

DATE MAILED

JAN 22 2010

BEFORE THE
PUBLIC SERVICE COMMISSION OF WISCONSIN

Application of Wisconsin Electric Power Company for a Certificate of
Public Convenience and Necessity to Construct a Wind Electric
Generation Facility and Associated Electric Facilities, to be Located in
the Towns of Randolph and Scott, Columbia County, Wisconsin

6630-CE-302

FINAL DECISION

This is the Final Decision regarding the request by Wisconsin Electric Power Company (WEPCO) that the Commission issue a Certificate of Public Convenience and Necessity (CPCN). WEPCO seeks Commission approval to build a wind-powered electric generating facility in Columbia County, as well as associated facilities. The project will be known as the Glacier Hills Wind Park (GHWP). The application for the CPCN is APPROVED, subject to conditions and as modified by this Final Decision.

Introduction

WEPCO is a public utility engaged in rendering electric service in Wisconsin, pursuant to Wis. Stat. § 196.01(5)(a). It is proposing to build a wind electric generating facility of up to 90 wind turbines with a generating capacity of up to 207 megawatts (MW). WEPCO estimates that, with proper maintenance, these wind turbines will have a lifespan of 30 years. WEPCO must also construct access roads to the turbines, an underground 34.5 kilovolt (kV) electric collector system to gather the power from each turbine, and new electric substation facilities for interconnecting to the existing electric transmission system. American Transmission Company LLC (ATC), which owns the high-voltage transmission system in eastern Wisconsin, operates a

Docket 6630-CE-302

138 kV transmission line that passes through the project area, and WEPCO intends to interconnect with this line.

As part of the Point Beach Nuclear Power Plant sale to FPL Energy Point Beach, LLC (FPLE), WEPCO had an option to purchase GHWP, then known as Randolph Wind, LLC (Randolph), for \$10. Randolph was a subsidiary of FPLE and held assets related to the development of the wind farm project. The option to purchase was exercised in October 2007 and was closed in July 2008. By order dated April 24, 2009, the Commission authorized WEPCO's request for approval to merge Randolph Wind, LLC, into WEPCO.

WEPCO proposes to construct GHWP in the townships of Randolph and Scott, in northeast Columbia County, Wisconsin. The proposed project would include 90 wind turbines, with an electric generating capacity of up to 207 MW. The facility would consist of the turbines, access roads to the turbines, an underground 34.5 kV cable system to collect the power produced at each turbine, a new interconnection substation to connect to the existing electric transmission system, and an operations and maintenance (O&M) building that would house a supervisory control and data acquisition (SCADA) system to monitor turbine operation.

The project area consists of about 17,350 acres of predominately agricultural land. The village of Friesland lies within the project area, with the village of Cambria just south and the village of Randolph just southeast of the project area. Although WEPCO is proposing to use 90 specific turbine sites within this area, it has also identified an additional 28 alternate sites. WEPCO developed these alternate sites to provide the Commission with alternatives in the event that the Commission finds one or more of the 90 turbine sites unacceptable.

In addition to WEPCO's proposed GHWP, two other wind developers have landowner agreements for additional wind developments within WEPCO's project area. One of these developers, E Wind, participated in this docket, while the other did not.

Although WEPCO states that it has entered into an agreement with Vestas that provides it with an option to purchase Vestas V90, 1.8 MW turbines, it also requests that the Commission grant it the flexibility to purchase other turbine models. According to its application, WEPCO is considering the following turbines for GHWP: the Gamesa G87 (87-meter rotor diameter, 2.0 MW per unit capacity); the GE Energy 1.5sle (77-meter rotor diameter, 1.5 MW per unit capacity); the Siemens S2.3 (93-meter rotor diameter, 2.3 MW per unit capacity); the Vestas V82 (82-meter rotor diameter, 1.65 MW per unit capacity); or the Vestas V90 (90-meter rotor diameter, 1.8 MW per unit capacity). Each of these turbine models has similar environmental impacts and can operate acceptably in the wind regime at the project site.

WEPCO estimates the capital cost of the proposed project, excluding allowance for funds used during construction (AFUDC) and reimbursable costs for transmission facilities to be constructed by ATC, to be between \$335.2 million and \$413.5 million, depending primarily on the generating capacity of the turbine model selected. AFUDC is estimated to be approximately \$20.6 million. The estimated cost of ATC upgrades total approximately \$16.5 million. This amount is initially payable to ATC by WEPCO. Of the total cost of ATC upgrades, approximately \$16.0 million would be reimbursed by ATC upon completion of GHWP.

The estimated total gross project cost of the project, including AFUDC and reimbursable and non-reimbursable ATC costs, is \$452.1 million.

State law promotes the use of renewable resources to produce electricity.

2005 Wisconsin Act 141 (Act 141), which took effect on April 1, 2006, expanded the Renewable Portfolio Standard (RPS) requirement for state electric utilities. Under these new requirements, each Wisconsin electric provider must increase its renewable energy levels by 2.0 percentage points by 2010 and by 6.0 percentage points by 2015, above its 2001 to 2003 baseline average. WEPCO will be required to generate 4.27 percent of its Wisconsin retail electric sales from renewable energy by 2010 and a total of 8.27 percent by 2015. The energy produced by the proposed plant will help WEPCO meet its 2015 RPS requirements.

Wisconsin's Energy Priorities Law establishes a priority list of preferred methods for meeting future electricity demands. Wisconsin Stat. § 1.12(4) ranks energy conservation and noncombustible renewable resources such as wind power as the state's highest preferences.

In October 2007, WEPCO issued a Request for Proposals (RFP) for up to 200 MW of wind generation. In response, nine parties submitted proposals for 12 separate projects that were compliant with WEPCO's RFP requirements. At about the same time as the RFP was issued, WEPCO exercised its option to purchase GHWP from FPLE. Although a number of the projects submitted in response to the RFP presented viable opportunities for Act 141 compliance, WEPCO determined that GHWP stood out as the preferred alternative for securing wind-powered capacity in the near term. Of the ten projects, WEPCO determined GHWP to be the most economically viable project that was in the best position for immediate development.

In accordance with Wis. Stat. § 196.491(3)(a)3.a, on August 15, 2008, WEPCO filed its engineering plan for the project with the Wisconsin Department of Natural Resources (DNR). In its September 9, 2008, response, DNR identified the permits and approvals that may be required

Docket 6630-CE-302

prior to construction or operation of GHWP. On October 2, 2008, WEPCO filed the appropriate DNR permit applications.

Columbia County does not have county-wide zoning, but WEPCO negotiated Joint Development Agreements (JDA) with the towns of Scott and Randolph. The town of Randolph JDA differs from the town of Scott JDA in that it does not include requirements regarding noise, setbacks, stray voltage/electric and magnetic fields (EMF), and shadow flicker.

On October 30, 2008, WEPCO filed its CPCN application with the Commission. DNR and Commission staff then reviewed the CPCN application for completeness purposes. On November 21, 2008, the Commission informed WEPCO that the application was incomplete and provided a list of items that were identified as missing, inaccurate, or requiring clarification. Subsequent to the Commission's determination that the application was incomplete, WEPCO filed several amendments to its application. DNR and Commission staff reviewed these amendments, and on January 23, 2009, WEPCO filed its revised and updated CPCN application. The Commission found WEPCO's revised CPCN application to be complete on January 28, 2009.

The declaration of completeness commenced the statutory 180-day period for Commission review of WEPCO's project, which expired on July 27, 2009. Under Wis. Stat. § 196.491(3)(g), the Commission may seek one 180-day extension from Dane County Circuit Court (the Court). By order dated June 5, 2009, the Commission was granted an additional 180-day extension from the Court.

On March 5, 2009, pursuant to Wis. Admin. Code § PSC 4.20, the Commission notified residents in and near the project area of its intent to prepare an environmental assessment to

Docket 6630-CE-302

determine whether an environmental impact statement (EIS) was necessary. On June 1, 2009, the Commission issued a preliminary finding that the proposed project would have no significant impact and no EIS would be required. Several comments were received during the 15-day comment period on the preliminary determination. Based on these comments and additional information made available to the Commission, the decision was made to prepare an EIS for the project.

The Commission issued a draft EIS regarding the project on July 21, 2009. Comments on the draft EIS were accepted from the public and intervenors during the 45-day period ending September 4, 2009. All comments on the draft EIS were considered during the preparation of the final EIS, which was issued on September 29, 2009.

Requests to intervene in this docket were received from and granted to the following: Citizens' Utility Board (CUB); Clean Wisconsin (Clean WI); the Coalition for Wisconsin Environmental Stewardship (CWEST); IBEW Local 2150; Invenergy; E Wind; the town of Randolph; and, RENEW Wisconsin (RENEW).

The Commission held technical hearings in this docket in Madison, Wisconsin, on November 2, 2009. The single issue for hearing, as determined at the March 3, 2009, prehearing conference, was:

Does the project comply with the standards in Wis. Stat. §§ 1.11, 1.12, 196.025, 196.378, 196.491, and Wis. Admin. Code chs. PSC 4, 111, and 112 for issuance of a CPCN?

The Commission received expert testimony on this issue during the technical hearings, when it heard witnesses from CUB, Clean WI, CWEST, the town of Randolph, RENEW,

WEPCO, DNR, and Commission staff. The parties that appeared before the Commission are named in Appendix A of this Final Decision.

Public hearings to receive testimony from members of the public were held in Friesland, Wisconsin, on November 4, 2009. In order to broaden public participation, the Commission also allowed the public to submit comments in writing. Persons who appeared and testified are listed in the Commission's files.

The Commission conducted its hearings as Class 1 contested case proceedings, pursuant to Wis. Stat. §§ 196.491(3)(b), 227.01(3)(a), and 227.44. Initial and reply briefs were filed on November 24 and December 4, 2009, respectively. Initial briefs were filed by CUB, Clean WI, CWEST, E Wind, Invenergy, RENEW, and WEPCO. Reply briefs were filed by CUB, Clean WI, CWEST, E Wind, Invenergy, and WEPCO. The Commission deliberated on this matter at its January 11, 2010, open meeting and rendered an oral decision.

Findings of Fact

1. WEPCO is a public utility engaged in rendering electric service in Wisconsin, pursuant to Wis. Stat. § 196.01(5)(a). WEPCO is proposing to construct a wind-powered electric generating facility, to be known as the Glacier Hills Wind Park, as described in its CPCN application and this Final Decision. Using the most costly of the possible turbine models listed in its application, the total gross project cost is estimated to be \$452.1 million.

2. Conservation or other renewable resources, as listed in Wis. Stat. §§ 1.12 and 196.025, or their combination, are not cost-effective alternatives to WEPCO's proposed facility.

3. The WEPCO project, as modified by this Final Decision, satisfies the reasonable needs of the public for an adequate supply of electric energy.

4. The WEPCO project, as modified by this Final Decision, is reasonable and in the public interest after considering alternative sources of supply, alternative locations, individual hardships, engineering, economic, safety, reliability, and environmental factors.

