

STATE OF VERMONT
PUBLIC SERVICE BOARD

Docket No. 7250

Petition of Deerfield Wind, LLC for a Certificate of Public Good)
authorizing it to construct up to a 45 MW wind generation facility,)
and associated transmission and interconnection facilities,)
comprised of between 15 and 24 wind turbines on approximately 80)
acres in the Green Mountain National Forest, located in Searsburg)
and Readsboro, with turbines to be placed both on the east side of)
Route 8 on the same ridgeline as the existing GMP Searsburg wind)
facility Eastern Project Area), and along the ridgeline to the west of)
Route 8 in a northwesterly orientation (Western Project Area))

**PREFILED SUPPLEMENTAL DIRECT TESTIMONY OF
JASON A. KRZANOWSKI**

ON BEHALF OF DEERFIELD WIND, LLC

July 30, 2007

Summary:

Mr. Krzanowski testifies regarding 10 V.S.A. § 248(b)(5). He discusses his revisions to the site plans to reflect the revised project layout and provides an evaluation of the effect of the revised layout on his original assessment of potential impacts regarding stormwater, soil erosion, water supply, and use of public roads.

1 **Q. Please state your name.**

2 Response. My name is Jason Krzanowski.

3

4 **Q. Have you previously submitted direct testimony in this matter?**

5 Response. Yes.

6

7 **Q. What is the purpose of your supplemental testimony?**

8 Response. My testimony concerns revisions to the site plans based upon the revised
9 project layout. I also evaluate the effect of the revised layout on my original
10 assessment of potential impacts regarding stormwater, soil erosion, water supply, and
11 use of public roads.

12

13 **Q. Have you reviewed the revised project layout, consisting of 17 turbines (10 on
14 the western string and 7 on the eastern string)?**

15 Response. Yes.

16

17 **Q. Is the revised project layout within the Project area that you originally
18 investigated?**

19 Response. Yes. Roadway and turbine relocations are within areas that I have
20 previously visited and assessed.

21

22 **Q. What additional work have you performed in connection with the revised
23 project layout?**

1 Response. I received data from PPM Energy through Mr. Neil Habig; I inserted the
2 new turbine locations into the drawings. I then reviewed on-site road and turbine
3 layouts and modified road locations as appropriate based on my current
4 understanding of vehicle requirements. Roads were re-checked against horizontal
5 and vertical geometry design rules. I also re-considered culvert, clearing area, and
6 earthwork proximity to wetland resources.

7 Please refer to ***Exhibit DFLD-JK-Rev2***, for the amended 20% reduced
8 (not-to-scale) design plans. Turbine numbering has been adjusted, but maintains the
9 same methodology; numbering increases north-to-south, with an “E” for the Eastern
10 Project Area and a “W” for the Western Project Area. Roadway stationing is also
11 adjusted, which maintains a single alignment with unique numbering on each ridge.

12 The revised layout affects clearing locations and grading for turbine
13 foundations, as well as a roadway and many crane pad / access locations. The
14 turbine clearing and construction areas are shifted along the ridge, and the southern
15 termini of the ridge-top roads are moved further south. One roadway segment in
16 the Western Project Area is shifted, taking into account new turbine locations and
17 the necessary horizontal and vertical geometries being sought for safe vehicular
18 travel (between stations 23+00 and 44+00). Re-alignments were also reviewed in the
19 Eastern Project Area, however none appeared necessary.

20 In particular, Hill re-reviewed the roadway configuration near turbine 4E.
21 Since turbine 4E is shifted easterly, south of the wetlands, Hill re-considered the
22 implication of routing the main road past that turbine and running along the ridge’s
23 eastern side (as shown as the alternative in ***Exhibit DFLD-JK-Rev5***). The potential

1 alternative would reduce the plan length of road proximate to wetlands; however, the
2 alternative road route is inferior for several reasons. First, the now much sharper
3 turn west of turbine 4E, which would need a relatively level grade for cranes and
4 truck loads, would represent a more substantial fill and gravel width up-gradient of
5 nearby wetlands. Second, after a grade drop to approach the turbine crane pad, the
6 road would again need to level out for both the crane's safe operation and trailer
7 unloading operations. Finally, after another grade drop to lose more elevation, there
8 would be another level turn of roughly ninety degrees; this would be necessary to
9 align with the original alignment to the east of turbine 3E. This stepped fill work
10 would result in a series of significant fill areas above the wetlands and contributing
11 watershed. The intervening grades would not conform to the 12% design parameter.
12 So, leaving the road at the original location will best minimize impacts into the
13 nearby wetlands. Hill also investigated moving turbine 4E back west, toward the
14 original location of 5E; our understanding is that creates turbulence and wake loss
15 issues with adjacent turbines.

16

17 **Q. How, if at all, is the revised layout different from the layout(s) that you**
18 **assessed in your original testimony, in terms of potential impacts related to**
19 **stormwater, soil erosion, water supply, and project-related traffic?**

20 Response. The revised layout does not aggravate any of the design inputs or
21 concepts; the 88 meter rotor and components are within the previously described 90
22 meter rotor and component requirements. Generally, the revised layout merely
23 shifts a given activity along the ridge, without modifying that activity size or extent.

1 The same stormwater management and soil erosion prevention concepts and
2 methodologies will be employed. Where the roads are lengthened or turbines are
3 relocated, the forest cover, soil variety, rock types, and grades are generally consistent
4 with the previous work areas. The marginal increase in gravel areas would require
5 corresponding increases in dust control water, but would not affect post-
6 construction water demand. Land clearing areas are roughly equivalent to that for
7 the 24-turbine layout.

8 Traffic was assessed based on known vehicle models, considering the
9 potential changes in trailer geometry. Most notably, longer blades could entail longer
10 trailers with wider swings at the curves. Since data on specific vehicles is not on-
11 hand, I modified horizontal geometric parameters based on experience and educated
12 extrapolations. The roadways both on and off-site face the same issues as before,
13 and the 88 meter rotor is within the envelope defined by the 90 meter rotor that was
14 discussed in prior testimony, so there are no new conditions here.

15 The turbine 4E road will require more attention for design and within the
16 context of the larger watershed, given the increase in earthwork and post-
17 construction exposed gravel above streams 8 and 9. The plan shows a series of pipes
18 under the road, which represents our intent to protect the hydrologic connection
19 between the streams and contributing watersheds. Hill will investigate using an open
20 graded stone layer, or a series of pipes connecting collection and distribution swales,
21 to maintain surface and sub-surface flow conditions.

22

1 **Q. Do the revisions to the layout alter your original conclusion that the Project**
2 **will meet all applicable criteria concerning water pollution, water supplies,**
3 **soil erosion, and traffic? Please explain.**

4 Response. No, they do not alter my earlier conclusions. Since none of the basic
5 criteria of the design, methodologies, or general field conditions are changing, I have
6 no reason to believe that the new turbine layout cannot meet the state's criteria. I
7 also believe that the access to turbine #4E can be designed so as to not adversely
8 impact the down-gradient hydrology that contributes to nearby wetlands. So there,
9 too, the Project can comply with state standards.

10 If anything, any potential traffic congestion is reduced with fewer turbines;
11 there will be fewer vehicles to transport WTG components and concrete for
12 foundation construction.

13

14 **Q. Does this conclude your testimony at this time?**

15 Response. Yes, it does.