

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
DAVID ESTEY**

ON BEHALF OF DEERFIELD WIND, LLC

July 30, 2007

Summary:

Mr. Estey testifies concerning 10 V.S.A. § 248(b)(3) and (b)(10), discussing revisions to the Project as they relate to the electrical collection system, substation, and transmission system. He also discusses the effect, if any, of the project revisions on his original assessment concerning system stability and reliability.

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

2 Response. My name is David P. Estey.

3

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

5 Response. Yes. I submitted Prefiled Direct Testimony on behalf of Deerfield

6 Wind, LLC on January 8, 2007.

7

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

9 Response. My testimony discusses revisions to the Project as they relate to the

10 electrical collection system, substation, and transmission system. I also discuss the

11 effect, if any, of the project revision on my original assessment concerning system

12 stability and reliability.

13

14 **Q. Have you reviewed the revised project layout, consisting of 17 2.0 to 2.1 MW
15 turbines?**

16 Response. Yes. As illustrated in DFLD-DE-Rev5a (One Line Diagram), the number

17 of wind turbines has been reduced to 17 2.0 to 2.1 MW turbines. The layout reduces

18 the number of turbines on the western ridge to 10 units and similarly reduces the

19 number of turbines on the eastern ridge to 7 units.

20

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

1 Response. I have reviewed the initial proposed substation and collection system and
2 determined that the substation transformer should be reduced in size to more closely
3 match the output capability of the Project. The initial project was proposed to be 45
4 MW and the revised project is proposed to be 34 to 35.7 MW. I have also
5 determined, based upon the ISO-NE Feasibility Study, that the alternate
6 interconnection (Sleepy Hollow Substation) is no longer a viable option due to the
7 extent of modifications necessary to accommodate the proposed Deerfield Wind
8 Project.

9

10 **Q. How, if at all, is the revised layout different from the layout(s) that you**
11 **assessed in your original testimony in terms of the electrical collection**
12 **system, substation, and transmission system?**

13 Response. The most significant difference is that there are fewer wind turbines that
14 are slightly larger in capability. This reduction has no significant impact on the
15 collection system proposed except that the Project will realize slightly lower line
16 losses due to the lower load flows. As mentioned above, the smaller project size
17 suggests a smaller interconnection transformer. Therefore, the
18 ONAN/ONFA/ONFA rating of the main power transformer has been reduced
19 from 30/40/50 MVA to 21/28/35 MVA. Also, as mentioned above, the Sleepy
20 Hollow Substation option is no longer considered a viable alternative due to the need
21 to establish a new 3 breaker ring bus substation at the Sleepy Hollow Tap point on
22 Line Y25N and the need to expand facilities in the Sleepy Hollow Substation. As for
23 the transmission system, the transmission system was adequate with the larger wind

1 project and with the reduction in the size of the Project, the transmission line
2 adequacy is further improved.
3

4 **Q. Do the project revisions alter your original conclusion that the Project will not**
5 **adversely affect system stability and reliability? Please explain.**

6 Response. No. The revisions have not persuaded me to alter my original conclusion
7 that the Project will not adversely affect system reliability and stability. Typically,
8 reliability and stability impacts resulting from a generator addition are significantly
9 influenced by project size. With a 20% reduction in the original proposed project,
10 the current project proposal will have no more of an impact than the original
11 proposal. Thus, my conclusion on the project revisions is that there continues to be
12 no adverse affect on system stability and reliability.
13

14 **Q. Do the project revisions alter your original conclusion that the Project can be**
15 **served economically by existing or planned transmission facilities? Please**
16 **explain.**

17 Response. No. My conclusion remains that the Project can be served economically
18 by the existing transmission system. Aside from a smaller power transformer, there
19 are no differences in the transmission and collector systems between the original 45
20 MW proposal and the current 34 to 35.7 MW proposal.
21

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

23 Response. Yes, it does.