ORIGINAL

In The
SUPREME COURT OF OHIO

Champaign County, *et al.*,	:	Case No. 2014-1210
Appellants,	:	
v.	:	Appeal from the Ohio Power Siting Board, Case No. 13-360-EL-BGA, *In the Matter of the Application of Buckeye Wind, LLC, to Amend its Certificate Issued in Case No. 08-666-EL-BGN.*
The Ohio Power Siting Board,	:	
Appellee.	:	

MERIT BRIEF SUBMITTED ON BEHALF OF THE PUBLIC UTILITIES COMMISSION OF OHIO

Kevin S. Talebi (0069198)
Champaign County Prosecuting Attorney
Jane A. Napier (0061426)
Assistant Prosecuting Attorney
Counsel of Record
200 N. Main Street
Urbana, Ohio 43078
937.484.1900 (telephone)
ktalebi@champaignprocesutor.com
jnapier@champaignprosecutor.com

Counsel for Appellants,
Champaign County and Goshen, Union and Urbana Townships

Michael DeWine (0009181)
Attorney General of Ohio

William L. Wright (0018010)
Section Chief
Werner L. Margard III (0024858)
Counsel of Record
John H. Jones (0051913)
Assistant Attorneys General
Public Utilities Section
180 East Broad Street, 6th Floor
Columbus, Ohio 43215-3793
614.466.4397 (telephone)
614.644.8764 (fax)
werner.margard@puc.state.oh.us
john.jones@puc.state.oh.us

Counsel for Appellee,
Public Utilities Commission of Ohio

FILED
NOV 12 2014
CLERK OF COURT
SUPREME COURT OF OHIO

M. Howard Petricoff (0008287)
Counsel of Record
Michael J. Settineri (0073369)
Miranda R. Leppla (0086351)
Vorys, Sater, Seymour and Pease LLP
52 East Gay Street, P.O. Box 1008
Columbus, OH 43216-1008
614.464.5414 (telephone)
614.719.4904 (fax)
mhpetricoff@vorys.com
mjsettineri@vorys.com
mrleppla@vorys.com

TABLE OF CONTENTS

TABLE OF AUTHORITIES iii

INTRODUCTION 1

BACKGROUND 3

STATEMENT OF THE FACTS 4

STANDARD OF REVIEW 9

ARGUMENT 11

Proposition of Law No. I:

The Board properly applied the statutory criteria in R.C. 4906.07(B) to limit the scope of the hearing on Buckeye's amendment application. 11

A. The Board's decision is supported by sufficient evidence in the record. 13

B. The Board has broad discretion in the conduct of its hearings. 16

Proposition of Law No. II:

Appellants' first and second propositions of law fail to offer a coherent legal theory, which is grounds for rejecting their arguments. *In re Complaint of Wilkes v. Ohio Edison Co.*, 131 Ohio St.3d 252, 963 N.E.2d 1285 ¶ 10; *Util. Serv. Partners, Inc. v. Pub. Util. Comm.*, 124 Ohio St.3d 284, 921 N.E.2d 1038, ¶ 53 18

Proposition of Law No. III:

Appellants forfeited their right to argue that the ALJ and Board failed to cite sufficient record evidence in support of the decision not to hear certain issues, and their due process claim, because they failed to present them to the Board in their rehearing application. 22

TABLE OF CONTENTS (cont'd)

Proposition of Law No. IV:

Appellants' allegations of traffic and right-of-way issues were fully litigated in Case No. 08-666-EL-BGA, and thus are barred from re-litigation based on principles of *res judicata* and collateral estoppel. 25

A. Appellants' right-of-way issue is precluded under *res judicata* and collateral estoppel. 27

B. Appellants' traffic claim is precluded under *res judicata* 29

Proposition of Law No. V:

Appellants have failed to show that the order has a prejudicial effect 30

CONCLUSION 33

PROOF OF SERVICE 34

APPENDIX PAGE

In the Matter of the Application of Buckeye Wind, LLC for a Certificate to Construct Wind-Powered Electric Generation Facilities in Champaign County, Ohio, Case No. 08-666-EL-BGN (Opinion, Order, and Certificate) (Mar. 22, 2010) 1

In the Matter of the Application of Champaign Wind, LLC for a Certificate to Construct Wind-Powered Electric Generating Facility in Champaign County, Ohio, Case No. 12-160-EL-BGN (Opinion, Order, and Certificate) (May 28, 2013) 106

R.C. 4903.10 Application for Rehearing 212

R.C. 4906.01 Power Siting Definitions 213

R.C. 4906.03 Powers and Duties of Power Siting Board 215

R.C. 4906.07 Public Hearing on Application 216

R.C. 4906.12 Procedures of Public Utilities Commission to be Followed 217

Ohio Adm. Code 4906-5-10 Amendments of Accepted, Complete Certificate Applications and of Certificates 217

TABLE OF AUTHORITIES

Page(s)

Cases

AK Steel Corp. v. Pub. Util. Comm., 95 Ohio St.3d 81, 765 N.E.2d 862 (2002) 14, 32

Allnet Communications Serv., Inc. v. Pub. Util. Comm., 70 Ohio St.3d 202, 638 N.E.2d 516 (1994) 21

AT&T Communications of Ohio, Inc. v. Pub. Util. Comm., 51 Ohio St.3d 150, 555 N.E.2d 288 (1990) 18, 22

Cincinnati Bell Tel. Co. v. Pub. Util. Comm., 92 Ohio St.3d 177, 2001-Ohio-134, 749 N.E.2d 262 17

Cincinnati Gas & Elec. Co. v. Pub. Util. Comm., 103 Ohio St.3d 398, 816 N.E.2d 238 23

Cincinnati v. Pub. Util. Comm., 151 Ohio St. 353, 86 N.E.2d 10 (1949) 24, 30

Cleveland Elec. Illum. Co. v. Pub. Util. Comm., 46 Ohio St.2d 105, 346 N.E.2d 778 (1976) 18

Cleveland Elec. Illum. Co. v. Pub. Util. Comm., 76 Ohio St.3d 163, 666 N.E.2d 1372 (1996) 10

