2010) ("Intervention Order") at 15, 16 (limiting Albany and Craftsbury's participation in this docket on 30 V.S.A. § 248(b)(5) to environmental impacts within the respective towns).

136 LMG Brief at 19, 44.

137 The ANR MOU specifically provides for Board approval of the forestry and wildlife habitat management plans for parcels 1, 2, and 4, the site restoration plan, the decommissioning revegetation plan, the non-native species monitoring plan, the ridgeline restoration monitoring and management plan, and the site access plan. The details of the Serpentine Rock Outcrop management plan are addressed in Mr. Sorenson's testimony. Only the management of parcel 3, the connectivity easement(s), the post-construction revegetation plan, the stormwater management features plan, and the invasive species management plan are not subject to Board approval. GMP-ANR-1. These plans largely address details or must reflect criteria already described in evidence. For instance, the Serpentine Rock Outcrop Management Plan will be in accordance with the testimony of Eric Sorenson.

in support of its claim that the few plans not requiring Board approval result in excessive delegation. The Board routinely conditions its determination of compliance with Section 248 criteria upon a requirement to obtain approval for certain actions from other agencies with the specialized expertise to assure that any impacts are adequately addressed. These include stormwater permits from ANR, transportation permits from the Agency of Transportation, and approvals from the FAA.[138] In fact, Act 250 expressly permits determination of compliance with various criteria based upon issuance of collateral permits.[139] Third, nothing in the ANR MOU purports to deprive the Board of any authority to oversee the Petitioners' compliance with the terms of a CPG. As a result, the Board will not have delegated its decision-making authority.

## IV. THE PROJECT DOES NOT REQUIRE ADDITIONAL SETBACKS TO OPERATE SAFELY

### A. The Petitioners Demonstrated that the Project Will Be Constructed, Operated and Maintained in a Manner That Limits Risk of Ice Throw, Ice Drop, Turbine Failure and Tower failure to Acceptable Levels

Several parties argue that the Board should impose additional setbacks to protect the public and/or private landowners from the risks of ice throw, ice drop and turbine collapse.[140] The Board should reject these arguments for the following reasons.

Although ice may form on and be thrown by wind turbines,[141] icing conditions and the risks associated with them are well understood in the wind industry, and ice throw risk is reduced to an acceptable level by implementing the correct operating protocol.[142] In particular, Petitioners have committed to maintain a 60 meter distance between the base of each turbine tower and the boundary of each non-participating property, and to implement a winter operating

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Because the parties have had an opportunity to review Mr. Sorenson's rebuttal regarding the Serpentine Outcrop and to cross-examine him, no further review or comment is required.

138 *E.g.*, Sheffield Order at 99, 102.

139 10 V.S.A. § 6086(d).

140 Day Brief at 7; Nelson Brief at 6; Albany Brief at 105-06

141 Zimmerman pf. at 13-14.

142 Exh. Pet.-ML-3 at 16-17.

protocol requiring operator or automatic system shut down of the wind turbines in the event of icing and when extreme weather conditions present unsafe conditions for the general public.[143] The protocol will require that turbines which present a safety risk to the public are to be placed in Pause mode under one or more of the following circumstances:

1. Installed ice monitoring device(s) and heated wind sensors (installation subject to reliability testing) to detect if unsafe conditions are present due to icing conditions;
2. Ice accretion is recognized by the remote or on site operator;
3. Air temperature, relative humidity and other meteorological conditions at the site are conducive to ice formation;
4. Air temperature is several degrees above 0 degrees C after icing conditions; and
5. Any other weather conditions which appear unsafe.[144]

Without the operating protocol, the probability of fragment strike per square meter at 60 meters is approximately once in 65,000 years, and assuming 25 days of icing per year, this amounts to an individual risk for a stationary person present for all icing events located at 60 meters of the turbine base of once in ten years.[145] With the operating protocol, there is "no risk of ice fragments being thrown from an operating rotor."[146] As a result, the dangers posed by ice throw are minimal, based on the Petitioners' commitment of a 60 meter separation and implementation of the operating protocol.[147]

The risk of a fragment strike related to ice drop per square meter beyond the 60 meter distance is once in 938,000 years.[148] As the Board has stated in prior cases, it "does not need to find that the proposed Project would present no risks. It would be impossible to make such a finding for any project."[149]

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143 Petitioners' Proposed Decision at 85.

