

**STATE OF VERMONT
PUBLIC SERVICE BOARD**

Docket No. _____

Petition of EMDC, LLC d/b/a East Haven Windfarm)
for a Certificate of Public Good pursuant to)
30 V.S.A. sections 231 and 248, authorizing it to construct)
a 6 MW wind electric generation facility, and)
associated transmission and interconnection facilities,)
in East Haven, Vermont, and operate the same.)

**PREFILED DIRECT TESTIMONY OF
PETER MARSHALL OWENS**

ON BEHALF OF EAST HAVEN WINDFARM

November 17, 2003

Summary:

The testimony of Peter M. Owens presents his analysis of the impact of the Project on aesthetics. Mr. Owens asserts that the first prong of the Quechee test (whether a project “fits” with its surroundings), as it has traditionally been applied, is an inappropriately narrow approach to the question of the aesthetic impacts of a windfarm in Vermont. He proposes a different way of approaching the question of “fit,” based on four principles underlying the aesthetics of the Vermont landscape. Mr. Owens concludes that the Project will not have an undue adverse effect on aesthetics.

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

2 Response: My name is Peter Owens. I am a landscape architect and planner,
3 with a consulting practice based in Hanover, New Hampshire, where I live.

4

5 **Q. Please describe your qualifications.**

6 Response: I've had a keen interest in the Vermont landscape since I wrote my
7 senior thesis at Middlebury College on the historic evolution of the Mad River
8 Valley landscape nearly 25 years ago. My related professional experience began
9 as a landscape architect in the office of T. J Boyle and Associates in mid 1980's.
10 I helped prepare testimony and supporting analysis for the visual impacts of two
11 major projects: the Highgate Transmission Line and the Newton Farm/Murphy
12 Inn at Quechee Lakes. The Environmental Board's 1985 decision in the latter
13 case (the so-called "Quechee Decision") became renowned for its establishment
14 of the two step test for assessing aesthetic impacts under Act 250.

15 Later, as an independent consultant, I prepared and gave Act 250
16 testimony on two other high profile cases in Chittenden County, the Northshore
17 Condomium project in Burlington and the Maple Tree Place Mall in Williston. I
18 have also been involved in open space and visual resource planning over the
19 years. As part of this work I prepared Visual and Scenic Resource Assessments
20 for the Town of Shelburne and the Mad River Valley towns.

21 Finally in more recent years, I served as a senior planner working on the
22 new master plan for the Presidio of San Francisco that will guide its
23 transformation from historic military post to national park. A major part of my

1 work involved “cultural landscape assessment” using methodologies developed
2 by the National Park Service and the National Trust for Historic Preservation over
3 the past 20 years. A “cultural landscape” is defined as a landscape that has
4 evolved through the interaction of natural and cultural factors. In the broadest
5 sense, the entire State of Vermont can be seen as one large cultural landscape.
6 My full resume is attached as *Exhibit EHWF-PO-1*.

7

8 **Q. Have you ever testified before the Public Service Board?**

9 Response: No, although (as noted above) I assisted in preparation of Section 248
10 testimony in Terry Boyle’s office and have testified several times as an expert
11 witness under Criterion 8 of Act 250.

12

13 **Q. What is the purpose of your testimony?**

14 Response: My testimony explains an analysis I performed of the aesthetic impact
15 of EMDC’s proposed 4-tower demonstration project (the Project). That analysis
16 is contained in my report, which is attached as *Exhibit EHWF-PO-2*.

17

18 **Q. Please summarize your analysis.**

19 Response: My analysis asserts that the first prong of the Quechee test (whether a
20 project “fits” with its surroundings), as it has traditionally been applied, is an
21 inappropriately narrow approach to the question of the aesthetic impacts of a
22 windfarm in Vermont. Traditionally, “fit” has been equated with “sameness.”
23 But this approach doesn’t work very well with something that is fundamentally

1 different from its surroundings like a windfarm. This analytical framework fails
2 to recognize the inherent dynamic qualities of the Vermont landscape, in which
3 much of the aesthetic value is based on qualities of contrast and variation. It is a
4 landscape that is visually highly varied. It is a landscape that has changed
5 dramatically over time. It is a landscape where man-made features are an integral
6 element of its composition. Finally, it is a landscape where aesthetics are deeply
7 intertwined with associated cultural values. These factors all affect the way
8 people see and feel about the landscape.