Columbus v. Pub. Util. Comm., 10 Ohio St.3d 23, 460 N.E.2d 1117 (1984) 18

Consumers' Counsel v. Pub. Util. Comm., 58 Ohio St.2d 108, 388 N.E.2d 1370 (1979) 10

Consumers' Counsel v. Pub. Util. Comm., 16 Ohio St.3d 9, 475 N.E.2d 782 (1985) 27

Consumers' Counsel v. Pub. Util. Comm., 70 Ohio St.3d 244, 638 N.E.2d 550 (1994) 23

Day v. N. Indiana Pub. Serv. Corp., 164 F.3d 382 (7th Cir. 1999) 22

Discount Cellular, Inc. v. Pub. Util. Comm., 112 Ohio St.3d 360, 859 N.E.2d 957 24

Duff v. Pub. Util. Comm., 56 Ohio St.2d 367, 384 N.E.2d 264 (1978) 12, 17

TABLE OF AUTHORITIES (cont'd)

Page(s)

Fort Frye Teachers Assn., OEA/NEA v. State Emp. Relations Bd. (1998), 81 Ohio St.3d 392, 692 N.E.2d 140 (1998) 27

Grava v. Parkman Twp., 73 Ohio St.3d 379, 653 N.E.2d 226 (1995) 27

Holladay Corp. v. Pub. Util. Comm., 61 Ohio St.2d, 402 N.E.2d 1175 (1980) 30

In re Application of Buckeye Wind, LLC, 131 Ohio St.3d 449, 2013-Ohio-878 ..... 3, 11, 26

In re Application of Columbus S. Power Co., 128 Ohio St.3d 512, 947 N.E.2d 655 22

In re Complaint of Reynoldsburg, 134 Ohio St.3d 29, 979 N.E.2d 1229 (2012) 10

In re Complaint of Wilkes v. Ohio Edison Company, 131 Ohio St.3d 252, 963 N.E.2d 1285 ..... 18, 21

In re Fuel Adjustment Clauses for Columbus S. Power Co. & Ohio Power Co., 2014-Ohio-3764, ___ N.E.3d___ 10

Indus. Energy Consumers v. Pub. Util. Comm., 63 Ohio St.3d 551, 589 N.E.2d 1289 (1992) 30

Luntz Corp. v. Pub. Util. Comm., 79 Ohio St.3d 509, 684 N.E.2d 43 (1997) 10

Myers v. Pub. Util. Comm., 64 Ohio St.3d 299, 595 N.E.2d 873 (1992) 32

O'Nesti v. DeBartolo Realty Corp., 113 Ohio St.3d 59, 2007-Ohio-1102, 862 N.E.2d 803 27

Ohio Contract Carriers Assn., Inc. v. Pub. Util. Comm., 140 Ohio St. 160, 42 N.E.2d 758 (1942) 30

Ohio Edison Co. v. Pub. Util. Comm., 173 Ohio St. 478, 184 N.E.2d 70 (1962) 30

Ohio Edison Co. v. Pub. Util. Comm., 78 Ohio St.3d 466, 678 N.E.2d 922 (1977) 10

Payphone Assn. v. Pub. Util. Comm., 109 Ohio St.3d 453, 849 N.E.2d 4 (2006) 14

TABLE OF AUTHORITIES (cont'd)

Page(s)

State ex rel. Physicians Commt. for Responsible Medicine v. Ohio State Univ. Bd. of Trustees, 108 Ohio St.3d 288, 843 N.E.2d 174 21

Toledo Coalition far Safe Energy v. Pub. Util. Comm., 69 Ohio St.2d 559 (1982) 12, 17

Util. Serv. Partners, Inc. v. Pub. Util. Comm., 124 Ohio St.3d 284, 921 N.E.2d 1038 ..... 18, 21

Weiss v. Pub. Util. Comm., 90 Ohio St.3d 15, 2000-Ohio-491, 734 N.E.2d 775 ..... 12, 17

Statutes

R.C. 4903.10 ..... 23, 24

R.C. 4906.03 3

R.C. 4906.07 ..... *passim*

R.C. 4906.12 9

Other Authorities

In re Application of Buckeye Wind, LLC, Case No. 08-666-EL-BGN (*Buckeye Wind I*) (Opinion, Order, and Certificate) (Mar. 22, 2010) 3, 27

In re Application of Buckeye Wind, LLC, to Amend its Certificate, Case No. 13-360-EL-BGA (Entry) (Nov. 21, 2013) 5, 7

In re Application of Buckeye Wind, LLC, to Amend its Certificate, Case No. 13-360-EL-BGA (Order on Certificate Amendment) (Feb. 18, 2014) ..... *passim*

In re Application of Buckeye Wind, LLC, to Amend its Certificate, Case No. 13-360-EL-BGN (Entry on Rehearing) (May 19, 2014) ..... *passim*

In re Application of Champaign Wind, LLC, Case No. 12-160-EL-BGN (Opinion, Order, and Certificate) (May 28, 2013) 4

Rules

Ohio Adm. Code 4906-5-10 11

In The
SUPREME COURT OF OHIO

Champaign County, *et al.*,	:	Case No. 2014-1210
	:	
Appellants,	:	
	:	Appeal from the Ohio Power Siting
v.	:	Board, Case No. 13-360-EL-BGA, *In*
	:	*the Matter of the Application of Buckeye*
The Ohio Power Siting Board,	:	*Wind, LLC, to Amend its Certificate*
	:	*Issued in Case No. 08-666-EL-BGN.*
Appellee.	:	

MERIT BRIEF
SUBMITTED ON BEHALF OF APPELLEE, THE OHIO POWER SITING BOARD

INTRODUCTION

This case is about promoting efficiency and reducing environmental and aesthetic impacts. EverPower has already been awarded two certificates from the Power Siting Board authorizing the installation of two wind farms in essentially the same footprint. Expected impacts associated with construction and operation of these facilities were extensively litigated in separate cases, with full participation by the Appellants. Both were approved subject to extensive conditions imposed to address project impacts.

It is a case that is familiar to this Court. It is about an application filed by Buckeye Wind, an EverPower subsidiary, to build a wind farm in Champaign County.

