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February 20, 2009

By Hand Delivery

Mrs. Susan Hudson, Clerk
Vermont Public Service Board
112 State Street, Drawer 20
Montpelier, VT 05620-2701

Re: Docket No. 7250 – Deerfield Wind Project

Dear Mrs. Hudson:

On behalf of Petitioner Deerfield Wind, LLC, enclosed please find an original and eight copies of its post-hearing Reply Brief in the above-captioned matter. An electronic version is also being provided on the enclosed CD.

We look forward to the Board's review of the evidence and briefs and its decision in this matter. In that regard, as the Board is aware, the U.S. Forest Service has issued a Draft Environmental Impact Statement (EIS) for the Project and intends to issue the Final EIS after considering the Board's decision. In order to avoid any undue delays in the issuance of the Final EIS, Deerfield Wind respectfully requests that the Board issue its decision by mid-May, if possible.

Please let me know if you have any questions concerning the above.

Sincerely,

Andrew Raubvogel
SHEMS DUNKIEL KASSEL & SAUNDERS PLLC

Encl.

cc: Service List (hard copy only)

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STATE OF VERMONT
PUBLIC SERVICE BOARD

Docket No. 7250

Amended Petition of Deerfield Wind, LLC for a certificate of public good authorizing it to construct and operate 17 turbine, 34 to 35.7 MW wind generation facility, and associated transmission and interconnection facilities, on approximately 80 acres in the Green Mountain National Forest, located in Searsburg and Readsboro, Vermont, with 7 turbines to be placed on the east side of Route 8 on the same ridgeline as the existing GMP Searsburg wind facility (Eastern Project Area), and 10 turbines along the ridgeline to the west of Route 8 in the northwesterly orientation (Western Project Area)	))))))))))

CERTIFICATE OF SERVICE

I, Clara Cavitt, certify that on February 20, 2009, I forwarded copies of Deerfield Wind, LLC's *Post-Hearing Reply Brief* to the attached service list by first-class mail and e-mail as indicated below:

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Dated at Burlington, Vermont, February 20, 2009.

by: Clara Cavitt
Clara Cavitt

STATE OF VERMONT
PUBLIC SERVICE BOARD

Docket No. 7250

Amended Petition of Deerfield Wind, LLC for a certificate of public good authorizing it to construct and operate 17 turbine, 34 to 35.7 MW wind generation facility, and associated transmission and interconnection facilities, on approximately 80 acres in the Green Mountain National Forest, located in Searsburg and Readsboro, Vermont, with 7 turbines to be placed on the east side of Route 8 on the same ridgeline as the existing GMP Searsburg wind facility (Eastern Project Area), and 10 turbines along the ridgeline to the west of Route 8 in the northwesterly orientation (Western Project Area)	)

DEERFIELD WIND, LLC's

POST-HEARING REPLY BRIEF

February 20, 2009

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NOW COMES Deerfield Wind, LLC ("Deerfield Wind") and submits this post-hearing Reply Brief in response to the initial Briefs filed by other parties, concerning Deerfield Wind's Amended Petition to the Public Service Board ("Board") for a Certificate of Public Good ("CPG"), pursuant to 30 V.S.A. § 248(a), authorizing the construction and operation of a 30 MW wind generation facility, consisting of 15 wind turbines and associated transmission and interconnection facilities, in the Towns of Searsburg and Readsboro, Vermont, known as the Deerfield Wind Project ("Project").

I. INTRODUCTION

As should be readily apparent to the Board after reviewing all of the initial Briefs filed by the parties in this case, the only substantive issue in serious dispute at this point is the Project's potential impacts on the local bear population. All of the other issues raised by the parties, including noise, visual, property values, tourism, power purchase agreements, need for the Project, TV broadcast interference, decommissioning fund, and bird and bat mortality (among others) revolve around the sufficiency or interpretation of Deerfield Wind's studies or on the necessity and scope of CPG conditions. The other parties have not, however, put forth any affirmative and credible evidence to rebut Deerfield Wind's case-in-chief that the Project, as properly conditioned in the CPG, will meet the section 248 criteria. Deerfield Wind's initial Brief catalogued in great detail all of the affirmative evidence in this case concerning Project benefits and impacts, and this Reply Brief will not repeat those findings. Instead, the Reply Brief focuses on responding to the other parties where evidence has been ignored or misinterpreted, and on the wording of appropriate CPG conditions that resolve a number of the pending matters (e.g., the ISIS study, decommissioning fund, TV interference, and power contracts). *See* Appendix A (Deerfield Wind's Response to Other Parties' Proposed CPG Conditions) and Appendix B (Deerfield Wind's Proposed CPG Conditions).

With regard to impacts on bears, this case ultimately comes down to determining whether the Project's impact on a small percentage of bear-scarred beech trees in the region will have an undue adverse impact on the regional bear population, and if so, whether the Project's extensive public benefits outweigh that impact. This analysis must, of course, give "due consideration" to criterion 8(A) under Act 250, but the Board is not bound by its consideration of this criterion and ultimately may reach an independent determination on whether the Project's impacts are unduly adverse after considering all of the evidence in the record, including evidence on public benefits. "Due consideration" of criterion 8(A) raises several fundamental questions in this case: first, does the evidence before the Board show that the beech stands impacted by this project are "decisive" for the survival of the regional bear population? The project opponents have presented no credible, scientifically-based evidence in this proceeding that the reproductive success of bears in southern Vermont is tied to the availability of beech nuts in a manner that is "decisive" to the population's survival. In fact, the available data indicates that it is not. Moreover, the Project will remove only 1.3% of the bear-scarred beech ("BSB") in the area near the project, and thus will not "destroy or significantly imperil" the broad bear-scarred beech stands available to bears in this region.

Even if the Board were to disagree with Deerfield Wind on whether BSB in this region constitutes necessary wildlife habitat, the Board can and should still approve the Project through a fact-specific analysis under the criterion 8(A) sub-criteria. The evidence in this case demonstrates that the Project's benefits outweigh its impacts, that Deerfield Wind has taken all reasonable and feasible steps to reduce the impacts of the Project, and that Deerfield does not own or control any alternative sites for the Project. The project opponents have not presented evidence on any of the three sub-criteria that would compel a different conclusion. Indeed, ANR's chief witness on bears conceded he never even considered the project's benefits before testifying in this matter. On sub-criteria two and three, the project opponents did not identify any additional measures Deerfield Wind should have implemented on-site to reduce the Project's impacts, nor do they identify any alternative locations for the Project on lands owned or controlled by Deerfield Wind.

Notwithstanding the extensive research, field work, and resulting persuasive opinions of Deerfield Wind's experts that the Project will not pose undue adverse impacts to bears, in the interest of compromise Deerfield Wind has proposed a suite of on-site and off-site mitigation measures, including off-site habitat land conservation at an acreage ratio of 4:1 to the Project's direct take of BSB. ANR's position on off-site mitigation has been unclear and changing. ANR previously argued that the Project's impacts could not be mitigated, but it did not advance that argument in its initial brief. Now it argues only that the off-site mitigation Deerfield has proposed is inadequate because it does not account for indirect impacts that ANR alleges will occur. While the testimony of all the experts in this case makes abundantly clear that the exact extent of indirect impacts, if any, is uncertain, the available evidence indicates that operation of the Project will not result in any meaningful displacement of bears. Deerfield Wind has nonetheless proposed specific measures to address the remote potential for indirect impacts. Deerfield Wind's proposed measures include both developing a multi-year hair snag study to evaluate use of the area by bears before and after construction and working with the U.S. Forest Service ("USFS") to change management practices in the eight square-mile area around the Project to benefit bears. These measures are more than adequate to address the Project's potential indirect impacts.

The specific off-site mitigation lands for direct impacts can be identified through post-certification proceedings, and to the extent that the Board believes additional mitigation may be necessary to ensure maximum public benefit, it can impose such mitigation through CPG conditions. ANR's testimony in this case recommends addressing off-site mitigation through post-certification proceedings, and that approach is consistent with the Board's approach in prior proceedings.

The Deerfield Wind Project represents an important step in the State's efforts to develop in-state renewable energy resources with their attendant environmental and economic benefits. As with any large-scale commercial development, the Project will have impacts; however, Deerfield Wind has taken steps to design and re-design the Project to avoid and minimize impacts, and the imposition of CPG conditions will further ensure that Project benefits are realized and that impacts are further mitigated, resulting in a Project that promotes the public good of the State.

II. SECTION 248 CRITERIA

30 V.S.A. § 248(b)(1) – ORDERLY DEVELOPMENT OF THE REGION

The evidence in this case overwhelmingly demonstrates that the Project will not interfere with the orderly development of the region. The Department of Public Service ("DPS") has concurred in that conclusion. *See* DPS Brief at 15-16.

The Town of Wilmington is the only party in this proceeding that argues that the Project will interfere with the orderly development of the region. The Town does not argue that the Project fails to comply with any particular regional planning documents. Instead, its argument rests principally on the suggestion that the Project will negatively affect tourism in the region. As outlined in Deerfield Wind's initial brief, the evidence in this case does not support the Town's assertion. There is no evidence that the Project will have a negative impact on tourism. *See* Deerfield Wind Brief at ¶¶ 210–212. Wilmington's "evidence" consists almost entirely of its lay witnesses expressing their "concerns" about impacts to tourism and other issues. On the contrary, a number of wind projects, including the existing Searsburg facility, have become tourist attractions. In fact, the existing turbines are highlighted as a scenic attraction on road-markers along the Route 9/Molly Stark Scenic-byway. Deerfield Wind Brief at ¶396; Vissering/Buscher reb. at 28-29; Exh. DFLD-JV/MB-10 (Photos 1, 2, 2a). Wilmington also suggests that FAA lights will cause "sky glow" that will detract from the scenic beauty of the region. Again, there is no evidence to support that claim and Wilmington has relied upon the unsupported assertions of lay witnesses. In contrast, Deerfield Wind's expert testimony on aesthetics in this case emphasizes that the low-intensity FAA lights, though visible, will not contribute to sky glow. Deerfield Wind Brief at ¶¶ 151, 393.

Finally, Wilmington argues that it is not appropriate to site the Project on Forest Service land. Their position does not recognize the congressional multiple-use mandate for Forest Service land or the USFS' extensive multi-tiered planning process. The USFS is responsible for determining the appropriate use of Forest Service land and must apply its planning regulations and documents in the first instance. In this case, the USFS has previously concluded that wind power is an appropriate use of GMNF land and has specifically identified certain areas of the Forest that may be suitable for such development, including the location of the Project. *See* Deerfield Wind Brief at ¶¶ 19, 29, 126; GMNF Forest Plan FEIS at 3-293 to 3-301; Zimmerman pf. at 24-25, 40-41; Exh. DFLD-JZ-8; DEIS at 3. The USFS' initial screening of the Project concluded that the Project is consistent or can be made consistent with the standards and guidelines in the 2006 Forest Plan and that the Project will not unreasonably conflict or interfere with other administrative uses of the Forest. While the Town of Wilmington may wqant to participate in the separate federal planning process, it cannot use criterion b(1) of section 248 as a method to preempt the Forest Service's decision-making process.

30 V.S.A. § 248(b)(2) – NEED FOR THE PROJECT

The DPS and IWAG/SVR address the section 248(b)(2) need criterion. The DPS agrees with Deerfield Wind that the Project satisfies section 248(b)(2) because it will help meet a demand for renewable energy in Vermont and the New England region that cannot be satisfied by energy efficiency, energy conservation or load management programs. *See* DPS Initial Brief at 16-17. The DPS cites the "healthy" regional demand for Renewable Energy Credits and the requirements of Vermont's SPEED program. *Id.* at ¶¶ 53-54.

IWAG/SVR disagree, but their analysis rests on fundamental misinterpretations of the need criterion as it applies to the proposed Project. IWAG/SVR fault Deerfield Wind for failure to prove that: (1) the proposed Project is the least-cost means of meeting need in comparison to new energy conservation and efficiency measures that might be implemented in lieu of the Project; and (2) it would be cost-effective for Green Mountain Power ("GMP") or another Vermont utility to buy Project power. IWAG/SVR Brief at 20-21. IWAG / SVR further cite the testimony of DPS witness David Lamont that load growth in Vermont through 2012 can be satisfied with demand-side measures as evidence that the Project is not needed. *Id.* at 19.

There is no support for IWAG/SVR's reading of section 248(b)(2) in the Board's past decisions that apply the need criterion to independently-owned and financed merchant plants like the Project, projects that are neither required nor able to deliver energy conservation, efficiency and load management programs. In fact, these decisions establish that section 248(b)(2) is satisfied by proof of need specifically for renewable generation, which by definition "cannot be met through energy efficiency, conservation, or load management measures." *Amended Petition of UPC Vermont Wind, LLC*, Docket 7156, Final Order of 8/8/2007 at 29. The Board has further held in past cases that section 248(b)(2) is satisfied by proof of regional need, even where a project is not required to serve in-state load. *See Petition of Entergy Nuclear Vermont Yankee, LLC*, Docket No. 6812, Final Order of 3/15/2004 at 21-22. Deerfield Wind has amply demonstrated need for the Project, as defined by Board precedent. *See* Deerfield Wind Brief at ¶¶ 153-167.

Finally, IWAG/SVR argue that a wind facility is not needed because it cannot replace baseload generators due to the intermittency of the wind resource. This contention stems from an oversimplified understanding of the regional electricity market and dispatch system, and the evidence contradicts it. Douglas Smith testified for that GMP would in fact consider some substantial portion of power it purchases from the Project as replacement for power purchased from baseload sources such as the Vermont Yankee plant. Tr. 12/9/08 at 142:8-15 (Smith).

In sum, the Project satisfies the need criterion based upon the facts and discussion contained in Deerfield Wind's Brief. *See* Deerfield Wind Brief at ¶¶153-168 and Discussion.

30 V.S.A. § 248(b)(3) – SYSTEM STABILITY AND RELIABILITY

The DPS is the only party other than Deerfield Wind to provide substantive comments regarding this criterion. The DPS agrees with the fundamental position spelled out in Deerfield Wind's initial Brief that: (i) the currently proposed 30 MW project would have fewer potential system impacts than the originally proposed 45 MW project, which was modeled in the ISO-NE Feasibility Study; (ii) the existing studies conclude it is likely that the Project will not have an adverse impact; (iii) ISO-NE will not allow the Project to interconnect to the regional transmission system unless it is demonstrated that it will not have an adverse effect; (iv) Deerfield Wind will be responsible for any electrical system-related costs or improvements that are necessitated by the Project; and (v) the CPG should be conditioned on Deerfield Wind's submitting a final System Impact Study and interconnection and substation plans for review and approval. DPS Brief at ¶¶57-

61; Deerfield Wind Brief at ¶¶169-182 and Discussion. Deerfield Wind and the DPS have reached an agreement on a proposed CPG Condition, which is reflected in Appendices A and B.

30 V.S.A. § 248(b)(4) – ECONOMIC BENEFIT TO THE STATE

The DPS, the Town of Wilmington, IWAG/SVR, and Duncan Cable TV Service ("DCTV") address the Project's compliance with section 248(b)(4). None of these parties offers any substantial argument or evidence to counter Deerfield Wind's demonstration that the Project will provide economic benefit to Vermont and its ratepayers sufficient to satisfy section 248(b)(4). *See* Deerfield Wind Brief at ¶¶ 183-238. The issues raised are addressed below and in Appendices A and B.

Power Purchase Agreements

The DPS concludes that Deerfield Wind has met its burden under section 248(b)(4). *See* DPS Brief at 22. It observes, however, that the extent of the economic benefit that may accrue to Vermont ratepayers under power sale contracts with Vermont utilities is uncertain because Deerfield Wind has not yet executed final agreements. The Board's decision in *Amended Petition of UPC Vermont Wind* is instructive on this issue, as Deerfield Wind has reached essentially the same point in its power sale negotiations as had UPC Vermont Wind at the time it was issued a CPG to construct a wind generation facility. UPC Vermont Wind had reached a Memorandum of Understanding ("MOU") with the Vermont Electric Cooperative ("VEC"), in which the parties stated their intent to negotiate a power purchase contract containing identified terms. *See Amended Petition of UPC Vermont Wind, LLC;* Exh. UPC-CRV-8. UPC Vermont Wind also represented that it had "discussed an arrangement" similar to that reflected in its VEC MOU with Central Vermont Public Service. *Amended Petition of UPC Vermont Wind, LLC,* Docket No. 7156, Order of 8/8/2007 at 113.

The DPS recommends that the Board extract additional economic benefits from the Project, beyond what it finds sufficient to satisfy section 248(b)(4), by way of a CPG condition requiring Deerfield Wind to sell at least 75% of the Project's capacity to Vermont utilities under long-term stably-priced contracts. Deerfield Wind has itself proposed a CPG condition requiring in-state sale of 30% of Project power under stably-priced contracts and further requiring Deerfield Wind to make good-faith efforts to negotiate for the sale of additional power in-state above the 30% level. Deerfield Wind disagrees with the specific terms the DPS has proposed and notes that the DPS proposed a CPG condition with these same material terms in the UPC-Sheffield case, which the Board rejected. There is no evidence before the Board in this case, in testimony of DPS witnesses or otherwise, to support the imposition of a 75% in-state sale requirement, or indeed to indicate that any specific amount of Project power must be sold in-state.

Deerfield Wind recognizes the Board's holding in *Amended Petition of UPC Vermont Wind, LLC* that, in order to promote the public good and meet the statutory renewable energy goals, some portion of the power should be sold in-state at stable prices. *Amended Petition of UPC Vermont Wind,* Docket No. 7156, Order of 8/8/2007 at 37-40. Deerfield Wind believes that its proposed CPG condition, as stated in Appendix B hereto, is consistent with the UPC-Sheffield holding and the CPG condition imposed in that case. Deerfield Wind's proposed condition also strikes the appropriate balance between securing in-state benefits for Vermont ratepayers, while recognizing that these power contracts are a matter of arms-length negotiations. Moreover, irrespective of whether Deerfield Wind contracts with in-state utilities, the power will remain within the ISO-NE system and provide the benefits of renewable generation, including reduced air emissions and supply diversification, to all residents of the New England region including Vermonters.

IWAG/SVR opposes issuance of a CPG conditioned on post-certification execution and Board review of power sale agreements with Vermont utilities. The Vermont Supreme Court has, however, recently affirmed the validity of this approach. *See In re Amended Petition of UPC Vermont Wind, LLC,* 2009 VT 19, ¶¶ 5-11 --- A.2d ---, 2009 WL 279971 (Vt.) (affirming both the Public Service Board's issuance of a CPG for development of a wind energy facility conditioned on the developer's reasonable efforts to enter long-term, stably priced contracts with Vermont utilities and the use of post-certification proceedings to evaluate compliance with this condition). The Board should thus reject IWAG/SVR's criticism of this well-reasoned approach to power contracts in the context of a section 248 wind project proceeding.

Property Values

Both IWAG/SVR and the Town of Wilmington focus primarily on the Project's hypothetical impacts on real property values. Neither party offers any empirical evidence of such impacts. Wilmington cites a real estate agent's anecdotal testimony that many buyers prefer a natural landscape view.[1] IWAG/SVR offers no evidence at all.[2]

Deerfield Wind's economic expert, Thomas Kavet, conducted an extensive review of the literature concerning the impact of wind generation facilities on real property values. Exh. DFLD-TK-2 at 28; tr. 12/9/2008 at 26:1-2 (Kavet). He found that the most rigorous studies conducted to

[1] While this observation has intuitive appeals, it does not speak to the relevant issue – whether buyers' alleged preferences will translate to a decline in aggregate real property values to a degree that could appreciably impact the town or region and outweigh the Project's economic benefits.

[2] The IWAG/SVR brief refers to a "realtor's market analysis of five residences located between 1500-3000 feet of the Mars Hill, Maine wind turbines." This document was excluded from the record as unauthenticated hearsay and should be disregarded. Tr. 12/9/2008 at 36:23-37:1 (Volz).

date indicate that a wind facility will not diminish the value of real property in its vicinity or from which it can be seen. Exh. DFLD-TK-2 at 28-30. He found no empirical evidence that wind facilities do diminish aggregate real property values at the town or county level. *Id.* at 28; Kavet reb. at 11.

Both IWAG/SVR and Wilmington point out limitations of the studies Mr. Kavet cites in his testimony and report: the REPP study, the Hoen study of the Fenner, NY wind facility, and the ongoing Hoen/Wiser study of multiple wind facilities around the country. IWAG/SVR observe that the results of the Hoen's Fenner study might not obtain in the Searsburg/Readsboro area due to differences between these communities and notes that the broader Hoen/Wiser study is not yet complete. Both IWAG/SVR and Wilmington claim the REPP report methodology was flawed.[3]

Mr. Kavet addressed all of these issues in his testimony to the Board. Mr. Kavet agrees that the REPP methodology is imperfect, but considers the study significant, if inconclusive, in that it is specific to the Searsburg area. Tr. 12/9/2008 at 25:5-11 (Kavet). He considers the preliminary results of the Hoen/Wiser study the best available statistical information on the topic even though the study is ongoing. Tr. 12/9/2008 at 24:1-4 (Kavet). He notes that Hoen/Wiser have to date released analysis of 3,638 property transactions at six wind facility sites, none of which indicates any adverse real property value impacts.[4] Kavet reb. at 12-13; tr. 12/9/2008 at 24:9-12 (Kavet). Mr.

