

BEFORE THE
PUBLIC SERVICE COMMISSION OF WISCONSIN

**Application of Wisconsin Electric Power
Company for Authority to Build and
Operate a 50 MW, Biomass-Fired
Cogeneration Facility in the Village of
Rothschild, Marathon County, Wisconsin**

Docket 6630-CE-305

SURREBUTTAL TESTIMONY OF MICHAEL J. VICKERMAN

ON BEHALF OF RENEW WISCONSIN

Q. Please state your name, occupation, and address.

A. My name is Michael J. Vickerman. I am Executive Director of RENEW Wisconsin, an organization whose directors and members support expanding the use of locally available renewable energy resources to meet the state's power needs. RENEW is located at 222 S. Hamilton St., Madison WI 53703.

Q. Please describe your professional qualifications?

A. Under my direction RENEW has advocated, and mobilized political support for, several pro-renewable policies adopted in the last 10 years, including the adoption in 2009 of uniform permitting standards for wind projects (SB 185) as well as the establishment in 1999 of Wisconsin's Renewable Portfolio Standard and a public benefits fund dedicated in part to renewable energy sources. I have been involved

1 with many issues relating to renewable electricity, ranging from broad policy
2 mandates and customer-driven green pricing programs to such technical issues as
3 renewable energy credit trading and windpower permitting ordinances. I was
4 RENEW's representative on the statewide Task Force on Energy Efficiency and
5 Renewables, which Governor Doyle convened in September 2003, and served as
6 co-chair of the Renewables Workgroup. In that capacity I developed and
7 negotiated several renewable energy policy recommendations for consideration by
8 the full Task Force. These were: (1) a successor Renewable Portfolio Standard
9 (RPS) that would result in a 10% renewable energy content by 2015 and (2) a
10 State of Wisconsin commitment to source 20% of the electricity it uses from
11 renewable energy sources. Both recommendations were included in a consensus
12 package of proposed policy changes that were subsequently incorporated into a
13 bill (SB459) that passed the Legislature and was signed into law in March 2006
14 (2005 Act 141) .

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16 I have written and defended testimony in several PSC proceedings in recent years,
17 including We Energies' application to build the Glacier Hills wind energy
18 installation (6630-CE-302), Northern States Power-Wisconsin's application to
19 convert its Bay Front 5 generator into a dedicated biomass unit (4220-CE-169),
20 Wisconsin Power & Light's application to build the Nelson Dewey 3 coal-fired
21 power station (6680-CE-170), Wisconsin Power & Light's application to build
22 the Cedar Ridge wind energy installation (6680-CE-171), We Energies'

1 application to build the Blue Sky Green Field wind energy installation (6630-
2 CE294), Forward Wind Energy's application to build a 200 MW wind energy
3 installation (9300-CE-100), Wisconsin Public Service Corporation's 2005, 2006,
4 2008, and 2010 rate cases (6690-UR-117, 6690-UR-118, 6690-UR-119, and
5 6690-UR-120), and Wisconsin Power & Light's 2005, 2006 and 2008 rate cases
6 (6680-UR-114, 6680- R-115 and 6680-UR-116), We Energies' 2005 and 2007
7 rate cases (05-UR-102 and 05-UR-103), and Madison Gas & Electric's 2007 and
8 2010 rate cases (3270-UR-115 and 3270-UR-117).

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10 I am currently involved in the Commission's ongoing proceeding to establish a
11 statewide rule for permitting wind turbines (1-AC-231) as a member of the Wind
12 Siting Council.

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

15 A. The purpose of my testimony is to address the issue of whether a wind project
16 could be built in Wisconsin and placed in service before the end of 2012. This
17 issue is discussed in the rebuttal testimony of We Energies witness Jeff Knitter.

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19 **Q. Does RENEW oppose the proposed biomass generating station in the Village**
20 **of Rothschild?**

21 A. RENEW has not taken a position on We Energies' proposed power plant, nor
22 have we formally taken a position in support of a specific generation alternative to

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1 the biomass generation facility. However, we believe that the discussion on the
2 record relating to wind energy alternatives needs to be expanded and sharpened to
3 ascertain how much wind generation in Wisconsin could be built and placed in
4 service before December 31, 2012.