The original application was appealed by this same Appellant, and the Power Siting Board's decision approving it was previously affirmed by the Court.

In its amendment application, Buckeye sought to gain practical efficiencies by integrating the construction of two projects, resulting in a reduction of environmental and other impacts. (The decision approving the second project for an affiliate of Buckeye's is currently on appeal to this Court as *In re Application of Champaign Wind*, LLC, Case No. 2013-1874.) There will be less traffic, two staging areas and a substation will be eliminated, and the total length of electric lines, which will now be largely buried instead of being strung on visible poles, will be reduced by nearly 36 percent. The amendment approved by the Board reduces activity and impacts in public rights of way and the coordination of the two projects reduces environmental impacts, a result beneficial to all.

While Appellants sought to completely re-litigate the two previously-issued certificates, the Board correctly refused to allow what essentially would be a third bite at a smaller apple. Appellants are barred by *res judicata* from delving once again into matters that it received a full and fair opportunity to contest in earlier proceedings. Appellants were permitted an opportunity to present any new issues and failed to do so.

The Board's application of R.C. 4906.07 comports with both the facts and the law. It provided a forum for presentation of new issues and it approved an application that can only benefit the public. Its order should be affirmed.

BACKGROUND

The Power Siting Board has exclusive authority to issue certificates for the construction, operation, and maintenance of major utility facilities, including an electric generating plant or wind farm that operates at a capacity of fifty megawatts or more. R.C. 4906.03, App. at 215-216.[1] The Board exercised that authority to approve two different, but closely-related, wind generation projects that underlie this case.

In 2009, Buckeye Wind, LLC ("Buckeye"), a wholly-owned subsidiary of EverPower Wind Holdings, Inc. ("EverPower"), filed an application for a certificate of environmental compatibility and public need in Board Case No. 08-666-EL-BGN to construct a wind-powered electric generating facility in Champaign County.

On March 22, 2010, the Board granted that application authorizing the construction of 53 wind turbines (the "Buckeye Wind I" project). *In re Application of Buckeye Wind, LLC*, Case No. 08-666-EL-BGN (*Buckeye Wind I*) (Opinion, Order, and Certificate) (Mar. 22, 2010), App. at 1-105. That decision was appealed to this Court by several parties, including the Appellants here, in Case No. 2010-1554. The Court affirmed the Board's decision on March 6, 2012. *In re Application of Buckeye Wind, LLC*, 131 Ohio St.3d 449, 2013-Ohio-878.

---

[1] References to appellee's appendix are denoted as "App. at ____;" references to appellee's supplement will be denoted as "Supp. at ____."

On May 15, 2012, Champaign Wind LLC ("Champaign Wind"), another wholly-owned EverPower subsidiary, filed an application for a certificate of environmental compatibility to construct a 56 turbine wind-powered electric generation facility in Board Case No. 12-160-EL-BGN. This project was adjacent to the Buckeye Wind I project that the Board had already certificated. *In re Application of Champaign Wind, LLC*, Case No. 12-160-EL-BGN (Opinion, Order, and Certificate at 2-3) (May 28, 2013), App. at 110-111. On May 28, 2013, the Board approved the application with modifications (the "Buckeye Wind II" project). *Id.*

That decision was appealed to this Court by several parties, including Appellants here, in Case No. 2013-1874. That case has been fully briefed and is awaiting scheduling for oral argument.

STATEMENT OF THE FACTS

On March 19, 2013, Buckeye filed an application to amend the certificate issued by the Board in *Buckeye Wind I*. Buckeye's amendment application proposed a number of changes to further minimize environmental and aesthetic impacts and to take advantage of operational synergies. Buckeye proposed six changes to its original plan. Specifically, Buckeye proposed: adjusting the construction staging areas; moving one staging area 1.3 miles west (a proposal it would ultimately withdraw); shifting the project substation by 1,000 feet; adding a new access road; modifying four previously approved

access roads; and moving the electric collection line system underground. *In re Application of Buckeye Wind, LLC, to Amend its Certificate*, Case No. 13-360-EL-BGA (Entry at 2) (Nov. 21, 2013) , Supp. at 71.

One proposed change was to have the Buckeye Wind I project use two of the same construction staging areas and a substation that the Board approved for the Buckeye Wind II project. *Buckeye Wind I Amendment* (Application to Amend at 2-3) (Mar. 13, 2013) (Company Exhibit 2), Supp. at 2-3. These changes would eliminate two staging areas and a substation for the Buckeye Wind I project. It would, of course, also eliminate the environmental, noise, and other impacts associated with those facilities.

Another change would reduce the number of collection lines, and shift them from overhead public right-of-ways to underground locations on private property leased by Buckeye. *Id.* at 2, Supp. at 2. As originally approved, the electric collection system would have been approximately 65.4 miles of lines, approximately 40 miles of which would have been placed overhead. Ohio Power Siting Board Staff Investigation Report and Recommendation at 4-5, Case No. 13-360-EL-BGA (Nov. 1, 2013) ("Staff Exhibit 1"), Supp. at 59-60. The amendment would reduce the electric collection system by more than a third, to a total of 41.1 miles, *all* of which would be placed underground on parcels of participating landowners, and removing it *completely* from the public right-of-way. *Id.*

Buckeye's final proposed change would modify four previously approved access roads and one new access road. Company Exhibit 2 at 7, Supp. at 7. The four relocated access roads would all be located in farm fields, and require no tree clearing. Staff Exhibit 1 at 3, Supp. at 58. This would further mitigate impacts that were originally

approved. Specifically: (1) the access road to Turbine 40 would be further from a wetland and follow a relocated collection line route; (2) the access road to Turbine 36 would be relocated at the landowner's request and it would follow a relocated collection line; (3) the access road to Turbine 44 would now avoid a stream crossing; and (4) the access road to Turbine 21 would now be within the same parcel as a construction staging area, and no longer directly in front of a residence. Staff Exhibit 1 at 3-4, Supp. at 58-59. The new access road would run between Turbines 16 and 18, and would reduce the need to use Perry Road. *Id.*