144 Exh. Pet.-ML-3 at 6.

145 Petitioners' Proposed Decision at 29.

146 Exh. Pet.-ML-3 at 17 (Revised). Mr. LeBlanc testified that use of the protocol would render ice throw risk virtually impossible, "akin to "being hit by a meteorite." Tr. 2-10-11 at 214, 215 (LeBlanc).

147 Petitioners' Brief at 31; Exh. Pet.-ML-3 at 6; Tr. 2-10-11 at 214-15 (LeBlanc).

148 Exh. Pet.-ML-3 at 11, 17 (Revised).

149 East Haven Order at 32.

Blade failure and turbine collapse are also rare events.[150] The risk of a turbine blade failure is very low, "almost certainly on a par with natural hazards."[151] Provided that the Project turbines meet the appropriate certification requirements,[152] the risk of tower collapse is lower than the probability of a blade failure,[153] and has been quantified to be one in 7,700 turbines per year.[154] Because all of the turbine models being considered by Petitioners meet these certification requirements, the risk of collapse is extremely low.

In addressing the parties' setback claims, it is also important to recognize the remote nature of the Project area. The closest year-round single family residence is approximately .67 miles away, the closest non-participating camp is approximately 2,118 feet away,[155] and there is no record evidence of regular, on-going activity in the immediate vicinity of the Project.

For the foregoing reasons, intervenors' requests that the Board impose setbacks to mitigate safety risks should be rejected.

### B. There is No Basis for Adopting the Setback Proposals of the Other Parties

In contrast to the Petitioners' evidence on the issue, none of the other parties sponsored any expert testimony concerning the risks of ice throw, ice drop or tower failure. The Nelsons and Bonnie Day do not cite testimony other than from the Petitioners' witnesses. The only other testimony referenced by Albany is from LMG's witness Blomberg, who has no expertise in this area.[156]

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150 Mr. LeBlanc testified that he was aware of only one or two instances of tower failure and only two or three instances of blade failure in his ten-year career. Tr. 2-10-22 at 209-10 (LeBlanc).

151 Exh. Pet.-ML-4 at 6.

152 International Electrotechnical Commission ("IEC") 61400-1 or IEC WT01:2001 certification requirements.

153 Exh. Pet.-ML-4 at 6.

154 Exh. Pet.-ML-4 at 3. The exhibit also references a Washington State study identifying the risk at one in one million at 150 meters. *Id.* at 6.

155 Exh. Pet.-DR-2 at 21; Corresp. P. Zamore to S. Hudson dated March 10, 2011 (identifying revised distance to Stackpole camp and stating that Petitioners have no objection to admission of this information into the record).

156 Albany Brief at 105; Exh. LMG-LB-1.

The Nelsons claim that the Petitioners' witness admits that as designed, GMP's Project will not meet safety setbacks.[157] The testimony cited does not support this claim.[158]

Albany argues[159] that "the risk of being hit by ice...can be made to be zero if the turbines are sited with a proper setback," which it claims is 700 feet, based on a distance of 1.5 times hub height and rotor diameter.[160] Albany's proposed setback requirement is purportedly based on a generic standard contained in a generic GE Energy document entitled "Setback Considerations for Wind Energy Turbine Siting" ("GE Guidelines").[161] In fact, the Petitioners' 60 meter commitment is largely consistent with the GE Guidelines.[162] More importantly, the guidelines do not constitute absolute requirements, but instead provide that "[o]bjects of concern within the recommended setback distance may not create a safety risk, but warrant further analysis."[163] That analysis was provided by Mr. LeBlanc in this case. Simply put, there is no substantial evidence that would support rejection of the Petitioners' proposed 60 meter commitment.

It is important that the Board base its decision on the risk-based evidence in this case, rather than imposing a "cookie-cutter" set of requirements, such as those typified by local zoning

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157 Nelson Brief at 6.

158 In the cited testimony, Mr. LeBlanc (1) stated he was unaware of the distance to nonparticipating boundaries, (2) risks could be eliminated with sufficient distance to those boundaries and (3) the proposed operating protocol will minimize risks to nonparticipating properties. Tr. 2-10-11 at 201-02, 213-14 (LeBlanc).