5. The WEPCO project, as modified by this Final Decision, will not have undue adverse impact on other environmental values such as, but not limited to, ecological balance, public health and welfare, historic sites, geological formations, the aesthetics of land and water, and recreational use.

6. The WEPCO project, as modified by this Final Decision, will not substantially impair WEPCO's efficiency of service or provide facilities unreasonably in excess of probable future requirements. In addition, when placed in operation, the project will increase the value or available quantity of WEPCO's electric service in proportion to its cost of service.

7. The WEPCO project, as modified by this Final Decision, will not unreasonably interfere with orderly land use and development plans for the area involved.

8. The WEPCO project, as modified by this Final Decision, will not have a material adverse impact on competition in the relevant wholesale electric service market.

9. A brownfield site for the project is not practicable.

Conclusions of Law

The Commission has jurisdiction under Wis. Stat. §§ 1.11, 1.12, 44.40, 196.02, 196.025, 196.395, 196.40, 196.49, 196.491, and 196.52 to issue a CPCN authorizing WEPCO to construct and place in operation a wind-powered electric generation facility with a capacity of up to 207 MW and to impose the conditions specified in this Final Decision.

Opinion

Project Need

The results of WEPCO's Electric Generation and Expansion Analysis System (EGEAS) modeling for the proposed project, as augmented by Commission staff, are reasonable and show that GHWP is part of the least-cost option in all modeling scenarios, except in the unlikely no carbon dioxide, no RPS requirement scenario with a 20-year depreciation schedule. The data used in the EGEAS modeling reflect updated information, is essentially uncontested, and is reasonable. The Commission reviewed the net capacity factor used by WEPCO and Commission staff to model GHWP in EGEAS and finds it to be reasonable. There is essentially no difference between the total system cost associated with installing only GHWP and the total system cost associated with installing only Invenergy's proposed Ledge Wind project, on a net present value basis.

While modeling is an important analytical tool available to the Commission as it conducts its needs determination, it is only one factor to be considered. An RPS exists in Wisconsin, and the Commission must consider the utility's obligation to increase the amount of renewable energy resources in its system to meet the RPS. The RPS in Act 141 and Wis. Stat. § 196.378, which took effect on April 1, 2006, built upon state policy to aggressively increase the level of renewable resources in the electric supply mix. Under these requirements, each Wisconsin electric provider must increase its renewable energy levels by 2.0 percentage points by 2010 and by 6.0 percentage points by 2015, above its 2001 to 2003 baseline average. With the addition of GHWP, WEPCO will add between approximately 291,600 and 447,120 megawatt hours (MWh) of renewable energy beginning in 2012 toward meeting its and its wholesale

customers' obligations under Act 141 for 2015. WEPCO's renewable energy obligation under the RPS will increase to approximately 8.27 percent of its Wisconsin electric retail sales by 2015. Assuming commercial operation by the end of 2011 as planned, this project will represent progress toward WEPCO meeting its 2015 obligations under the RPS. The record indicates that, in order to meet the requirements of Wisconsin's RPS, WEPCO does not need any additional renewable generation until 2015. Further, the EGEAS modeling shows that constructing GHWP in 2014 instead of 2012 as proposed by WEPCO results in a net present value cost savings of approximately \$12 million. This is a small difference when compared to the total system net present value cost of more than \$43 billion. Allowing WEPCO to place GHWP in service by 2012 as requested results in a layering in of the cost of meeting its RPS requirement. In addition, WEPCO will be able to generate renewable energy credits during the period of operation of the project prior to the 2015 increased RPS requirement of 8.27 percent.

Wisconsin Stat. § 196.491(3)(d)5. requires the Commission to apply the standards specified in Wis. Stat. § 196.49(3)(b), which states that the Commission may refuse to authorize a construction project if the project will do any of the following:

1. Substantially impair the efficiency of the service of the public utility.
2. Provide facilities unreasonably in excess of the probable future requirements.
3. When placed in operation, add to the cost of service without proportionately increasing the value or available quantity of service unless the public utility waives consideration by the commission, in the fixation of rates, of such consequent increase of cost of service.

Because of the requirements of the RPS, WEPCO will require by 2015 more renewable resource generating facilities than it currently owns or has under contract. Based on the record, this project is a means of complying with WEPCO's renewable resource requirements and the project, therefore, meets the criteria specified in Wis. Stat. § 196.49(3)(b). The project will not

Docket 6630-CE-302

result in unreasonable excess facilities and will satisfy the reasonable needs of the public for an adequate supply of electric energy.

Clean WI states that while the EGEAS modeling shows there are carbon dioxide reductions associated with the construction of GHWP, these reductions may not be realized. The Midwest Independent Transmission System Operator, Inc. (MISO), not WEPCO, dispatches the generating units owned by WEPCO. Clean WI asserts that it is likely under MISO dispatch that WEPCO's fossil units will continue to operate at their current levels, even after the construction of GHWP. Given that WEPCO currently has excess generating capacity and that GHWP is being proposed to meet WEPCO's RPS only, Clean WI believes that as a condition of authorizing GHWP, the Commission should require WEPCO to develop a plan to retire an appropriate amount of older fossil generation. The Commission does not believe this docket is the appropriate forum for this discussion. The Commission finds that a generic retirement docket is more appropriate for analyzing the impacts of fossil retirements for Wisconsin's electric utilities. The Commission recently decided to open a docket addressing these issues. *Joint Application of Wisconsin Electric Power Company and Wisconsin Gas LLC, both d/b/a We Energies, for Wisconsin Electric Power Company to Increase its Electric, Natural Gas and Steam Rates, and for Wisconsin Gas LLC to Increase its Natural Gas Rates*, Docket 5-UR-104, *Final Decision* at 9, 17 (December 18, 2009).

The Commission must implement state energy policy when reviewing any application. The Energy Priorities Law establishes the preferred means of meeting Wisconsin's energy demands as listed in Wis. Stat. §§ 1.12 and 196.025(1).

The Energy Priorities Law, Wis. Stat. § 1.12, creates the following priorities:

1.12 State energy policy. (4) PRIORITIES. In meeting energy demands, the policy of the state is that, to the extent cost-effective and technically feasible, options be considered based on the following priorities, in the order listed:

- (a) Energy conservation and efficiency.
- (b) Noncombustible renewable energy resources.
- (c) Combustible renewable energy resources.
- (d) Nonrenewable combustible energy resources, in the order listed:
 - 1. Natural gas.
 - 2. Oil or coal with a sulphur content of less than 1%.
 - 3. All other carbon-based fuels.

In addition, Wis. Stat. § 196.025(1) declares, “to the extent cost-effective, technically feasible and environmentally sound, the commission shall implement the priorities under s. 1.12(4) in making all energy-related decisions” Because wind is a noncombustible renewable resource, WEPCO’s proposed electric facility fits within the second-highest statutory priority.

While each of these statutes is applicable to the project at hand, there is a certain degree of friction that exists between them that must be reconciled. Wisconsin Stat. § 196.49 requires the Commission to consider whether a proposed project “provide[s] facilities unreasonably in excess of probable future requirements.” The RPS law, under Wis. Stat. § 196.378(2), requires the utility to acquire renewable resources to meet its 2015 benchmark regardless of whether new generation is needed for purposes of serving load. It should be noted that Wis. Stat. § 196.49 does not prohibit the construction of unnecessary generation, but gives the Commission the discretion to reject or approve the application for generation that is “in excess of future probable requirements.”

The second area to consider is the competing directives on the cost of the proposed generation. Wisconsin Stat. § 196.49 requires the Commission to consider whether the proposed project “add[s] to the cost of service without proportionately increasing the value or available

quantity of service.” In contrast, the RPS statute requires utilities to increase their renewable energy percentage and, under Wis. Stat. § 196.378(2)(d), the Commission shall allow a utility to recover the cost of renewable energy from the ratepayer.¹ While the modeling in this case shows that WEPCO’s proposed project is part of the least-cost option in all optimal, carbon monetized scenarios, Wis. Stat. § 196.49(3)(b) gives the Commission the discretion to reject or approve an application for a project that disproportionately adds to the cost of service when considering the value or available quantity of service.

The third area of overlap arises between the RPS and the Energy Priorities Statute, Wis. Stat. § 1.12. The Energy Priorities Statute lists energy conservation and efficiency as a higher priority than renewable generation, such as wind. Here, the applicant does not propose any conservation or efficiency measures. WEPCO states the project was designed to meet the RPS requirement and energy conservation cannot be substituted under the energy priorities law.

When construing Wis. Stat § 196.49 and Wis. Stat. § 196.378, it is important to apply two rules of statutory construction:

1. Where two statutes relate to the same subject matter, it is the specific statute that controls the general statute. *Kramer v. City of Hayward*, 57 Wis. 2d 302, 311, 203 N.W.2d 871 (1973).
2. “It is a cardinal rule of statutory construction that conflicts between statutes are not favored and will be held not to exist if the statutes may otherwise be reasonably construed.” *State v. Delaney*, 259 Wis. 2d 77, 84 658 N.W.2d 416 (2003). When statutes on the same subject conflict or are inconsistent with one another, courts must attempt to harmonize them in order to effectuate the legislature’s intent. The statutory construction doctrine of *in pari materia* requires a court to read, apply and construe statutes relating to the same subject matter in a manner that harmonizes them in order to effectuate the legislature’s intent. *Turner v. City of Milwaukee*, 193 Wis. 2d 412, 420, 535 N.W.2d 15 (Ct. App. 1995).

¹ The RPS law creates an off-ramp if a utility finds that compliance with the RPS will “result in unreasonable increases in rates.” Wis. Stat. § 196.378(2)(e)2.

Reviewing these statutes in light of the rules of construction, the Commission construes the RPS statute as more specific than Wis. Stat. § 196.49. Therefore, to the extent there may be a conflict between the statutes, the requirements of the RPS statute control.

The Commission balances competing interests and approves this project to address WEPCO's need to implement the RPS. To the extent there is any concern that this project may be providing energy sooner than demand indicates, the need for this utility to develop renewable energy sources at a reasonable cost, a priority established by the legislature, outweighs any such concern.

Similarly, for the Commission to implement energy priorities, it must determine and balance whether any higher priority alternatives to a proposed project would be cost-effective, technically feasible, and environmentally sound while meeting the objectives the proposed project is intended to address. Regarding other noncombustible renewable energy resources, no other form of currently available renewable generation is as cost-effective and technically feasible as wind. For these reasons, the Commission concludes that the WEPCO project complies with the Energy Priorities Law.