9 I have articulated four principles that reflect a more appropriate approach
10 to the assessment of aesthetic “fit” of windfarms. They support a conclusion that
11 properly sited and designed windfarms, such as this Project, will be compatible
12 with and supportive of Vermont’s scenic beauty. They are as follows:

- 13 1. Windfarms are compatible with well-established Vermont values of
14 environmental conservation, stewardship and self-sufficiency.
- 15 2. Windfarms can be an integrated component of Vermont’s working,
16 resource-based landscape.
- 17 3. There is an environmental symbiosis or “fit” between a windfarm and
18 locations where the wind resource is most abundant.
- 19 4. Experience elsewhere suggests that that more people know about and
20 experience well-planned windfarms, the more attractive they find them.

21 I conclude that, when measured by these principles, the Project will have
22 no adverse effect on the aesthetics of the region.

23

1 **Q. Please explain why “fit” should not be equated with “sameness.”**

2 Response: The Vermont landscape is an aesthetically complex composition.
3 While it is routinely described as being “unspoiled” and “natural,” it has been
4 radically altered by human intervention for over 200 years. Every barn, every
5 field, every village, every white steeple is the result of human endeavor. In fact,
6 unlike the western US, even viewing the landscape depends on man-made
7 “windows” (e.g. fields, roads and buildings) cut into the native forest. The result
8 is a highly varied visual composition that we call Vermont scenery.

9 Evaluating how manmade elements “fit” into landscape thus must go
10 beyond simply whether they are the “same” as their surroundings. Fit depends on
11 qualities of both consistency and contrast. A village cluster or farm silo or
12 covered bridge all strongly contrast with their surroundings. Yet they are all seen
13 as integral to scenic landscapes. Without contrasting elements the landscape
14 would be much more monotonous and uninteresting to look at. However, equally
15 important is the consistency of these elements within larger landscape patterns
16 and associated cultural values. Contrasting elements such as villages, farms and
17 roads are scaled and organized by patterns of underlying historical relationships.
18 We find villages where power and transportation are abundant, farms are in areas
19 of good soils, roads tend to follow drainage patterns and topography. Thus man-
20 made elements in the Vermont landscape are organized in close association with
21 naturally varied patterns of soils, water, and topography.

22 Finally, equating "fit" with "sameness" runs counter to a landscape that
23 has evolved significantly over time in response to changing human needs

1 and values. Aspiring to an aesthetic of "sameness" implies a landscape
2 frozen in time, unable to adapt to new human endeavor no matter how
3 appropriate. By recognizing the underlying principles of the Vermont
4 landscape as dynamic ones, it is possible to develop a concept of "fit" that
5 can accommodate elements of change as well as continuity within a unified
6 aesthetic whole.

7

8 **Q. Please explain the four principles that you have identified.**

9 Response: The four principles can be summarized as follows:

10 1. Compatibilty with Vermont's value-laden landscape.

11 The attractiveness of Vermont's landscape is intertwined with associated
12 cultural values. Its farms, forests and villages express a balance of people and
13 environment, and the local self-reliance of an economy based on careful
14 stewardship of the natural resources on which it depends. Historically, energy
15 production in Vermont has been visible in rivers and streams, farm fields and
16 forests. As outlined in my report, increasing dependence on imported,
17 environmentally damaging energy sources is at odds with Vermont's values.
18 Wind power is an opportunity to reintroduce energy production into the landscape
19 as a symbol of Vermont's environmental priorities. These associations will have
20 a decidedly positive impact on the aesthetics of wind farms in the landscape.

21 2. Integration with the working landscape.

22 Vermont's scenic beauty is inseparable from a long tradition of rural,
23 resource-based land use. Its defining elements (farms, fields, forests and villages)

1 were not created for tourists but to provide basic human needs. While many
2 modern human activities threaten to despoil Vermont, resource-based activities
3 such as farming and forestry continue to provide much of today's scenery. As
4 described in the attached report, windfarms, such as the one proposed on East
5 Mountain, are highly compatible with Vermont's working landscape. Located
6 high on ridgetops, the turbines turn wind into electricity with virtually no impact
7 on nearby forestry or recreational activities, or environmental health. Access
8 roads will serve snowmobilers in winter and view seeking tourists in the summer.
9 The project will add a positive visual dimension to the Northeast Kingdom's
10 working landscape.