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[3] The Board should give little weight to Wilmington's testimony concerning the REPP report, as its witness on this issue did not establish his qualifications to critique the REPP methodology. Mr. DeCesare testified that his education, training and experience in mathematics, including statistics and regression analysis is very limited. Tr. 12/10/2008 at 237: 20, 24 (DeCesare). He further testified that he has never personally performed a regression analysis and did not know whether the REPP study used a univariant or multivariant regression analysis. Tr. 12/10/2008 at 238:7, 239: 2 (DeCesare).

[4] IWAG/SVR contend that Hoen/Wiser have not released information concerning the study

Kavet thinks the results released to date are "pretty strong after six sites" and "quite significant," and considers it unlikely that the study's final conclusions after additional sites are evaluated will vary dramatically from the preliminary findings. Tr. 12/9/2008 at 63:10-23 (Kavet). It may be true, as IWAG/SVR observe, that Hoen/Wiser are still conducting more refined analyses of impacts on specific subclasses of properties (such as those valued in the top 25% of the market).[5] This possibility is not, however, reason to discount the results available to date, which confirm Hoen's findings at Fenner that there is no statistically significant relationship between either proximity to or visibility of a wind facility and the sale price of homes. *See* Kavet reb. at 12-13.

Both IWAG/SVR and Wilmington suggest that Deerfield Wind needed to perform its own independent study of the Project's potential impacts on property values to meet its burden of proof regarding this issue. As discussed above, no party to this proceeding has offered any empirical evidence that wind facilities reduce the value of proximate real property. Deerfield Wind's expert witness on this subject found no evidence of negative impacts on aggregate real property values at the town or county level in the published literature, which he extensively reviewed. Deerfield Wind has cited empirical evidence that wind facilities do not diminish real property values, which its expert

methodology. This is incorrect; the Hoen/Wiser methodology is described in Exh. DFLD-TK-3.

[5] Deerfield Wind filed a slide presentation Hoen/Wiser have released regarding their preliminary results, which includes a slide titled "More Detailed and Refined Results Expected." Exh. DFLD-TK-3 at 12. This slide states: "With a larger sample we will be able . . . to investigate the following types of homes for unique effects: Homes with above average or premium scenic vistas; Homes in the top 25% of market value; Secondary (vacation) residences; Homes which sold the year the facility was announced; Homes which sold the year construction commenced." *Id.* IWAG/SVR construes this statement to mean that data concerning these types of properties has to date been excluded from the Hoen/Wiser study. This assumption is incorrect. Rather, this slide states only that Hoen/Wiser intend to use the large amount of real estate transaction data they have now collected and continue to augment to perform "more detailed and refined" analyses of subclasses of property such as those specified. *Id.*

considers strong and significant. Deerfield Wind thus has met its burden of proof, and it would be unreasonable and unnecessary for the Board to require Deerfield Wind to conduct its own doubtlessly expensive study under these circumstances.

There are other shortcomings to Wilmington's position concerning a wind project's alleged impact on property values. For example, Mr. Kavet finds it telling that Wilmington has never kept records of which Town properties have views of the existing Searsburg turbines and does not adjust the assessed values of properties based on this factor. "If turbine views were truly a significant factor affecting property valuations . . . it would have been noted and measured in the eleven years that the existing Searsburg wind farm has been visible." Kavet reb. at 16. Wilmington counters that the proposed Project is likely to have a greater impact on property values (and tourism) than the Searsburg facility because the Project turbines are larger and will be more visible. The fact that the Project turbines are larger than the Searsburg turbines is a red herring. The visual simulations Deerfield Wind has filed with the Board demonstrate that the height difference is not significant when viewed from Wilmington. Exh. DFLD-JV/MB-9. Moreover, visibility of the Project from Wilmington homes and recreation areas in the vicinity of Wilmington, including the Harriman Reservoir, will be very limited. *See* Deerfield Wind Brief at ¶¶ 409, 420.

Finally, IWAG/SVR request that the Board impose a CPG condition requiring Deerfield Wind to guarantee real property values within one mile of the Project and to compensate property owners for any reduction in value resulting from construction of the Project. There is no basis or precedent in Vermont law for this type of permit condition. If the Board issues a CPG for this Project, it will have concluded that the benefits of the Project outweigh its costs. The developer of a facility permitted under section 248 cannot be expected to guarantee property values any more than the developer of a project permitted under Act 250 or under local zoning ordinances could or should be required to make such a guarantee.

Tourism

The Town of Wilmington claims that the Project will result in a level of industrialization that will reduce tourism to the Deerfield Valley, resulting in economic loss that will outweigh the economic benefits of the Project. Wilmington's position on this issue is based solely on lay opinion testimony. Wilmington offers no empirical evidence to counter the testimony of Deerfield Wind witness Thomas Kavet that there is no basis to expect a significant adjustment to tourism visitation or expenditures as a result of the Project. Kavet reb. at 6-11. Mr. Kavet bases his assessment on a thorough literature search, the specific characteristics of the local tourism sector, and the ten-year experience with the existing Searsburg wind facility, which attracts tourists. *Id.*

In-State Jobs

The Town of Wilmington claims that the majority of Project construction jobs will not go to Vermont residents because they require industry-specific skills. There is no support for this contention in the record, nor is it clear what Wilmington means by "industry-specific skills." The record actually shows that the Project will result in the creation of 250 new jobs in Vermont during the construction and development period, a "significant number" of which are likely to be filled by Vermont residents. Exh. DFLD-TK-2 at 2; tr. 12/9/2008 at 38:17 (Kavet).

TV Broadcast Interference

The DPS and DCTV addressed the concern DCTV has raised in this proceeding that the Project might interfere with off-air reception of television broadcast signals at the DCTV headend facility in the Town of Wilmington, or at residences in the Project's vicinity. The DPS agrees with the ultimate conclusions of Deerfield Wind's expert witness Les Polisky (Comsearch) that the

Project is unlikely to interfere with reception at the DCTV headend and any interference that does occur is remediable. *See* DPS Brief at ¶¶134-149 and Discussion.

DCTV's initial brief includes no substantial argument or evidence inconsistent with these conclusions. DCTV raises several issues to which Deerfield Wind responds as follows:

- DCTV argues that a pre-construction study Comsearch conducted at the Maple Ridge wind facility site in Lowville, New York did not predict the interference to residential off-air TV reception that in fact occurred post-construction. This is incorrect; the Maple Ridge pre-build study did predict such interference. Tr. 12/3/08 at 79:15-16 (Polisky).
- DCTV claims that the Maple Ridge turbines are not in-line between the locations of complaints of interference and sources of broadcast, and suggests that this proves the Maple Ridge facility caused "electromagnetic noise" interference at residences miles away. This claim is incorrect. There is no record evidence of the locations of sources of broadcast at Maple Ridge. The cause of reported reception problems at Maple Ridge was never determined, leaving open the possibility that some complaints concerned interference unrelated to the wind facility. Tr. 12/1/08 at 243 (Goland). Mr. Polisky testified that any interference caused by the Maple Ridge facility was electromechanical. Tr. 12/3/08 at 79:15-19 (Polisky). He further testified that, in his professional opinion, interference reported several miles from the facility probably was not caused by the facility. Tr. 12/3/08 at 102:18-103:3 (Polisky). Mr. Polisky's testimony was not rebutted by competent expert testimony or other extrinsic evidence.
- DCTV claims that some interference problems reported to the Maple Ridge facility took two years to fix. There is no evidence in the record concerning this issue.

- DCTV contends that the pending conversion from analog to digital broadcast will not prevent interference because translator and low-power stations are not required to convert to digital. Mr. Polisky addressed this issue at the hearing. He testified that both translator and low-power stations will most likely convert to digital for practical or financial reasons even though they are not required to do so. Tr. 12/3/08 at 73:4-14 (Polisky). Moreover, it is not Deerfield Wind's position that the conversion to digital broadcast format is necessary to prevent Project-related interference. Rather, Deerfield Wind has noted only that interference will be even less likely after the conversion to digital because digital signals are more robust. *See* Deerfield Wind Brief at ¶ 227.
- DCTV contends that interference issues may be more severe following the conversion to digital format broadcast because some regional stations will transmit at much lower levels post-conversion. This contention is incorrect and was discussed by Mr. Polisky at the hearing. *See* Exh. DFLD-LP-4; tr. 12/3/08 at 96:14-25, 123:6, 11-12 (Polisky).

DCTV's initial brief attaches multiple documents that were not discussed or entered into evidence during the hearing in this docket. These include (1) an FCC Consumer Advisory titled "The DTV Transition and LPTV/Class A/ Translator Stations;" (2) an e-mail exchange between DCTV and Skeeter Lansing concerning WCDC-DT's transmission power; (3) a Wikipedia entry concerning WTEN; and (4) a Comsearch document titled "Executive Summary Off-Air Reception Analysis for Proposed Wind Turbine Facility Lowville, New York." Deerfield Wind requests that the Board disregard all of these materials. Deerfield Wind's expert witness did not have the opportunity to respond to them on the record and some are inadmissible hearsay to which Deerfield Wind would have objected. Although DCTV is a *pro se* party in this proceeding, it is nonetheless required to comply with all procedural rules. Board Rule 2.201(B)(*Pro se* parties must comply with "any applicable rule, law, practice, procedure, or other requirement."). In addition, the Board specifically advised DCTV during the hearing of the need to introduce its evidence into the record. *See e.g.* tr. 12/3/08 at 91:13-18 (Burke).

As further outlined in Appendices A and B hereto, the DPS and Deerfield Wind have reached agreement concerning a proposed CPG condition that would require Deerfield Wind to remediate any interference with off-air reception at the DCTV headend or residences that is caused by the Project, and to conduct a preconstruction baseline study of DCTV signal levels. DCTV has also proposed a CPG condition, which is also discussed in Appendix A. In short, DCTV's proposed CPG condition includes requirements that are not supported by the record and bestows upon DCTV review and decision-making authority concerning studies and remediation that should lie exclusively with the Board.

30 V.S.A. § 248(b)(5) and (8) – OUTSTANDING RESOURCE WATERS, ACT 250 CRITERIA, AND PUBLIC HEALTH AND SAFETY

Wetlands

Deerfield Wind agrees with ANR's proposed CPG condition that a snow fence be placed along the limits of disturbance for Turbine 4E to avoid any impacts to the adjacent wetlands and their buffer zones. Deerfield Wind objects to ANR's proposed condition that construction should occur only in winter to lessen impacts to any intermittent streams or wet areas. Such a highly restrictive condition is not warranted and would result in an extremely short construction season and thus the need to build over at least two years rather than one. As ANR's own witness testified, the Project will not cause an undue adverse impact to wetland resources, Metz surreb. at 3, and there is no evidentiary basis in this case justifying the need for such a condition. Moreover, a winter-only condition was not requested by ANR nor imposed by the Board in a similar situation – the UPC-Sheffield case.[6] Rather, it was recognized in the UPC-Sheffield case that stormwater-related impacts can and will be properly controlled during both winter and non-winter months through the stormwater permit for construction sites. The same principles would apply in this case. *See* Deerfield Wind Brief at ¶¶252-267. See Appendices A and B for Deerfield Wind's proposed CPG condition regarding wetlands.

Substation Location

IWAG/SVR address the proposed location of the Project's substation, arguing that alternative substation locations have not been sufficiently explored and that the proposed location will have impacts on wildlife. IWAG/SVR Brief at 15-17. Their argument, however, is not factually accurate and does not properly apply the standards of the section 248 process. Deerfield Wind has demonstrated that its proposed siting will not have an undue adverse impact under criterion (b)(5) and will incur no cost to ratepayers (under (b)(10)), irrespective of other potential options. *See* Deerfield Wind Brief at ¶893. Thus the issue of the substation location has been explored to the extent necessary to meet the section 248(b) criteria and no further assessment is necessary.

IWAG/SVR nonetheless argue that the location of the substation on GMNF lands will lead to impacts on wildlife. Deerfield Wind has addressed their concerns and shown that the proposed site will cause no undue adverse impacts. Their claim that no witness could confirm the amount of lighting needed at the substation ignores testimony stating that the substation will only utilize a

[6] In fact, the Deerfield Project will only involve 947 square feet (0.02 acres) of wetland impacts and four stream crossings, substantially less than what was proposed and ultimately authorized in the UPC case (0.55 acres of wetland impacts, 17 stream crossings). *See* Deerfield Wind Brief at ¶¶275-296; *Amended Petition of UPC Vermont Wind,* Docket No. 7156, Order of 8/8/2007at 50-51.

motion-activated light. Deerfield Wind Brief at ¶394; Vissering/Buscher pf. at 7. Furthermore, IWAG/SVR's contention that locating the substation on GMNF land rather than private land will further impact bears is not supported by the record; no witness testified that it would cause such impacts.

Deerfield Wind did explore alternative substation locations, contrary to IWAG/SVR's claim, and found that the proposed location is the most practical and efficient option. While alternative locations may be technically possible from an electrical engineering standpoint, they are not efficient or economically feasible. Tr. 12/1/08 at 204:12-205:1 (Estey). National Grid concluded in the Feasibility Study that use of the Sleepy Hollow substation as an interconnection point would require expansion of that substation as well as the addition of a new substation (three-breaker ring bus) at the Sleepy Hollow tap point on the Y25 transmission line. This would be tantamount to constructing essentially two new substations, a more obtrusive and less cost-effective alternative. Furthermore, the presence of a wetland restricts possible interconnection points. *See* Deerfield Wind Brief at ¶892; Estey pf. at 7; Estey suppl. pf. at 2-3; tr. 12/1/08 at 212-214 (Estey); tr. 12/2/08 at 32-33 (Habig).

IWAG/SVR also wrongly assert that Deerfield Wind did not provide any information as to the financial cost or environmental obstacles to locating the substation in the Sleepy Hollow area. DPS witness William Jordan testified that through the discovery process Deerfield Wind detailed the factors, including the need to build two substations and the presence of steep slopes and wetlands, that led its expert to conclude that the alternative locations were not feasible. Tr. 12/11/08 at 153:9-155:8 (Jordan). IWAG/SVR had a fair opportunity to explore these issues further through discovery, but chose not to do so.

Because of environmental and engineering considerations, the proposed substation location is the most economical alternative for the Project. IWAG/SVR assume that the substation will have a greater impact if it is located on Forest Service land, but the record does not support this argument. The proposed substation location will have no undue adverse impact on wildlife or the environment.

Municipal Services – 10 V.S.A § 6086(a)(7)

Provision of emergency services

The Town of Wilmington raises concerns about its ability to fight a potential fire at or near the project site and notes that it has alerted the Town of Searsburg that Wilmington will not be able to respond to emergencies directly related to the wind turbines. Wilmington Brief at ¶15. This position is directly contradicted by the evidence in this case, and appears to be driven more by Wilmington's opposition to the Project than by the actual facts regarding fire protection. The unrebutted evidence shows that the Project will pose no undue burden on fire protection services, as the risk of turbine fire is very low and the Project's needs do not materially differ from those of the existing Searsburg facility, for which Wilmington has provided fire services for over ten years. Deerfield Wind has taken all necessary steps to provide for fire protection, including agreeing to compensate the Towns for increased services (should they be necessary) and training emergency responders. *See* Deerfield Wind Brief at ¶¶331-344; Habig Panel reb. at 31-33; Exh. Searsburg SF-1 at 8; Exh. DFLD-HGC-6 at 8.

Aesthetics (Visual & Noise) – 10 V.S.A § 6086(a)(8)

Visual

No party has filed proposed findings or conclusions that require a response. Deerfield Wind has reached agreement with the DPS regarding aesthetics-related CPG conditions, as reflected in Appendices A and B.

Noise

Noise issues were addressed in the Briefs of the DPS, IWAG/SVR, and Thomas Shea. Those Briefs do not in any way disturb the fundamental findings and conclusions spelled out in Deerfield Wind's Brief. *See* Deerfield Wind Brief at ¶¶244-251 and ¶¶444-494. A comprehensive and conservative sound analysis performed by a qualified expert demonstrates that the Project's sound levels will not cause an undue adverse impact to human health or aesthetics, and will meet an appropriate noise limit that is derived from well-established EPA and WHO guidelines (and Board precedent). The other parties have offered no credible evidence to the contrary. And, as the Board has recognized, the imposition of a CPG condition setting noise limits for the Project will place the risk of inaccuracy in the sound modeling squarely on the Petitioner. Specific issues raised in the other parties' briefs are addressed below, as well as in Appendix A.

Turning first to the DPS Brief, the Department's assessment of noise-related issues is generally consistent with that of Deerfield Wind. The DPS relied upon Mark Kane of the SE Group, a consulting firm with experience in Cadna A noise analysis. Tr. 12/11/08 at 231:17-18, 234:21-22 (Kane). Mr. Kane concluded that Deerfield Wind's noise modeling was well-done and its findings reasonable and accurate. Kane pf. at 11; Kane reb. at 9. The DPS recommends a noise limit that is consistent with Deerfield Wind's proposed CPG condition. Deerfield Wind and the

DPS have reached agreement on the language of the CPG condition, as reflected in Appendices A and B.

IWAG/SVR argue in general that Deerfield Wind has failed to provide sufficient or accurate information to the Board regarding the Project's potential noise impacts. In their criticisms, however, IWAG/SVR have misinterpreted and misrepresented the testimony and evidence of Ken Kaliski (RSG, Inc.) on behalf of Deerfield Wind and lament the alleged lack of information in the record that they easily could have and should have sought during discovery. Furthermore, IWAG/SVR and Mr. Shea seek to apply noise standards that are irrelevant, not supported by evidence, and are not tied to ensuring that the Project will not cause an undue adverse impact.

First, IWAG/SVR attempt to cast doubt on the usefulness of the ISO 9613-2 standard that RSG used in modeling the noise impacts of the Project using the Cadna A software. However, RSG's particular approach in this case improved the accuracy of the model when used for wind projects and produced results that are, if anything, more conservative. IWAG/SVR cite the ISO 9613-2 standard (Exh. IWA-X-4) as having a +/- 3 dB margin of error for noise sources of heights of up to 30 meters at a 1,000-meter distance from a receptor. However, the margin of error in that table does not apply to the RSG modeling. While it is true that the Project turbines will be at greater heights and at further distances than those referenced in the ISO table, Mr. Kaliski testified that the ISO standard assumes a single source and single receiver. RSG used multiple sources (the 15 turbines) and multiple receivers (on a 25 m by 25 m grid covering 12,900 acres, as reflected in the noise contour maps) in modeling the Project's sound, which results in a lower margin of error than the +/- 3 dB stated in the ISO standard.[7] *See* Deerfield Wind Brief at ¶452; tr. 12/2/08 at 112-114

[7] Mr. Kaliski is the only noise engineer that testified in this matter, and the only witness who

(Kaliski). To make its analysis even more accurate, RSG also incorporated the results of a post-construction study they previously conducted of a wind project in Kansas, which had led them to determine that the choice of ground attenuation could account for a 4-5 dB difference in modeling results. Mr. Kaliski used other conservative assumptions as well. *See* Deerfield Wind Brief at ¶¶ 451, 453-454. Kaliski reb. at 8-9; tr. 12/2/08 at 115-116, 121-122 (Kaliski).

IWAG/SVR take issue with RSG's use of its Kansas study, claiming that RSG did not calculate a confidence interval, did not enter any facts of the Kansas study into evidence in the current docket, or generally provide information on the details of the project in Kansas or the comparability of its topography, sound data, and other features to the case at hand. First, this argument misses the point; Mr. Kaliski applied lessons learned during the Kansas study that would be transferable to another site such as the significant effects choice of ground attenuation can have on modeling results using the ISO standard. *See* Deerfield Wind Brief at ¶454. Second, such information would have been available through the discovery process had IWAG or any other party wished to explore the Kansas study further. In fact, Mr. Kaliski discussed the knowledge gained from his experience in Kansas in his rebuttal testimony (Kaliski reb. at 8); if IWAG had wished to learn more about that experience, they had sufficient opportunities to request that information.

Along similar lines, IWAG/SVR raise a concern about RSG's use of the CONCAWE algorithm in performing a confirmatory analysis of the Cadna A modeling, alleging that Mr. Kaliski did not adequately detail his use of the algorithm. Again, Mr. Kaliski identified the algorithm as a feature of his supplemental modeling as early as in his January, 2007 direct testimony (*see* Exh. DFLD-KK-3 at 31), giving parties more than adequate opportunity to explore the matter through

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has actual experience performing noise studies and applying the ISO standard.

discovery. In spite of IWAG/SVR's protestations, RSG's use of a full year's worth of actual hourly meteorological data from the project site to predict the frequency of worst-case sound conditions represents yet another effort by Deerfield Wind to accurately and conservatively model the noise impacts of the Project. *See* Deerfield Wind Brief at ¶¶465-466. In fact, additional modeling based on actual recorded wind data is a level of helpful scrutiny that has not been available in previous wind energy permitting processes. Tr. 12/11/08 at 235:2-7 (Kane).