Alternative Sources of Supply

Under Wis. Stat. § 196.491(3)(d)3, the Commission must consider "alternative sources of supply" when determining whether issuing a CPCN would be in the public interest. WEPCO examined a number of supply alternatives to GHWP, including short-term purchases, combustion turbine generation, combined-cycle generation, super-critical pulverized coal generation, and integrated gasification combined-cycle generation. However, fossil fuel alternatives cannot meet WEPCO's statutory requirement to expand its portfolio of renewable

resources. EGEAS modeling performed by WEPCO and Commission staff also considered alternative types of generic renewable resource generation, but they are not as cost-effective, lack technical feasibility, or cannot meet the utility's time constraints for compliance with the statutory minimum renewable percentage requirements.

Invenergy participated in this docket to propose a renewable energy resource as an alternative to WEPCO's proposed project. This alternative would take the form of a purchased power agreement (PPA) for the output of Invenergy's proposed Ledge Wind project. Invenergy has filed a CPCN application with the Commission for the Ledge Wind project, docket 9554-CE-100.

As part of its review of available renewable energy resources, WEPCO issued an RFP for additional wind generation. WEPCO evaluated the responses to its RFP and determined that GHWP was the best alternative for its next increment of renewable generation. CUB argues that WEPCO failed to establish that GHWP is economically superior to the projects offered in response to its RFP due to the fact that WEPCO's process for evaluating the responses was haphazard and lacked a systematic basis for ranking responses. CUB requests that the Commission deny the GHWP request and require WEPCO to conduct a more thorough, systematic RFP process.

The Commission agrees WEPCO's RFP process was less than rigorous and the lack of a purchase power agreement (PPA) option in its EGEAS modeling is of some concern. However, the Commission does not agree that the only way to obtain reasonable alternatives is through an RFP process. In this case, the Ledge Wind proposal is a proxy for any PPA offer that may have resulted from WEPCO's RFP process and, as modeled by Commission staff, is an option that

informs the Commission whether GHWP is in the public interest. In general, PPAs can provide price certainty. They can also include price escalation until the agreement is finalized. The Commission does not believe that the Ledge Wind proposal is adequately developed at this time so as to overcome the costs and other benefits provided by GHWP. The Commission finds that WEPCO's GHWP project is in the public interest when compared against these alternative sources of supply.

The Commission notes that because WEPCO still has a large amount of energy that it must secure to comply with its 2015 RPS requirement, a well-developed RFP process would be of benefit to this utility and the Commission in reviewing future applications for additional renewable generation. As a condition of approval of GHWP, the Commission finds that the following RFP process must be used when applying for any approval of any generation needed by WEPCO to comply with its 2015 RPS obligation, or any acceleration of that obligation that results from a change in state law.

- This process will apply to only future wind generation applications.
- The RFP process and evaluation criteria should be clearly set out and followed.
- A third party evaluator, chosen and paid for by WEPCO and approved by the Commission, shall be used. In the alternative, WEPCO will evaluate the proposals using guidelines developed by it and Commission staff. WEPCO will supply Commission staff with the estimated cost of using a third party evaluator and work with Commission staff to determine which option results in the least cost to rate payers.

- The RFP evaluation will address only economic issues (*i.e.*, the cost of the project).²
- The RFP must specifically solicit PPAs, including long-term PPAs of 20 years or more.
- WEPCO shall document the RFP process and the results shall be filed with the Commission as part of any request to add renewable generation.
- WEPCO should work with Commission staff on any details needed to implement these requirements.

Commissioner Meyer dissents regarding the requirement that WEPCO follow an RFP process when applying for Commission approval of any wind generation needed by WEPCO to comply with its 2015 RPS obligation.

Site Alternatives

Wisconsin Stat. § 196.491(3)(d)3. requires the Commission to consider alternative locations when determining whether a proposed generating plant is in the public interest. Wisconsin Admin. Code § PSC 111.53(1)(e) and (f), which implement this statutory provision, require a CPCN application to describe the siting process, to identify the factors considered in choosing the alternative sites, and to include specific site-related information for each site. WEPCO's CPCN application complies with these requirements. It explains the "macro-siting" process used to screen areas in Wisconsin based upon the availability of sufficient wind resources, land area, and access to electric transmission infrastructure. It also describes how specific turbine locations were selected and how WEPCO confirmed the suitability of these

² While the RFP process is limited to economics, WEPCO, as in all cases, remains obligated to evaluate all required criteria in choosing projects to advance to the Commission for proposed approval.

locations. The record examines each of the 90 preferred turbine locations. In addition, WEPCO identified and provided information regarding 28 alternate turbine sites located on leased properties within the project area that meet all of its siting criteria for primary sites.

The Commission's standard for reviewing proposed site alternatives is to determine whether each proposed site is "reasonable," *i.e.*, is a feasible location for the project that would not directly conflict with any of the statutory criteria for granting a CPCN, and whether the sites are sufficiently distinct to offer different packages of costs and benefits that present the Commission with a choice. The Wisconsin Supreme Court affirmed this standard in *Clean Wisconsin et al. v. Public Service Commission of Wisconsin and Wisconsin Department of Natural Resources*, 2005 WI 93, ¶¶ 66-70. In a previous docket concerning a wind farm,³ the Commission found that the project applicant met the requirement to offer site alternatives by identifying 25 percent more turbine locations than it proposed to develop. On appeal, the Dodge County Circuit Court affirmed this method of offering site alternatives for a wind farm.⁴

The preferred and alternative sites that WEPCO has identified meet both of these standards. They provide differing costs, environmental, and participant impacts, and the alternate areas offer more than 25 percent additional possible turbine locations.

Land Use and Development Plans

Wisconsin Stat. § 196.491(3)(d)6. requires that a proposed generating facility not "unreasonably interfere with the orderly land use and development plans for the area involved."

³ *Application of Forward Energy LLC for a Certificate of Public Convenience and Necessity to Construct a Wind Electric Generation Facility and Associated High Voltage Electric Transmission Facilities, to be Located in Dodge and Fond du Lac Counties*, docket 9300-CE-100 (July 14, 2005).

⁴ *Horicon Marsh Systems Advocates and Joe M. Breaden v. Public Service Commission of Wisconsin and Forward Energy LLC*, Dodge County Case No. 05-CV-539; "Memorandum Decision and Order" of Circuit Judge John R. Storck (March 23, 2006).

WEPCO's project does not conflict with the land use plans of the town of Randolph or the town of Scott. The record also demonstrates that the project, located on predominately agricultural land, does not conflict with Columbia County's land use plans. WEPCO's siting criteria, as modified by this Final Decision, include setback requirements intended to protect existing land uses such as homes, roads, and property lines. The JDAs, as modified by this Final Decision, also identify a set of mutual commitments that protect municipal land use and development plans.

WEPCO states that it has sufficient land rights to develop the project as proposed, or with minor modifications. In return for use of the landowners' property, WEPCO will make annual payments to each landowner until it removes the turbine equipment. The easements also obligate WEPCO to protect and restore the landowners' property during construction, operation, decommissioning, and removal of the wind generation facilities.

The Commission finds that WEPCO's design criteria and the provisions of the JDAs, as modified by this Final Decision, properly prevent WEPCO's project from unreasonably interfering with the area's land use and development plans.

In oral public comments, the village of Friesland president testified that the village had passed a resolution that no wind turbines be constructed within 1.5 miles of the village limits. The village president further testified that if the Commission deems it appropriate for WEPCO to construct turbines within 1.5 miles of the village limits, WEPCO should be required to pay a set amount to the village of Friesland annually for each wind turbine within 1.5 miles of the village limits, until the towers are dismantled, to offset anticipated losses in property values.

Commission staff estimates that there are 35 preferred wind turbine sites within 1.5 miles of the village of Friesland limits.

The Commission finds that construction of wind turbines within 1.5 miles of the village of Friesland limits will not unreasonably interfere with orderly land use and development plans for the area and no payments to the village of Friesland are required. As such, WEPCO is authorized to place up to 90 turbines and auxiliary facilities at any of the 118 sites identified in its application, including those preferred and alternative sites within 1.5 miles of the village of Friesland limits, unless otherwise modified by this Final Decision.

Impact on Wholesale Competition

Under Wis. Stat. § 196.491(3)(d)7, the Commission may only issue a CPCN for a project that “will not have a material adverse impact on competition in the relevant wholesale electric service market.” The record demonstrates that WEPCO’s project will not do so. WEPCO is a member of MISO, which means it is subject to market mitigation measures and the oversight of an independent market monitor that restrict its ability to raise prices above competitive levels. Because the transmission network in the ATC area is under MISO’s operational control, WEPCO cannot manipulate the transmission system to benefit its own generating plants. Finally, the addition of new generating supply into the market promotes wholesale competition. For these reasons the Commission finds that WEPCO’s project will have no material adverse impact on competition in the wholesale electric service market.

Brownfield Siting

Wisconsin Stat. § 196.491(3)(d)8. declares that a CPCN generating project must be sited in a brownfield area “to the extent practicable.” WEPCO evaluated the potential use of

brownfield sites for the project, but Wisconsin does not have a single brownfield site, or set of contiguous sites, that would be of sufficient size and would meet the siting criteria of available wind resources, land, and electric infrastructure. The Commission therefore finds that WEPCO's project complies with Wis. Stat. § 196.491(3)(d)8.

Wind Siting Proceeding Requirements

2009 Wisconsin Act 40 (Act 40) directs the Commission to establish criteria for the installation or use of a wind energy system with a nominal operating capacity of less than 100 MW and helps ensure consistent local procedures for such systems. Act 40 requires the Commission to promulgate a variety of rules that specify the conditions a city, village, town, or county may impose on such a system. If a political subdivision chooses to regulate such systems, its ordinances may not be more restrictive than the Commission's rules.

For CPCN applications received after the new rules take effect, Act 40 requires the Commission to consider whether the new installation would be consistent with the standards specified in the rules. Act 40 is silent on whether the rules would apply to projects for which a CPCN application was received before the rules take effect.

CWEST witness Jeffrey Bump testified that the Commission should require WEPCO to apply any new requirements resulting from the upcoming Wind Siting rulemaking proceeding, docket 1-AC-231, to the GHWP project on a going-forward basis.

The Commission finds that it is not reasonable to require WEPCO to apply any new requirements resulting from the upcoming Wind Siting rulemaking proceeding, particularly those new requirements related to project design. However, the Commission encourages WEPCO to

reasonably comply with any new provisions resulting from the upcoming proceeding, on a going forward basis, to the extent practicable.

Joint Development Agreements

Both the town of Scott and the town of Randolph have approved JDA agreements with WEPCO. The town of Randolph JDA differs from the town of Scott JDA in that it does not include requirements regarding noise, setbacks, stray voltage/EMF, and shadow flicker.

WEPCO states that the requirements included in the town of Scott JDA regarding noise, setbacks, stray voltage/EMF, and shadow flicker are adequate, and should be applied to facilities located in both the town of Scott and the town of Randolph.

The Commission finds that the town of Randolph and town of Scott JDAs shall be modified to include noise, setbacks, stray voltage/EMF, and shadow flicker requirements as described below.