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6 **Q. In his rebuttal testimony, Mr. Knitter states that the outlook for permitting**
7 **wind projects is uncertain and cautions against considering wind generation**
8 **as a readily available source of renewable generation in Wisconsin. Do you**
9 **agree with that statement?**

10 A. For the moment at least, Mr. Knitter's view is valid if applied to proposed wind
11 projects awaiting siting approval from a local government. Those proposals would
12 be subject to the uniform permitting standards (PSC 128) under development by
13 the Public Service Commission. However, I am aware of several wind generation
14 proposals in Wisconsin that have already been cleared by the local jurisdiction for
15 development. Those projects, which in the aggregate total more than 250 MW,
16 will be unaffected by the forthcoming rule. The specter of uncertainty that Mr.
17 Knitter invokes does not hold true for projects that have already acquired the
18 necessary land use permits to allow project construction to move forward.

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20 **Q. Which projects have already received siting permits?**

21 A. The projects that have received permission from local governments to proceed are
22 listed in Exhibit 12.1 and are highlighted in purple. That exhibit is the latest

1 iteration of an ongoing RENEW initiative to track proposed projects involving
2 utility-scale wind turbines. The projects in this group range in size from single-
3 turbine installations up to 99 megawatts.

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5 **Q. Are you aware of any projects in this group that have received clearance**
6 **from the Midwest Independent System Operator (MISO) to proceed?**

7 A. I do know that Horizon Wind's Quilt Block, the largest project in this group, has
8 acquired an Interconnection Agreement from MISO. I do not know about the
9 other projects in this group.

10

11 **Q. Wind turbines were in short supply in 2007 and 2008. Are they more readily**
12 **available today?**

13 A. Yes. Today's market conditions bear little resemblance to those of 2007-2009, a
14 period when demand for wind generation far outstripped the capacity of the
15 market to supply and construct wind turbines. There are more turbine models in
16 the market right now than there were three years ago, and they are less expensive
17 on a per kilowatt-hour produced basis than those available in 2008. Indeed, the
18 2007-2009 boom triggered a significant expansion in domestic wind
19 manufacturing capacity and construction infrastructure. Since 2009, however, the
20 pace of new orders and wind projects has declined markedly, and the slowdown is
21 expected to last through 2011. Virtually every manufacturer, construction firm
22 and consulting service connected to the windpower supply chain has room in its

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1 production schedule now to work on 2012 projects.

2 **Q. How would you characterize the risk profile of this group of proposed wind**
3 **projects?**

4 A. The level of technology, financial and regulatory risks associated with this group
5 of wind projects is very low. Turbine capacity factors are increasing, due to taller
6 towers and larger rotor diameters of the newest turbine models. The most recent
7 installation in Wisconsin, the Shirley Wind project near Green Bay, consists of
8 eight turbines with 100-meter rotor diameters on 100-meter towers. The trend
9 toward taller towers and longer blades will continue in 2011 with the Glacier Hills
10 and Cashton Greens projects. Vestas America will supply both projects with
11 turbine models larger than the V-82s operating in Blue Sky Green Field and
12 Cedar Ridge. Several developers in this group, such as Horizon, E-Wind and
13 Emerging Energies, have access to the very large wind turbines coming into the
14 market in increasing quantities.

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16 If Horizon were to install wind turbines at Quilt Block equipped with rotor
17 diameters of 100 meters or more, project output would average over 300 million
18 kWh annually.

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20 Unlike in Iowa or Minnesota, where wind generators have been temporarily
21 restricted due transmission congestion, MISO has not ever needed to curtail
22 production from Wisconsin wind projects. The fact that MISO was able to absorb

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1 all of the windpower generated in Wisconsin during the high-wind periods of
2 October 26 and 27 suggests that additional increments of wind generation
3 facilities can be interconnected without triggering congestion-related
4 interruptions.

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6 Under Section 1603 of the American Reinvestment and Recovery Act, wind
7 project owners currently may claim a 30% Investment Tax Credit in lieu of the
8 Production Tax Credit. That section is set to lapse at the end of this year. It is
9 conceivable that Congress may extend those provisions for another year, though
10 such an action is not likely to occur until next year, which may affect the ability
11 of some developers to attract financing for their projects. This uncertainty is less
12 problematic for two groups of wind project owners: (1) utilities that desire to
13 build and operate wind projects this year and next, and (2) large, well-capitalized
14 independent power producers, as long as they can enter into Power Purchase
15 Agreements with utility off-takers.

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17 A far greater risk for utilities operating under a renewable energy standard is the
18 possibility that Congress does not reauthorize the federal Production Tax Credit
19 beyond its present sunset date of December 31, 2012. The least risky path for a
20 utility to pursue over the next six to 12 months would be to enter into a Power
21 Purchase Agreement with an independent power producer that has already
22 acquired all the permits necessary to build a wind generation station in Wisconsin.

1 **Q. Does this complete your surrebuttal testimony?**

2 A. Yes it does.

3 S12.8