159 As with its natural resources claims, Albany's setback arguments are beyond the scope of its intervention. It has not demonstrated that ice throw, ice drop or turbine tower failure have any impact within the boundaries of Albany or Craftsbury, as required by the Board's order on intervention. Intervention Order at 15, 16.

160 Albany Brief at 105-06.

161 Albany Brief at 105-06; Exh. LMG-LB-13; Blomberg surreb. at 35-36. Mr. Blomberg's testimony also cites a document published by the New York State Energy Research & Development Authority ("NYSERDA") entitled Public Health and Safety. Exh. LMG-LB-14. That documents states that "[n]o injuries have been reported as a result of ice throws," and does not propose setback requirement but instead merely refers to a single United Kingdom study and several municipal and county ordinances. *Id.* at 5-8.

162 The guidelines identify three categories of concern, two of which are inapplicable because they involve public use areas, residences, public buildings, public transport infrastructure or sensitive above-ground services ("[s]ervices that if damaged could result in significant hazard to people or the environment or extended loss of services to a significant population") within the setback distance. Exh. LMG-LB-13 at 5. The Petitioners' commitment is largely consistent with the setback distance for the third category, involving no occupied structures and only a remote chance of development of inhabitance during the project life. Exh. LMG-LB-13 at 5. The setback recommendation is 1.1 x blade length (1/2 rotor diameter). This results in a maximum setback for the project of 61.6 meters (112 meter rotor diameter/2 x 1.1). Pughe reb. at 2.

163 Exh. LMG-LB-13 at 5.

ordinances. Any assessment of the risks associated with ice throw, ice drop or turbine tower failure must take into account not only the size of the proposed turbines, but also other risk-related factors specific to this Project, including frequency of icing conditions, wind levels, operating protocols and probability of public presence.[164] As Mr. LeBlanc testified in addressing whether it is "reasonable to have setbacks to prevent ice throw damage," "[e]ach situation is different. ... People would like to have a rule of thumb, but there really isn't any."[165]

Property line setback requirements contained in municipal zoning ordinances, such as those referenced in the Georgia Order,[166] are based entirely on the size of the proposed turbines, without any consideration of the risk-based factors specific to a particular project. This type of generic, prescriptive regulation may be appropriate in the context of municipal legislation, agency rules or permits not requiring substantial agency discretion and judgment, where the effect is entirely prospective and developers have the ability to design projects in a way that meets the applicable requirements. Retroactive application of generic, prescriptive requirements to this Project, on the other hand, would be patently unfair and contrary to the Petitioners' legitimate expectations.[167]

For all the above reasons, the Petitioners' commitment to a 60 meter distance to nonparticipating property lines adequately addresses the risks of ice throw, ice drop and turbine tower failure, and the Board should reject the parties' request for setback requirements.

## V. THE PROJECT WILL NOT HAVE AN UNDUE ADVERSE EFFECT ON HISTORIC SITES

LMG alleges that Petitioners have failed to establish that the Project will not cause an undue adverse impact on historic sites. Specifically, LMG contends that Ms. Pritchett's

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164 Exh. Pet.-ML-3 at 5.

165 Tr. 2-10-11 at 202 (LeBlanc).

166 Georgia Order at 33.

167 None of the Board wind decisions issued prior to the May 21, 2010 petition in this case suggested that these risk issues would be decided by reference to generic requirements, such as municipal ordinances, that are prospectively-applicable. In addition, the Petitioners have little flexibility to relocate the turbines in a manner that would substantially increase the distance to nonparticipating property boundaries, without substantially (if not fatally) undermining the economic viability of the project. Pughe reb. at 8.

evaluation: (1) was incomplete because it failed to consider a camp on Lake Eden where the poet Garcia Lorca once stayed; and (2) did not analyze whether noise from the Project will create an acceptable impact on historic sites.[168] LMG is incorrect on both counts.