Noise

The town of Scott JDA includes the following provisions regarding noise:

Noise. Owner shall comply with the following noise standards:

- a. The noise design limit for the Project shall not exceed 50 dBA as measured as the cumulative Wind Turbine average dBA at the location of the nearest Non-Participating residence from the relevant Wind Turbine(s), or a school, hospital, church or public library existing on the date of the execution of this Agreement. The average dBA shall be measured by the L_{A90} metric, using the logarithmic average, over 10-minute intervals measured four times a day (early morning, midday, early evening and night) for three days. Noise measurements shall be taken during conditions that fairly represent the operation of the Project (*e.g.* enough wind that the Wind Turbines are rotating, Wind Turbines are not locked, there is an absence of noisy farm equipment in the adjacent fields during the measurement period, measurements are taken during different times during the same day and during both weekdays and weekends, etc.).
- b. The parties acknowledge that the Project's construction will be the source of intermittent noise. Owner shall require all contractors to incorporate

reasonable noise reduction measures in order to mitigate the amount of noise generated during the construction phase.

c. In the event audible noise due to wind turbine operations contains a steady prominent pure tone as defined in Section 3.2.26 of EPA Report 550/9-76-003, such as a whine, screech, or hum, the standards for audible noise set forth in Subparagraph (a) of this subsection shall be reduced by five (5) dBA with respect to the prominent pure tone.

The Parties agree that should the PSCW establish any requirements with respect to Noise levels within the Project that would be more protective of the Town or its residents or more restrictive upon Owner than those referred to in this Section, then such requirements shall be deemed incorporated into this Agreement and they shall become part of Owner's performance obligations under this Agreement; provided however, compliance shall be established and interpreted by the PSCW as granted under Wisconsin law.

Many members of the public and CWEST technical witness Richard James state that the 50 dBA noise limit with which the project is designed is inadequate. Instead, they suggest that the noise limit should be lower, down to as low as 35 dBA. WEPCO states that decreasing the noise limit could affect a large number of turbines and recommends that the Commission not change the noise limit. WEPCO also states that, if the Commission decides to reduce the noise limit, that it would not be reasonable to apply a lower noise limit for every hour of the year. Instead, it proposes that any lower noise limit only apply during nighttime hours of summer months, corresponding to periods when ambient sound levels are lower, and to periods when windows are more likely to be open. The intent of limiting the time period when the lower noise limit would apply is to reduce the need to eliminate turbines, and reduce the lost electrical production in case curtailment is necessary to meet the lower noise limit.

The Commission finds that the proposed 50 dBA noise limit at non-participating residences may be inadequate during nighttime hours in warmer weather for certain non-participating residences. The noise limit for this project shall be 50 dBA during daytime

hours, and, upon complaint by an affected resident, shall be permanently reduced to 45 dBA during nighttime hours in areas related to the complaint. Nighttime hours are defined to include those hours between 10:00 p.m. to 6:00 a.m. daily, from April 1 through September 30. The requirement to meet the seasonally reduced nighttime noise limit shall be triggered by the receipt by WEPCO of a complaint regarding nighttime noise levels. Methods available for WEPCO to comply with both the daytime and nighttime noise limits may include, but are not limited to, operational curtailment of the turbine or turbines contributing to the exceedance of the noise limits. WEPCO would be relieved from meeting the nighttime noise requirement if the affected complaining resident agrees to a financial settlement. Compliance with noise limits shall be measured or otherwise evaluated at the outside wall of the non-participating residence. WEPCO shall provide notification to potentially affected residents of the provisions of this Final Decision relating to noise limits prior to initial operation of the project.

The language included in the town of Scott JDA appears to be inadequate to evaluate compliance with noise limits. This is so because there appears to be no consideration for the separation of the ambient sound level from that of the wind development facilities, and therefore, no way to show compliance with the appropriate noise limits. To evaluate compliance with the noise limits, the Commission finds that WEPCO shall evaluate compliance with the noise limit as part of its post-construction noise study. A post-construction study is required by the PSC Noise Measurement Protocol. WEPCO shall file a copy of the post-construction noise study report with the Commission.

Setbacks

WEPCO designed GHWP using the following setback distances:

Setback Description	Setback Distance
Occupied Buildings - Schools, hospitals, churches, or public libraries	1,000 feet
Participating Residences	600 feet
Non-participating Residences	1,000 feet
Participating Property Lines	0 feet
Non-participating Property Lines	1.1 times turbine tip height
Public Road Right-of-Way	1.1 times turbine tip height
Overhead Communication and Electric Lines - Not including lines to individual houses or outbuildings	1.1 times turbine tip height
Overhead Utility Service Lines - Lines to individual houses or outbuildings	0 feet

The town of Scott JDA setback requirements are consistent with WEPCO's project design.

Of these setbacks, the majority of public comments received in this docket questioned whether a 1,000 foot setback from non-participating landowners is adequate. In these comments, members of the public state that the setback from non-participating landowners should be increased to distances up to one mile.

For GHWP, the approximate number of preferred turbine sites affected by increasing the setback to representative distances from non-participating residences is summarized in the following table:

		Approximate Number of Preferred Turbine Sites Affected* by Increasing the Setback from Non-participating Residences to:			
Total Preferred Turbine Sites	1,000 ft.	1,250 ft.	1,500 ft.	2,000 ft.	2,500 ft.
90	-	15	39	60	81

* Affected turbines could either be moved to meet the increased setback requirement, moved to an alternate turbine location that meets the increased setback, or in the worst-case, would be eliminated, unless other arrangements could be made with the owner of the non-participating residence.

WEPCO states that increasing the setback distance from non-participating residences would require the elimination of turbine sites from the project.

Increasing the setback distance from non-participating residences would reduce the level of impacts on non-participating residents, primarily from noise and shadow flicker. In order to help alleviate these impacts on non-participating residents, for the purposes of this docket only, the Commission finds that increasing the minimum setback from non-participating residences to 1,250 feet is reasonable. The Commission also finds that it is reasonable for WEPCO to file with the Commission Geographic Information System (GIS) data reflecting the modifications to the project design necessary to comply with this Final Decision, prior to commencement of construction.

Stray Voltage

Regarding stray voltage and EMF, the town of Scott JDA states:

Stray Voltage/Electromagnetic Fields (EMF). Owner will utilize Good Utility Practice to minimize, to the extent practicable, the impact, if any, of stray voltage and/or EMF on Non-Participating property. Owner expects there will be no stray voltage impacts from the Project. For purposes of this Agreement, stray voltage and the methodology for determining stray voltage levels, are as set forth by the Public Service Commission of Wisconsin. EMF as used in this agreement refers to the electric and magnetic fields that result from the normal operation of the Project. The Parties agree that should the PSCW establish any requirements with respect to EMF that apply to the Project that would be more protective of the Town or its residents or restrictive upon Owner than those referred to in this Section, then such requirements shall be deemed incorporated into this Agreement and they shall become part of Owner's performance obligations under this Agreement; provided however, compliance shall be established and interpreted by the PSCW as granted under Wisconsin law.

Members of the public submitted comments requesting that the Commission require WEPCO to work with local electric distribution companies to test for stray voltage prior to construction, and again after the project is completed. WEPCO would then work with the distribution utilities and farm owners to rectify any stray voltage problems arising from the construction and operation of the project. WEPCO would provide to Commission staff reports

of the results of the testing. The language in the town of Scott JDA appears to contemplate that the Commission would require such a testing program.

The Commission finds that it is appropriate for WEPCO to work with local electric distribution companies to test for stray voltage at all dairy operations within one-half mile of any project facility, prior to construction and again after the project is completed. WEPCO shall work with the distribution utilities and farm owners to rectify any stray voltage problems arising from the construction and operation of the project. Prior to any testing, WEPCO shall work with Commission staff to determine the manner in which stray voltage measurements will be conducted and on which properties. WEPCO shall provide to Commission staff reports of the results of stray voltage testing.

Shadow Flicker

The town of Scott JDA includes the following provisions regarding shadow flicker:

Shadow Flicker. In the event Owner receives landowner complaints about shadow at landowner's residence, Owner shall work with landowner to document and validate shadow caused by the Wind Turbine. To the extent the average annual shadow on landowner's residence is 25 hours or greater, Owner shall work with landowner to implement, at Owner's sole expense, appropriate remedial and mitigation measures (*e.g.* blinds or plantings) that minimize or eliminate the problem during the times of day it is an issue. Owner shall maintain a telephone "hot line" for landowner shadow flicker concerns.

The Parties agree that should the PSCW establish any requirements with respect to Shadow Flicker that apply to the Project or⁵ that would be more protective of the Town or its residents or more restrictive upon Owner than those referred to in this Section, then such requirements shall be deemed incorporated into this Agreement and they shall become part of Owner's performance obligations under this Agreement; provided however, compliance shall be established and interpreted by the PSCW as granted under Wisconsin law.

⁵ This language in the JDA differs from the other paragraphs in that it seems to imply that any future Commission requirements, if more protective of the Town or its residents, would apply to this project. The Commission finds that any future requirements on siting of wind projects will not apply to this project.

Shadow flicker is a concern voiced by several members of the public in comments received in this docket. Comments were received expressing concerns regarding shadow flicker and its possible effects on ailments such as Meniere's disease, equilibrium problems, and epilepsy.

Shadow flicker problems caused by existing wind developments have been well documented in informal complaints received by the Commission. Some of these complaints are included in the record for this docket. In Commission staff's investigations of these informal complaints, residents have expressed frustration at the level of documentation developers require prior to mitigating shadow flicker effects. This documentation usually takes the form of extensive logs, prepared by the residents, of dates and times when the residents experience shadow flicker effects.

WEPCO states in its application that it would work with affected residents to implement reasonable and appropriate mitigation techniques in the event of a resident complaint concerning shadow flicker. WEPCO has also provided information regarding the residences that would be affected by lesser annual hours of shadow flicker than the 25-hour threshold included in the town of Scott JDA.

The Commission finds that it is appropriate to require WEPCO to work with landowners to mitigate the effects of shadow flicker. The Commission further finds that 25 hours per year is an appropriate threshold for determining whether a residence is eligible for mitigation provided by WEPCO. Residences are eligible for mitigation if computer modeling shows that shadow flicker would exceed 25 hours per year, and the property owner need not document the actual hours per year of shadow flicker. Residences that exceed 25 hours per year of shadow flicker

based on logs kept by the resident shall also be eligible for mitigation. The requirement to mitigate shadow flicker at eligible residences shall be triggered by the receipt by WEPCO of a complaint regarding shadow flicker. The Commission also finds that residents who are eligible for mitigation of shadow flicker may select a reasonable preferred mitigation technique, including, but not limited to, installation at WEPCO's expense of blinds or plantings. WEPCO shall provide notification to potentially affected residents of the provisions of this Final Decision relating to shadow flicker prior to initial operation of the project.