IWAG/SVR also criticize use of 24-hour average traffic rather than actual traffic data in Figure 25 of Exh. DFLD-KK-5, a map of the modeled difference between build and no-build sound levels. Because the modeling covers a wide area, however, performing actual monitoring over several thousand points would be infeasible. Tr. 12/2/08 at 95:12-14 (Kaliski). Furthermore, comparison with RSG's actual background monitoring in the area shows that using actual sound data would show higher background levels than those assumed for Figure 25. Once again, RSG's analysis, if anything, overstates the Project's impacts. *See* Deerfield Wind Brief at ¶470; tr. 12/2/08 at 184-190 (Kaliski); *compare* Exh. DFLD-KK-4 at 9 (Table 3) *with* Exh. DFLD-KK-5 at 27 (Figure 22), 30 (Figure 25).

In their discussion of the potential maximum sound levels modeled for the Project, IWAG/SVR misstate Mr. Kaliski's findings. They cite Mr. Kaliski's rebuttal testimony as saying that the "highest modeled 8-hour average nighttime sound level was 43 dBA for the combined Searsburg/Deerfield impacts." *See* IWAG/SVR Brief at 12; Kaliski reb. at 4. While IWAG and SVR have left the impression that Mr. Kaliski's overall sound modeling averaged the turbine noise over an 8-hour period, this is not the case. The quoted passage relates to the CONCAWE confirmatory analysis of the potential worst-case conditions using a year's worth of hourly meteorological data, for which RSG modeled hourly results and then calculated 8-hour averages. Tr.

12/2/08 at 190:3-16 (Kaliski). However, RSG's ISO modeling results (as reflected on the noise contour maps) are the maximum instantaneous sound levels, not the 8-hour average. *See* tr. 12/2/08 at 162-165 (Kaliski). Mr. Kaliski's several analyses show that the instantaneous, hourly, and 8-hour average sound levels for the Deerfield Wind Project alone will be 43 dBA or less. *See* Exh. DFLD-KK-5 at 26, 31.

Discussing possible permit conditions, IWAG/SVR suggest, with no reference to the record or to any source of information, a relative standard under which increases over existing background noise levels should not exceed 5 dBA. No party in this proceeding has introduced any evidence into the record regarding a 5 dBA relative noise standard, nor anything that supports their position that a 5 dBA increase would create an undue adverse impact.[8] In general, relative standards are ineffective and present a moving target for compliance; shifting meteorological conditions and changes to the Project's surroundings make the background sound level difficult to measure precisely and thus impractical as the basis for a compliance standard. *See* Deerfield Wind Brief at ¶¶482-483; Kaliski reb. at 6; Kaliski surreb. at 3-5; tr. 12/2/08 at 124-125 (Kaliski); tr. 12/11.08 at 224-228 (Kane). The absolute noise levels incorporated in guidelines set by the WHO and EPA present a more appropriate basis for a CPG condition, as the Board recognized in the UPC-Sheffield case. Similarly, IWAG/SVR's suggestion that sound levels should be measured at property lines lacks justification under section 248(b)(5), as it bears no connection to sound levels that would cause an undue adverse impact by interfering with day-to-day activities at places of frequent human use.

[8] The DPS' Brief refers to testimony from Mr. Kane regarding the USFS' draft wind guidelines which propose a 10 dBA relative noise standard. DPS Brief at ¶81. Deerfield Wind's Brief at ¶¶478-483 explains why that draft guideline should not be applied by the Board in this case and the Department has not recommended it as a CPG condition.

In arguing for a relative standard, IWAG and SVR contend that RSG's modeling results show some receptors with up to a 12-14 dBA increase in sound levels when comparing Figure 22 (modeled sound levels for the Project) to Figure 23 (modeled sound levels from the Searsburg facility) in Exh. DFLD-KK-5. This comparison is meaningless. Simply subtracting the modeled sound levels of the Deerfield and Searsburg facilities does not reveal the increase in overall sound levels at the receptors as a result of the Project because it completely ignores the existing background sound levels from other sources. Thus taking IWAG/SVR's most extreme claim of a 14 dBA increase at the receptor located on Route 9, we see that the Deerfield modeled sound level is 36 dBA (Figure 22), while the actual monitored sound levels at that location (Site 2) were found to be greater during both night time and daytime periods; based on actual monitoring, therefore, the Project's sound levels at some of the receptors would be lower than the existing background noise. *See* Exh. DFLD-KK-4 at page 9, Table 3.

Thomas Shea proposes a permit condition that is also flawed, suggesting restricting noise levels to those estimated in Exh. DFLD-JZ-32. While Deerfield Wind stands by the work of its noise expert, the exhibit simply reflects the results of RSG's sound modeling, not a noise limit to be imposed in a CPG. The Board's condition in the current case, as in all cases, should be aimed at preventing undue adverse impacts and securing the public good. To that aim, the WHO and EPA standards again present a basis for a CPG condition; Deerfield Wind's modeled sound results inform the Board as to whether such recognized standard can be met, and do not represent noise limits in and of themselves.

Finally, IWAG/SVR have incorrectly asserted that Mr. Kaliski failed to consider the effect of low frequency noise. This is not the case. Mr. Kaliski evaluated low frequency noise and concluded that it will not pose a problem; sound levels from the turbines at frequencies below 31.5 Hz will be below the threshold of human hearing and sound levels at the 63 Hz band will be well below levels that can create sound-induced building vibrations. *See* Deerfield Wind Brief at ¶¶488-490; Kaliski pf. at 10; Kaliski suppl. pf. at 3; Kaliski 2nd suppl. pf. at 1. Other issues touched upon by IWAG/SVR concerning sound attenuation are adequately addressed in Deerfield Wind's Brief.

Wildlife (including RTE Species) - 10 V.S.A § 6086(a)(8)(A)

Bear

As discussed below, the issues and arguments raised by the parties opposing the project do not disturb the fundamental findings and conclusions outlined in Deerfield Wind's initial brief. The evidence in the record demonstrates that the Project, with appropriate conditions, will not have an undue adverse impact on bears.

1. *The Evidence Demonstrates that Bear-Scarred Beech is Not Decisive to the Survival of the Southern Vermont Bear Population.*

The arguments presented by ANR, VNRC and the Town of Wilmington in their respective briefs do not demonstrate that bear-scarred beech is decisive to the survival of the southern Vermont bear population.[9] ANR's position in this case is clearly based on a long held belief that bear-scarred beech are important for bears in Vermont. Deerfield Wind does not dispute that ANR has taken that position in numerous prior proceedings. But ANR and the other parties' arguments here largely rely on factual determinations in previous proceedings without confronting the facts and evidence before the Board in this case.

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[9]VNRC and the Town of Wilmington expressly concede that the project opponents have the burden of proof under Criterion 8(A) and each of the sub-criteria. VNRC Brief at 19, Town of Wilmington Brief at 10. Even if criteria 8(A) did not place the burden on the opponents, Deerfield Wind has nevertheless produced affirmative evidence to establish that the Project will not destroy or imperil necessary wildlife habitat and that each of the three sub-criteria is met.

ANR, for example, argues that the Board's findings in the UPC-Sheffield case "compel" the conclusion that bear-scarred beech constitutes necessary wildlife habitat. ANR Brief at 87. That is not the case. To be sure, the Board did determine in that case, based on the evidence before it, that bear-scarred beech on that project site was necessary wildlife habitat. But the issue was not in dispute before the Board in that case. The project developer settled the case with ANR through a stipulation prior to the hearings and as a result the particular issue was not challenged or examined in detail in the UPC case. And the evidence now before the Board in this case goes directly to the key assumptions made both by the Public Service Board in its UPC decision and by the Environmental Board in previous cases. For example, in the UPC case the PSB concluded that bear-scarred beech was "essential" for the reproductive success of black bears in Vermont. *See Amended Petition of UPC Vermont Wind, LLC*, Docket No. 7156, Final Order of 8/8/2007 at ¶ 249. When the evidence currently before the Board on this issue is critically examined, the contention that beech is "essential" or "decisive" for the survival of the species in this region finds no scientific support.[10]

There is no credible evidence that the reproductive success of bears in this region is tied to the availability of beech nuts in a manner that is "decisive" to the population's survival. In fact, the available data indicates otherwise. Neither ANR, VNRC, nor the Town of Wilmington offers any meaningful response to the fact that Mr. Hammond's reproductive data controverts his critical assumptions. The extensive studies conducted by McLaughlin and Jakubas demonstrate that

[10] The finding that particular habitat is "decisive" to the survival of a particular regional population of bears using that habitat is necessarily a factual finding based on the specific facts and circumstances presented in each case.

populations of bears that are primarily reliant on beech show synchronous reproduction. The only data available in Vermont does not demonstrate such synchronous reproduction. Nor does it show increased survival rates following good beech nut crops. *See* Deerfield Wind Brief at ¶¶ 719-745. The parties opposing the Project also offer no explanation for how the State's bear population could have increased by an estimated 27% during a period in which beech nut production has been infrequent and relatively poor if beechnuts are actually as critical as suggested. The absence of any response on these key points speaks volumes.

VNRC, ANR, and the Town of Wilmington each assert that the beech in the Project area is important for the local bear population. Deerfield Wind does not dispute that beechnuts can be important for bears in those years in which they are available in abundance. The question is whether the habitat is actually "decisive" to the survival of bears in this area in the manner contemplated by Act 250. Mr. Hammond originally stated in his deposition that he interpreted the word "decisive" in the statute to be synonymous with "important" and then changed his opinion on the stand. Tr. 12/12/08 at 7-12 (Hammond). VNRC similarly argues that the scientific evidence "strongly suggests that beechnuts can be very important…." VNRC Brief at 25. The Vermont Legislature carefully crafted the provisions of criterion 8(A), which is plainly intended to protect those types of habitat that are so critical to particular species that the species *cannot* survive without that type of habitat; habitat that is not just important but *decisive* to the regional population's survival.

While bear-scarred beech is obviously beneficial to bear populations in Southern Vermont, the evidence here does not demonstrate that such habitat is decisive in the same fashion that, for example, deer wintering yards are decisive to the survival of a particular population of deer. In the *Southview* case, the Environmental Board explained that deeryards are decisive to deer because deer are dependent on the softwood cover every year for their survival. *Southview Associates*, Docket

#2w0634-EB, Order of 6/30/87 at 9. Upholding the Environmental Board's opinion, the Supreme Court explained that "[a] concentrated, identifiable deeryard is 'necessary wildlife habitat' if it is decisive to the survival of the white-tailed deer that use it during the winter-that is, if the deer require that sort of habitat to survive the winter." *In re Southview Associates*, 153 Vt. 171, 177, n.3 (1989).

The evidence here does not establish that bears "require" bear-scarred beech habitat in the same manner. Tr. 12/5/08 at 14-17 (Wallin). Bears in southern Vermont can and do successfully survive and reproduce without consistent beech crops. Indeed, the bear population often goes without beech for many years – sometimes as many as seven in a row – and yet the population of bear is still expanding. *Id.;* Deerfield Wind Brief at ¶702. And the evidence in this case also demonstrates that the bear population in this area can and does survive following a limited loss of a small amount of beech. In fact, the Forest Service likely removed more than 400 bear-scarred beech from the Project area ten to twenty years ago without any measurable impact on the local bear population. Writing several years after the Forest Service clear cut portions of the project area, Mr. Hammond noted in his Stratton study that "[bear] harvest numbers from [Wildlife Management Unit P] have been consistently high without large fluctuations in the age structure that might indicate problems with recruitment or harvest levels that are unsustainable." *See* Deerfield Wind Brief at ¶ 637; tr. 12/5/08 at 233 (Hammond); Exh. SVR/Wilmington WK-5. In contrast, the same type of clear cutting of deer wintering yards would lead to a direct reduction in the size of the deer population in the region (and potentially a complete loss of the local deer population). Tr. 12/5/08 at 14-17 (Wallin); *Southview Associates*, Docket #2w0634-EB, Order of 6/30/87 at 9. Beech is important to bears at times, but it is not decisive.

Both ANR and VNRC also attack Deerfield Wind's information concerning other potential fall food sources in southern Vermont as incomplete. ANR Brief at 89-90; VNRC Brief at 24. Although there is ample general evidence of other potential foods in the southern Vermont region, it is not Deerfield Wind's burden to affirmatively demonstrate exactly what other foods bears may or may not be relying on in the region under criterion 8(A); the Project opponents have the burden to show that beech is decisive to the survival of the species. They have not established that there is an absence of alternative food resources. I n fact, the data from studies in the western Massachusetts region demonstrates the bears in this region do have access to other food resources, and more importantly the population data in Vermont (and Mr. Hammond's data) indicate that bears continue to successfully reproduce even during periods of poor beech nut production. The data Deerfield Wind has produced regarding other potential food sources simply supports what the available population data indicates: bears are wide-ranging omnivorous animals who find sufficient food resources in this habitat even in those years when there is no adequate beechnut crop.

In light of the evidence before the Board, the parties opposing the project have not met their burden to establish that bear-scarred beech habitat is decisive to this population in the manner contemplated under Act 250 and section 248 and Deerfield Wind has demonstrated that it, in fact, is not.

2. *The Project Will Not Destroy or Significantly Imperil Necessary Wildlife Habitat; the Project Opponents Have not Proven Otherwise.*

ANR, VNRC and the Town of Wilmington also fail to prove that the removal of less than 1.3 percent of the bear-scarred beech trees in this habitat will "destroy or significantly imperil" necessary wildlife habitat (assuming that the habitat is actually necessary wildlife habitat). It is undisputed that there are an estimated 28,800 BSB in the four national forest service management compartments surrounding the Project. And it is similarly undisputed that the Project will only physically remove 366 of these BSB, leaving more than 28,400 BSB still available in the area. The question is whether this limited direct impact will actually destroy or significantly imperil this habitat.

With respect to direct impacts, the evidence demonstrates that removing just 366 trees will not destroy or imperil this broad area of habitat. Mr. Wallin, Mr. Parsons, and Dr. Kilpatrick all testified that the loss of 366 trees in this habitat will not likely have an undue adverse impact on the bears. Deerfield Wind Brief at ¶¶ 631-638. That opinion is supported by the findings of the expert bear panel in the Forest Service's DEIS. *Id.* at ¶639. It is also supported by the evidence that it is likely that more than 400 BSB have been removed from this habitat in the past several decades without any measurable effect on the bear population. *Id.* at ¶637. Mr. Hammond's testimony on this issue is inconsistent and unsupportable. He argues that removing just 50 trees could result in an undue adverse impact on bears, but then acknowledges that the loss of 366 BSB would not result in a measurable impact on the bear population using the state's current (and only) method of assessing bear population levels. *Id.* at ¶¶ 640-642.

VNRC, ANR, and the Town of Wilmington point to no credible evidence that the direct removal of this small percentage of beech will destroy or significantly imperil the large swaths of beech habitat available in the eight square miles around the project. Instead, both ANR and VNRC simply attempt to dismiss the evidence on the extensive amount of BSB in the eight square-miles surrounding the project by suggesting – incorrectly – that the data was somehow only provided as a part of the federal NEPA process. VNRC Brief at 29; ANR Brief at 93. This argument is factually incorrect and is a transparent attempt to avoid data unsupportive of their positions. First, the data was not only submitted as part of the federal NEPA process. The Petitioner's wildlife consultant produced the data in his review of the Project, submitted it as a part of these state proceedings

(Exh. DFLD-JW-3), and relied on it in forming the opinions expressed in this case regarding the Project's potential impact on bears and bear habitat. Tr. 12/5/08 at 54-56 (Wallin). Moreover, the argument that the data could somehow only be specific to the federal proceeding is nonsensical. Data is data, and in this case information on the amount of bear-scarred beech habitat available to bears in the project area is clearly relevant to an assessment of whether the Project will destroy or imperil this broader habitat or otherwise have an undue adverse impact on bear habitat. Tr. 12/5/08 at 54-56 (Wallin).[11] Indeed, both Mr. Hammond and Dr. Kilpatrick conceded that information on the relative amount of BSB habitat in the area is relevant. They also concede that the relative percentage of beech removed by the project is relevant to determining whether the Project's impacts are undue. Deerfield Wind Brief at ¶630.[12]

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[11] Deerfield Wind does not argue, as VNRC suggests, that the amount of beech is relevant to whether a particular broad stand of beech is "necessary wildlife habitat." *See* VNRC Brief at 27-30. The large amount of beech habitat in this area is relevant to the question of whether the Project's relatively limited impacts on a particular stand "will destroy or significantly imperil" that habitat. *See* Deerfield Wind Brief at 182-192.

[12] ANR, VNRC and the Town of Wilmington each also argue that the habitat in this area should be classified as RC2 habitat under ANR's draft mitigation guidelines. Those *draft* guidelines suggest that beech stands that "provide a relatively significant contribution of hard mast for the bear population in the habitat unit" may be RC2 habitat. VNRC 3 at 3. Even if these *draft* guidelines could be applied to the Project (and ANR has previously argued that they are not a source document for Act 250 proceedings, Deerfield Wind Brief at ¶782), there is still no reasonable basis to conclude that this habitat, or some portion of it, is RC2 habitat. As Mr. Hammond acknowledges, ANR has not presented any data comparing the amount of mast produced by the stand to the amount of mast available in the habitat unit. Tr. 12/12/08 at 98:13-99:18 (Hammond). They have not measured the amount of mast available elsewhere in this broad habitat unit and they don't even know what other major stands may be present on unsurveyed land in the management unit. *Id.* (noting that they have only mapped stands they are aware of). As the available Forest Service data demonstrates, there are, in fact, significant stands of beech spread across the National Forest in southern Vermont, which have not been surveyed. Exh. DFLD-JP-3; tr.12/5/08 at 13-14(Wallin).

The fact that there are more than 28,800 beech trees in the four USFS management compartments surrounding the Project is also relevant to the suggestion that the Project's impacts may increase nuisance activities by bears. The evidence here demonstrates that removing a small percentage of this large area of beech will not have a measurable impact on the amount of beechnuts available in good beech nut years. Mr. Hammond acknowledges that the habitat in this area could support more bears than it presently does, indicating that there are extra beech resources in the area. Tr. 12/5/08 at 245 (Hammond). And the evidence demonstrates that each of the individual trees in the Project area is, in fact, not used as frequently as beech trees in other areas. Tr. 12/5/08 at 242 (Parsons). Dr. Kilpatrick acknowledged that "this is a much larger expanse of habitat and so bears are not having necessarily a difficult time finding beech mast there when it's available." Tr. 12/10/08 at 216 (Kilpatrick).[13]

ANR and VNRC also argue that the project's impacts are significant because they suggest it will remove 22% of the beech within the 300-foot survey area that Mr. Wallin initially investigated during the conceptual design stage (i.e., before there was a specific project layout). ANR Brief at 93-94; VNRC Brief at 30. That argument is both illogical and irrelevant.[14] The fundamental question is

[13] Moreover, the evidence also demonstrates that the Project will actually increase the diversity and availability of alternative food resources at higher elevations in poor mast years when nuisance activities are more likely. Wallin pf. at 10; tr. 12/10/08 at 213-214 (Kilpatrick); tr. 12/12/08 at 117 (Hammond).

[14] The argument also misunderstands the purpose of this initial survey, which was a broad initial planning study. The purpose was not to make a determination of the Project's actual direct impacts at the conceptual stage, nor was it intended to suggest that the beech within 300 feet are the only beech relevant to an analysis of the Project's impacts. Because there was not a specific project footprint at the time the initial study was conducted, the survey was intended to provide general information on the beech in the area so that once the actual clearing limits of the Project were established the number of trees removed by the Project could be calculated. Tr. 12/5/08 at 48-49 (Wallin).

whether the project will have an undue adverse impact on bears in the area, and that analysis necessarily must consider the total amount of BSB habitat available to bears in the broader area, not just the amount within an arbitrary 300-foot area around the Project. There is no dispute that bears are using an estimated 28,800 beech trees in this broad area around the Project. All of the experts in this proceeding expressed the opinion that a project's relative percentage impact on available habitat is relevant to determining whether the impact is unduly adverse. Deerfield Wind Brief at ¶630.[15] ANR's and VNRC's strained attempts to artificially restrict an estimate of the Project's direct impacts to the initial 300-foot survey area has no bearing on this broad question (it is also fundamentally at odds with the argument that the Project's impact could extend as far as ¼ mile). Beech in this area stretch far beyond the 300-foot area around the project and that habitat is currently used by bears. It will continue to be available to bears after the Project is constructed and the evidence indicates that trees that are not removed by the Project will continue to be utilized by bears.