First, Ms. Pritchett's review of historic resources was thorough and complete. There was no requirement to consider the camp visited by Mr. Lorca because it does not qualify as a historic resource under 10 V.S.A. § 6000(9). There is no evidence of the camp's inclusion on the National or Vermont Registers of Historic Places. Nor has there been any testimony as to the camp's historic significance by the Vermont Advisory Council on Historic Preservation.[169] Moreover, the Board declined to admit evidence of Lorca's stay at the camp, or his poem about Eden into the record.[170] LMG's request that the Board make findings on this information is therefore unsupportable.[171]

Second, Ms. Pritchett properly analyzed the impact of noise from the Project. Her report expressly concludes that the Project will not introduce new audible elements to historic sites that are incongruous or incompatible with the sites' historic qualities.[172] Ms. Pritchett testified that this conclusion was based on her review of the noise analysis submitted by Petitioners, as well as discussions with colleagues.[173] LMG's claim that "Ms. Pritchett concedes that she did not conduct any analysis regarding audible elements as required by *Middlebury*"[174] is thus not supported by the record.

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168 LMG Brief at 60-66. The Nelsons made a similar argument in their brief. Nelson Brief at 14.

169 There is no evidence that the camp in question is one of the four properties that make up the Eden Historic Camp District—the only historic properties which Ms. Pritchett found could be impacted by the Project. *See* Tr. 2-9-11 at 11-12 (Pritchett). Even it were, Ms. Pritchett's ultimate conclusion was that the properties in that District did not have the potential for an adverse effect from the Project. Exh. Pet.-LP-1 at 17. As Ms. Pritchett testified during cross-examination, the fact that Lorca stayed at the camp would not have affected her conclusions. Tr. 2-9-11 at 12 (Pritchett).

170 Tr. 2-9-11 at 18-19.

171 3 V.S.A. § 801(g) (under Vermont law, findings of fact must "be based exclusively on the evidence and on matters officially noticed").

172 Exh. Pet.-LP-1 at 19.

173 Tr. 2-9-11 at 24-25 (Pritchett).

174 LMG Brief at 64.

LMG also makes much of the fact that Ms. Pritchett was unaware that one of the proposed turbine models would violate the Board's noise standard if not operated in NRO mode.[175] This is a red herring. Petitioners will operate the Project in compliance with the noise standard adopted by the Board. This is sufficient to obviate any potentially adverse noise impacts to historic sites. The Board addressed the same conclusion in *Georgia*. The Board found that any potentially adverse noise impacts on an historic site located 1.1 miles from the Project, would be mitigated by the Board's noise standard,[176] notwithstanding the fact that the Project would be audible at the site.[177] The same conclusion is warranted here. Ms. Pritchett was entitled to, and did, rely on Petitioners' representation that they would comply with the Board's noise standard. That she was unaware that one of the turbine models could exceed the Board's noise standards if not operated in NRO mode does not make her analysis incomplete.[178]

## VI. THE PROJECT WILL NOT UNREASONABLY INTERFERE WITH THE ORDERLY DEVELOPMENT OF THE REGION

LMG contends that the Project will unreasonably interfere with the orderly development of the area.[179] LMG's claims largely consist of arguments adequately addressed in the Petitioners' Proposed Decision and Brief. Three points, however, require a response.

LMG refers to the Eden and Craftsbury Town Plans in support of its claims.[180] The Board has previously stated, however, that "[w]hile statements in the respective town plans of neighboring towns are useful in defining the concerns of the towns regarding development within their respective boundaries, ... they are not controlling of development within the region,

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175 LMG Brief at 64.

176 Georgia Order at 64.

177 Georgia Order at 61, 63.

178 Ms. Pritchett testified that if the Project were operated at higher noise levels than what she assumed, she might have changed her conclusion. Tr. 2-9-11 (Pritchett). Because GMP is not proposing to operate the turbines at higher noise levels, that scenario is not implicated.

179 LMG Brief at 39-42.

180 LMG Brief at 40-41.

or particularly, in other towns."[181] Because the Project is not sited within Eden or Craftsbury, therefore, their respective town plans are not properly considered under 248(b)(1).