Policy

Monitoring Committees

Both the town of Scott and town of Randolph JDAs include similar language regarding monitoring committees. The purpose of the committees would be to monitor complaints from residents and to monitor WEPCO's performance under the JDA.

CWEST witness Mr. Bump provided testimony requesting that the Commission require that the JDA include language that would further define the committees' responsibilities, including:

- that the committee maintain a log of all citizen complaints brought to it;
- that the committee include a local WEPCO employee;
- that the committee include at least one non-participating landowner;
- that WEPCO should investigate, at its expense, reasonable complaints forwarded to it by the committee;
- that WEPCO should provide a sound level meter and laptop computer for use by the committee to measure sound levels at the homes of non-participating landowners; and,
- that based upon the findings of the committee, solutions should be ordered by the committee to solve or lessen the impacts of health or safety complaints.

The Commission finds that the language in the town of Scott and town of Randolph JDAs, while similar but not identical, appropriately defines the composition and duties of the monitoring

committees. The Commission further finds that, while the monitoring committees may keep a log of complaints, WEPCO shall also maintain a log of all complaints received regarding the project. The log shall include, at a minimum, the name and address of the complainant, nature of the complaint, and steps taken by WEPCO to resolve the complaints.

Property Value Protection Plan

A significant amount of testimony was presented at the technical hearing regarding the effects of wind developments on property values. CWEST witness Kurt Kielisch provided material for the record that CWEST contends shows that wind developments have a negative impact on property values. WEPCO's witness Richard Larkin provided testimony stating that Mr. Kielisch's study was flawed and that the conclusion that wind developments have a negative impact on property values cannot be made.

CWEST witness Mr. Bump provided testimony requesting that the Commission require WEPCO to develop a Property Value Protection Plan for non-participating property owners. This plan would require that an independent state certified appraiser assess fair market values of properties of all non-participating landowners to establish current fair market values for the properties. In the future, depending on the length of elapsed time, a second appraisal would be required of the developer if a non-participating landowner is unable to sell the property for the appraised fair market value. The developer would then compensate the non-participating landowner for the difference. The developer would be required to establish a fund to assure that monies would be available for compensation.

Wisconsin's shared revenue program helps protect property values in communities that host generating facilities by offsetting the local landowners' tax burdens. Wisconsin Stat.

§ 79.04(6) and (7) grant payments of state funds to local counties and municipalities, to encourage them to host electric generating plants. These annual payments are based on the size of the facility; in addition, the state provides supplemental payments for baseload plants of 50 MW or larger and for plants that rely on renewable resources. For example, projected annual shared revenue payments, if a 1.8 MW turbine is used, are approximately \$108,000 per year for the town of Scott, \$162,000 for the town of Randolph, and \$378,000 for Columbia County.

The Commission finds that there is not sufficient evidence in the record to require WEPCO to develop a Property Value Protection Plan.

Non-Participant Compensation

RENEW provided testimony regarding proposed payments to non-participating landowners. These “Good Neighbor Payments” would be modest compared to those that participating landowners receive. CWEST provided testimony that RENEW’s proposed “Good Neighbor Payments” are not acceptable. WEPCO states that it could concur with RENEW’s proposal, but states that there are not enough details presented in RENEW’s testimony to make that determination. WEPCO also points out that there are provisions in both the town of Randolph and town of Scott JDAs that require WEPCO to offer a “Windpower Facilities Participation and Easement Agreement” that provides annual payments to landowners in exchange for a wind easement and certain other rights.

The Commission finds that it is not appropriate to require WEPCO to offer agreements that would include some level of monetary compensation for non-participating landowners. This finding, however, does not affect the “Windpower Facilities Participation and Easement Agreement” provisions of the town of Randolph and town of Scott JDAs.

Chairperson Callisto dissents on this issue. He would have required WEPCO to develop a plan for Commission review and approval that required monetary compensation to certain non-participating landowners based upon residence distance from one or more turbines.

Air Ambulance Services

A common concern expressed in public comments is the limited access to air ambulance services because of the presence of wind turbines after they are constructed. In its response to a Commission staff data request regarding this subject, WEPCO states:

University of Wisconsin Med Flight is the responding air ambulance service in closest proximity to the wind project area. In order to facilitate medical helicopter response when dispatched to locations within the wind project area, UW Med Flight and the responding agencies plan to develop alternate landing sites that allow medical helicopters to proceed to an identified site that is known to be safely accessible for the helicopter to land. They would identify a sufficient number of alternate landing sites within each ambulance service's jurisdictional area to ensure they are accessible to any nearby medical emergency.

It's important to note that these alternate landing sites are not always required for use; a medical helicopter can and will land in proximity to a wind turbine if it is safe and prudent to do so. They are not precluded by UW Med Flight rules or policy from landing within the wind project area.

The decision is solely that of the pilot and is based on a variety of site factors that present themselves upon arrival at an emergency scene.

The ground transport of medical emergencies to an alternate landing site is a routine part of medical helicopter operations regardless of proximity to wind turbines. Establishing alternate landing zones in an area is a common tool employed by medical helicopter services.

In public comments, a member of the public who resides in the Blue Sky Green Field project area expressed frustration that some local jurisdictions will not provide the details regarding the locations of the alternate landing zones.

The Commission finds that it is appropriate to require WEPCO to coordinate with local first responders and air ambulance services regarding the development of an emergency evacuation plan, including the locations of alternate landing zones. The plan shall include provisions for public inspection of the plan, as appropriate. WEPCO shall file the final plan with the Commission, using the Commission's confidential filing procedures, if necessary.

Radio and Television Interference

A common concern expressed in the public comments received in this docket was possible interference with radio and television reception caused by the proposed project. In its application, WEPCO committed to mitigate this interference using methods such as supplying high gain antennas and signal amplification, providing cable television service, providing satellite television service, and others. At WEPCO's Blue Sky Green Field development, it also provided high-definition and satellite radios to residents that complained about interference with radio reception caused by the wind turbines.

Radio and television interference problems caused by existing wind developments have been well documented in informal complaints received by the Commission. Some of these complaints are included in the record for this docket. In some cases, residents have expressed frustration with the project developer's mitigation efforts to resolve these problems. Additionally, some residents have complained that the solutions provided by the project developer do not provide satisfactory access to local programming, which was available over the air prior to construction of the development.

Both JDAs for the towns of Randolph and Scott include similar language that requires WEPCO to verify interference problems within seven days and to implement remedial measures

Docket 6630-CE-302

within 14 days. Both JDAs also require that WEPCO provide a telephone “hotline” for landowner interference concerns.

The Commission finds that the provisions of the town of Scott and town of Randolph JDAs regarding radio and television interference are reasonable. The Commission further finds that it is reasonable to require WEPCO to consult with affected residents regarding the resident’s preferred reasonable mitigation solution for radio and television interference problems, prior to implementing remedial measures, and that the preferred solution shall be made permanent.

Cellular Communications Interference

Like radio and television interference, a common concern expressed in the public comments received in this docket is possible interference with cellular communications caused by the proposed project.

Similar to radio and television interference, both JDAs for the towns of Randolph and Scott include similar language that requires WEPCO to verify interference problems within seven days and to implement remedial measures within 14 days. Both JDAs also require that WEPCO provide a telephone “hotline” for landowner interference concerns.

According to WEPCO, cellular and personal communications service frequency bands should be unaffected by the presence of the proposed wind turbines. WEPCO states that, primarily because signal blockage caused by wind turbines is never total, they do not degrade mobile telephone networks because of the way these systems are designed to operate: that is, if the signal cannot reach one cell, the network design allows it to be able to reach one or more other cells in the system. Therefore, local obstacles such as buildings or wind turbines are not

normally a problem for these telephone systems, whether they are installed in urban areas near large buildings and structures or in suburban or rural areas near wind turbines.

WEPCO states that if it can be shown that the wind turbines have created an area where cellular telephone communications are lost or weakened, an additional micro cell, cell, or base station could be installed on one of the structures within the wind energy facility to fill in the affected area.

The Commission finds that the provisions of the town of Scott and town of Randolph JDAs regarding cellular communications interference are reasonable. The Commission further finds that, to address cellular telephone interference problems, WEPCO shall work with affected cellular providers to provide adequate coverage in the affected area. Mitigation techniques for lost or weakened cellular telephone communications shall include, but are not limited to, an additional micro-cell, cell, or base station, facility to fill in the affected area. The micro-cell, cell, or base station may be installed on one of the structures within the wind energy facility.

Siting Conditions and Individual Hardships

Wisconsin Stat. § 196.491(3)(d)3. instructs the Commission to examine whether a proposed CPCN project is in the public interest, considering individual hardships that the project may cause. Some members of the public testified about possible hardships.

Deer Creek Campground

A member of the public, G. Farber, requested the Commission require that WEPCO not use preferred turbine site 5, and instead order WEPCO to construct that turbine at alternate site 11A or 6A. Also, Ms. Farber requests that the Commission require that WEPCO not use

alternate turbine site 102A. Ms. Farber states that she makes this request to reduce the likelihood of negative impacts on her campground business.

The Commission finds that there is no basis in the record to substitute alternate turbine sites 11A or 6A for preferred site 5. The Commission further finds, however, that alternate site 102A shall be removed from consideration as an alternate turbine site.

Bump Residence

Another member of the public, N. Bump, requested that the Commission require that WEPCO not use preferred turbine site 48 and alternate turbine site 101A. Ms. Bump makes this request to reduce the possible negative effects of the project on her family and residence.

The Commission finds that there is no basis in the record to eliminate preferred turbine site 48. The Commission further finds, however, that alternate site 101A shall be removed from consideration as an alternate turbine site.

Surrounded Residences

Some members of the public submitted written comments regarding the proposed project layout in the proximity of their residences. These comments included statements that there are too many turbines in the area of their homes and that their residences would be surrounded in all four directions if the project is constructed as proposed. Two residences in particular, the Smitses' and the Regneruses', would have 9 and 10 turbines, respectively, within one-half mile of their homes.

The Commission finds that the number of turbines within one-half mile of the Smits' and Regnerus' residences would cause undue individual hardships to those residents. As such, WEPCO shall file a plan with the Commission, for Commission approval prior to construction,

to reduce the individual hardships to these residents. The plan shall be developed in consultation with the Smitses and Regneruses. The plan may include, but is not limited to: relocation of turbines to reduce the number of turbines within one-half mile to no more than seven turbines; providing annual payments to these two families, not to exceed the amount paid to participating residents receiving payment for one turbine lease; or, purchasing the properties at fair market value.

Measurement of Setback Distances

WEPCO states that the setback distance should be measured from the centerline of the turbine tower to the nearest point on the foundation of the residence. Similar to the analyses performed by Commission staff for the exhibits in this docket, measuring the setback requirements using this method would likely require that global positioning system (GPS) technology be used to evaluate compliance and would require that one of the measurement points be taken from inside the turbine base. As such, independent evaluation of compliance would be difficult if access to the turbine base is restricted. Therefore, Commission staff testified that the setback distance between turbines and residences should be measured from the edge of the turbine foundation nearest the residence to the nearest point on the residence structure.