11 3. Farm wind where the wind blows.

12 There is a very strong correlation in the Vermont landscape between land
13 uses and location. Farms are located in areas of good soils, towns near
14 transportation and infrastructure, forestry and recreation tend toward more
15 rugged, less accessible locations. The aesthetics of the landscape are very
16 dependent on this sense of correct "fit" between function and location. A
17 cowbarn in downtown Burlington would look as "out of place" as an office
18 building in the middle of a dairy farm. Extending this principle to wind energy
19 yields the conclusion that windfarms belong where the wind blows. In Vermont
20 this means ridgelines. Landscape scenery depends on basic agreement of function
21 and location. Windfarms would seem "out of place" anywhere else.

22

23

1 4. Increased public knowledge results in increased attraction.

2 The final principle is a more pragmatic one. It asserts that public
3 acceptance of windfarms in other scenic places confirms their potential to be a
4 positive element in Vermont. New technology in the landscape is often viewed
5 suspiciously. Acceptance depends on whether local experience results in positive
6 or negative associations. Though rigorous research on this topic is limited,
7 experience in Vermont and Northern Europe suggests that the more people
8 understand the environmental benefits of well-designed wind farms, the more
9 attractive they find them. The most compelling data are from a survey of public
10 attitudes of Vermont's only commercial wind farm, in Searsburg, where eleven
11 turbines are visible from as close as 1/2 mile. Positive feelings toward the wind
12 farm grew from about 65% before construction to more than 80% afterwards. An
13 initially mixed assessment of the project's visual attractiveness changed to clearly
14 positive after the project was up and running. First hand knowledge resulted in
15 stronger support. These results suggest a strong potential for wind power to
16 become a positive element in the landscape.

17

18 **Q. Are windfarms appropriate on every ridgeline in Vermont?**

19 Response: No

20

21 **Q. How does your analysis avoid that result?**

22 Response: The principles I have outlined only argue that a "well-designed" wind
23 farm has the **potential** to be integrated as a positive element in the visual

1 landscape. Realizing this potential depends on whether or not a specific project
2 meets the standards of sound environmental design and planning. I would suggest
3 this determination could be based on three questions that go beyond basic
4 consistency with the four principles.

5 First, is the project proposed for somewhere it just doesn't belong? These
6 would include sites within a scenic viewshed of state or national significance or
7 within a designated wilderness area where no human activities are permitted.
8 Secondly, can the project demonstrate that it is well-situated and planned as a
9 wind energy site? Factors here might include a) suitability of wind resources to
10 support efficient operation, b) proximity to existing roads and transmission line
11 infrastructure, c) whether visual exposure is reasonably limited and distant, and d)
12 relationship to other resource-based activities such as farming, forestry, or skiing.
13 Finally, a third question asks how the specific project is designed to "fit" within
14 its surrounding landscape? Factors here include a) visual relationship with
15 surrounding landforms, b) visual order, color, and composition of both individual
16 turbines and turbine cluster, c) for larger projects, whether turbines are broken up
17 into distinct visual units, and d) whether associated infrastructure is buried or
18 effectively screened from public view.

19 Once a few more wind farms are actually up and running, it will be easier
20 to evaluate the long term relationship of wind in the Vermont landscape. In the
21 meantime, careful planning is essential to ensure that wind sites are developed in
22 harmony with the overall structure of the state's landscape.

1 **Q. Based on your analysis, will the Project have an undue adverse effect on**
2 **aesthetics?**

3 Response: No. The East Mountain site is arguably among the best sites in
4 Vermont. It is located on a previously industrialized ridgeline. It does not impact
5 mountain views of statewide significance, rare natural, historic or cultural
6 resources, and is not located within a designated wilderness area. It has limited
7 visibility from its immediate surroundings, good access to existing roads and
8 infrastructure, and is compatible with the surrounding land uses of forestry,
9 conservation, and recreation. And the project design features four well-
10 proportioned turbines neatly arrayed along a ridgeline with all associated
11 infrastructure hidden from public view. I am confident it will not have an adverse
12 effect on the landscape aesthetics of the region, let alone an undue adverse effect.

13

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

15 Response: Yes.