LMG relies on the Vermont Supreme Court's decision in *In re Kisiel* to support its proposition that "[z]oning bylaws are designed to implement the town plan, and may provide meaning where the plan is ambiguous."[182] As with the clear, written community standard component of the Quechee test, however, zoning bylaws are inappropriate sources for evaluating interference with orderly development. Towns often grant variances on a case-by-case basis which undermines their status as a consistent statement of community policies. Zoning ordinances also do not apply to generation facilities subject to Section 248[183] and because they could mandate a particular outcome, their use as a community standard would conflict with the fact that municipal enactments are advisory rather than controlling. As with the clear, written community standard component of the Quechee test, however, zoning bylaws are inappropriate sources for evaluating interference with orderly development. Zoning ordinances also do not apply to generation facilities subject to Section 248, and because they could mandate a particular outcome, their use as a community standard would conflict with the fact that municipal enactments are advisory rather than controlling.[184]

LMG claims that it is inappropriate to consider the Lowell vote in favor of the Project, because it "subverts" the democratic process and is "potentially corrupt."[185] However, Lowell's significant voter turnout contradicts LMG's claim that only interested persons will vote and because the vote was not binding, it does not constitute an "end-run around the municipal planning process."[186] In addition, the Board has previously considered a town's non-binding

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181 Sheffield Order at 27; *see* Deerfield Order at 20.

182 LMG Brief at 39.

183 24 V.S.A. § 4413(b)

184 Georgia Order at 53; *City of South Burlington v. Vermont Electric Power Co., Inc.,* 133 Vt. 438, 447 (1975).

185 LMG Brief at 42.

186 LMG Brief at 42.

vote of support as evidence that a wind project will not unduly interfere with the orderly development of the region.[187]

For these reasons, the Board should reject LMG's claim that the Project unreasonably interferes with orderly development.

## VII. THE BOARD SHOULD REJECT THE PARTIES' REQUESTS FOR EXTENSIVE ADDITIONAL PROCEEDINGS

Albany and LMG request the Board to prohibit commencement of construction until several post-CPG issues are addressed and to require further evidentiary hearings to address post-CPG issues. In particular, Albany requests that no final CPG be issued until any stormwater appeals are resolved[188] and that commencement of construction be postponed until all easements required under the ANR MOU are obtained.[189] Albany and LMG also request that the Board require further evidentiary hearings (1) to review, among other things, the terms of collateral permits, review the location and terms of all mitigation easements, determine required setbacks, and determine whether the mitigation easements adequately address fragmentation, and (2) to determine whether the Petitioners have complied with all CPG conditions.[190]

The Petitioners submit that the process typically used by the Board to address post-CPG requirements should be implemented in this case. Among other things, all required collateral permits must be filed with the Board and compliance filings, such as the post-construction noise monitoring plan, should be filed for review by the parties and approval by the Board.[191] LMG and Albany haven't provided any justification for departing in this case from typical Board practice.

Their requests should also be rejected for a number of additional reasons. First, as noted above, natural resource issues are largely beyond the scope of Albany's intervention. As a result,

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187 Sheffield Order at 27; Deerfield Order at 20.

188 Albany Brief at 11.

189 Albany Brief at 102.

190 Albany Brief at 103; LMG Brief at 39.

191 *E.g.*, Deerfield Order at 97-102; Sheffield Order at 113-116; Georgia Order at 87-92.

their requests should be rejected. Second, there is no basis for postponing commencement of construction until all post-decision challenges have been addressed and resolved. To the extent the Petitioners receive all required collateral permits, they are entitled to proceed with the Project unless and until the effectiveness of any of those permits are stayed. To require otherwise would impose an automatic stay of a project that the Board has determined promotes the public good, merely due to a challenge by one of the parties, irrespective of the merits of that challenge.

Third, the request for hearings to determine the Petitioners' compliance with CPG conditions is impractical, to the extent they seek compliance with Board-approved requirements, as opposed to participation in Board review of plans required to be approved by the Board. For instance, requiring hearings on whether the project as built conforms to the final design would be highly inefficient.

Fourth, the request to prohibit construction until all mitigation easements are obtained is impractical and punitive. ANR and the Petitioners carefully crafted the deadlines for obtaining various mitigation parcels to assure they are obtained as quickly as possibly while avoiding unnecessary delays in commencement of construction. The fact that construction may commence before all details are known is a necessary consequence of that trade-off. It is no different than the trade-offs inherent in deadlines for compliance filings in prior wind cases. For instance, the requirement in Deerfield to conserve land to mitigate the impact on bear and bird habitat was not subject to a preconstruction deadline.[192] Other compliance filings, such as the construction and operation stormwater permits and the blasting plan, were required to be approved prior to commencement of activities those filings were designed to address.[193]

The Petitioners' proposed conditions are based on past Board practice, reflect the considerations identified above, and should be adopted.