[15] In one of its proposed findings, ANR suggests that Mr. Wallin has conceded that the data he collected for ANR on the amount of beech habitat within the ¼ mile area around the project area is not comparable to the statistical data he collected on the broader amount of beech in the project area. *See* ANR Brief at ¶172 (citing Wallin reb. at 30). That proposed finding mischaracterizes and misunderstands the point Mr. Wallin was trying to make in his testimony. First, the statement had nothing to do with his general statistical estimate of the amount of beech in the entire four compartment area in Exh. DFLD-JW-3. It concerned the follow-up work Mr. Wallin conducted at the request of ANR and the Forest Service, which is summarized in Exh. DFLD-JW-9a & -9b. The point Mr. Wallin makes is that the methodology ANR imposed for assessing the amount of bear habitat inside the ¼ mile around the project area was different than the methodology the USFS requested for assessing areas outside the ¼ mile area. If ANR's methodology was used outside the ¼ mile area, the estimated acreage of BSB habitat would *increase* substantially. Wallin reb. at 30-31.

ANR also continues to argue that the Project will have significant indirect impacts and disputes the value and relevance of Mr. Wallin's evidence, which demonstrates that bears are continuing to use habitat and beech trees at the Searsburg facility. ANR Brief at 95-98. Deerfield Wind's proposed findings and brief address these allegations of indirect impacts in detail. In short, although Dr. Kilpatrick and Mr. Hammond express general concerns about potential indirect impacts, when pressed, neither expert is able to identify any relevant, credible scientific information to support his allegations. Deerfield Wind Brief at 185-189 and ¶¶ 657-699. In fact, Dr. Kilpatrick and Mr. Hammond actually disagree with each other regarding the nature of the project's potential indirect impacts. *See* Deerfield Wind Brief at ¶¶666-670, 681-682. There are no studies that suggest that the noise from the turbines or limited vehicle traffic on the project access roads will displace bears from areas around the Project area. With respect to activities on the project site, Deerfield Wind has committed to restrictions that, among other things, will restrict activities on the site during the nighttime hours and during the crepuscular periods that have been shown to be important periods for bear activity.

The only credible evidence in the record regarding bear activities around an operating wind turbine is Mr. Wallin's data from the existing Searsburg facility. The data shows that bears continue to travel through the project area while turbines are operating and also demonstrates that bears climb beech trees closer to operating turbines than 1/8 of a mile. ANR's efforts to dismiss the relevance of this evidence is unavailing. It argues that the situation at the Searsburg facility is different from the situation on the western ridge because the existing Searsburg facility was not constructed in the middle of a significant beech stand. ANR Brief at 94 to 95. That distinction does not reduce the relevance of evidence that shows bears are climbing beech well within 1/8 of a mile of the operating turbines. The fact of the matter is that there are beech trees within the area ANR alleges will be indirectly impacted, and the evidence demonstrates that bears continue to utilize those trees. And the fact that the trees climbed near the Searsburg facility may not be part of larger stand does not weaken the evidence; in fact it may strengthen it.[16] If more trees are available around the new facility on the western ridge, there will be greater incentive for bears to come in and utilize those resources. *See* Parsons reb. at 10 (noting studies that indicate that it is difficult to deter animals from important food resources). As Mr. Hammond acknowledged on the stand, if bears in this habitat truly wanted to avoid wind turbines, there is no reason to climb a beech within a 1/8 of a mile of the Searsburg facility. There is ample beech habitat in the immediate area (more than 28,800 trees) that are far more removed from the operating Searsburg turbines. Tr. 12/12/08 at 60-61 (Hammond). Mr. Hammond states elsewhere that scaring on beech trees is the bears' "testimony" regarding the trees they consider important. Hammond pf. at 21. If so, Mr. Wallin's data provides a testament to the fact that bears don't mind using beech trees in close proximity to operating turbines.

While ANR makes unsuccessful efforts to discount the relevance of Mr. Wallin's extensive series of studies on the Searsburg facility, it is important to stress that neither ANR, VNRC, nor

[16] ANR also argues in its brief that it is impossible to tell whether the trees Mr. Wallin identified near the Searsburg facility were actually scarred after construction of the facility. ANR Brief at 97-98. This argument is unavailing. First, to support the argument ANR points only to testimony from Mr. Hammond, in which he testified that he recently went to the site to look at the trees Mr. Wallin mapped in 2005 and 2006. His testimony on this point is unreliable. When Mr. Hammond visited in 2008 he could not determine the age of *some* of the scars. Tr. 12/12/08 at 190-191 (Hammond). His visit was more than three years after Mr. Wallin's initial work in 2005 and as Mr. Hammond himself acknowledges, dating scars becomes more difficult the older the scar. *See id;* ANR Brief at 97. ANR's brief also mischaracterizes Mr. Hammond's actual testimony. Mr. Hammond did not testify that he could not determine whether *all* of the beech trees were actually scarred after the construction of the facility. In fact, he testified that there were a number of trees adjacent to the operating facility that had clearly been recently scarred (i.e., after construction of the turbines). Tr. 12/12/08 at 190-191 (Hammond). That concession supports Mr. Wallin's evidence of use of beech trees in areas immediately adjacent to the operating turbines.

Wilmington has come forward with *any* evidence specific to the operation of wind turbines that would refute Mr. Wallin's data and conclusions. Mr. Hammond and Dr. Kilpatrick acknowledged on the stand that they had not presented any evidence that bears are using the habitat around the Searsburg facility less than before construction. Deerfield Wind Brief at ¶¶ 689-690.

In short, ANR's, VNRC's, and Wilmington's arguments do not disturb the well-supported conclusion that the Project's limited impact on a small percentage of beech habitat in the project area will not destroy or significantly imperil the boarder bear habitat in this area.

3. *Analysis of Criterion 8(A) Sub-Criteria.*

ANR argues, for the second time in these proceedings, that Act 250 "provides that a permit will not be granted if [the project] will destroy or significantly imperil necessary wildlife habitat." ANR Brief at 86. That, of course, is not what the statute says. The question of whether the a project will destroy or significantly imperil necessary wildlife habitat is just the first step in the analysis under Criterion 8(A); it is not determinative. The parties opposing the project must also demonstrate that the three so-called "sub-criteria" are not met. *In re Southview Associates*, 153 Vt. 171, 174 (1989). Thus, even if the Board were to disagree with Deerfield Wind's evidence on the question of necessary wildlife habitat, there is a clear path for the Board to uphold ANR's position on the general importance of beech while still approving this Project based on fact-specific considerations. The parties' arguments on each of the three sub-criteria are discussed below.

i. <u>The Project's Benefits Outweigh Its Impact on Bear Habitat.</u>

Under Criterion 8(A) the parties opposing the Project have the burden to demonstrate that the impacts of the Project outweigh the benefits. They have not met that burden here.

VNRC did not present any evidence on the issue of whether the Project's impacts outweigh its benefits, and VNRC does not actually argue in its brief that the Project's benefits are outweighed by its impacts. Instead, it leaves this balancing to the Board. ANR and the Town of Wilmington similarly presented no affirmative evidence that would indicate that the Project's impacts outweigh its benefits. They did not present expert testimony that attempted to balance the relative impacts and benefits, and did not present any other direct evidence on this point. Indeed, Mr. Hammond acknowledged on the stand that he did not provide testimony or evidence on sub-criterion (i). Tr. 12/5/08 at 249 (Hammond).

Nevertheless, ANR (and the Town of Wilmington) now offer rather perfunctory arguments that the Project's impacts will outweigh the benefits. Neither party provides specifics to support that argument. ANR (and Wilmington) suggest that the project will have an impact on hunting opportunities and both obliquely note that hunting provides millions of dollars in revenue. As noted by Commissioner Coen during the proceedings, the only testimony regarding the potential economic benefits of hunting was generally related to the value of *all* hunting in the state, not bear hunting specifically. *See* Tr. 12/12/08 at 127. Neither ANR, Wilmington, nor any other party has attempted to provide any estimate of the economic value of bear hunting, nor an estimate of the potential reduction in revenue that may be attributable to the Project.

In fact, Mr. Hammond acknowledges that the Project's direct impact on the local bear population will not be measurable using the state's current (and only) methodology of assessing the size of the bear population (hunting harvest levels). Mr. Hammond testified that if something was having a significant impact on the bear population one would eventually see a decline in the harvest levels for that area of Vermont, but acknowledged that one would not see a reduction in the population size in southern Vermont as a result of the Project's direct impacts. *Compare* tr. 12/5/08 at 237, lines 23-25, *with* tr. 12/12/08 at 30-31.[17] That position is wholly inconsistent with ANR's (and Wilmington's) general suggestion that the impacts on the bear population are so significant that they outweigh any benefits. If the Project's impacts on the bear population were truly significant, one would see a reduction in harvest levels. Yet Mr. Hammond does not expect that to occur.

In short, there is no credible evidence that the bear population in southern Vermont will decrease in size due to the Project and there certainly is no evidence that the population size would decrease by such a substantial amount as to have a meaningful impact on the economic, environmental, or recreational benefits provided by the Vermont bear population. Bear will continue to be present on the landscape and there will be opportunities to hunt and observe bear in the wild. The economic and intangible benefits of hunting and observing bears in the wild will remain.

Moreover, ANR's and the Town of Wilmington's arguments wholly ignore the benefits provided by the Project. As outlined in Deerfield Wind's Brief, these benefits are substantial, providing both tangible economic and environmental benefits while also furthering important state

[17] In a separate exchange, Board Staff Member Young asked Mr. Hammond directly whether this project would reduce the population of bears in the area and Mr. Hammond's answer was very telling. *See* tr. 12/12/08 at 126 (Hammond). Mr. Hammond did not argue, or even suggest, that the impacts of the project would directly reduce the regional bear population or indirectly reduce the size of the population because of a reduction in reproductive success or a reduction in fitness levels in the population. Rather he speculated that the Project could displace some bears from the project area, which might then lead to an increase in nuisance activities, which might then cause members of the public to want fewer bears, which might then require the Agency to manage for fewer bears (which, of course, would primarily be accomplished by *increasing* the harvest levels for bears). *Id.* That response, which turns on a lengthy and purely speculative chain of events, exposes the fallacy in ANR's argument here and plainly contradicts the suggestion that the Project's impact on bear habitat is so significant that it outweighs the Project's benefits. The answer also demonstrates why bear-scarred beech trees are not "decisive" to the survival of the bear population in the manner contemplated by Act 250 (as deer wintering yards are). *Cf. Southview Associates*, Docket #2w0634-EB, Order of 6/30/87 at 9 (noting that loss of any deer wintering habitat will have a direct effect on survival of deer and will reduce deer population size).

and federal public policy goals. Deerfield Wind Brief at 191-192. When these benefits are balanced against the extent of the Project impacts on bear habitat (only 366 BSB out of 28,800 in the project area) the benefits "clearly outweigh" the loss. *Killington Ltd.* Docket #1R0584-EB-1, Order of 10/21/90 at 23.

ii. Deerfield Wind Has Taken All Reasonable and Feasible Steps To Reduce the Impact of the Project on Bear Habitat.

The project opponents have also not met their burden under sub-criterion (ii); the facts demonstrate that Deerfield Wind has taken all reasonable and feasible steps to reduce the impacts of the project.

VNRC acknowledges that the Applicant made extensive efforts to reduce the Project's potential impacts, including reducing the size of the Project several times, committing to use equipment that, while more expensive, reduces the width of the access roads, and committing to limit access and activity on the project site. VRNC Brief at 32. VNRC also acknowledges that Deerfield Wind has presented testimony demonstrating that it is not economically feasible to further reduce the number of turbines or to construct the east only Alternative. VNRC Brief at 32-33. VNRC does not present any evidence to dispute this testimony. Rather, it suggests that the Forest Service's consideration of the East Only alternative in the separate federal NEPA process causes some "confusion" about the economic viability of the east only alternative. There is no such confusion. As the testimony clearly reflects, Deerfield Wind has consistently stated that construction of the East Only alternative is not economically viable. *See* Tr. 12/1/08 at 96-100, 178, 190-193 (Habig). No party has presented affirmative evidence controverting – or even disputing – Deerfield Wind's testimony that it is not economically feasible to further reduce the size of the project and still maintain a viable project.

VNRC also does not identify any specific measures or steps that it believes Deerfield Wind should have taken to reduce further the Project's impacts at the proposed location. Its only argument is that Deerfield Wind should have considered the potential for constructing the entire project elsewhere on Forest Service land. First, as a legal matter, sub-criterion (ii) does not require an evaluation of alternatives. The Legislature provided for the considerations of certain alternative locations under the separate sub-section (iii) (as VNRC acknowledges; VNRC Brief at 34).[18] The separation of these two aspects of the inquiry is clear and logical: sub-section (ii) asks whether the applicant has done everything feasible and reasonable to prevent or lessen the destruction, diminution, or imperilment of the habitat on the site, and sub-section (iii) then separately asks whether the applicant owns or controls other locations where the project could fulfill its intended purpose. VNRC's argument turns this logic and structure on its head and converts the plain language of sub-criterion (iii) into mere surplusage, a result that must be avoided in statutory construction. *Payea v. Howard Bank*, 164 Vt. 106, 107-108 (1995) ("We will not construe a statute in a way that renders a significant part of it pure surplusage.") (internal quotation and citation omitted); *Agency of Natural Resources v. United States Fire Ins. Co.,* 173 Vt. 302, 307 (2001) ("we are mindful not to render a significant provision of a statute irrelevant."); *In re R.D.*, 154 Vt. 173, 177-178 (1990) ("We presume the Legislature intended each statutory provision to have effect and, where possible, we will interpret a statute to achieve this result.").[19]

[18] And, as discussed further below, that sub-section does not require an evaluation of all theoretically possible alternative locations. The plain language asks whether a "reasonably acceptable alternative is *owned or controlled by the applicant*. . ." 10 V.S.A § 6086(a)(8)(A)(iii) (emphasis added).

[19] Previous Environmental Board cases applying these sub-criteria take this logical approach. For example, in the Killington/Parker's Gore case, the Environmental Board considered whether

VNRC's argument is also factually incorrect. After ANR's concerns about bear habitat on the west side of the project became clear, Deerfield Wind did attempt to relocate more turbines to alternative locations on or adjacent to the eastern project area in order to reduce the impact of the Project on bear habitat on the west side. It was unable to due so for a number of reasons, including terrain, constructability, and wind resource issues. *See* Deerfield Wind Brief at ¶¶ 772-773.

The points raised by ANR under sub-criterion (ii) are similarly misplaced. First, like VNRC, ANR does not dispute that Deerfield Wind has taken numerous feasible and reasonable steps to reduce the impact of the Project on bear habitat, nor does it dispute the fact that further reductions in the size of the Project are not economically feasible. And, similarly to VNRC's brief, ANR does not identify any specific measures or steps that Deerfield Wind could have taken at the proposed site to further reduce the Project's impacts on the habitat. ANR's argument under sub-criterion (ii) is limited solely to off-site mitigation; it argues only that additional mitigation is necessary to avoid an undue adverse impact. ANR Brief at 99 ("the present project, therefore, without mitigation, will result in an undue adverse impact.").

Several points deserve emphasis in response to ANR's argument. First, the statutory language of sub-criterion (ii) does not speak to off-site mitigation. It requires the applicant to take reasonable and feasible steps to prevent or lessen the destruction, diminution, or imperilment of the habitat. The Petitioner has taken all such steps with respect to the habitat on the project site. No party has identified a reasonable or feasible measure that the Petitioner could implement on the

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Killington could take other actions to reduce or minimize the project's impacts under sub-criterion (ii) and then turned to the issue of alternative locations owned by Killington under sub-criterion (iii). *Killington Ltd*. Docket #1R0584-EB-1, Order of 10/21/90 at 23-28. The Board applied a similar analysis in the *Southview* case. *Southview Associates*, Docket #2w0634-EB, Order of 6/30/87 at 10-11.

project site to further reduce the number of trees or the acreage of BSB habitat that may be impacted by the Project.

To the extent that the language of sub-criterion (ii) can reasonably be understood to require off-site mitigation in the form of land conservation, Deerfield Wind has proposed such measures. With respect to direct impacts, Deerfield Wind has proposed to mitigate the impacts on a 4-to-1 basis. Deerfield Wind's offer to do so is not speculative but rather is entirely consistent with the mechanism ANR itself recommended in prefiled testimony for addressing potential mitigation in this case (in the event it lost on the initial issues). ANR proposed to address the question of mitigation as a condition to the CPG that would be handled post-certification in the event that the Petitioner demonstrated that the Project cannot be further reduced to avoid impacts on the western ridge:

> *If the petitioner were to demonstrate that all reasonable and feasible options have been considered and the Public Service Board were to approve a CPG, the Agency would recommend that a detailed mitigation plan be developed by the Petitioner that recognizes the full scope of potential impacts, both direct and indirect, to bear habitat. The Agency would collaborate with both the Petitioner and landowner in the development of a comprehensive mitigation plan that followed the process outlined in the Agency's Draft Black Bear Mitigation Plan and used in other large development projects occurring at many of the state's ski resorts and at the UPC Wind Project permitted in the town of Sheffield. A component of the mitigation plan would be to compensate for impacts by conserving similar habitat of an equal or greater value, and develop a habitat management plan for the stewardship of those conserved habitat areas. This plan should be a condition of the CPG, subject to the approval of the Agency and submitted to the Board.*

Hammond surreb. at 19.[20]

[20] As discussed above there is no dispute at this point that Deerfield Wind has done everything possible to reduce the impacts on the site. ANR's proposal to address mitigation through a CPG condition *after* analysis of whether the petitioner has taken "reasonable and feasible" steps under sub-criterion (ii) acknowledges that consideration of "off-site" mitigation is, in fact, distinct from the specific requirements of sub-criterion (ii).

Although the parties have a continuing dispute over the extent of necessary mitigation, the procedure proposed by ANR for developing a specific mitigation plan is entirely consistent with Deerfield Wind's recommended approach. It implicitly recognizes that obtaining rights to specific potential mitigation lands does not make sense prior to the Board determining the fundamental question of whether the project is in the public interest.[21]

It also should be noted that ANR's last-minute change in position on the potential for mitigation in this case has hampered the opportunity for meaningful discussion on specific mitigation options. Throughout these proceedings ANR has taken various inconsistent positions with respect to whether the Project's impacts can actually be mitigated. It initially argued that there was not sufficient information to determine whether mitigation was appropriate. Then, following further studies by the Petitioner, it took the position that mitigation was not appropriate as a matter of policy. Hammond pf. at 16-17; Hammond reb. at 18. Mr. Hammond's testimony changed on the stand when, in response to questioning from VNRC, he did not say that mitigation was not possible as a matter of policy, but rather stated simply that he believes finding sufficient land to mitigate indirect impacts would be "difficult." Tr. 12/5/08 at 175-177 (Hammond). This position is far different from ANR's previous argument that Deerfield *cannot* mitigate the Project's impacts as a matter of policy. As ANR was not open to considering mitigation prior to the hearings, Deerfield

[21] This Project is not a situation in which the *mechanism* of mitigation is in question. The question is merely identifying the appropriate off-site parcels of bear habitat and securing conservation easements (or other mechanisms that run with the land) to preserve the habitat for the life of the Project (as ANR accepted in the UPC-Sheffield case). *See Amended Petition of UPC Vermont Wind, LLC*, Docket No. 7156, Final Order of 8/8/2007 at ¶255. In that respect, this scenario is unlike other situations where the Environmental Board has expressed concerns about whether potential mitigation would actually work. *See Killington Ltd*. Docket #1R0584-EB-1, Order of 10/21/90 at 25 (noting uncertainty as to whether proposed wetland mitigation would actually succeed in mitigating loss of food resource).

Wind has not yet had the opportunity to have detailed discussions with ANR concerning specific mitigation lands. Deerfield Wind has identified several parcels of available land in the southern Vermont region and remains open to working with ANR in post-certification proceedings to design the final mitigation plan for the Project.

At this point, the core dispute between ANR and Deerfield Wind centers on whether and to what extent mitigation should be required for alleged indirect impacts. ANR does not argue that mitigation is not possible; instead, it argues that the mitigation package cannot "ignore" indirect impacts.[22] It is Deerfield Wind's position that it is not reasonable to impose mitigation for alleged indirect impacts when there is no credible evidence that operation of the Project will result in any meaningful displacement of bears. All of the evidence demonstrates that bears are continuing to utilize both the area and the beech trees immediately adjacent to the existing Searsburg facility. Mr. Wallin has documented recent scarring on beech trees closer than 1/8 mile from the operating turbines.