The Commission finds that, for simplicity, compliance with setback provisions shall be measured from the centerline of the turbine tower to the nearest point on the foundation of the residence. This method of measurement is intended to clearly define how setback compliance is to be measured, thereby reducing the possibility of future disputes.

Siting Flexibility

The Commission authorizes WEPCO to use each of the 90 specific sites for the construction of its turbines and associated facilities, as otherwise consistent with this Final Decision. In addition, the Commission authorizes WEPCO to move one or more of its 90 turbines to any of the alternate sites it has identified, as otherwise consistent with this Final Decision, with the exception of alternate turbine sites 101A and 102A.

WEPCO is requesting additional siting flexibility. In order to resolve unforeseen problems that could arise during the construction process, such as unanticipated sub-surface conditions, to accommodate governmental requests, to address concerns that a landowner may have during the course of construction, to mitigate environmental impacts, and to take advantage of opportunities to minimize construction costs or improve the levels of electric generation, it is seeking advance Commission authorization to adjust the location of its preferred and alternative turbine sites and associated facilities.

Any utility construction project may encounter an unforeseeable condition that requires some siting flexibility. It is the utility's obligation to minimize this situation by rigorously analyzing its project and its proposed project sites, but the Commission does typically authorize certain measures to address this need for flexibility. WEPCO is requesting that it be allowed to move a turbine and its auxiliary equipment from one of the 90 preferred sites, not just into an alternate site, but also anywhere on land that the company has leased from a host landowner. WEPCO states that it is willing to condition this additional flexibility upon the issuance of all necessary environmental permits, compliance with all requirements in the JDAs, compliance with all of the landowner agreements, avoidance of any part of the project area that the

Docket 6630-CE-302

Commission finds unacceptable, and compliance with the company's own environmental siting criteria.

In other dockets, the Commission has granted CPCN project developers the right to propose a minor siting modification, subject to review and approval of Commission staff.⁶ For the Blue Sky Green Field project, docket 6630-CE-294, Commission staff recommended a broader version of this type of siting flexibility for that project. First, Commission staff agreed that it would be appropriate for WEPCO to make a minor siting modification if the utility simply provides prior notice to Commission staff, rather than requiring prior notice and approval. Commission staff defined "minor siting modification" as a siting change that only affects resources or causes impacts the Commission has already evaluated, that makes no significant changes in impacts to non-host landowners, and that meets WEPCO's own siting criteria. In addition, Commission staff suggested that WEPCO be granted the ability to make something more substantial than a minor siting modification if the utility submits for Commission staff's prior review and approval a letter that describes the nature of the proposed change, the reason for it, any incremental cost difference, and WEPCO's communications with all potentially affected landowners.

The Commission finds that it is appropriate to apply the same siting flexibility in this docket that it authorized in docket 6630-CE-294. The Commission also finds that allowing

⁶ See, for example, the Commission's "Final Decision" in the combined dockets *Application of American Transmission Company LLC, as an Electric Public Utility, for Authority to Construct and Place in Service a New 345 kV Switching Station in Shawano County, to be called the Central Wisconsin Substation, and a new 345 kV Electric Transmission Line Between that Substation and the Gardner Park Substation, in Shawano and Marathon Counties, Wisconsin*, docket 137-CE-122, and *Application of American Transmission Company LLC, as an Electric Public Utility, for Authority to Construct and Place in Service a New 345 kV Electric Transmission Line Between the Morgan and Werner West Substations and a New 138 kV Electric Transmission Line Between the Clintonville and Werner West Substations, in Oconto, Shawano, Waupaca, and Outagamie Counties, Wisconsin*, docket 137-CE-123, page 52 (June 29, 2006).

WEPCO to shift its project facilities to alternate sites on its own volition, except those removed from consideration by this Final Decision, to make minor siting modifications with prior notice to Commission staff, and to propose more substantial siting modifications subject to Commission staff's prior review and approval, is sufficient siting flexibility.

Environmental Factors

When deciding whether a CPCN project is in the public interest, the Power Plant Siting Act requires that the Commission consider, among other factors, environmental impacts. Two subdivisions of the law require the Commission to determine the following:

196.491(3)(d)3. The design and location or route is in the public interest considering . . . environmental factors

. . . .

4. The proposed facility will not have undue adverse impact on other environmental values such as, but not limited to, ecological balance, public health and welfare, historic sites, geological formations, the aesthetics of land and water and recreational use.

Wind farms generally avoid most of the impacts that other means of generating electric power create. This wind farm will produce none of the "criteria" air pollutants that are regulated under the federal Clean Air Act,⁷ will release no greenhouse gases, which are the electric industry's principal contribution to global warming and climate change, and will emit no hazardous air pollutants such as sulfuric acid, hydrochloric acid, ammonia, benzene, arsenic, lead, formaldehyde, and mercury. Furthermore, it will generate power without using any significant amount of water or producing any solid waste. Electric generating plants that are fired by fossil fuels create these environmental impacts.

⁷ These pollutants are small particulate matter, sulfur dioxide, carbon monoxide, volatile organic compounds, and nitrogen oxides. See 42 U.S.C. § 7409 and Wis. Admin. Code ch. NR 405.

The project area is dominated by agricultural lands and contains few diverse natural areas. WEPCO has avoided, to a large degree, impacts to wooded areas, wetlands, and areas of potentially significant resources when designing the project. Its environmental criteria for selecting alternate sites include the minimization of potential impacts to state-listed threatened species, endangered species, and species of special concern, and the minimization of impacts to area wetlands, woodlands, and water bodies.

WEPCO is not proposing to install any of its turbines in wetlands or waterways. The project area is primarily uplands, used intensively for agricultural purposes with few high quality natural resources. Although the project would require constructing short sections of cables and access roads through wetlands and waterways, the record indicates that these actions should not cause significant impacts. DNR regulates construction in waterways through the issuance of permits under Wis. Stat. ch. 30 and Wis. Stat. § 281.36 and in wetlands through the issuance of water quality certifications under Wis. Admin Code chs. NR 103 and 299. DNR has indicated that this project is permissible. The U.S. Army Corps of Engineers (USACE) has issued a determination that the proposed project can be constructed under an USACE general permit authorizing construction in wetlands.

The Natural Heritage Inventory (NHI) data maintained by DNR was reviewed to identify any known records of threatened and endangered species in the project area. Three listed reptile and amphibian species have been found within two miles of the project area. The project area, however, does not appear to include habitat suitable for these species. Three state-listed threatened bird species have been recorded in the project area: the great egret, osprey and red-shouldered hawk. The observations in the NHI records and from pre-construction

project-specific avian surveys suggest that these three bird species only occasionally make use of the project area and there is no indication of nesting activity. The proposed project is not expected to have any impacts to state-listed threatened or endangered species.

Bird mortality and displacement from feeding and nesting habitat is a concern with wind farm projects. Bird collisions with turbine blades and towers have been widely reported in this country and abroad. WEPCO conducted a pre-construction avian study of the project area between mid-June 2007 and mid-June 2008. The survey provided a general assessment of bird use in the project area during the one year study period.

The avian study did not identify any heavily used local flight paths or any locations in the project area where bird activity was heavily concentrated. The surveys recorded observations of 151 bird species. Three state-listed threatened species were recorded. An additional 20 species that are listed in the Wisconsin Wildlife Action Plan developed by DNR as species of greatest conservation need were observed in the project area.

Almost all project construction would occur on active agricultural lands. Only a small amount of habitat, other than agricultural lands, would be directly disturbed by the project. The impact to bird habitat from direct habitat removal and from fragmentation of existing habitat would be relatively low.

Bat mortality has exceeded bird mortality at most wind farms where post-construction monitoring of both animal groups has been conducted. Many species of bats are long-lived and have low reproductive rates. In addition, populations of many American bat species are in decline. These characteristics make bat populations more vulnerable to the cumulative impacts that could occur as the number of wind projects continues to increase. Seven species of bats are

known to occur in Wisconsin; five of these are state species of special concern exhibiting some evidence of decline. Very few bat studies have been conducted in Wisconsin and thus bat numbers and behavior are not well understood.

A pre-construction bat activity study was conducted in the GHWP project area. The study, based on acoustic surveys, focused on bat activity patterns during the post-breeding and fall migration periods. No species identifications were performed during the study.

It is certain there will be some level of bat mortality if the proposed wind farm is constructed. However, due to the lack of research on bat mortality at wind farms in the Midwest, it is not possible to make predictions about the magnitude of bat mortality for this project or whether that mortality would have any significant impacts on bat populations.

WEPCO proposed one-year post-construction bat mortality and acoustic studies for the GHWP project. The Commission finds that the proposed studies should be expanded to include bird mortality. The Commission requires that WEPCO consult with DNR and Commission staff following the one-year study period. After review of the first year study results, Commission staff will decide whether a second study year needs to be conducted by WEPCO.

DNR staff testified that a study of operational curtailment and bat mortality should be required. Results of initial operation curtailment studies show that curtailment can drastically reduce bat mortality. The knowledge of this mitigation method, however, is limited and based on these initial studies. Additional studies are needed to expand the understanding of this mitigation method and to help determine if it is a viable mitigation approach.

WEPCO agrees that further studies of operational curtailment are needed, but the costs of such studies should be borne by a collaborative industry effort rather than by a single utility.

Neither DNR nor WEPCO are aware of any ongoing or pending studies. The Commission authorizes WEPCO to provide up to \$150,000 of funding towards an operational curtailment and bat mortality study at GHWP, or a site with similar characteristics, as determined by Commission staff. These funds may be applied to a study effort undertaken by another entity or, if no other study can be identified, WEPCO shall develop and coordinate a study and shall seek additional funding from other entities.

WEPCO shall provide proposed designs of the required bat and bird studies to DNR and Commission staff for review. Commission staff will approve the final study designs.

Compliance with the Wisconsin Environmental Protection Act

Wisconsin Stat. § 1.11 requires all state agencies to consider the environmental impacts of “major actions” that could significantly affect the quality of the human environment. In Wis. Admin. Code ch. PSC 4, the Commission has categorized the types of actions it undertakes for purposes of complying with this law.

On March 5, 2009, pursuant to Wis. Admin. Code § PSC 4.20, the Commission notified residents in and near the project area of its intent to prepare an environmental assessment to determine whether an EIS was necessary. On June 1, 2009, the Commission issued a preliminary finding that the proposed project would have no significant impact and no EIS would be required. Several comments were received during the 15-day comment period on the preliminary determination. Based on these comments and additional information made available to the Commission, the decision was made to prepare an EIS for the project.

The Commission issued a draft EIS regarding the project on July 21, 2009. Comments on the draft EIS were accepted from the public and intervenors during the 45-day period ending

September 4, 2009. All comments on the draft EIS were considered during the preparation of the final EIS, which was issued on September 29, 2009.