On November 1, 2013, the Board Staff filed its investigative report and recommendation on Buckeye's proposed amendment application. Staff Exhibit 1, Supp. at 56-69. Staff noted that Buckeye did not propose to relocate or add wind turbines. *Id.* at 6, Supp. at 61. It also noted that the changes proposed to the staging areas and substation had previously been reviewed and approved by the Board in the *Buckeye Wind II* case. *Id.* Staff found that Buckeye's proposed changes to the access roads, including the new access road, would not have any significant incremental ecological or societal impacts. *Id.* Quite to the contrary, the new access road would actually reduce the use of Perry Road, reducing the public impact associated with that project component. *Id.* The Staff found that the changes to the electric collection system would reduce impacts already found to be acceptable to the Board. *Id.* In addition, placing all of the system underground would eliminate visual impacts. *Id.* The Staff recommended that the Board find the proposed amendment posed minimal social and environmental impacts, provided that Buckeye met a number of conditions.

Ohio law requires that a hearing be held on an application to amend a power siting certificate if either (1) the proposed change in the facility would result in any material increase in any environmental impact of the facility, or (2) a substantial change in the location of all or a portion of such facility other than as provided in the alternates set forth in the application. R.C. 4906.07(B). On November 21, 2013, the Administrative Law Judge ("ALJ") found, as a matter of fact, that none of the six proposed changes in the amendment application would result in a material increase in any environmental impact of the facility, and that the first criteria of the statute had not been met. *In re Application of Buckeye Wind, LLC, to Amend its Certificate*, Case No. 13-360-EL-BGA (Entry at 2) (Nov. 21, 2013), Supp. at 71. The ALJ held that a hearing on all six proposed changes was, therefore, not required. *Id.* at 2-3, Supp. at 71-72.

The ALJ then applied the second criteria under R.C. 4906.07(B) to determine whether any of the proposed changes required a hearing based on a substantial change in the location of all or a portion of the facility. *Id.* at 3, Supp. at 72. The ALJ found that the proposed changes to the construction staging areas, the modifications of the previously approved access roads, and the movement of the electric collection line system underground did not constitute a substantial change requiring a hearing. *In re Application of Buckeye Wind, LLC, to Amend its Certificate*, Case No. 13-360-EL-BGA (Entry at 3) (Nov. 21, 2013), Supp. at 72.

The ALJ did, however, find that the three proposed changes would require a hearing based on the substantial change criteria: the movement of one staging area 1.3 miles

west,[2] shifting the project substation by 1,000 feet, and the addition of a new access road. *Id.* Appellants did not file an interlocutory appeal of the Entry establishing the scope of the hearing. *Buckeye Wind I Amendment* (Entry on Rehearing at 4) (May 19, 2014), Supp. at 150.

The evidentiary hearing took place on January 6, 2014. *In re Application of Buckeye Wind, LLC, to Amend its Certificate*, Case No. 13-360-EL-BGA, Transcript of Proceedings ("Tr.") at 5, Supp. at 104. One witness for Buckeye and one witness for the Board Staff gave testimony on the proposed changes and how they further reduced or minimized the expected impacts to the environment for the construction, maintenance, and operation of the facility. Tr. at 12-23, Supp. at 111-122; Company Exhibit 1, Supp. at 84-90; Prefiled Testimony of Stuart M. Siegfried (Dec. 23, 2013) (Staff Exhibit 2), Supp. at 91-99. No party had any questions for Buckeye's witness. Tr. at 14-15, Supp. at 113-114. And no other party, including Appellants, called a witness of their own to testify.

The Board issued its Order on the Certificate Amendment on February 18, 2014. It agreed with the ALJ's decision on the scope of the hearing, and approved Buckeye's amendment application subject to certain conditions. *In re Application of Buckeye Wind,*

---

[2] Buckeye withdrew this proposal prior to the hearing, which then proceeded only with respect to the substation and access road issues. Direct Testimony of Michael Speerschneider at 3, Case No. 13-360-EL-BGA (Dec. 23, 2013) ("Company Exhibit 1"), Supp. at 86.

LLC, to Amend its Certificate, Case No. 13-360-EL-BGA (Order on Certificate Amendment) (Feb. 18, 2014), Supp. at 126-138.

Appellants' filed an application for rehearing on March 20, 2014 complaining for the first time about the scope of the hearing. Intervenors Champaign County and Goshen, Union, and Urbana Townships' Application for Rehearing and Reconsideration, Case No. 13-360-EL-BGA (Mar. 20, 2014), Supp. at 139-146. Appellants argued that a hearing was required on the three changes that the Board decided did not require a hearing. *Id.* at 3-6, Supp. at 141-144. On May 19, 2014, the Board denied Appellants' application for rehearing. *In re Application by Buckeye wind, LLC, to Amend its Certificate*, Case No. 13-360-EL-BGA (Entry on Rehearing) (May 19, 2014), Supp. at 147-155. Appellants' filed this appeal on July 16, 2014. Notice of Appeal of Appellants Champaign County and Goshen, Union and Urbana Townships, Case No. 14-1210 (Jul. 16, 2014), Supp. at 156-160.

STANDARD OF REVIEW

Pursuant to R.C. 4906.12, the Court applies the same standard of review to determinations of the Ohio Power Siting Board that it applies to orders of the Public Utilities Commission. *In re Application of Buckeye Wind, L.L.C. 'S.*, 131 Ohio St.3d 449, 966 N.E.2d 869, at ¶ 26. An order of the Board shall be reversed, vacated, or modified by the Court only when, upon consideration of the record, the Court finds the order to be unlawful or unreasonable. *Id.* The Court has "complete and independent power of review as to

all questions of law" in appeals from the PUCO [Board in this case], *In re Fuel Adjustment Clauses for Columbus S. Power Co. & Ohio Power Co.*, 2014-Ohio-3764, ___ N.E.3d___ ("*In re Fuel Adjustment Clauses*") citing *Ohio Edison Co. v. Pub. Util. Comm.*, 78 Ohio St.3d 466, 469, 678 N.E.2d 922 (1977). The Court has customarily relied on the expertise of a state agency in interpreting a law where "highly specialized issues" are involved and "where agency expertise would, therefore, be of assistance in discerning the presumed intent of our General assembly." *In re Fuel Adjustment Clauses* citing *Consumers' Counsel v. Pub. Util. Comm.*, 58 Ohio St.2d 108, 110, 388 N.E.2d 1370 (1979).