Nevertheless, Deerfield Wind's proposed mitigation does not "ignore" the *potential* for indirect impacts, however unlikely they are to occur. To the extent that there is some lingering uncertainty about the exact extent of indirect impacts, Deerfield Wind has proposed to conduct an

[22] In its discussion of mitigation in its brief, ANR does *not* argue that mitigation is not possible, nor does it argue that 4-to-1 mitigation is required for indirect impacts. In fact, ANR's argument on this point does not even cite its draft guidelines. The absence of any citation to the guidelines in it discussion section is consistent with the fact that ANR has previously argued in other proceedings (where they did not follow the draft guidelines) that the draft document is "not intended as a source reference for Act 250." *See* Deerfield Brief at ¶ 782. Moreover, as noted in Deerfield Wind's Brief, ANR has acknowledged that the nature of a wind project's impacts are different than other types of projects, and has accepted mitigation far less than the 4-to-1 ratio suggested in the draft guidelines. In the UPC-Sheffield case, the total mitigation the ANR accepted for both direct and indirect impact (combined) was less than 3-to-1. Deerfield Wind Brief at ¶ 786.

extensive pre-and post construction hair snag study to confirm that there are no indirect impacts that are unduly adverse. And, Deerfield has proposed to work with the Forest Service to implement important changes in management practices on more than 9,500 acres of land with high-quality bear habitat surrounding the Project. Mr. Hammond conceded that there is currently nothing that would prohibit the Forest Service from cutting or otherwise impacting the resources. The evidence indicates that the Forest Service has actually cut more than 400 bear-scarred beech trees in the project area within the past decade or two. If preserving beech trees in this area is important for bears, as ANR argues, such changes in management practice would have a clear benefit for the local bear population. This proposed mitigation on Forest Service land is not simply speculative; the Board could condition approval of the CPG on Deerfield Wind obtaining assurances from the Forest Service that such measures will be implemented for the life of the Project, or obtaining some alternative mitigation if it is unable to obtain such assurances.

iii. <u>Deerfield Wind Does Not Own or Control Any Alternative Locations.</u>

The project opponents also cannot meet their burden under sub-criterion (iii). The plain language of the statute restricts the analysis under this sub-criterion to land "owned or controlled" by the Applicant. It is undisputed that Deerfield Wind does not own or control any alternative locations on which this Project could be constructed. VNRC and the Town of Wilmington concede that fact in their briefs. VNRC Brief at 34; Wilmington Brief at 25. ANR does not address the point, but offers no evidence that contradicts Deerfield Wind's evidence.

Notwithstanding the language of the statute and the undisputed evidence in this case, VNRC, ANR and Wilmington argue that Deerfield Wind should be required to evaluate a huge number of hypothetical alternative locations on land that Deerfield Wind does not own or control. That position is obviously inconsistent with the plain language of the statute and would result in an unprecedented expansion in Act 250 and section 248 case law, creating an essentially limitless obligation to consider *any* theoretical alternative. Under their interpretation of sub-criterion (iii), to successfully block a project an opponent would simply need to point to some other potential location elsewhere in the state (or outside the state) that the applicant had "failed" to consider. That is an absurd result, and an unsupportable interpretation of sub-criterion (iii).

The Legislature advisedly limited the scope of the analysis to alternatives actually "owned or controlled" by the applicant and that language must be given effect and meaning. *Payea v. Howard Bank*, 164 Vt. 106, 107-108 (1995) ("When construing a statute, we presume that language is inserted advisedly."). The Legislature could have expanded the scope of analysis but did not. Similar provisions of separate Vermont regulatory programs require a broader analysis of alternatives. For example, the Vermont Wetland Rules require the applicant for a Conditional Use Determination to consider not only land actually owned or controlled by the applicant, but also land reasonably *available* to the applicant. Under that regulatory program, the Applicant must demonstrate that:

> [t]he proposed activity cannot practicably be located outside the wetland or on another site owned, controlled *or available* to satisfy the basic project purpose;

Vermont Wetland Rules §8.5(b)(1) (2002) (emphasis added). In contrast, the analysis under criterion 8(A)(iii) of Act 250 is limited to land actually owned or controlled by the Applicant. The analysis of alternatives in prior Environmental Board cases in consistent with the plain language of the statute and focused solely on land owned or controlled by the project proponent. *See Killington Ltd.* Docket #1R0584-EB-1, Order of 10/21/90 at 28. *Southview Associates*, Docket #2w0634-EB, Order of

6/30/87 at ¶25. In short, there is no legal basis to require analysis of alternative locations on land Deerfield Wind does not own or control.[23]

Even if the Board were to entertain VNRC's, ANR's and Wilmington's request to expand the statutory language to look at other alternative locations not owned or controlled by Deerfield, those parties' arguments on alternatives also reflect a misunderstanding of the nature of their burden under sub-criterion (iii). The parties opposing the project have the burden of identifying specific alternative locations, which includes presenting, at a minimum, sufficient information for the Board to find that the project could feasibly accomplish its purpose at those alternative locations. *See In re Southview Associates*, 153 Vt. 171, 174 (1989) ("The permit's opponents. . . thus have a dual burden: first, to show that the project 'will destroy or significantly imperil necessary wildlife habitat'. . .; and *second, to prove one of the three statements prefaced by small roman numerals*.") (emphasis added).

For example, in order to meet its burden in the Killington/Parker's Gore case, ANR identified eight specific alternatives in detail (all on land owned or controlled by Killington) and presented a basic prima facie argument that the alternative locations could accomplish the purpose

[23] Despite no legal obligation to do so, Deerfield did endeavor to explore opportunities to further minimize bear habitat impacts by extending the Project on to the adjacent lands owned by Green Mountain Power. In response to a question by Commissioner Coen, Mr. Habig explained:

> We looked at that and Green Mountain Power was not interested in that in the near term and they were not interested -- the concept was more simultaneously repowering when we constructed this project. That was just to take advantage of synergies if they eventually repowered doing it at the same time. We didn't really get into discussions, and our impression was that Green Mountain Power wanted to retain ownership of that facility and, therefore, they would not want to sell the land to us and allow us to expand our project there.

Tr. 12/1/08 at 277 (Habig).

of the Project. *See Killington Ltd.* Docket #1R0584-EB-1, Order of 10/21/90 at 26-28 and ¶38. Following that initial showing, the applicant then had the opportunity to rebut ANR's suggestion that those alternative locations were feasible. *Id.* at 26-28 and ¶39. Such an initial showing is entirely absent in this case. *No* opposing party produced *any* evidence in prefiled testimony in this case suggesting that there were specific alternative locations for the Project on land owned or controlled by the Petitioner (or elsewhere, on land owned by the Forest Service, or otherwise).

The only suggestion in these proceedings concerning possible alternative locations for the Project was a passing reference during the hearings to thirty-seven areas identified by the Forest Service in the DEIS as "Potential Wind Resource Sites." Tr. 12/12/08 at 133 (Hammond). Now ANR and VNRC argue in their briefs that sub-criterion (iii) cannot be met because these other alternative locations exist. This reference to alleged alternative locations on Forest Service land is unavailing for several reasons (beyond the fact that they are located on land not owned or controlled by the Applicant). First, no party presented any evidence specific to these particular locations that would indicate that the purpose of the Project could actually be accomplished there. The "high level screening" conducted by the Forest Service was based solely on three broad criteria: forest service management area classification, general wind speed class, and distance to transmission lines. *See* DEIS at 37; Figure 2-3. This rough screen for three broad, general criteria does little more than *rule out* other areas. It does not establish that the Project could reasonably be accomplished in the identified locations. Indeed, the Forest Service's general screening does not, and could not, provide the type of specific information that is necessary to determine the economic or technical feasibility of constructing a wind project in particular locations. For example, the economic feasibility of projects is very specifically tied to the actual wind speed data at each location; broad classifications of wind speeds are not adequate to assess feasibility. Nor does the rough screen consider other site-specific issues that would preclude development in those locations. For example, all of the "potential wind resources sites" identified by the Forest Service in Woodford, Stratton, Winhall, Peru and Wallingford are immediately adjacent to or within a mile or two of the Appalachian/Long Trail. *Compare* DEIS Figure 2.3 *with* Map of Management Alternative E for the South Half of the GMNF (appended to the end of the *Forest Plan*)(noting location of Appalachian Trail). While construction of wind projects is not strictly prohibited in those particular management areas, the overarching visual quality standards in the Forest Plan would very likely prohibit wind turbines in such close proximity to the Appalachian Trail. *See Forest Plan* at 37-38.[24] Finally, the opposing parties simply allege that the impact on bear habitat would likely be less in these other areas without any evidence to back up that claim. *See* Wilmington Brief at 25. In fact, the available Forest Service data indicates that many of these high elevation ridge line locations have very high concentrations of beech similar to the area of the proposed project. Tr. 12/5/08 at 140-143 (Parsons). In short, the Forest Service's broad screening of potential wind sites does not satisfy the opposing party's initial burden under sub-criterion (iii).

But the Board need not go so far as to evaluate these other locations. The alternative arguments raised by the Project opponents find no foundation in the plain language of sub-criterion (iii). By broadly referencing the entire universe of other hypothetical sites on Forest Service land,

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[24] There are only three forest-wide visual standards. Forest Plan at 37. Standard S-3 provides:

> For the viewshed as seen from the Appalachian Trail and the Long Trail, but outside of the AT and LT management area, activities shall meet a visual quality objective (VQO) of at least Partial Retention.

Id. The Forest Plan defines "Partial Retention" as a visual quality objective under which changes must remain "subordinate to the naturally appearing landscape." *Forest Plan* at 38.

ANR, VNRC and the Town of Wilmington are essentially raising policy questions about how they believe wind development should be conducted and coordinated by the Forest Service (or a broader state-wide planning effort). What they seek is better planning by the Forest Service; a request that is well beyond the specific requirements of a section 248 proceeding and is well beyond the capability of any single wind developer. It would be unreasonable as a matter of policy for the Board to require one Petitioner to conduct an extensive analysis of all of the other potential sites owned by the Forest Service.[25]

The opponents' arguments regarding alternative locations are also quite clearly an attack on the separate federal NEPA process. ANR's brief on sub-criterion (iii) relies exclusively on hearsay in letters from two federal agencies filed with the Forest Service. Given ANR's extensive and repeated objection to any reference to the federal DEIS, it is somewhat ironic that the agency now apparently wants to actually litigate federal NEPA issues in this state proceeding. As Chairman Volz emphasized during the hearings, this proceeding is not an opportunity for collateral attack on the Forest Service's obligation under federal law – the focus in this proceeding is on whether the Project complies with Vermont law. Tr. 12/1/08 at 180 (Volz). Neither the Department of the Interior nor

[25] The time and expense necessary for such a broad analysis would preclude any developer from ever proposing a wind project. For example, the developer would likely need to put meteorological towers up in all of the locations for some period of time to determine the actual viability of the site. They would need to conduct assessments of constructability and assess, in detail, issues of site access and transmission interconnection and reliability. And, in order to provide a comparable level of detail with respect to potential resource impacts, they would need to produce hypothetical project designs tailored to each location and then assess a huge range of environmental impact issues. In order to satisfy ANR's requests in this proceeding, that assessment would need to include, at a minimum, counting each individual BSB within the potential direct impact area and then assessing the acreage of beech within ¼ mile of the proposed turbine string. Simply put, the type of broad analysis the project opponents request in this proceeding is unworkable and unreasonable. There is a reason the legislature limited analysis of alternative locations under sub-criterion (iii) to those locations actually owned and controlled by the applicant.

EPA is a party to these state proceedings, it does not appear that either agency reviewed the materials submitted before this Board, nor has either agency offered expert testimony that is subject to cross-examination in these proceedings. Those agencies' hearsay statements concerning the Forest Service's compliance with its obligation to evaluate alternatives under NEPA are not relevant to subcriterion (iii) of Act 250. Put simply, there is no credible evidence before this Board that the Project could be accomplished on other land owned or controlled by the Petitioner.

4. *Conclusion and Discussion of Overlap with Federal Review Process.*

The record in this case provides ample evidence for the Board to conclude that the Project will not have an undue adverse impact on bear habitat, after giving due consideration to Criterion 8(A) and its three sub-criteria. The Project will directly impact only a small percentage of the bear habitat available on National Forest Service land immediately adjacent to the Project. The evidence indicates that there will be no significant indirect impacts associated with operation of the facility, particularly given Deerfield Wind's commitments to strictly control the timing and type of activities on the Project site. Deerfield has taken every reasonable and feasible step to minimize and avoid impacts on-site, has proposed specific on-site measures to limit potential impacts, and has proposed specific off-site mitigation for those direct impacts that cannot be avoided. Deerfield Wind's commitment to work with ANR on the specifics of an off-site mitigation package and snag study protocol is consistent with the Agency's previous testimony about the appropriate way to proceed in this case if the Board approves the Project. As noted above, the principal dispute concerning mitigation centers on whether and to what extent mitigation should be required for alleged indirect impacts. Given that there is no credible evidence that such impacts will actually occur, Deerfield Wind does not believe that such mitigation is necessary or reasonable. Such mitigation certainly is not necessary to make findings under section 248 (b)(5) or 248(a)(2). However, should the Board determine that additional mitigation is preferable in order to provide a further level of assurance of public benefit, the Board could condition approval of the CPG using a post-CPG process. Where there is sufficient evidence in the record for the Board to make affirmative findings on all of the statutory criteria, as there is here, the Board can, and often does, impose other additional requirements in post-certification proceedings in order to maximize public benefits. *See In re Amended Petition of UPC Vermont Wind, LLC,* 2009 VT 19 at ¶¶ 5-11, --- A.2d ---, 2009 WL 279971 (Vt.) (approving use of post-certification proceedings to require the petitioner to make further good faith efforts to obtain fixed-price power purchase agreements).

The need for post-certification proceedings on the final mitigation plan also relates to the ongoing federal permitting process. Review of this Project is obviously complicated by these concurrent and overlapping permit proceedings. The Forest Service is required to give "due deference" to the Board's findings in this case and the Forest Service's FEIS will ultimately be informed by the Board's determination. 36 C.F.R §251.54(g)(2). The Forest Service is waiting to review the Board's decision prior to proceeding with the FEIS. The FEIS will also review and respond to comments provided by other parties in the federal proceedings.[26] Similarly, the Forest Service's conclusions, particularly on the issue of necessary mitigation, could impact and inform this Board's ultimate determination on the appropriate mitigation package. The Forest Service is required to consider what mitigation measures are necessary under the National Environmental Policy Act. 40 C.F.R. §1505.2(c)("State whether all practicable means to avoid or minimize

[26] *See DEIS* at 10: "The Forest Service will prepare a FEIS to address issues raised in response to comments on the DEIS, complete the analysis and disclosure of impacts, propose appropriate mitigation and provide the basis for decision documentation . . ."

environmental harm from the alternative selected have been adopted, and if not, why they were not. A monitoring and enforcement program shall be adopted and summarized where applicable for any mitigation."). The Forest Service's conclusions on mitigation may complement the Board's conclusions or they may conflict with the Board's determination.

In order to coordinate these processes to the extent possible, Deerfield Wind believes it is appropriate for the Board to provide a post-CPG opportunity to review and reconcile the Board's conclusions regarding necessary mitigation with those conditions actually imposed by the federal land owner. To that end, Deerfield Wind anticipates filing a statement with the Board after the FEIS and Record of Decision (Decision Notice) is issued by the Forest Service, explaining what, if any, additional mitigation, including land management changes, were required by the Forest Service. This filing could be coordinated to follow, coincide with, or precede Deerfield Wind's efforts to work with ANR on identifying specific off-site mitigation lands (as suggested by ANR in its testimony).

Birds and Bats

The Briefs of ANR and IWAG/SVR addressed issues surrounding potential impacts to bird and bat populations. Those Briefs do not cite to evidence or provide arguments that would compel a result at odds with the findings and conclusions spelled out in Deerfield Wind's Brief. *See* Deerfield Wind Brief at ¶¶ 787-855. Based upon the surveys and assessments of Deerfield's experts and the post-construction monitoring and adaptive management measures Deerfield Wind has proposed, the Project will not have an undue adverse impact on bird or bat species. Specific issues raised in the other parties' briefs are addressed below, as well as in Appendices A and B.

ANR's Brief includes, in places, contradictory positions regarding the Project's potential impact on bird populations. Thus, while the Agency voices concerns about the Project's potential impacts on raptors, it acknowledges that such impacts have been very limited at other wind projects. The Agency also states concerns regarding the relatively high passage rates in the western project area in Deerfield Wind's studies, yet recognizes that passage rates do not predict bird mortality. On the whole, ANR's Brief fails to consider the full extent of Deerfield Wind's testimony and studies, overstates potential impacts to birds, and seeks CPG conditions that would usurp the Board's post-CPG decision-making authority and are far more restrictive than necessary to prevent undue adverse impacts.

<u>Raptors</u>

ANR expresses its concern about the higher number of raptors observed at the western project area compared to the eastern project area, a point first raised in Mr. Hammond's direct testimony. However, ANR has simply ignored Deerfield Wind's subsequent rebuttal testimony on the subject (and in fact provided no sur-rebuttal testimony on the subject). While Deerfield Wind acknowledges that the raptor numbers were greater in the western area in the 2004 survey, Deerfield Wind's expert did not consider those numbers to be high relative to raptor migration figures seen elsewhere. Pelletier reb. at 1-3. Furthermore, the spring 2005 survey showed low numbers in the western area and little difference between sites. Pelletier reb. at 1-2. The total numbers observed were relatively low compared to other established hawk watch sites in New England, with other counts being 1.5 to 9.4 times greater than those documented at the project site. *See* Deerfield Wind Brief at ¶¶810-811; Pelletier reb. at 2; Roy/Erickson pf. at 7-8. The discrepancy between the numbers of raptors observed over the western and eastern project areas are almost entirely accounted for by a single day of observations when seasonal weather conditions were favorable for broad-winged hawk migration; on that day, Deerfield Wind's experts observed 613 broad-winged hawks, or 83% of the total for the study. *See* Deerfield Wind Brief at ¶812; Pelletier reb. at 2.

ANR also criticizes Deerfield Wind's studies for not analyzing the percentage of raptors flying below 125m. This is incorrect. The height of 100m used in the initial surveys was appropriate given the turbines planned at that stage of the process; once taller turbines were selected, Deerfield's consultants updated their reports to determine the number of raptors flying below 125m. Only 9% observed during spring 2005 were flying at heights of less than 125m. Pelletier reb. at 3.

Regardless of the observed passage rates, however, ANR's position is consistent with Deerfield Wind's that the Project poses a low risk of raptor mortality. ANR acknowledges that fatalities at comparable facilities have been low and that conditions at the Project point to similarly low numbers. *See* ANR Brief at ¶22. Studies of raptor mortality at other new wind projects suggest mortality of 0 to 0.1 per MW per year. *See* Deerfield Wind Brief at ¶¶813-814; Pelletier reb. at 3. This experience at other wind projects, coupled with Woodlot's extensive pre-construction studies and Deerfield Wind's commitment to post-construction mortality studies and adaptive management (if necessary), demonstrates that the Project will not have an undue adverse impact on raptors.

<u>Migrating Songbirds</u>

ANR expresses similar concerns about the risk of collisions to migrating songbirds, but as in its discussion of raptors, acknowledges that high passage rates cannot be translated into predicted fatality rates. ANR Brief at ¶27. ANR's claim that the nightly passage rates for the western site were "the largest nightly passage rate of the 32 sites for other projects in the Northeast that were presented" is not accurate and ignores the results of the fall 2004 study. Pelletier reb. at 5. The studies of the western project area were only conducted in the fall, resulting in generally higher numbers as compared with the spring studies, and while rates from the 2005 study are higher than rates from 2004, both are within the range of numerous other studies at other wind projects. *See* Deerfield Wind Brief at ¶822; Pelletier reb. at 6; Roy/Erickson pf. at 16 (range of average passage rates, 94-691 targets/km/hr). Passage rates even in the western area are not out of the ordinary and, as ANR concedes, do not predict mortality. ANR's expert, Mr. Hammond, agreed that the risk to migrating birds is small and that any remaining concerns can be addressed through post-construction monitoring and adaptive management if necessary. Deerfield Wind Brief at ¶827; tr. 12/5/08 at 221-223 (Hammond).

Nesting Birds

Deerfield Wind shares ANR's desire to minimize the impacts of project construction on nesting birds and will take steps to do so. As recommended by its bird expert, Deerfield Wind will time construction, where feasible, to minimize disturbance to nesting birds and, time permitting, will conduct construction in one season rather than split it over two. *See* Deerfield Wind Brief at ¶¶833-835; tr. 12/2/08 at 253:11-22 (Kerlinger). Dr. Kerlinger expressed the opinion that some construction activity can occur during nesting, but Deerfield Wind will avoid tree cutting and bulldozing during those time periods. Deerfield Wind Brief at ¶834; tr. 12/2/08 at 252-253 (Kerlinger). Moreover, his unrebutted opinion was that turbine collisions are unlikely for birds nesting on site, and though construction and infrastructure will create some impacts, they should not be biologically significant. Deerfield Wind Brief at ¶832; Kerlinger pf. at 18.

Bats

ANR has proposed findings and management measures for bats that go beyond preventing an undue adverse impact. As discussed in Deerfield Wind's Brief and below, ANR's bat expert has proposed mortality thresholds that are premature based on the limited knowledge of the area's bat population and based on an outdated build-out scenario for wind projects in the region. In addition, ANR has proposed in its brief that Deerfield Wind not conduct helpful post-construction studies to determine actual mortality rates at the site, but instead immediately implement adaptive management measures.[27] Deerfield Wind recognizes that ANR has a great deal of experience with the wildlife of the state, but does not, as ANR has stated in its brief (ANR Brief at ¶81), believe that the Board should entirely defer to the Agency on bat issues. Rather, Deerfield Wind has emphasized the importance of regular consultation between its experts and ANR. Tr. 12/3/08 at 43:16-25 (Pelletier).