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192 Deerfield Order at 98-99.

193 Deerfield Order at 97-102; Georgia Order at 87-92. The deadlines for compliance requirements identified in the Petitioners' Proposed Decision are consistent with the deadlines contained in these Orders, other than plans to address impacts on rare and irreplaceable areas and invasive species, and a transportation plan and related permits. Georgia Order at 88, 91. Unlike Georgia, however, in this case there are no outstanding issues with ANR concerning natural resource issues and the deadlines for these plans are based on the ANR MOU. With respect to transportation, Petitioners proposed a deadline linked to the impact that the plan addresses (i.e., overweight vehicles), and maintain that an earlier deadline will create unnecessary burdens.

## VIII. THE BOARD SHOULD REJECT OTHER REQUESTS BY THE PARTIES

In its brief, Albany contends that it is "concerned that the construction of this project will potentially have an undue adverse impact on emergency services in the town of Albany."[194] This is based on Albany's suggestion that the Project's construction activities "will impact the high altitude headwaters and wetlands in the project area in a manner that would disrupt the normal flow of water in the Shatney Brook."[195] Yet Albany has not demonstrated how the Project, which is largely on the other side of the Lowell Mountain ridge from the Shatney Brook, could interfere with the flow of water in the brook. The Board should reject Albany's request for pre- and post-CPG studies of Albany's hydrants, because there is no record evidence of any risk posed by the Project on the brook, no evidence of the brook's uses for the Town and no evidence of non-Project related risks to the brook.

The Department requests a condition that the Petitioners not sell renewable energy credits ("RECs") to more than one consumer nor make any claims regarding disaggregated attributes in any marketing or advertising if they have sold those disaggregated attributes.[196] This condition should be rejected. There is no need for the Board to impose claims-based conditions in a CPG in this case, because the Department's concerns with protecting consumers from misleading advertising and marketing of renewable products have broad implications and are more appropriately addressed in a comprehensive generic proceeding, such as retail sales labeling requirements pursuant to 30 V.S.A. § 209(f).[197]

This is especially important since the Department's position appears to be evolving. Its request to address the issue in the CPG appears to be at odds with its position in Docket No. 7533, where it proposed that, for non-Standard Offer SPEED programs and renewable generation

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194 Albany Craftsbury Brief at 107.

195 Albany Craftsbury Brief at 108.

196 Department Brief at 39.

197 9 V.S.A. §§ 2453(c), 2458(a); *see Petition of Brattleboro Carbon Harvest, LLC*, Docket No. 7614 (Vt. Pub. Serv. Bd. July 13, 2010) at 1 (Board declined to impose a similar condition); *Petition of Green Mountain Power Corp.*, Docket No. 7590 (Vt. Pub. Serv. Bd. May 13, 2010) (no claims-based conditions associated with the Board's approval of power purchase, including attributes).

projects generally, the Board should implement a policy regarding double-counting through a rule or order of general applicability.[198]

DDI claims that the Section 248 gives rise to serious constitutional issues, suggesting that the Board's power violate the separation of powers requirement and the Board's procedures are inadequate for the protection of property rights.[199] The separation of powers issue has been settled for almost a century.[200] The Board's procedures are based on the Vermont Administrative Procedure Act,[201] and DDI fails to identify a specific shortcoming in the Board's procedures, as required for a procedural due process claim.[202]

## CONCLUSION

For all the above reasons, the Board should find that the Project meets the criteria set forth in 30 V.S.A. § 248, promotes the general good of the state and should be approved.

Dated April 4, 2011 at Burlington, Vermont.

PETITIONERS GREEN MOUNTAIN POWER CORP., VERMONT ELECTRIC COOPERATIVE, INC., and VERMONT ELECTRIC POWER COMPANY, INC.

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198 Corresp. S. Hofmann to S. Hudson dated Sept. 15, 2010 at 2; Corresp. S. Hofmann to S. Hudson dated Oct. 12, 2010 at 2-3.

199 DDI Brief at 5-6.

200 *Sabre v. Rutland Railroad Co.*, 86 Vt. 347, 361-67 (1913).

201 3 V.S.A. Ch. 25.

202 *In re Vermont Health Services Corp.*, 155 Vt. 457, 460-61 (1990).