The Court will not reverse or modify a decision of the [Board] as to questions of fact if the record contains sufficient probative evidence to show that its decision was not manifestly against the weight of the evidence and was not clearly unsupported by the record as to show misapprehension, mistake, or willful disregard of duty. *In re Complaint of Reynoldsburg,* 134 Ohio St.3d 29, 979 N.E.2d 1229 (2012).

The Court will not reweigh evidence or substitute its judgment for that of the [Board] on factual questions when there is sufficient probative evidence in the record to support the [Board's] decision. *Luntz Corp. v. Pub. Util. Comm.*, 79 Ohio St.3d 509, 684 N.E.2d 43 (1997). The [Board's] factual determinations are entitled to deference. *Cleveland Elec. Illum. Co. v. Pub. Util. Comm.*, 76 Ohio St.3d 163, 666 N.E.2d 1372 (1996).

ARGUMENT

Proposition of Law No. I:

> **The Board properly applied the statutory criteria in R.C. 4906.07(B) to limit the scope of the hearing on Buckeye's amendment application.**

The Board has the discretion to determine whether the criteria necessitating a hearing (and on what issues) on an application for an amendment to an existing certificate have been met. The controlling statute, R.C. 4906.07(B), states:

> On an application for an amendment of a certificate, the board shall hold a hearing in the same manner as a hearing is held on an application for a certificate *if the proposed change in the facility would result in any material increase in any environmental impact of the facility or a substantial change in the location of all or a portion of such facility* other than as provided in the alternates set forth in the application.

R.C. 4906.07(B), App. at 216 (emphasis added). In conformance with this statutory provision, the Board's rules provide:

> If the board...or the administrative law judge determines that the proposed change in the certified facility would result in any significant adverse environmental impact of the certified facility or a substantial change in the location of all or a portion of such certified facility...then a hearing shall be held...

Ohio Adm. Code 4906-5-10(B)(1)(a), App. at 217-218.

The Board must retain authority to determine what is subject to hearing. *In re Application of Buckeye Wind, LLC,* 131 Ohio St.3d 449, 966 N.E.2d 869, at ¶ 30. The Board did just that and exercised its discretion and authority in holding a hearing only on changes that satisfied the criteria of R.C. 4906.07(B).

Appellants' claims regarding the weight of the evidence, and an alleged due process violation, are without merit. Additionally, the road and right-of-way issues Appellants raise here have already been thoroughly addressed in conditions approved by the Board in the *Buckeye Wind I* case. The Board approved this amendment subject to the same conditions it approved when it granted a certificate for the Buckeye Wind I project.

A hearing was not required for three of Buckeye's proposed changes because they did not meet the statutory criteria. The Board decided that none of those proposed changes would result in neither a material increase in any environmental impact nor a substantial change in some or all of the facility. In fact, and not surprisingly, the Board found that the environmental impacts will decrease as a result of the practical construction efficiencies proposed in the amendment application.

The right to a hearing does not arise simply because a party asks for one. Appellants mistakenly assert that such a right to be heard is grounded in both the U.S. and Ohio constitutions. Due process is statutory and, in an amendment case like this, R.C. 4906.07(B) requires a hearing only when the Board makes certain findings. As to those matters not heard below, the factual record supports the Board's determination. Beyond that, the Board is afforded significant discretion in determining how best to manage its busy docket. *Duff v. Pub. Util. Comm.*, 56 Ohio St.2d 367, 379, 384 N.E.2d 264, 275 (1978); *Toledo Coalition far Safe Energy v. Pub. Util. Comm.*, 69 Ohio St.2d 559, 560 (1982); *Weiss v. Pub. Util. Comm.*, 90 Ohio St.3d 15, 2000-Ohio-491, 734 N.E.2d 775.

A. The Board's decision is supported by sufficient evidence in the record.

Buckeye's amendment proposed six changes to its original certificate. Appellants' Merit Brief at 4. As noted above, the ALJ determined, and the Board agreed, that no hearing was required on three of those issues. Appellants' arguments are all concerned with that decision.

The ALJ determined that the remaining three issues were significant enough to meet the statutory criteria requiring a hearing. Buckeye withdrew one of those issues – the proposal to move one staging area 1.3 miles to the west, and it is not at issue in this case. The January 6, 2014 hearing addressed the remaining two issues: whether Buckeye's proposed changes to add a new access road and to shift the footprint of a substation would be a substantial change in the location of all or a portion of the Buckeye Wind I facility. *Buckeye Wind I Amendment* (Order on Certificate Amendment at 4, 8-9) (Feb. 18, 2014), Supp. at 129, 133-134. Appellants do not contest the decision to hold a hearing on these issues, or the process afforded at that hearing, or the Board's decision to approve those amendments.

Appellants' sole concern is that the Board erred in failing to hear staging area, collection line, and access road issues. But at no time either prior to or during the hearing did Appellants introduce any evidence or witnesses on these subjects, instead raising the hearing scope issue for the first time on rehearing. *Id.* The Board correctly noted:

> Further, the County/Townships never sought to expand the scope of the hearing, either prior to the hearing, at the commencement of the hearing, or at the conclusion of the hearing, and they chose not to proffer, at any time during the hearing,

> any evidence or testimony on matters they now seek rehearing.

Id. at 8

Appellants bear the burden of showing that the Board's decision not to hear these issues is against the manifest weight of the evidence or is clearly unsupported by the evidence. *AK Steel Corp. v. Pub. Util. Comm.*, 95 Ohio St.3d 81, 86, 765 N.E.2d 862 (2002). This burden is difficult to sustain. *Payphone Assn. v. Pub. Util. Comm.*, 109 Ohio St.3d 453, 462, 849 N.E.2d 4 (2006). Appellants have failed to meet that burden in this case.