Mortality Thresholds

ANR recommends certain thresholds for bat mortality that, if exceeded, should trigger an adaptive management program. *See* ANR Brief at ¶72. Although Deerfield Wind acknowledges that an adaptive management program may be necessary to address impacts to bats, ANR's proposed thresholds are not set at proper levels. Currently, too little is known of regional or local bat populations to develop meaningful threshold numbers at this time. *See* Deerfield Wind Brief at ¶850; Pelletier reb. at 19. Ongoing post-construction studies are currently generating a great deal of valuable data on specific windows of vulnerability for bats, which could allow for more narrowly focused adaptive management techniques that both better protect bat species and minimize unnecessary operational constraints. *See* Deerfield Wind Brief at ¶851; Pelletier reb. at 19. Furthermore, ANR's proposed thresholds were based on an assumed wind energy build-out scenario in the eastern U.S. that is much more aggressive than what is actually occurring. Deerfield Wind Brief at ¶848; tr. 12/3/08 at 46-47 (Pelletier); tr. 12/2/08 at 279-280 (Darling).

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[27] This is contrary to the testimony of ANR's own bat expert, who believes a mortality study should be conducted to determine whether adaptive management is needed. See tr. 12/2/08 at 275-276, 286-287, 290 (Darling).

ANR wrongly recommends that the Project should implement adaptive management immediately following construction, rather than first conducting mortality studies, because the Agency's suggested mortality thresholds will be exceeded. ANR Brief at 98. While Mr. Pelletier testified that the Project may likely exceed ANR's proposed thresholds, his speculation is insufficient to justify forgoing the post-construction studies. Deerfield Wind Brief at ¶849; tr. 12/3/08 at 22-23 (Pelletier). Post-construction studies can contribute to a greater understanding of the Project's specific impact on bats, the general effects of eastern wind projects on bat populations, and recommend more effective and focused strategies for adaptive management. Deerfield Wind Breif at ¶851; Pelletier reb. at 19. ANR's own bat expert, Scott Darling, recommends post-construction monitoring for the same reasons. ANR Brief at 74-75, 89-90; Darling pf. at 19-21; tr. 12/2/08 at 275 (Darling). Furthermore, exceeding ANR's proposed thresholds may not be indicative of the Project's impacts on bat populations. Deerfield Wind Brief at ¶849; tr. 12/3/08 at 22-23 (Pelletier).

<u>Bird and Bat Post-Construction Monitoring</u>

ANR's proposals for post-construction monitoring, while appropriate in part, contain several problems. Deerfield Wind will agree to conduct post-construction mortality studies, but takes issue with the extent of studies ANR proposes as well as its request for final unilateral authority to approve the survey protocols. ANR seeks surveys to be conducted for a minimum of three years, which Deerfield Wind believes to be unnecessarily long. Two years of studies with the option to extend to a third year, should problems present themselves during the first two, would allow sufficient time for the wind industry and state and federal agencies to gather and analyze the results of this and other ongoing studies. *See* Deerfield Wind Brief at ¶837. ANR also proposes that the Agency, rather than the Board, should have final review and approval of the mortality survey protocols. Such an arrangement would be inappropriate and legally impermissible. The Board cannot delegate its oversight authority to another non-permitting entity, particularly one that was an opposing party in the proceeding.[28] Such an arrangement would also violate Deerfield Wind's due process rights, to the extent that Deerfield Wind would not have the opportunity to litigate to the Board any disputes with ANR regarding the approvability of a mortality study plan or report. While Deerfield Wind will work in concert with ANR to develop robust post-construction studies, and is willing to do so in advance of any submission to the Board, the Board's ultimate role as final arbiter of any post-CPG compliance filing is essential.

In its Brief, ANR questions whether it is possible to create an effective post-construction monitoring program without causing impacts to the bear population. Deerfield Wind believes that ANR and Deerfield Wind can collaboratively design a monitoring program that adequately addresses bird issues while sufficiently minimizing its potential effects on bears. Scott Darling of ANR has already acknowledged that Deerfield Wind's parent, Iberdrola Renewables, is developing a company-wide avian and bat protection plan in a responsible manner and expressed his confidence that Deerfield Wind and ANR will agree on the necessary elements of a post-construction monitoring plan. *See* Deerfield Wind Brief at ¶840; Darling surreb. at 2; tr. 12/2/08 at 268-270 (Darling). A number of steps can be taken to minimize impacts to bears. Bird and bat mortality searches will be conducted simultaneously and timed to avoid the crepuscular period, the mortality studies will be focused in years or seasons when expected bear use is at a minimum, the studies will use the same field researchers and search design, and the studies can be conducted, if necessary, without the use

[28] "As a general rule, absent a statute or act expressly permitting it, a board cannot delegate powers and functions that are discretionary or quasi-judicial in character, or which require the exercise of judgment. *See* 73 C.J.S. Public Administrative Bodies and Procedure § 57. Our own statute echoes the general rule . . . 3 V.S.A. § 214." *In re Application of Buttolph*, 141, Vt. 601, 604-605 (Sept. 7, 1982); *Secretary, Vermont Agency of Natural Resources v. Henry,* 161 Vt. 556 (1994).

of dogs. *See* Deerfield Wind Brief at ¶843; tr. 12/5/08 at 135-136 (Hammond); tr. 12/5/08 at 144 (Parsons). Deerfield Wind can also conduct scavenger efficiency pretesting coincidental to other post-construction studies to minimize impacts on other species. Tr. 12/2/08 at 253:13-16 (Kerlinger). The Board should recognize that such steps represent an appropriate tradeoff between an ideal study and minimizing impacts to bears, but are nonetheless part of an adequate monitoring program that may be the most balanced option for the Project.

Adaptive Management

If post-construction studies indicate problematic levels of bat mortality, Deerfield Wind will implement operational adjustments as adaptive management. As with approval of the study protocols, the Board, not ANR, must retain ultimate authority for approving the adaptive management plan. See discussion above.

Public Health and Safety

Shadow Flicker

No party provided any proposed findings or conclusions concerning shadow flicker, and Deerfield Wind's unrebutted evidence demonstrates that the Project will not cause undue adverse impacts related to shadow flicker. *See* Deerfield Wind Brief at ¶¶874-875.

Mr. Shea proposed a CPG condition as follows: "*Flicker (or strobe effect) shall be limited to the amount specified in petitioner's exhibit DFLD-JZ-31, and shall in no case exceed one half hour at any dwelling in the town of Searsburg over any twenty four hour period.*" Deerfield Wind submits that no CPG condition is necessary regarding shadow flicker as there was no evidence that shadow flicker would cause impacts. Moreover, the potential shadow flicker levels represented in Exh. DFLD-JZ-31 should not form the basis for a CPG condition. There is no connection between these modeled results and standards established by permitting or other qualified entities that are designed to prevent undue adverse impact to aesthetics or human health. There is no evidence to the contrary. In addition, there is no evidence in the record regarding the need or basis for a one-half hour maximum.

III. CONCLUSION

For all of the reasons provided herein and in Deerfield Wind's Brief dated January 23, 2009, Deerfield Wind respectfully requests that the Board approve the Project.

DATED at Burlington, Vermont this 20th day of February, 2009.

Deerfield Wind, LLC

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DEERFIELD WIND'S RESPONSE TO CPG CONDITIONS PROPOSED BY OTHER PARTIES

<table>
<tr><th>Other Parties' Proposed CPG Conditions</th><th>Deerfield Comments</th><th>Deerfield's FINAL Proposed CPG Conditions</th></tr>
<tr><td colspan="3">Decommissioning - DPS</td></tr>
<tr><td>"Prior to any Project-related construction activity taking place, Deerfield shall submit for Board review and approval a proposed plan for decommissioning. Such plan shall include a schedule for increases in the fund amount commensurate with the cost of decommissioning the Project at each phase of the construction period. Increases in the fund amount shall occur at a minimum prior to each significant phase of the construction process. The fund shall be fully funded prior to the commencement of construction of the Project. Deerfield shall provide a detailed study on the cost of removing the turbines, all associated infrastructure and restoring the site to its preconstruction condition. Deerfield shall also submit revised calculations for decommissioning both in 2009 dollars and with adjustments for inflation through 2030. The fund must be creditor and bankruptcy remote and must be fully accessible by the Board or its designee to insure that decommissioning takes place as warranted.

At a minimum, the plan must provide for: (i) disassembly and removal of all turbine components and their associated transformers from the site; (ii) disassembly and removal of the collector circuit components from the site, including cutting off all poles at grade; (iii) disassembly and removal of all substation components from the site; (iv) removal of all infrastructure up to a depth of two feet below grade, including foundations; and, (v) regarding to the surrounding contour of any area where subsurface infrastructure has been removed with appropriate seeding and stabilization to allow for revegetation of these areas.

Deerfield's proposal shall also include a proposed process for reporting output of the Project to monitor compliance with the minimum output requirement and a process for decommissioning review in the event the minimum requirement is not met. Parties with standing on the issue of decommissioning shall also be provided a copy of Deerfield's proposed plan and will have an opportunity for review and comment to the Board.</td><td><u>DEERFIELD WIND AND THE DPS HAVE REACHED AGREEMENT ON THIS CPG CONDITION, AS REFLECTED IN THE PROPOSED LANGUAGE TO THE RIGHT.</u>

From Deerfield Wind's point of view, the basis for the revised condition is as follows: Deerfield has already submitted a Decommissioning Plan into evidence which covers all of the issues in the DPS proposal. The Deerfield Decommissioning Plan is materially the same as the post-CPG Plan agreed to by the DPS and approved by the Board in Sheffield. Given the time, delay and expense of post-CPG compliance filings, Deerfield has tried to minimize such filings to the greatest extent possible, and to rely on the record evidence. This is why it submitted the Plan into evidence, and all parties have had the chance to review it. There is no need or basis to revisit that plan.

Deerfield is willing to update its cost estimate prior to construction, and file it with the Board.

With respect to the DPS' proposed requirements concerning leases and permits, it would not be appropriate for the Board to dictate language to be included in the federal USFS permit and lease concerning decommissioning, site access, etc. Those matters may very well be dictated by federal policy and regulation. Deerfield thus proposes that it would be more appropriate to submit the USFS permit and lease to the Board, after which the Board can determine if the permit or lease language raises any concerns.</td><td>1. Deerfield Wind shall implement the Decommissioning Plan submitted as Exh. DFLD-HGC-2. The decommissioning plan may allow the fund to grow as the construction process proceeds such that the funding level is commensurate with the costs of removing infrastructure in place. The amount of the fund may not net out the projected salvage value of the infrastructure. If actual power production falls below 65% of projected production during any consecutive two-year period, a decommissioning review is initiated; however, if Deerfield Wind can demonstrate that it has entered into stably priced power contracts with Vermont utilities through which a substantial amount of power is to be sold at stable prices, the Board may reduce the decommissioning trigger to as low as 50%.

2. Prior to commencement of construction, Deerfield Wind shall prepare a revised detailed estimate of the costs of decommissioning, covering all of the activities specified in the Decommissioning Plan. The plan shall certify that the cost estimate has been prepared by a person(s) with appropriate knowledge and experience in wind generation projects and cost estimation. The cost estimate shall be submitted to the Board for review and approval. Parties shall have two weeks to file any comments.

3. Deerfield Wind shall submit to the Board, for review and approval, any permits or executed lease agreements with private landowners concerning the Project. Any such lease agreements may be redacted to protect confidential business information. At a minimum, such lease agreements shall contain provisions which</td></tr>
</table>

Other Parties' Proposed CPG Conditions	Deerfield Comments	Deerfield's FINAL Proposed CPG Conditions
Deerfield shall submit to the Board, for review and approval, any permits, or executed lease agreements with involved landowners (including but not limited to the United States Forest Service) within the Project site. Any such lease agreements may be redacted to protect confidential business information. At a minimum, such permits and/or lease agreements shall contain provisions which ensure that decommissioning can effectively occur in the event of Deerfield's insolvency or dissolution, the revocation of any permit issued to Deerfield, Deerfield's breach of any lease, or an order of the Board requiring decommissioning, and allow access to the impacted land for purposes of fulfilling any CPG condition, including access by representatives of the Department of Public Service, the Board, and the Agency of Natural Resources. Upon approval by the Board a notice of leasehold interest for each lease agreement shall be recorded in the land records of the relevant municipality. Deerfield may not begin significant construction activities prior to Board approval, but may perform site preparatory work such as geotechnical investigations, surveys, light construction, and other similar activities."		***ensure that decommissioning can effectively occur in the event of Deerfield Wind's insolvency or dissolution, the revocation of any permit issued to Deerfield Wind, Deerfield Wind's breach of any lease, or an order of the Board requiring decommissioning, and allow access to the leased land for purposes of fulfilling any CPG condition, including access by representatives of the Department of Public Service, the Board, and the Agency of Natural Resources. Upon approval by the Board, a notice of leasehold interest for each lease agreement shall be recorded in the land records of the relevant municipality. Deerfield Wind may not begin significant construction activities prior to Board approval of any permitting leases, but may perform site preparatory work such as geotechnical investigations, surveys, light construction, and other similar activities.*** ***4. Deerfield Wind shall submit to the Board the USFS permit and lease covering federal lands on the site. Parties may file comments on whether the permit and lease contain terms that effectively meet the same objectives detailed in the preceding condition.***
Decommissioning - Shea		
<u>*Non-conforming Operation*</u>: *If at any time, the facility does not meet the operating criteria of the CPG, or if any individual turbine does not meet the operating criteria of the CPG, the operator shall immediately limit (or cease) operation, such that the facility no longer is in violation of the operating criteria of the CPG. The operator shall shut down, or otherwise cause the non-conforming effects to cease, until remediation has been affected regarding any violation of the operating conditions.* <u>*Decommissioning and Economic Viability*</u>: *If, at any time it is determined that the facility is no longer economically justified for operation, or if any single turbine is determined to be no longer economically justified to remain in operation, the affected turbine (or the entire facility, should*	The CPG condition is vague and deprives the Petitioner of due process. There is no definition as to which "operating criteria" are referenced, whether the failure to meet such criteria is causing de minimis, minor, or major violations, or whether the resulting effects of the alleged violation warrant limiting or shutting down the Project. The condition is also unnecessary – a CPG holder is required to comply with the Order and CPG, and any violations can be handled by the Board through its enforcement authority on a case by case basis The proposed CPG condition is vague in terms of what is meant by "economically justified." It is also unnecessary and would violate	***See Deerfield Wind-DPS Proposed CPG Condition on Decommissioning above.***

Other Parties' Proposed CPG Conditions	Deerfield Comments	Deerfield's FINAL Proposed CPG Conditions
the entire facility meet the criteria) shall be decommissioned, remediated and restored to pre-construction condition within 12 months. If the facility, or any individual turbine within the facility, is unable to operate within the parameters of the CPG for a period exceeding six months, the affected turbine (or the entire facility, should the entire facility meet the criteria) shall be decommissioned, remediated and restored to pre-construction condition within 12 months. *"Mothballing" of the facility for greater than six months shall be prohibited.*	Petitioner's due process rights. In the UPC-Sheffield case, the Board established a standard for decommissioning, including the requirement for decommissioning review should power output fall below 65% of the anticipated output for a period of two years. Deerfield's Decommissioning Plan and the proposed CPG condition noted above adequately address this issue. Mothballing is undefined, and the concept is otherwise covered in the Decommissioning provision. See Deerfield Wind's proposal.	***See Proposed CPG Condition on Decommissioning above.***
(b)(3) System Stability/Reliability - DPS		
"*Deerfield Wind shall submit the final System Impact Study (SIS) and interconnection and substation plans to the Board and parties prior to construction. Parties shall have two weeks to file comments on the SIS and plans. Deerfield Wind shall implement any changes determined necessary by ISO New England Inc. or Vermont Electric Power Company, Inc. to ensure system stability and reliability, and shall pay for any costs associated with measures designed to ensure that the Project does not adversely affect system stability and reliability*."	<u>**DEERFIELD WIND AND THE DPS HAVE REACHED AGREEMENT ON THIS CPG CONDITION, AS REFLECTED IN THE PROPOSED LANGUAGE TO THE RIGHT.**</u> The DPS language is effectively the same as Deerfield's.	***5. Prior to construction, Deerfield Wind shall submit the final System Impact Study (SIS) and interconnection and substation plans to the Board, the Parties, VELCO, and the owner of the transmission line at the point of interconnection. The Parties, VELCO, and the owner of the transmission line at the point of interconnection shall have two weeks to file any comments on the SIS and plans. Deerfield Wind shall implement, and pay the costs of, any transmission system changes determined necessary by either the Board or ISO New England Inc. to ensure that the Project does not adversely affect system stability and reliability.***
(b)(4) Economic Benefit – DPS		
"A minimum of 75% of the project's capacity must be committed to Vermont's retail distribution utilities under long-term contracts with beneficial rates, terms and conditions that result in price stability. Copies of all contracts must be filed with the Board and parties for review and comment prior to any significant construction activities."	The DPS' condition is materially the same as what it proposed for the UPC-Sheffield project, which was ultimately rejected by the Board in that case. Given that precedent, and the fact that there is <u>no evidence</u> in the record (including nothing from DPS' witnesses) supporting an absolute requirement that 75% of power be sold in-state, the proposed condition is inappropriate and not supportable. Deerfield Wind proposes a compromise between its prior language and the DPS language: a minimum of 30% of the power would be	***6. Deerfield Wind shall enter into long-term, stably priced power contract(s) with Vermont utilities for at least 30% of the Project's power output. In addition, Deerfield Wind shall make good faith efforts to enter into such contracts for project output above the 30% level, including but not limited to offering Vermont utilities the right of first refusal on such power contracts. Deerfield Wind shall provide an update of any negotiations with Vermont utilities 90 days after the date of this Order.***

Other Parties' Proposed CPG Conditions	Deerfield Comments	Deerfield's FINAL Proposed CPG Conditions
	committed in-state, with the additional requirement that Deerfield Wind use good faith efforts to obtain additional contracts above that amount. See Deerfield Wind's proposal.	***7. Prior to commencement of construction, Deerfield Wind shall file any such contracts entered into with Vermont utilities for Board review to determine if the contracts contain appropriate terms and conditions, including price stability, to promote the general good of the State of Vermont. Along with the contracts, Deerfield Wind must also file an explanation as to how the contracts promote the general good of the state. If, after good-faith efforts on the part of Deerfield Wind and the utilities, Deerfield Wind cannot obtain in-state power contracts as specified above for Project output above the 30% level, it shall file a statement explaining why an agreement cannot be reached and why the Board should modify or remove this requirement.***
(b)(4) Economic Benefit - IWAG		
If the Board should decide to approve a CPG for this project, we would encourage consideration of property value guarantees whereby Deerfield Wind negotiates a financial settlement with property owners located within a mile of the project site to ensure any damage to property values is fairly addressed.	IWAG's proposed condition is fundamentally flawed: it relates to an issue that if anything would be a matter of private party litigation, there is no basis in the record for its imposition, it exceeds the Board's authority to only impose reasonable conditions, and it would represent an unprecedented expansion of land use regulation to require new land uses to compensate existing land uses.	***No alternative language is proposed.***
TV Interference -- DPS		
Deerfield will conduct a baseline study of television reception at the DCTV headed prior to construction of the turbines. The study should be on par with the Comsearch study performed prior to the construction of the Loweville facility. *Deerfield Wind will remediate any material interference at the DCTV headend facility that is caused by operation of the Project.* *Within three weeks of receipt of a complaint, Deerfield will complete an interference measurement study for the DCTV headend facility, and provide a copy of this study to Duncan Cable, the Department of Public Service, and the Board.*	**<u>DEERFIELD WIND AND THE DPS HAVE REACHED AGREEMENT ON THIS CPG CONDITION, AS REFLECTED IN THE PROPOSED LANGUAGE TO THE RIGHT.</u>** From Deerfield Wind's point of view, the basis for the revised condition is as follows: The original DPS and Deerfield proposals were effectively the same, with the exception that the DPS proposed that the baseline study be the same as that conducted in Lowville. The parameters of the Lowville Study are not part of the record in this case, and the Lowville study does not provide the	***8. Prior to commencement of construction, Deerfield Wind will conduct a study of reception quality at the Duncan Cable TV Service (DCTV) headend facility in Wilmington, Vermont, and provide a copy of this study to the Board, the Department of Public Service, and DCTV.*** ***9. The study will measure and document the signal strength and video quality received off-air at the DCTV headend of analog and digital television stations of sufficient quality for commercial distribution (defined as having at least 20 dB carrier to noise***