Public Health and Welfare

As the Wisconsin Supreme Court declared in *Clean Wisconsin*, 2005 WI 93, ¶ 35, issuing a CPCN is a legislative determination involving public policy and statecraft. The Power Plant Siting Act assigns to the Commission the role of weighing and balancing many factors which often compete and conflict. When rendering a decision, the Commission must ultimately determine whether a CPCN will promote the public health and welfare.

WEPCO's wind-powered electric generating facility is a renewable resource that offers significant benefits to the state of Wisconsin. The air pollution and greenhouse gas emissions it avoids, the lack of solid waste, and the fact that it consumes virtually no water are important environmental benefits. This project will support the state's goal of increasing its reliance upon renewable resources and will help diversify Wisconsin's pool of electric generating facilities. It fits well with existing land uses, will help preserve the agricultural nature of the project area, will impose no reliability, safety, or engineering problems upon the electric system, and will create no undue adverse impacts on environmental values. After weighing all the elements of WEPCO's project, including the conditions imposed by this Final Decision, the Commission finds that issuing a CPCN will promote the public health and welfare and is in the public interest. The Commission also finds that, while members of the public are concerned about possible health effects associated with the project, there is not sufficient evidence in the record to conclude that the project would cause adverse health effects.

Curtailment Due to Transmission Constraints

GHWP will require certain transmission upgrades. Until those upgrades are completed, it is possible that the output of the plant may need to be curtailed to 99 MW, under certain operating conditions. This Temporary Special Protection System (TSPS) is described in the MISO/ATC Operational Study dated July 29, 2009. WEPCO expects that this TSPS would be in place for approximately three years, until the necessary transmission upgrades are in service.

In its initial brief, CUB requests that the Commission include a general order condition providing some protection to ratepayers in the event that transmission constraints exceed WEPCO's expectations. These protections shall take the form of the Commission reserving its right to review, as part of future rate proceedings, curtailment of project output in the event that transmission constraints prevent GHWP from operating at full capacity for any significant period of time. The Commission finds that such a general order condition is reasonable, and directs WEPCO to include adequate information in future rate filings to evaluate the extent of curtailment due to transmission constraints. This requirement expires when the TSPS is no longer in effect.

E Wind Agreement

In its initial brief, E Wind requests that the Commission approve the Stipulation and Agreement between E Wind and WEPCO. E Wind states that this agreement provides for collaboration and cooperation between WEPCO and E Wind throughout the life of each project and minimizes problems that could otherwise impair either or both projects, thereby protecting each company and WEPCO's ratepayers. These problems include production losses caused by wake losses and other issues.

The Commission finds that the Stipulation and Agreement between WEPCO and E Wind providing for collaboration and cooperation is reasonable.

Commissioner Azar dissents, finding that E Wind's agreement with WEPCO does not need to be enforced by the Commission as a condition of the issuance of a CPCN in this docket.

Project Cost and Construction Schedule

WEPCO estimates the capital cost of the proposed project, excluding reimbursable costs for transmission facilities to be constructed by ATC, to be between \$335.2 million and \$413.5 million, excluding AFUDC, and depending primarily on the generating capacity of the turbine model selected. The estimate of costs by major plant account is detailed below:

Capital

Description	Plant Account	Amount (millions)
Land and land rights	340	\$3.3
Structures and improvements	341	\$8.4
Generators	344	\$340.0
Accessory electrical equipment	345	\$47.5
Communication equipment	397	\$1.2
Contingency		\$13.1
Subtotal		\$413.5
AFUDC		\$20.6
Subtotal		\$434.1
Expense		
CPCN development costs	344	\$1.5
Total Gross Project Cost		<u>\$435.6</u>

The estimated cost of ATC upgrades total approximately \$16.5 million. This amount is initially payable by WEPCO. Of the total, approximately \$16.0 million would be reimbursed by ATC upon completion of GHWP.

The estimated total gross project cost of the project, including AFUDC and reimbursable and non-reimbursable ATC costs, is \$452.1 million.

The cost of the project will be met from internal sources, from the issuance and sale of securities, or both. The expected construction schedule, as described in WEPCO's application, is summarized as follows:

Contract negotiations complete	2nd quarter 2010
Mobilize site	2nd quarter 2010
Install WEPCO substation, access roads, electrical collector system, foundations, and crane pads	2nd through 4th quarters 2010
Turbine delivery and erection	2nd through 4th quarters 2011
Commission turbines	3rd and 4th quarters 2011
Project complete	Late 4th quarter 2011

Certificate of Public Convenience and Necessity

WEPCO may commence construction of GHWP with a generating capacity of up to 207 MW, as described in its CPCN application and modified by this Final Decision.

Order

1. WEPCO shall construct its project in conformance with the design specified in its application and subject to the conditions specified in this Final Decision. The anticipated in-service date of the project is during the fourth quarter of 2011.
2. The total gross project cost, assuming WEPCO purchases the most expensive turbine, is estimated to be \$452.1 million, including AFUDC and reimbursable and non-reimbursable ATC costs. If WEPCO acquires less expensive turbines, the authorized project cost is reduced accordingly.
3. This authorization is for the specific project as described in the CPCN application and at the stated cost, adjusted to reflect the actual turbines used for this project. Should the scope, design, or location of the project change significantly, or if the project cost, including *force majeure* costs, exceeds the estimated cost by more than 5.0 percent, WEPCO shall

promptly notify the Commission as soon as it becomes aware of the possible change and shall obtain Commission review and approval.

4. WEPCO shall submit to the Commission the date that the facilities are placed in service.

5. WEPCO shall submit to the Commission the final actual costs segregated by major accounts within one year after the in-service date. For those accounts or categories where actual costs deviate significantly from those authorized, WEPCO shall itemize and explain the reasons for such deviations in the final cost report.

6. Until its facility is fully operational, WEPCO shall submit quarterly progress reports to the Commission that summarize the status of construction, the anticipated date of the start of construction, the model and cost of wind turbines selected, the anticipated in-service date, the status of environmental control activities, and the overall percent of physical completion. WEPCO shall include the date when construction commences in its report for that three-month period. The first report is due for the quarter ending June 30, 2010, and each report shall be filed within 30 days after the end of the quarter.

7. WEPCO shall provide the Commission with GIS data location information for every turbine site and other project facilities when it determines their final location. This data shall be compatible with state government standards.

8. In all future wind applications submitted to the Commission, WEPCO shall use an RFP process, as described in this Final Decision.

9. While WEPCO is not required to apply new requirements resulting from the upcoming Wind Siting proceeding, docket 1-AC-231, the Commission encourages WEPCO to

reasonably comply with any new provisions resulting from the upcoming proceeding to the extent practicable.

10. WEPCO shall operate the project in a manner that meets noise limits of 50 dBA during daytime hours, and, upon complaint by an affected resident, shall be permanently reduced to 45 dBA during nighttime hours for areas related to the complaint. Nighttime hours are defined to include those hours between 10:00 p.m. to 6:00 a.m. daily, from April 1 through September 30. The requirement to meet the seasonally reduced nighttime noise limit shall be triggered by the receipt by WEPCO of any complaint regarding nighttime noise levels. Methods available for WEPCO to comply with both the daytime and nighttime noise limits shall include, but are not limited to, operational curtailment of the turbine or turbines contributing to the exceedance of the noise limits. WEPCO is relieved from meeting the nighttime noise limit if the affected resident agrees to a financial settlement. Compliance with noise limits shall be measured or otherwise evaluated at the outside wall of the non-participating residence. WEPCO shall provide notification to potentially affected residents of the provisions of this Final Decision relating to noise limits prior to initial operation of the project.

11. WEPCO shall evaluate compliance with the noise limits included in this Final Decision as part of its post-construction noise study. The post-construction noise study shall be conducted as described in the most current version of the PSC Noise Measurement Protocol. WEPCO shall file a copy of the post-construction noise study report with the Commission.

12. WEPCO shall construct its project using a minimum setback from non-participating residences of 1,250 feet.

13. WEPCO shall construct, maintain, and operate collector circuit facilities in a manner that complies with the National Electrical Safety Code and Wis. Admin. Code ch. PSC 114.

14. WEPCO shall file with the Commission GIS data reflecting the modifications to the project design necessary to comply with this Final Decision, prior to commencement of construction.

15. WEPCO shall work with local electric distribution companies to test for stray voltage at all dairy operations within one-half mile of any project facility, prior to construction and again after the project is completed. WEPCO shall work with the distribution utilities and farm owners to rectify any stray voltage problems arising from the construction and operation of the project. Prior to any testing, WEPCO shall work with Commission staff to determine the manner in which stray voltage measurements will be conducted and on which properties. WEPCO shall provide to Commission staff reports of the results of stray voltage testing.

16. WEPCO shall work with landowners to mitigate the effects of shadow flicker. WEPCO shall provide shadow flicker mitigation for residences experiencing 25 hours per year or more of shadow flicker. Residences shall be eligible for mitigation if computer modeling shows that shadow flicker would exceed 25 hours per year, and the property owner need not document the actual hours per year of shadow flicker to be eligible. Residences that exceed 25 hours per year of shadow flicker based on logs kept by the resident shall also be eligible for mitigation. The requirement to mitigate shadow flicker at eligible residences shall be triggered by the receipt by WEPCO of a complaint regarding shadow flicker. WEPCO shall allow the resident to choose a preferred reasonable mitigation technique, including but not limited to, installation at WEPCO's expense of blinds or plantings. WEPCO shall provide notification to

potentially affected residents of the provisions of this Final Decision relating to shadow flicker prior to initial operation of the project. WEPCO may provide shadow flicker mitigation for residences experiencing less than 25 hours per year of shadow flicker.

17. WEPCO shall maintain a log of all complaints received regarding the project. The log shall include, at a minimum, the name and address of the complainants, nature of the complaints, and steps taken by WEPCO to resolve the complaints. WEPCO shall make copies of this complaint log available, at no cost, to the monitoring committees authorized by the town of Randolph and town of Scott JDAs.

18. WEPCO shall coordinate with local first responders and air ambulance services regarding the development of an emergency evacuation plan, including the locations of alternate landing zones. The plan shall include provisions for public inspection of the plan, as appropriate. WEPCO shall file the final plan with the Commission, using the Commission's confidential filing procedures, if necessary.

19. WEPCO shall follow the provisions of the town of Scott and town of Randolph JDAs regarding radio and television interference. In addition, WEPCO shall consult with affected residents regarding the residents' preferred reasonable mitigation solution for radio and television interference problems, prior to implementing remedial measures, and that the preferred solution shall be made permanent.

20. WEPCO shall follow the provisions of the town of Scott and town of Randolph JDAs regarding cellular communications interference. In addition, WEPCO shall work with affected cellular providers to provide adequate coverage in the affected area. Mitigation techniques for lost or weakened cellular telephone communications shall include, but are not

limited to, an additional micro-cell, cell, or base station facility to fill in the affected area. The micro-cell, cell, or base station may be installed on one of the structures within the wind energy facility.