The record more than adequately supports the Board's decision. The uncontroverted evidence of record supports the Board's decision. There is no evidence, let alone evidence of "manifest weight," to the contrary.

Buckeye witness Michael Speerschneider testified that the proposed amendment, as a whole, will result in significantly less impact to the environment and the local community, primarily by eliminating overhead collection lines in favor of underground lines. Company Exhibit 1 at 3, Supp. at 86; *Buckeye Wind I Amendment* (Order on Certificate Amendment at 4-5) (Feb. 18, 2014), Supp. at 129-130. No party had any questions for Mr. Speerschneider. Tr. at 14-15, Supp. at 113-114.

The proposed amendment would convert approximately 40 miles of overhead collection lines to underground collection lines, eliminating poles and above-ground wires. *Id.* In addition, it would reduce the total collection line distance by 36 percent – from approximately 65 miles to 42 miles. *Id.* All of the electric collection lines would be

installed on largely private property of project participating landowners, away from public rights-of-way. Company Exhibit 2 at 2, 5, 7-8, Supp. at 2, 5, 7-8; see also *Buckeye Wind I Amendment* (Order on Certificate Amendment at 9) (Feb. 18, 2014), Supp. at 134.

The eastern and southern construction staging areas were proposed to be relocated at the request of the landowners. They would be relocated within the same parcels as initially planned, which would allow Buckeye to use the same staging areas for both the Buckeye Wind I and Buckeye Wind II projects. *Buckeye Wind I Amendment* (Staff Report of Investigation) (Nov. 1, 2013) (Staff Exhibit 1) at 2, Supp. at 57; *Buckeye Wind I Amendment* (Order on Certificate Amendment at 9) (Feb. 18, 2014), Supp. at 134. This proposed change would also reduce the impact the facility would otherwise have on the environment during construction. Company Exhibit 1 at 6, Supp. at 89; *Buckeye Wind I Amendment* (Order on Certificate Amendment at 3) (Feb. 18, 2014), Supp. at 128.

The changes to the four access roads will decrease the environmental impacts during operation and maintenance of the facility by: moving one road further from a wetland, moving another to avoid a stream crossing, moving another so that it is within the same parcel but no longer directly in front of a house, and moving another so that it would follow a relocated collection line. Staff Exhibit 1 at 3-4, Supp. at 58-59. The changes to the four access roads have them all located in farm fields, with no tree clearing required. *Id* at 3, Supp. at 58; *Buckeye Wind I Amendment* (Order on Certificate Amendment at 9) (Feb. 18, 2014), Supp. at 134.

The amendment creates important, practical synergies. The majority of the collection line system, all staging areas, and the substation for the Buckeye Wind I project will

now share the same locations as the collection line system, staging areas and substation already approved for the Buckeye Wind II Wind project. Company Exhibit 1 at 4, Supp. at 87; *Buckeye Wind I Amendment* (Order on Certificate Amendment at 5) (Feb. 18, 2014), Supp. at 130. These changes avoid redundant impacts that would result if the two projects were constructed and operated as originally proposed under the current certificates. *Id.* Because these changes allow both projects to use the same substation and staging areas as well as the same locations for the majority of the collection line systems, environmental and other impacts will be significantly reduced, not increased, as Appellants claim. *Id.*

The environmental benefits of these changes is self-evident. It was clear to the Board, based on the record of evidence, that a hearing was not required for the construction staging areas, access roads, and electric collection line system. The Board properly exercised its discretion and correctly decided that these changes simply did not meet the statutory criteria requiring a hearing. See *Buckeye Wind I Amendment* (Order on Certificate Amendment at 9-10) (Feb 18, 2014) , Supp. at 134-135; *Buckeye Wind I Amendment* (Entry on Rehearing at 4-8) (May 19, 2014), Supp. at 150-154. The Board's orders show in sufficient detail the facts in the record upon which its orders are based and reasoning followed.

B. The Board has broad discretion in the conduct of its hearings.

The Board has the discretion to manage its dockets, expedite the orderly flow of business, and avoid duplication of effort. The Board's decision to have a hearing on

three of Buckeye's six proposed changes, after applying the criteria under R.C. 4906.07(B), was within the Board's expertise and broad discretion to manage its dockets. This Court has recognized that the [Board] is vested with broad discretion to manage its dockets so as to avoid undue delay and the duplication of effort, including the discretion to decide how, in light of its internal organization and docket considerations, it may best proceed to manage and expedite the orderly flow of its business, avoid undue delay, and eliminate unnecessary duplication of effort. *Duff v. Pub. Util. Comm.*, 56 Ohio St.2d 367, 379, 384 N.E.2d 264, 275 (1978); *Toledo Coalition far Safe Energy v. Pub. Util. Comm.*, 69 Ohio St.2d 559, 560 (1982). The [Board] enjoys broad authority in the conduct of its business. *Weiss v. Pub. Util. Comm.*, 90 Ohio St.3d 15, 2000-Ohio-491, 734 N.E.2d 775, citing *Duff v. Pub. Util. Comm.*, 56 Ohio St.2d 367, 379, 384 N.E.2d 264, 275 (1978).

It was certainly worthwhile for the Board to avoid reconsideration of components for this facility that were previously fully investigated, thoroughly litigated, and approved by the Board subject to extensive conditions in the *Buckeye Wind II* case. The duplicative components making up the changes in the amendment that did not require a hearing are the staging areas and a majority of the redesigned electric collection line system. Company Exhibit 1 at 4, Supp. at 87; *Buckeye Wind I Amendment* (Order on Certificate Amendment at 4-7, 9) (Feb. 18, 2014), Supp. at 129-132.

In matters involving the [Board's] special expertise and the exercise of discretion, the Court will generally defer to the judgment of the [Board]. *Cincinnati Bell Tel. Co. v. Pub. Util. Comm.*, 92 Ohio St.3d 177, 180, 2001-Ohio-134, 749 N.E.2d 262, 264; *AT&T*

Communications of Ohio, Inc. v. Pub. Util. Comm., 51 Ohio St.3d 150, 154, 555 N.E.2d 288, 292 (1990); *Cleveland Elec. Illum. Co. v. Pub. Util. Comm.*, 46 Ohio St.2d 105, 107-108, 346 N.E.2d 778, 781 (1976). Where the relevant statute does not prescribe a particular formula, the [Board] is vested with broad discretion in performing its duties. *Columbus v. Pub. Util. Comm.*, 10 Ohio St.3d 23, 24, 460 N.E.2d 1117, 1119 (1984).