Other Parties' Proposed CPG Conditions	Deerfield Comments	Deerfield's FINAL Proposed CPG Conditions
Deerfield may seek an extension of this timeframe for good cause. If the interference measurement study demonstrates that the Project is causing material interference at the DCTV headend facility, Deerfield will, at the same time, provide a plan and a schedule to remediate any material interference to DCTV, the Department of Public Service and the Board. If the interference is not remediated to DCTV satisfaction within two weeks following the completion the remediation plan, DCTV may petition the PSB to request that the turbines be deactivated until the remediation is completed. This petition will be processed in an expedited manner, with a ruling from the PSB within 10 business day *Deerfield and DCTV shall make good faith efforts to resolve between themselves any disputes concerning the methodology for investigating or remediating a complaint and the timeframe for completion of remediation. Unresolved disputes may be taken to the Board for resolution.* *During operation of the Project, Deerfield shall investigate complaints of Project-related interference with television broadcast signals received at any residence. Deerfield will use commercially practicable efforts to remediate material interference with television broadcast signals received at any residence affected by the Project. Deerfield and the affected homeowner(s) shall make good faith efforts to resolve amongst themselves any disputes concerning the methodology for investigating or remediating a complaint, or the timeframe for completion of remediation. Unresolved disputes may be taken to the Board for resolution.*	proper basis for a Deerfield baseline study. Consequently, Deerfield and the DPS have identified appropriate study parameters in a general way. In further response to concerns raised by DCTV in its proposed findings and conclusions, Deerfield and the DPS also propose language to require Deerfield Wind to: give DCTV at least 7 days' advance notice prior to commencement of commercial operation of the facility; complete an interference measurement study and remediation plan (if necessary) within 2 weeks of any DCTV complaint of interference; and complete any necessary remediation within 2 weeks of its submission of a remediation plan.	***ratio), and the signal strength received at the DCTV headend of each FM radio station DCTV distributes to its subscribers as of the date of the study.*** ***a. Signal levels will be measured using a commercially available test antenna with a known gain figure.*** ***b. The study will include a one-minute recording of each measured television channel and radio station.*** ***c. Measurements and recordings will be conducted no more than 45 days prior to commencement of construction.*** ***d. DCTV shall allow Deerfield Wind access to the DCTV headend facility as necessary to conduct the baseline study with at least 7 days' advance notice. DCTV personnel shall be permitted to observe all measurements and recordings taken at the DCTV headend facility.*** ***10. Deerfield Wind will provide at least 7 days' notice to DCTV prior to commencement of commercial operation of the turbines. Deerfield Wind will remediate any material interference at the DCTV headend facility that is caused by operation of the Project. Within two weeks of receipt of a complaint, Deerfield Wind will complete an interference measurement study for the DCTV headend facility, and provide a copy of this study to DCTV, the Department of Public Service and the Board. Deerfield Wind may seek an extension of this timeframe for good cause. If the interference measurement study demonstrates that the Project is causing material interference at the DCTV headend facility, Deerfield Wind will at the same time submit a plan and schedule to remediate any material interference to DCTV, the Department of Public Service and the Board. Deerfield Wind shall complete remediation within two weeks of the date it submits any such remediation plan, and shall submit to DCTV, the Department of Public Service and the Board a report demonstrating the elimination of the interference upon completion of the remediation work. Deerfield Wind may seek an extension of this***

Other Parties' Proposed CPG Conditions	Deerfield Comments	Deerfield's FINAL Proposed CPG Conditions
		timeframe for good cause. ***11. Deerfield Wind and DCTV shall make good faith efforts to resolve amongst themselves any disputes concerning the methodology for investigating or remediating a complaint, or the timeframe for completion of remediation. Unresolved disputes may be taken to the Board for resolution, and will be processed by the Board in an expedited manner.*** ***12. During operation of the Project, Deerfield Wind shall investigate complaints of Project-related interference with television broadcast signals received at any residence. Deerfield Wind will use commercially practicable efforts to remediate material interference experienced at any residence affected by the Project. Deerfield Wind and the affected homeowner(s) shall make good faith efforts to resolve amongst themselves any disputes concerning the methodology for investigation or remediating a complaint, or the timeframe for completion of remediation. Unresolved disputes may be taken to the Board for resolution.***
TV Interference – DCTV		
Deerfield Wind, (DW) shall perform a base-line interference study. The purpose of this study is to document the levels of all measurable television and FM radio broadcast channels as well as the existence of any level of interference present at Duncan Cable TV's (DCTV) headend facility. Testing for the study shall be performed utilizing commonly used antennas to receive digital as well as analog VHF and UHF regional broadcast television and FM radio stations. DW and DCTV shall work together, cooperatively, in an effort to perform and achieve the necessary measurements. RF levels measured as well any interference present at the time of the study shall be logged and recorded. Any interference visible on the screen of a conventional monitor test set shall be recorded. The following, further details what DCTV requests to be included in this base-line study.	DCTV's proposed conditions contains numerous technical details regarding the performance of the baseline study which are not supported by the record evidence and in fact would not be appropriate or relevant to this type of study. In addition, DCTV's proposed condition places DCTV in the position of unilaterally determining if interference is occurring and whether the remediation is satisfactory, how the Project must be operated and shut down in the event of alleged broadcast television interference, access to the project site, and other similar provisions. These post-CPG oversight functions can only be performed by the Board, not by an adversarial party in the proceeding, and only after Deerfield Wind has had an opportunity to be heard on any matter in dispute.	***See Deerfield Wind-DPS Proposed CPG Condition above.***

Other Parties' Proposed CPG Conditions	Deerfield Comments	Deerfield's FINAL Proposed CPG Conditions
A. Measured levels and performance parameters of all regional broadcast signals received at DCTV's Headend, both analog and digital. These measurements and performance parameters to be obtained should include at a minimum: *1. Actual levels of all measurable off air analog or digital television and FM signals.* *2. Logging any analog or digital in-band and out of band analog carriers. Including the strength, direction and likely source of such analog or digital carriers or interferers.* *3. Analyzing all measurable ATSC 8VSB Digital television signals for the following:* *A. Signal to noise ratio* *B. Carrier to noise ratio* *C. Error vector magnitude* *D. R S (Uncorrectable packets)* *E. Symbol rates of each channel* *F. M E R* *G. Line B E R* *H. Additive white Gaussian noise* *I. Echoes* *J. Amplitude and group delay distortion* *K. Phase jitter* *L. Shoulder attenuation* *M. Identify potential interferers already in existence* *B. Make a 3 minute video recording (Picture and Sound on a content indexed DVD) of each regional broadcast signal available at DCTV's Headend, both analog and digital.* *C. Log all results of baseline study in both electronic version and indexed hardcopy.* *D. Deerfield Wind's contractor performing an industry standard baseline study, should collect all data in the presence of DCTV technical staff.* *E.. DCTV staff shall make every effort to accommodate D. W.'s contractor's schedule* *DCTV and DW shall work together, cooperatively, to determine the source of any interference found to be present. This study shall be completed between 30 and 45 days prior to the commencement of any construction at the DW turbine site.*	The Deerfield Wind-DPS proposed CPG condition provides a reasonable framework for identifying and resolving in a timely manner any TV interference issues that may arise.	***See Deerfield Wind-DPS Proposed CPG Condition above.***

Other Parties' Proposed CPG Conditions	Deerfield Comments	Deerfield's FINAL Proposed CPG Conditions
Once the construction of the turbines is complete, DW shall notify DCTV prior to DW's initial production of electricity. *For 7 days following DW's notification to DCTV, DW shall place each turbine online individually, enabling DCTV to monitor and observe if any broadcast television interference is the result of each or all turbine activation. Once DCTV is satisfied that the wind turbines are not interfering with regional broadcast channels received at it's headend facility, DW is free to complete any other testing or other necessary procedures required to bring the wind turbines on line.* *Deerfield Wind (DW) will remediate any future material DW turbine interference at the Duncan Cable TV headend facility that is caused by operation of the Project. Deerfield Wind shall provide DCTV with current specific and updated telephone and email contact information to reach DW personnel who shall be personally responsible for fulfilling all arrangements as set forth within these conditions.* *1. Within 24 hrs of receipt of a complaint from Duncan Cable TV, DW will arrange Deerfield Wind site access to DCTV technicians and or it's contractors for the purpose of interference analysis. After such analysis, if DCTV concludes that interference is originating from DW's turbine facility and that such interference is affecting broadcast or satellite signals received by it's subscribers, DW shall execute the following actions within the stated time frames.* *2. Within 48 hours of DCTV's initial notification of television or radio interference to DW:* *a. At DCTV's discretion, DW technicians' shall coordinate a systematic shut down of each turbine individually. As each turbine is shut down, DCTV shall monitor any effect on the interference. If no affect on the interference is the result of a turbine being shut down, an additional turbine shall be shut down. If necessary, additional DW turbines shall be shut down in this manner, leading to a potential shut down of all turbines if necessary. Should interference remain after all turbines have been shut down, DW shall discontinue all electrical service to each turbine and it's respective tower to determine if a device within or a part of each tower is the source of such television interference.*	See previous comments.	***See Deerfield Wind-DPS Proposed CPG Condition above.***

Other Parties' Proposed CPG Conditions	Deerfield Comments	Deerfield's FINAL Proposed CPG Conditions
3. Once it is determined that any Deerfield Wind turbines or facility infrastructure are the source of television interference, and a shut down has been undertaken, A. DW shall not restart any turbines which have been identified by DCTV or it's contractors, as the source of interference, until DCTV agrees that the interference has been eliminated. B. If the source of such interference is intermittent in nature, DW shall not restart any turbines without first obtaining DCTV's consent that the interference has been mitigated. 4. In the event this project disrupts DCTV's signals and or service reception, the course of action and or outcome shall not cause DCTV subscribers or Duncan Cable Television company to be financial responsible for the costs of such action(s) as are necessary to complete a successful interference mitigation.	See previous comments.	***See Deerfield Wind-DPS Proposed CPG Condition above.***
Stormwater, Wetlands - ANR		
The Board should require that the Applicant receive a NPDES construction permit prior to construction as a condition of the permit	Deerfield Wind has no objection to this requirement. See proposed CPG condition.	***13. Deerfield Wind shall submit to the Board its NPDES stormwater permit for construction prior to the commencement of earth-disturbing activities at the site that require coverage under such permit. Deerfield Wind shall submit to the Board its Vermont operational phase stormwater permit prior to the creation of impervious surfaces at the site that require coverage under such permit. No further action shall be required by the Board with respect to these permits unless the activities approved therein represent a substantial change from the plans and material representations previously made by Deerfield Wind to the Board.***
ANR recommends a snow fence be placed along the limits of disturbance for Turbine 4E to avoid any impacts to the adjacent wetlands and their buffer zones. *ANR also recommends that construction occur during the winter months in order to lessen impacts to any intermittent stream or wet areas that may need to be crossed by construction equipment to gain access to the turbine sites.*	Deerfield Wind has no objection to the condition. Deerfield Wind objects to this condition. Appropriate stormwater control measures can be utilized during both winter and non-winter months to avoid impacts to streams and wetlands, and such controls would be required under the stormwater permit. ANR's own witness (Metz) testified to this in his sur-rebuttal testimony	***14. A snow fence shall be placed along the limits of disturbance for Turbine 4E to avoid any impacts to the adjacent wetlands and their buffer zones.***

Other Parties' Proposed CPG Conditions	Deerfield Comments	Deerfield's FINAL Proposed CPG Conditions
Aesthetics (Blasting, Noise) – DPS		
Blasting shall be minimized to the extent reasonably practicable and shall be performed only during regular business hours. For all blasting work to be performed on the Project, Deerfield shall use only fully certified and licensed blasters. Prior to performing any blasting for the Project, Deerfield's blasting contractor will develop a blasting plan and Deerfield and its blasting contractor will arrange for a public information session with surrounding landowners to respond to any concerns related to blasting for the Project and to explain what should be expected under the blasting plan. In the event any nearby landowners express concern about blasting impacts to structures or water wells on their property, Deerfield shall perform evaluations to determine if any damage has occurred as a result of its blasting activities and, if so, remediate such damage. *All blasting will be performed in accordance with any and all applicable laws and regulations, including but not limited to U.S. Department of Interior Rules 816.61-68 and 817.61-68 and the Blasting Guidance Manual, Office of Surface Mining, Reclamation and Enforcement, U.S. Department of Interior to limit peak particle velocity and ground vibration to safe levels. Noise and air blast effects shall be limited through application of proper techniques and blasting mats will be used where needed to limit the occurrence of flyrock.*	**<u>DEERFIELD WIND AND THE DPS HAVE REACHED AGREEMENT ON THIS CPG CONDITION, AS REFLECTED IN THE PROPOSED LANGUAGE TO THE RIGHT.</u>**	***15. Blasting shall be minimized to the extent reasonably practicable and shall be performed only during regular business hours. For all blasting work to be performed on the Project, Deerfield Wind shall use only fully certified and licensed blasters. Prior to performing any blasting for the Project, Deerfield Wind's blasting contractor will develop a blasting plan and Deerfield Wind and its blasting contractor will arrange for a public information session with surrounding landowners to respond to any concerns related to blasting for the Project and to explain what should be expected under the blasting plan. In the event any nearby landowners express concern about blasting impacts to structures or water wells on their property, Deerfield Wind shall perform evaluations to determine if any damage has occurred as a result of its blasting activities and, if so, remediate such damage.*** ***16. All blasting will be performed in accordance with any and all applicable laws and regulations, including but not limited to U.S. Department of Interior Rules 816.61-68 and 817.61-68 and the Blasting Guidance Manual, Office of Surface Mining, Reclamation and Enforcement, U.S. Department of Interior to limit peak particle velocity and ground vibration to safe levels. Noise and air blast effects shall be limited through application of proper techniques, and blasting mats will be used where needed to limit the occurrence of flyrock.***
Deerfield shall construct and operate the Project so that it emits no prominent discrete tones pursuant to ANSI standards at the receptor locations, and so that 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). Deerfield shall create a monitoring plan to document compliance with this standard. Deerfield shall report at least annually to the Board on its compliance.	**<u>DEERFIELD WIND AND THE DPS HAVE REACHED AGREEMENT ON THIS CPG CONDITION, AS REFLECTED IN THE PROPOSED LANGUAGE TO THE RIGHT.</u>** From Deerfield Wind's point of view, the basis for the revised condition is as follows:	***17. Deerfield Wind shall operate the Project so that it emits 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)(1hr) or 30 dBA (interior bedrooms)(Leq) (1hr). The noise limit shall apply to areas of frequent human use, including homes, yards, and porches. The noise limit shall not apply to areas that have***

Other Parties' Proposed CPG Conditions	Deerfield Comments	Deerfield's FINAL Proposed CPG Conditions
In the event noise from operation of the Project exceeds the levels permitted under the CPG, Deerfield shall take all remedial steps necessary to bring the sound levels produced by the turbine(s) into compliance with CPG requirements. In the event Deerfield is unable to correct the problem, the offending turbine(s) will be subject to decommissioning review.	The use of the word "construct" in the DPS noise condition is unnecessary and created ambiguity in the UPC-Sheffield case. As the Board recognized in that case, the identified noise limits do not apply to the actual construction of the Project, only its operation, and there is no evidence in this case to suggest otherwise. The DPS proposal for noise monitoring has been clarified to apply to the first year of operation only, with additional monitoring thereafter only on an as-needed basis should complaints arise.	***transient uses such as driveways, trails, and parking areas.*** ***18. Deerfield Wind shall submit to the Board for review and approval a noise monitoring and response plan. The Plan shall establish a monitoring program, to be conducted during the summer and winter seasons of the first year of operations, to confirm compliance with the maximum allowable sound levels described above. The plan shall also specify the protocols Deerfield Wind will implement in the event complaints are received that the Project is exceeding the noise limit (including, if appropriate, monitoring at the affected locations). All monitoring results shall be provided to the Board.*** **19.** ***In the event noise from operation of the Project exceeds the levels permitted under the CPG, Deerfield Wind shall take all remedial steps necessary to bring the project-related sound levels at the receptors into compliance with CPG requirements. In the event Deerfield Wind is unable to correct the problem, the Board may conduct a further review of Project operations.***
Aesthetics (Noise) - Shea		
Noise levels shall not exceed 30 dBA leq for any *HOURLY* period, inside any dwelling, in the town of Searsburg and shall in no case exceed the amounts specified in petitioner's exhibit DFLD-JZ-32	The 30 dBA interior limit, which is based upon the WHO guidelines for protection against sleep disturbance, should only apply to interior bedrooms. The sound levels represented in Ex. DFLD-JZ-32 should not form the basis for a noise limit. There is no connection between these modeled results and noise standards that are designed to prevent undue adverse impact to aesthetics or human health. There is no evidence to the contrary.	**See Deerfield Wind-DPS proposed condition above.**
Aesthetics (Visual) – DPS		
All turbine towers will be painted white or off-white.	**<u>DEERFIELD WIND AND THE DPS HAVE REACHED AGREEMENT ON THIS CPG CONDITION, AS REFLECTED IN THE PROPOSED</u>**	***20. All turbine towers will be painted white or off-white.***

Other Parties' Proposed CPG Conditions	Deerfield Comments	Deerfield's FINAL Proposed CPG Conditions
Deerfield shall obtain and submit the final FAA determination prior to the construction of the turbine towers. No further Board action is necessary unless the contents of the determination are materially different from Deerfield's prior representations to the Board or would materially impact any of the substantive criteria under 30 V.S.A. § 248(b). *Deerfield shall submit a re-vegetation and landscape plan for disturbed areas created by the access road, substation, and transmission line infrastructure.*	**<u>LANGUAGE TO THE RIGHT.</u>** From Deerfield Wind's point of view, the basis for the revised condition is as follows: FAA determinations – if they are consistent with Deerfield's prior representations, there is no basis to require a new review under the section 248 criteria as the Board would have already decided the issues. See, e.g., 1/28/09 Order in Docket 7156.	***21. Deerfield Wind shall obtain and submit the final FAA determinations prior to the construction of the turbine towers. No further Board action is necessary unless the contents of the determination are materially different from Deerfield Wind's prior representations.*** ***22. Deerfield Wind shall submit a re-vegetation and landscape plan for disturbed areas created by the access road, substation, and transmission line infrastructure which may require additional screening.***
Aesthetics (Visual) - Shea		
Flicker (or strobe effect) shall be limited to the amount specified in petitioner's exhibit DFLD-JZ-31, and shall in no case exceed one half hour at any dwelling in the town of Searsburg over any twenty four hour period.	No CPG condition is necessary regarding shadow flicker as there was no evidence that shadow flicker would cause impacts. The potential shadow flicker levels represented in Ex. DFLD-JZ-31 should not form the basis for a CPG condition. There is no connection between these modeled results and standards that are designed to prevent undue adverse impact to aesthetics or human health. There is no evidence to the contrary. In addition, there is no evidence in the record regarding the need or basis for a one-half hour maximum.	***No language is proposed***
Light pollution shall be limited by use of directional lighting on ALL lighting associated with the operation of the facility, such that light directed at the ground greater than 200 meters from any individual tower, or measured on any privately owned property adjacent to the facility, shall be limited to an amount that it is less than the brightest visible nighttime star in these locations.	There is nothing in the record concerning impacts due to lighting at the facility, nor is there any basis for a 200 m limit or the proposed "less than the brightest visible star" limit.	***No language is proposed.***
Bears – VNRC (referencing ANR Hammond testimony)		
If the petitioner were to demonstrate that all reasonable and feasible options have been considered and the Public Service Board were to approve a CPG, the Agency	This recommendation is consistent with Deerfield Wind's proposal to work with ANR, post-CPG, concerning the details of mitigation.	***23. Access roads will be gated and access to facility roads will be limited to authorized personnel only. The east-side***

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would recommend that a detailed mitigation plan be developed by the Petitioner that recognizes the full scope of potential impacts, both direct and indirect, to bear habitat. The Agency would collaborate with both the Petitioner and landowner in the development of a comprehensive mitigation plan that followed the process outlined in the Agency's Draft Black Bear Mitigation Plan and used in other large development projects occurring at many of the state's ski resorts and at the UPC Wind Project permitted in the town of Sheffield. A component of the mitigation plan would be to compensate for impacts by conserving similar habitat of an equal or greater value, and develop a habitat management plan for the stewardship of those conserved habitat areas. This plan should be a condition of the CPG, subject to the approval of the Agency and submitted to the Board.	Deerfield Wind's CPG condition proposes a combination of study and on-site and off-site mitigation measures to address potential impacts to bears. See proposed language.	***access road will be double-gated with the existing gate at the beginning of the current GMP road and a second gate at the end of the current GMP access road (at the beginning of the Deerfield Wind access road). The west-side access road will be gated at the beginning of the Deerfield Wind access road and again after the transmission corridor. Deerfield Wind will include measures to prohibit and deter illegal ATV access and other unauthorized access.*** ***24. Deerfield Wind will prohibit major scheduled repairs and maintenance activities during fall periods when bear may be using beech trees.*** ***25. Deerfield Wind personnel will be excluded from the site during the nighttime hours and during the crepuscular periods that have been shown to be important periods for bear activity (one hour before and after sunrise and sunset), except in emergency situations and during wildlife study periods.*** ***26. On-the-ground lighting at the facility will be limited to motion sensor lights at the substation and the O&M building.*** ***27. Deerfield Wind will evaluate each access road after construction to determine whether there are any specific bear crossings, and will take actions to preserve any such crossing areas that are identified.*** ***28. In the event that Deerfield Wind is able to obtain USFS approval, Deerfield Wind will conduct a pre- and post-construction hair snag bear monitoring program to evaluate the Project's impact on bears. The monitoring program will consist of a multi-year hair snag study designed to evaluate bear response to both***