21. WEPCO shall develop and file a plan with the Commission, for Commission approval prior to construction, to reduce the individual hardships to the Smitses and Regneruses. The plan shall be developed in consultation with these two families. The plan may include, but is not limited to: relocation of turbines to reduce the number of turbines within one-half mile to no more than seven turbines; providing annual payments to these two families, not to exceed the amount paid to participating residents receiving payment for one turbine lease; or, purchasing the properties at fair market value.

22. Compliance with setback provisions for non-participating residences shall be measured from the centerline of the turbine tower to the nearest point on the foundation of the residence.

23. The Commission approves all of the 90 specific sites WEPCO has proposed for its turbines and associated facilities, as otherwise consistent with this Final Decision. The Commission grants WEPCO the ability to move turbines or facilities to all of WEPCO's proposed alternate sites on the company's own volition, as otherwise consistent with this Final Decision, except for alternate sites 101A and 102A, which are eliminated from consideration by this Final Decision. The Commission further grants WEPCO the ability to make minor siting modifications, as defined in this Final Decision, if the utility provides advance notice to Commission staff. The Commission grants WEPCO the ability to make something more than a minor siting modification if the utility submits for Commission staff's prior review and approval

a letter that describes the nature of the proposed change, the reason for it, any incremental cost differences arising from the change, and WEPCO's communications with all potentially affected landowners.

24. WEPCO shall expand its proposed one-year post-construction bat mortality and acoustic studies for the GHWP project to include bird mortality. WEPCO shall consult with DNR and Commission staff following the one-year study period, and after review of the first year study results, Commission staff will decide whether a second study year needs to be conducted by WEPCO.

25. WEPCO shall provide up to \$150,000 of funding towards an operational curtailment and bat mortality study at GHWP, or a site with similar characteristics, as determined by Commission staff. These funds may be applied to a study effort undertaken by another entity or, if no other study can be identified, WEPCO shall develop and coordinate a study and shall seek additional funding from other entities.

26. WEPCO shall provide proposed designs of the required bat and bird studies to DNR and Commission staff for review, and Commission staff shall approve the final study design.

27. WEPCO shall include adequate information in future rate filings to evaluate the extent of curtailment due to transmission constraints. This requirement expires when the TSPS is no longer in effect.

Docket 6630-CE-302

28. This Final Decision takes effect on the day after it is mailed.

29. Jurisdiction is retained.

Dated at Madison, Wisconsin, January 22, 2010

By the Commission:


Sandra J. Paske
Secretary to the Commission

SJP:JAL:jlt:g:\order\pending\6630-CE-302 final.doc

See attached Notice of Rights

PUBLIC SERVICE COMMISSION OF WISCONSIN
610 North Whitney Way
P.O. Box 7854
Madison, Wisconsin 53707-7854

**NOTICE OF RIGHTS FOR REHEARING OR JUDICIAL REVIEW, THE
TIMES ALLOWED FOR EACH, AND THE IDENTIFICATION OF THE
PARTY TO BE NAMED AS RESPONDENT**

The following notice is served on you as part of the Commission's written decision. This general notice is for the purpose of ensuring compliance with Wis. Stat. § 227.48(2), and does not constitute a conclusion or admission that any particular party or person is necessarily aggrieved or that any particular decision or order is final or judicially reviewable.

PETITION FOR REHEARING

If this decision is an order following a contested case proceeding as defined in Wis. Stat. § 227.01(3), a person aggrieved by the decision has a right to petition the Commission for rehearing within 20 days of mailing of this decision, as provided in Wis. Stat. § 227.49. The mailing date is shown on the first page. If there is no date on the first page, the date of mailing is shown immediately above the signature line. The petition for rehearing must be filed with the Public Service Commission of Wisconsin and served on the parties. An appeal of this decision may also be taken directly to circuit court through the filing of a petition for judicial review. It is not necessary to first petition for rehearing.

PETITION FOR JUDICIAL REVIEW

A person aggrieved by this decision has a right to petition for judicial review as provided in Wis. Stat. § 227.53. In a contested case, the petition must be filed in circuit court and served upon the Public Service Commission of Wisconsin within 30 days of mailing of this decision if there has been no petition for rehearing. If a timely petition for rehearing has been filed, the petition for judicial review must be filed within 30 days of mailing of the order finally disposing of the petition for rehearing, or within 30 days after the final disposition of the petition for rehearing by operation of law pursuant to Wis. Stat. § 227.49(5), whichever is sooner. If an *untimely* petition for rehearing is filed, the 30-day period to petition for judicial review commences the date the Commission mailed its original decision.¹ The Public Service Commission of Wisconsin must be named as respondent in the petition for judicial review.

If this decision is an order denying rehearing, a person aggrieved who wishes to appeal must seek judicial review rather than rehearing. A second petition for rehearing is not permitted.

Revised: December 17, 2008

¹ See *State v. Currier*, 2006 WI App 12, 288 Wis. 2d 693, 709 N.W.2d 520.

BEFORE THE
PUBLIC SERVICE COMMISSION OF WISCONSIN

Application of Wisconsin Electric Power Company for a Certificate of
Public Convenience and Necessity to Construct a Wind Electric
Generation Facility and Associated Electric Facilities, to be Located in
the Towns of Randolph and Scott, Columbia County, Wisconsin

6630-CE-302

CONCURRENCE OF COMMISSIONER LAUREN AZAR

I concur in this *Final Decision* to issue a Certificate of Public Convenience and Necessity (CPCN) to construct the Glacier Hills wind generation facility. For a variety of reasons, this decision was a difficult one for me. I write separately to identify some of the concerns I had with the evidence provided (or more importantly *not* provided) by Wisconsin Electric Power Company (WEPCO). This concurrence provides specific ways for these concerns to be addressed in future applications.

Alternatives Identified Through an RFP Process

Use of a Request-for-Proposals (RFP) process may be an efficient and effective way to evaluate alternative sources of supply. However, the evidence in this record about WEPCO's RFP process gave me little information with which I could truly evaluate alternatives.¹ Had Invenergy not intervened in this case and provided evidence about their alternative proposal, I would have voted to deny the application with a strong suggestion that WEPCO file for

¹ Among my concerns is the evidence presented that WEPCO's RFP process excluded consideration of Power Purchase Agreements (PPAs). This is particularly troubling since the Commission's rules require applications to provide information about the alternative sources considered, including purchased power. Wis. Admin. Code § PSC 111.53(1)(d)4.

reopening and rehearing to supplement the record with additional information.² I would have done so on the grounds that the application failed to provide sufficient information to consider this proposal in relation to alternative sources of supply pursuant to Wis. Stat. § 196.491(3)(d).³

The *Final Decision* identifies a number of components that an RFP process must have for future renewable applications by WEPCO. *Final Decision* at 16. I generally agree with the criteria listed in the *Final Decision*, but would add one additional criterion: applications relying on an RFP must include detailed information about (at least) the top two scoring responses to the RFP such that staff can model those two alternatives.

The RFP process used in this case raised concerns that utilities may be lackadaisical about renewable generation dockets because of the renewable energy requirements in Wis. Stat. § 196.378. I caution strongly against such a lackadaisical approach. There are unique and new challenges presented with the development of additional renewable and low- or no-carbon generation that require fully developed records with new types of information.

Reports or Studies that Create the Foundation for an Application

WEPCO's application was fundamentally founded on the conclusion that "central station or utility-scale wind-powered generation is the most economical means of complying with Act 141." Glacier Hills Wind Park CPCN Application and Technical Support Document, Exhibit 1 at 13. This conclusion was reached mainly as a result of a March 2007 study performed by Navigant Consulting. Despite the importance of this conclusion to WEPCO's decision to move

² I would have been forced to deny the application (rather than sending it back to hearing) because the statutory deadline for completing this docket will expire in less than one week.

³The *Final Decision* also identifies the conflict between Wis. Stat. § 196.378 (the RPS statute) and Wis. Stat. § 196.49. *Final Decision* at 13 ("to the extent there *may be* a conflict between the statutes, the requirements of the RPS statute control") (emphasis added). I believe there is conflict in the statutes. As the Legislature considers additional modifications to Wisconsin's renewable energy requirements, it should adopt clarifying language to resolve these statutory conflicts.

forward with its application, the Navigant report was not included as part of the record in this case. While WEPCO noted that its conclusion was consistent with the most recent Strategic Energy Assessment, it appears WEPCO's decision to move forward with utility-scale wind to meet its renewable requirements was based significantly on the Navigant report.

In the future, information that is this fundamental to a utility's decision to move forward with an application should be included as an exhibit.⁴

Information Relevant to Wind Resources

The variable nature of wind resources necessarily leads to additional infrastructure to integrate wind-generated energy onto the grid. We are already beginning to see the problems arising from adding variable resources to the grid. As the volume of variable resources grows, so do the problems. This additional infrastructure could take the form of electricity storage, additional transmission capacity, supplementary reactive power support, or a variety of other infrastructure upgrades. While wind projects are forcing these infrastructure improvements, to date, the costs of those improvements have not been captured in applications for wind projects.

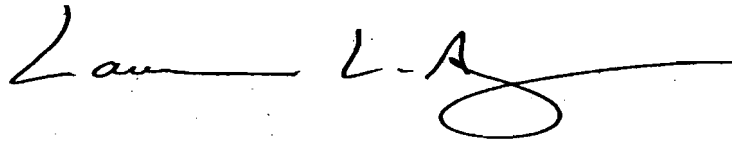
Wisconsin's ability to meet renewable and carbon reduction goals will be, in part, dependent on the transmission system's ability to deliver renewable and low- or no-carbon generation to customers. To truly gauge a proposed wind project against other renewable energy projects (which may not be variable), future applications need to identify and at least attempt to quantify the costs attendant to the improvements necessary for variable sources.

⁴ At the Commission's January 11, 2010, open meeting discussion of this case, I requested that the Navigant Final Report be provided to the Commission. I expect WEPCO will work with Commission staff to file this report separate from this proceeding. I will review the submission when it is legally appropriate to do so.

Modeling in Recognition of Wisconsin's Capacity

Given the current excess of capacity in Wisconsin, it is possible that the state may soon be a net exporter of energy. This will require future expansion modeling to consider a broader scope and capture the economies of the Midwest Independent Transmission System Operator, Inc. (MISO), market. How we go about accomplishing this modeling challenge should be a consideration in the Commission's upcoming generic docket on excess capacity. In the meantime (and in the event the issue is not completely dealt with in the generic docket), future applications for additional generating capacity in Wisconsin should account for the economies of the MISO market and attempt to consider the way dispatch is actually performed within the MISO footprint.

Dated at Madison, Wisconsin, January 22, 2010.

A handwritten signature in black ink, appearing to read "Lauren Azar", written over a horizontal line.

Lauren Azar
Commissioner