The General Assembly delegated the responsibility and authority for deciding whether a hearing on an amendment application is required or not to the Board. The Board's decision to hold a hearing on three of the proposed changes in Buckeye's amendment application was supported by sufficient probative evidence in the record, and is both reasonable and lawful in accord with R.C. 4906.07. The Board's findings of fact explaining why a hearing was required on some changes but not other changes should be affirmed.

Proposition of Law No. II:

> **Appellants' first and second propositions of law fail to offer a coherent legal theory, which is grounds for rejecting their arguments. *In re Complaint of Wilkes v. Ohio Edison Co.*, 131 Ohio St.3d 252, 963 N.E.2d 1285 ¶ 10; *Util. Serv. Partners, Inc. v. Pub. Util. Comm.*, 124 Ohio St.3d 284, 921 N.E.2d 1038, ¶ 53.**

Appellants' fail to offer any explanation or citation to authority explaining why they believe that the Board abused its discretion. Instead, Appellants argue that using the same staging areas for both the Buckeye Wind I and Buckeye Wind II projects would double the construction traffic. *See* Appellants' Merit Brief at 7. Appellants' argue that

"[t]his is the first time Applicant has indicated that Buckeye Wind I and Buckeye Wind II may be built at the same time." *Id.*

But Buckeye and Champaign Wind (the affiliated company for whom the Buckeye Wind II project was approved) are not prohibited from building these certificated projects at the same time. Had that been a concern it should have been raised during the *Buckeye Wind II* case. Whether EverPower's subsidiaries build the projects at the same time or not has no relevance to how the scope of the hearing was analyzed and decided in this case.

Appellants obviously do not understand what Buckeye proposed in its amendment application because their argument misstates the application and decision of the Board. For example, Appellants argue that burying the electric collection lines in the right-of-way, and relocation of two of four access roads which end at a right-of-way, raise road use concerns not addressed in the original certificate. Appellant's Merit Brief at 7. But Buckeye moved the collection line *out* of the public right-of-way to parcels of land it leased from private property owners and other routes previously approved for the project in *Buckeye Wind II*. See Company Exhibit 2 at 2, 5, 7-8, Supp. at 2, 5, 7-8; *Buckeye Wind I Amendment* (Order on Certificate Amendment at 9) (Feb. 18, 2014), Supp. at 134. Contrary to Appellants, argument, Merit Brief at 8, requirements for burying electric collection lines in the "rights-of-way", have neither application nor relevance to this case. No collections lines were ever proposed to be buried in the public right-of-way, either in the initial application or in this amendment.

Appellants also fail to identify which of the relocated access roads would supposedly give rise to these road use concerns. See Appellants' Merit Brief at 7. The relocated access roads referred to in section II.C.1.c and d of the Staff Investigation Report and Recommendation, Staff Exhibit 1, reduce environmental impacts. The relocated access road near Turbine 44 avoids crossing a stream, and the other relocated access road near Turbine 21 no longer is directly in front of a house. See Staff Exhibit 1 at 4, Supp. at 59; *Buckeye Wind I Amendment* (Order on Certificate Amendment at 9) (Feb. 18, 2014), Supp. at 134. And a parallel shift in feet of one where it meets Alt Road and the other where it meets U.S. Highway 36 will have a net positive environmental effect. In other words, the road use concerns do not change from the original certificate, where road concerns were addressed.

Appellants further argue there is no condition requiring negotiation of a Road Use Agreement ("RUMA") in the original certificate. Appellants' Brief at 7-8. That case was litigated, decided, appealed, and affirmed. That has nothing to do with the Board applying the criteria of R.C. 4906.07(B) and deciding in this case which changes in the amendment application required a hearing.

Finally, Appellants' due process claim lacks any coherent legal theory because a hearing took place in this case on shifting the substation and adding a new access road to the project site. *Buckeye Wind I Amendment* (Order on Certificate Amendment at 2-3, 8-9) (Feb. 18, 2014), Supp. at 127-128, 133-134. Appellants' had proper notice and participated in the hearing. Tr. at 6, 11, 14, 17, 19-21, 24, Supp. at 105, 110, 113, 116, 118-120, 123. Appellants had an opportunity at the hearing to object and to present evidence,

but did not. Appellants were able to conduct discovery and cross examination, and were afforded an opportunity to fully brief their positions. Moreover, the witnesses they claim would have been called would have addressed issues (roads and right-of-ways) already litigated and addressed by conditions approved in the original certificate for Buckeye Wind I. *Buckeye Wind I Amendment* (Entry on Rehearing at 5-8) (May 19, 2014), Supp. at 151-154. The same conditions that apply to the original certificate also apply to the amendment changes. *Buckeye Wind I Amendment* (Order on Certificate Amendment at 12) (Feb. 18, 2014), Supp. at 137.

The Appellants' lack any explanation as to how the Board abused its discretion applying the criteria of R.C. 4906.07(B) to Buckeye's amendment application for the purpose of deciding which changes required a hearing. This failure suffices as a basis for rejecting their arguments. *In re Complaint of Wilkes v. Ohio Edison Company*, 131 Ohio St.3d 252, 963 N.E.2d 1285, ¶ 10; *also see Util. Serv. Partners, Inc. v. Pub. Util. Comm.*, 124 Ohio St.3d 284, 921 N.E.2d 1038, ¶ 39 ("unsupported legal conclusions" do not establish error).