Other Parties' Proposed CPG Conditions	Deerfield Comments	Deerfield's FINAL Proposed CPG Conditions
		construction and operation of the facility. The program will be designed in coordination with the USFS and the Agency of Natural Resources (ANR) and will be designed so as to ensure statistically valid data regarding bear use of the Project area before and after construction of the facility. ***29. Deerfield Wind will mitigate the Project's direct impacts on bear-scarred beech habitat on a 4-to-1 basis by obtaining conservation easements (or similar instruments that run with the land) on land containing comparable bear habitat in the southern Vermont region.*** ***a. The acreage of direct impact to be mitigated will be based on the amount of direct impact calculated by Mr. Wallin using ANR's methodology, as indicated on Exhibits DFLD-JW-9a(fig. 3) and 9b. The estimated total direct impact using this methodology is approximately 35 acres.*** ***b. The conservation easements (or similar instruments that run with the land) will be maintained for the life of the Project.*** ***c. Deerfield Wind will work with ANR to implement the 4-to-1 direct impact mitigation plan.***
Bears – ANR		
The Agency of Natural Resources requests a bear behavior study be conducted that tracks bear movements with GPS satellite receivers. The study would provide information on the bear movements to help determine whether and from which areas bears are being displaced.	Deerfield Wind's CPG condition proposes to conduct a hair snag study of pre- and post-construction bear activity on the project site. There is no support in the record for ANR's request for use of GPS satellite technology and there are significant questions about the feasibility and usefulness of such methods. Tr. 12/12/08 at 210-213 (Goland/Habig). There is enormous variation in individual bear behavior and collared bears might simply leave the project area for reasons wholly unrelated to the presence or absence of	***See Proposed CPG Condition 28, above.***

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	the project. *Id.* Mr. Hammond's Stratton study documented that 42% of his collared bears were lost during the study because of hunting. *See* SVR/Town of Wilmington WK-5. It would be difficult to maintain a sufficiently large study sample to produce statistically meaningful results. Tr. 12/12/08 at 210-213. In addition it is apparent that chasing and capturing bears in the project area in order to place collars could be traumatic and might influence the bear's use of the project area irrespective of the presence or absence of the Project. And there are significant questions whether small GPS receivers on bears will function effectively in this densely forested area (GPS requires an un-obscured line of site to satellites). An appropriate study protocol based on hair snags and DNA sampling technology will provide larger sample sizes and better information on the level of bear activity on the project site before and after construction of the facility. Tr. 12/12/08 at 210-213.	
Bats & Birds - ANR		
The Agency of Natural Resources recommends the implementation of a post construction monitoring program along with possible operational adjustments. *The Agency recommends that any post construction monitoring protocol must consider assessing collision fatalities for bats in conjunction with birds. In general, the Agency believes the following elements are essential for a suitable post-construction bird/bat mortality monitoring protocol: (1) post-construction bird and bat mortality surveys should be conducted in accordance with a detailed mortality survey protocol that has been developed in coordination with the Agency and that has been reviewed and approved by the Agency; (2) the surveys should be conducted for a minimum of three years in order to capture the potential variability in abundance of migrants, weather, and environmental conditions; (3) all post-construction mortality surveys should be conducted in a fashion that provides statistically reliable samples and associated estimates of bird and bat mortality; and they must include searcher efficiency tests and scavenger rate tests on a regular basis. Details regarding the number of search days per week and the number of turbines searched per day should be addressed in the detailed post-*	Deerfield Wind has considered the Agency's proposal, and agrees with the conceptual framework with a few exceptions (as discussed in more detail in the Reply Brief): • Deerfield Wind believes a two year study, with the possibility of a third year if necessary, should be adequate. • ANR should not have final approval authority over either the survey protocols or the results of the survey. The Board must retain that authority in the event there is disagreement between the Petitioner and the Agency. • There is not an adequate scientific basis for the imposition of the bat mortality thresholds identified in the testimony of Scott Darling. Instead, the thresholds to be applied should be the most current established threshold ranges for mortality at wind projects on northern forested ridges.	***30. Deerfield Wind shall submit a post-construction bird and bat mortality study to the Board for review and approval, and shall obtain such approval prior to commencing commercial operation of the Project. Prior to submission to the Board, Deerfield Wind shall first submit a draft of the plan to ANR for its review and concurrence. If after good faith discussions, Deerfield Wind is unable to obtain ANR's approval of the plan, it may submit the plan to the Board for resolution of any outstanding issues and final approval. The bird and bat mortality study plan shall at a minimum include the following elements:*** ***a. The study will be conducted for a minimum of two years and up to three years. The third year of study will only be required if the average avian and/or bat fatality estimates over the two-year period exceed the current established threshold ranges for mortality at wind projects located on northern***

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construction monitoring plan. In order to capture data that will characterize the full scope of bird and bat mortality, sampling should occur during both spring and fall migration periods - mid-April through mid-June and late July through early November. *If the PSB were to issue a CPG for this project, ANR's bat expert Scott Darling recommends that the PSB establish a condition requiring the Petitioner to prepare an adaptive management plan approved by ANR within 6 months of completion of. The final year of post-construction monitoring should the average bat fatality estimates for the period exceed the thresholds. The adaptive management plan must incorporate all reasonable measures necessary to reduce bat fatality rates to the thresholds and include the necessary monitoring to adequately evaluate the efficacy of the adaptive measures. The PSB may wish to require its review and approval of the adaptive management plan.*	See previous comments.	***forested ridges;*** ***b. The studies will be performed by a qualified third party consultant;*** ***c. The study periods will cover both spring and fall migration;*** ***d. Scavenging rates and searcher efficiency controls will be established for each period of study;*** ***e. Scientifically and statistically valid survey protocols will be employed based on the best available scientific information;*** ***f. Use of dogs on the project site will be limited to the extent absolutely necessary to design and test valid survey methods;*** ***g. The methodology will be designed to minimize impacts to other natural resources within the project area including bear and moose habitat; and*** ***h. ANR will have the opportunity to review the study results at the end of each study year.*** ***31. Deerfield Wind will engage with ANR in a cooperative, team-based process to review bird and bat mortality data. If post-construction monitoring for the two year period demonstrates that the Project is having an undue adverse impact, i.e., avian or bat fatality estimates over the two-year period exceed the most current established threshold ranges for mortality at wind projects on northern forested ridges, Deerfield Wind shall submit an adaptive management plan to ANR and the Board within 6 months of completion of the second year of post-construction monitoring. The adaptive management plan will incorporate reasonable scientifically proven measures to reduce fatality rates of the affected bird or bat species, and include a final third year of monitoring to evaluate the efficacy of the adaptive management measures. Actual measures to be taken will depend on the type and severity of impacts, cost benefit considerations, likelihood of accomplishing the desired outcome, and practicality.*** ***32. In the event that Deerfield Wind is unable to reach consensus with ANR during this review process, either entity may bring the matter***

Other Parties' Proposed CPG Conditions	Deerfield Comments	Deerfield's FINAL Proposed CPG Conditions
		to the Board for resolution. The Board shall retain final review and approval authority regarding the implementation of any adaptive management plan, and the need for a third year of mortality studies.
Transmission Facilities – DPS		
Prior to the commencement of any significant construction activities, Deerfield shall submit final reports from the ISO and VELCO detailing what steps, if any, are necessary to interconnect the project without adverse impacts to system stability and reliability. The reports will be subject to review and comment by the Department and approval by the Board, and Deerfield will bear all costs associated with any steps identified in the reports as necessary for interconnection.	This CPG condition is unnecessary, as the issues are already covered under the CPG Condition for System/Stability Reliability. See above. .	***See Deerfield Wind-DPS CPG Condition under System Stability and Reliability.***

Deerfield Wind's Proposed CPG Conditions

1. Deerfield Wind shall implement the Decommissioning Plan submitted as Exh. DFLD-HGC-2. The Decommissioning Plan may allow the fund to grow as the construction process proceeds such that the funding level is commensurate with the costs of removing infrastructure in place. The amount of the fund may not net out the projected salvage value of the infrastructure. If actual power production falls below 65% of projected production during any consecutive two-year period, a decommissioning review is initiated; however, if Deerfield Wind can demonstrate that it has entered into stably priced power contracts with Vermont utilities through which a substantial amount of power is to be sold at stable prices, the Board may reduce the decommissioning trigger to as low as 50%.

2. Prior to commencement of construction, Deerfield Wind shall prepare a revised detailed estimate of the costs of decommissioning, covering all of the activities specified in the Decommissioning Plan. The plan shall certify that the cost estimate has been prepared by a person(s) with appropriate knowledge and experience in wind generation projects and cost estimation. The cost estimate shall be submitted to the Board for review and approval. Parties shall have two weeks to file any comments.

3. Deerfield Wind shall submit to the Board, for review and approval, any permits or executed lease agreements with private landowners concerning the Project. Any such lease agreements may be redacted to protect confidential business information. At a minimum, such lease agreements shall contain provisions which ensure that decommissioning can effectively occur in the event of Deerfield Wind's insolvency or dissolution, the revocation of any permit issued to Deerfield Wind, Deerfield Wind's breach of any lease, or an order of the Board requiring decommissioning, and allow access to the leased land for purposes of fulfilling any CPG condition, including access by representatives of the Department of Public Service, the Board, and the Agency of Natural Resources. Upon approval by the Board, a notice of leasehold interest for each lease agreement shall be recorded in the land records of the relevant municipality. Deerfield Wind may not begin significant construction activities prior to Board approval of any permits and leases, but may perform site preparatory work such as geotechnical investigations, surveys, light construction, and other similar activities.

4. Deerfield Wind shall submit to the Board the USFS permit and lease covering federal lands on the site. Parties may file comments on whether the permit and lease contain terms that effectively meet the same objectives detailed in the preceding condition.

5. Prior to construction, Deerfield Wind shall submit the final System Impact Study (SIS) and interconnection and substation plans to the Board, the Parties, VELCO, and the owner of the transmission line at the point of interconnection. The Parties, VELCO, and the owner of the transmission line at the point of interconnection shall have two weeks to file any comments on the SIS and plans. Deerfield Wind shall implement, and pay the costs of, any transmission system changes determined necessary by either the Board or ISO New England Inc. to ensure that the Project does not adversely affect system stability and reliability.

6. Deerfield Wind shall enter into long-term, stably priced power contract(s) with Vermont utilities for at least 30% of the Project's power output. In addition, Deerfield Wind shall make good faith efforts to enter into such contracts for project output above the 30% level, including but

not limited to offering Vermont utilities the right of first refusal on such power contracts. Deerfield Wind shall provide an update of any negotiations with Vermont utilities 90 days after the date of this Order.

7. Prior to commencement of construction, Deerfield Wind shall file any such contracts entered into with Vermont utilities for Board review to determine if the contracts contain appropriate terms and conditions, including price stability, to promote the general good of the State of Vermont. Along with the contracts, Deerfield Wind must also file an explanation as to how the contracts promote the general good of the state. If, after good-faith efforts on the part of Deerfield Wind and the utilities, Deerfield Wind cannot obtain in-state power contracts as specified above for Project output above the 30% level, it shall file a statement explaining why an agreement cannot be reached and why the Board should modify or remove this requirement.

8. Prior to commencement of construction, Deerfield Wind will conduct a study of reception quality at the Duncan Cable TV Service (DCTV) headend facility in Wilmington, Vermont, and provide a copy of this study to the Board, the Department of Public Service, and DCTV.

9. The study will measure and document the signal strength and video quality received off-air at the DCTV headend of analog and digital television stations of sufficient quality for commercial distribution (defined as having at least 20 dB carrier to noise ratio), and the signal strength received at the DCTV headend of each FM radio station DCTV distributes to its subscribers as of the date of the study.

    a. Signal levels will be measured using a commercially available test antenna with a known gain figure.

    b. The study will include a one-minute recording of each measured television channel and radio station.

    c. Measurements and recordings will be conducted no more than 45 days prior to commencement of construction.

    d. DCTV shall allow Deerfield Wind access to the DCTV headend facility as necessary to conduct the baseline study with at least 7 days' advance notice. DCTV personnel shall be permitted to observe all measurements and recordings taken at the DCTV headend facility.

10. Deerfield Wind will provide at least 7 days' notice to DCTV prior to commencement of commercial operation of the turbines. Deerfield Wind will remediate any material interference at the DCTV headend facility that is caused by operation of the Project. Within two weeks of receipt of a complaint, Deerfield Wind will complete an interference measurement study for the DCTV headend facility, and provide a copy of this study to DCTV, the Department of Public Service and the Board. Deerfield Wind may seek an extension of this timeframe for good cause. If the interference measurement study demonstrates that the Project is causing material interference at the DCTV headend facility, Deerfield Wind will at the same time submit a plan and schedule to remediate any material interference to DCTV, the Department of Public Service and the Board. Deerfield Wind shall complete remediation within two weeks of the date it submits any such remediation plan, and shall submit to DCTV, the Department of Public Service and the Board a report demonstrating the elimination of the interference upon

completion of the remediation work. Deerfield Wind may seek an extension of this timeframe for good cause.

11. Deerfield Wind and DCTV shall make good faith efforts to resolve amongst themselves any disputes concerning the methodology for investigating or remediating a complaint, or the timeframe for completion of remediation. Unresolved disputes may be taken to the Board for resolution, and will be processed by the Board in an expedited manner.

12. During operation of the Project, Deerfield Wind shall investigate complaints of Project-related interference with television broadcast signals received at any residence. Deerfield Wind will use commercially practicable efforts to remediate material interference experienced at any residence affected by the Project. Deerfield Wind and the affected homeowner(s) shall make good faith efforts to resolve amongst themselves any disputes concerning the methodology for investigation or remediating a complaint, or the timeframe for completion of remediation. Unresolved disputes may be taken to the Board for resolution.

13. Deerfield Wind shall submit to the Board its NPDES stormwater permit for construction prior to the commencement of earth-disturbing activities at the site that require coverage under such permit. Deerfield Wind shall submit to the Board its Vermont operational phase stormwater permit prior to the creation of impervious surfaces at the site that require coverage under such permit. No further action shall be required by the Board with respect to these permits unless the activities approved therein represent a substantial change from the plans and material representations previously made by Deerfield Wind to the Board.

14. A snow fence shall be placed along the limits of disturbance for Turbine 4E to avoid any impacts to the adjacent wetlands and their buffer zones.

15. Blasting shall be minimized to the extent reasonably practicable and shall be performed only during regular business hours. For all blasting work to be performed on the Project, Deerfield Wind shall use only fully certified and licensed blasters. Prior to performing any blasting for the Project, Deerfield Wind's blasting contractor will develop a blasting plan and Deerfield Wind and its blasting contractor will arrange for a public information session with surrounding landowners to respond to any concerns related to blasting for the Project and to explain what should be expected under the blasting plan. In the event any nearby landowners express concern about blasting impacts to structures or water wells on their property, Deerfield Wind shall perform evaluations to determine if any damage has occurred as a result of its blasting activities and, if so, remediate such damage.

16. All blasting will be performed in accordance with any and all applicable laws and regulations, including but not limited to U.S. Department of Interior Rules 816.61-68 and 817.61-68 and the Blasting Guidance Manual, Office of Surface Mining, Reclamation and Enforcement, U.S. Department of Interior to limit peak particle velocity and ground vibration to safe levels. Noise and air blast effects shall be limited through application of proper techniques and blasting mats will be used where needed to limit the occurrence of flyrock.

17. Deerfield Wind shall operate the Project so that it emits 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)(1hr) or 30 dBA (interior

bedrooms)(Leq) (1hr). The noise limit shall apply to areas of frequent human use, including homes, yards, and porches. The noise limit shall not apply to areas that have transient uses such as driveways, trails, and parking areas.

18. Deerfield Wind shall submit to the Board for review and approval a noise monitoring and response plan. The Plan shall establish a monitoring program, to be conducted during the summer and winter seasons of the first year of operations, to confirm compliance with the maximum allowable sound levels described above. The plan shall also specify the protocols Deerfield Wind will implement in the event complaints are received that the Project is exceeding the noise limit (including, if appropriate, monitoring at the affected locations). All monitoring results shall be provided to the Board.

19. In the event noise from operation of the Project exceeds the levels permitted under the CPG, Deerfield Wind shall take all remedial steps necessary to bring the project-related sound levels at the receptors into compliance with CPG requirements. In the event Deerfield Wind is unable to correct the problem, the Board may conduct a further review of Project operations.

20. All turbine towers will be painted white or off-white.

21. Deerfield Wind shall obtain and submit the final FAA determinations prior to the construction of the turbine towers. No further Board action is necessary unless the contents of the determination are materially different from Deerfield Wind's prior representations.

22. Deerfield Wind shall submit a re-vegetation and landscape plan for disturbed areas created by the access road, substation, and transmission line infrastructure which may require additional screening.

23. Access roads will be gated and access to facility roads will be limited to authorized personnel only. The east-side access road will be double-gated with the existing gate at the beginning of the current GMP road and a second gate at the end of the current GMP access road (at the beginning of the Deerfield Wind access road). The west-side access road will be gated at the beginning of the Deerfield Wind access road and again after the transmission corridor. Deerfield Wind will include measures to prohibit and deter illegal ATV access and other unauthorized access.

24. Deerfield Wind will prohibit major scheduled repairs and maintenance activities during fall periods when bear may be using beech trees.

25. Deerfield Wind personnel will be excluded from the site during the nighttime hours and during the crepuscular periods that have been shown to be important periods for bear activity (one hour before and after sunrise and sunset), except in emergency situations and during wildlife study periods.

26. On-the-ground lighting at the facility will be limited to motion sensor lights at the substation and the O&M building.

27. Deerfield Wind will evaluate each access road after construction to determine whether there are any specific bear crossings, and will take actions to preserve any such crossing areas that are identified.

28. In the event that Deerfield Wind is able to obtain USFS approval, Deerfield Wind will conduct a pre- and post-construction hair snag bear monitoring program to evaluate the Project's impact on bears. The monitoring program will consist of a multi-year hair snag study designed to evaluate bear response to both construction and operation of the facility. The program will be designed in coordination with the USFS and the Agency of Natural Resources (ANR) and will be designed so as to ensure statistically valid data regarding bear use of the Project area before and after construction of the facility.

29. Deerfield Wind will mitigate the Project's direct impacts on bear-scarred beech habitat on a 4-to-1 basis by obtaining conservation easements (or similar instruments that run with the land) on land containing comparable bear habitat in the southern Vermont region.

    a. The acreage of direct impact to be mitigated will be based on the amount of direct impact calculated by Mr. Wallin using ANR's methodology, as indicated on Exhs. DFLD-JW-9a (fig. 3) and 9b. The estimated total direct impact using this methodology is approximately 35 acres.

    b. The conservation easements (or similar instruments that run with the land) will be maintained for the life of the Project.

    c. Deerfield Wind will work with ANR to implement the 4-to-1 direct impact mitigation plan.

30. Deerfield Wind shall submit a post-construction bird and bat mortality study to the Board for review and approval, and shall obtain such approval prior to commencing commercial operation of the Project. Prior to submission to the Board, Deerfield Wind shall first submit a draft of the plan to ANR for its review and concurrence. If after good faith discussions, Deerfield Wind is unable to obtain ANR's approval of the plan, it may submit the plan to the Board for resolution of any outstanding issues and final approval. The bird and bat mortality study plan shall at a minimum include the following elements:

    a. The study will be conducted for a minimum of two years and up to three years. The third year of study will only be required if the average avian and/or bat fatality estimates over the two-year period exceed the current established threshold ranges for mortality at wind projects located on northern forested ridges;

    b. The studies will be performed by a qualified third party consultant;

    c. The study periods will cover both spring and fall migration;

    d. Scavenging rates and searcher efficiency controls will be established for each period of study;

    e. Scientifically and statistically valid survey protocols will be employed based on the best available scientific information;

f. Use of dogs on the project site will be limited to the extent absolutely necessary to design and test valid survey methods;

g. The methodology will be designed to minimize impacts to other natural resources within the project area including bear and moose habitat; and

h. ANR will have the opportunity to review the study results at the end of each study year.

31. Deerfield Wind will engage with ANR in a cooperative, team-based process to review bird and bat mortality data. If post-construction monitoring for the two year period demonstrates that the Project is having an undue adverse impact, i.e., avian or bat fatality estimates over the two-year period exceed the most current established threshold ranges for mortality at wind projects on northern forested ridges, Deerfield Wind shall submit an adaptive management plan to ANR and the Board within 6 months of completion of the second year of post-construction monitoring. The adaptive management plan will incorporate reasonable scientifically proven measures to reduce fatality rates of the affected bird or bat species, and include a final third year of monitoring to evaluate the efficacy of the adaptive management measures. Actual measures to be taken will depend on the type and severity of impacts, cost benefit considerations, likelihood of accomplishing the desired outcome, and practicality.

32. In the event that Deerfield Wind is unable to reach consensus with ANR during this review process, either entity may bring the matter to the Board for resolution. The Board shall retain final review and approval authority regarding the implementation of any adaptive management plan, and the need for a third year of mortality studies.