Appellants' also fail to cite to any evidence in their merit brief in support of their appellate arguments. Appellants' failure to offer relevant citations to the record to support their arguments is a fatal flaw. *Allnet Communications Serv., Inc. v. Pub. Util. Comm.*, 70 Ohio St.3d 202, 206, 638 N.E.2d 516 (1994) (rejecting argument where appellant provided no "record citations to support" it); *State ex rel. Physicians Commt. for Responsible Medicine v. Ohio State Univ. Bd. of Trustees*, 108 Ohio St.3d 288, 843 N.E.2d 174, ¶ 13, quoting *Day v. N. Indiana Pub. Serv. Corp.*, 164 F.3d 382, 384 (7th Cir.

1999) ("Appellate attorneys should not expect the court to 'peruse the record without the help of pinpoint citations' to the record").

A party who challenges a final order of the [Board] has the burden on appeal of showing that the order is unlawful or unreasonable. *AT&T Communications of Ohio, Inc. v. Pub. Util. Comm.*, 51 Ohio St.3d 150, 154, 555 N.E.2d 288 (1990). Appellants' arguments are inadequately developed, and the Court should reject them on this basis alone. See *In re Application of Columbus S. Power Co.*, 128 Ohio St.3d 512, 947 N.E.2d 655, ¶¶ 56-57.

For these reasons, Appellants' first and second propositions of law and argument should be rejected.

Proposition of Law No. III:

> **Appellants forfeited their right to argue that the ALJ and Board failed to cite sufficient record evidence in support of the decision not to hear certain issues, and their due process claim, because they failed to present them to the Board in their rehearing application.**

In their first proposition of law, Appellants' argue that the ALJ's finding that three changes in the amendment application did not require a hearing, and the Board's approval of that finding, were manifestly against the weight of the evidence. Appellants' Merit Brief at 6. Appellants further argue that the ALJ's November 21, 2013 Entry and the Board's orders do not show the facts in the record upon which their findings are based and reasoning followed in sufficient detail. Appellants' Brief at 6-7.

Appellants forfeited these arguments because they failed to present them to the Board in their application for rehearing. See *Buckeye Wind I Amendment* (Intervenors Champaign County and Goshen, Union and Urbana Townships' Application for Rehearing and Reconsideration) (Mar. 20, 2014), Supp. at 139-146. Appellants' failure is fatal because it jurisdictionally bars the Court from considering these claims. R.C. 4903.10, App. at 212; *Consumers' Counsel v. Pub. Util. Comm.*, 70 Ohio St.3d 244, 247, 638 N.E.2d 550 (1994) ("Setting forth specific grounds for rehearing is a jurisdictional prerequisite for our review"). Likewise, Appellants' failed to include claims of manifest weight and evidentiary record support for the Board's orders in its Notice of Appeal. The Court lacks jurisdiction to consider arguments not included in a Notice of Appeal. *Cincinnati Gas & Elec. Co. v. Pub. Util. Comm.*, 103 Ohio St.3d 398, 816 N.E.2d 238, ¶ 21.

In their second proposition of law, Appellants' argue, in conclusory fashion, that the Champaign County Sheriff and Engineer would have had testimony to give on traffic safety and right-of-way concerns.[3] They also argue that other township, county and city officials would have had relevant testimony to give on the effects of the amendments not heard. But Appellants forfeited these arguments, too, because they failed to satisfy the specificity requirement in R.C. 4903.10. See *Buckeye Wind I Amendment* (Intervenors

---

[3] At no stage of the proceeding below did Appellants state that they wished to present such testimony, nor did they make or proffer any testimony.

Champaign County and Goshen, Union and Urbana Townships' Application for Rehearing and Reconsideration) (Mar. 20, 2014), Supp. at 139-146. The Board stated that Appellants' lacked specificity for their due process claim on rehearing:

> In addition, other than claiming generally that there are potential witnesses who would have relevant testimony regarding the positive and negative effects of the amendments, traffic safety, and right-of-way concerns that were not heard, the County/Townships raise nothing specific in their application for rehearing related to the Board's jurisdictional basis under R.C. 4906.07 for holding a hearing on an amendment application. Specifically, the County/Townships *never argue in their application for rehearing* that there were persons who may have provided testimony regarding the environmental impact of the proposed amendment application or how the proposed amendment to the application may result in a substantial change in the location of the facility; both of which would have constituted the basis necessitated a hearing under R.C. 4906.07.

Buckeye Wind I Amendment (Entry on Rehearing at 8) (May 19, 2014) (emphasis added), Supp. at 133.

"[W]hen an appellant's grounds for rehearing fail to specifically allege in what respect the PUCO's [Board here] order was unreasonable or unlawful, the requirements of R.C. 4903.10 have not been met." *Discount Cellular, Inc. v. Pub. Util. Comm.*, 112 Ohio St.3d 360, 859 N.E.2d 957, ¶ 59 (cases cited). The Court has strictly construed the specificity test set forth in R.C. 4903.10. *Id. See also Cincinnati v. Pub. Util. Comm.*, 151 Ohio St. 353, 378, 86 N.E.2d 10 (1949) (by using the language set forth in R.C. 4903.10, "the General Assembly indicated clearly its intention to deny the right to raise a question on appeal where the appellant's application for rehearing used a shotgun instead of a rifle to hit that question").

For these reasons, Appellants' claims regarding manifest weight of the evidence, insufficient citation to record, and violation of due process should be rejected because the Court lacks the jurisdiction to consider them.

Proposition of Law No. IV:

> **Appellants' allegations of traffic and right-of-way issues were fully litigated in Case No. 08-666-EL-BGA, and thus are barred from re-litigation based on principles of *res judicata* and collateral estoppel.**

The Board denied Appellants' road and right-of-way issues after finding that they were not timely raised. *Buckeye I Amendment* (Entry on Rehearing at 5-6) (May 19, 2014), Supp. at 130-131. The Board stated that "the lack of a RUMA [Road Use Agreement] as a condition to the Buckeye Wind I certificate is a matter that should have been addressed in the proceeding involving Buckeye Wind I." *Id.* at 5, Supp. at 130. More to the point, the Board noted that conditions approved in the Buckeye Wind I certificate ensure the same protections as a Road Use Agreement. These conditions require Buckeye to secure a road bond through the Champaign County Engineer's Office (Condition 56); any road closures, restoration or improvements coordinated with local and state officials (Condition 23); all roads and bridges promptly restored to prior condition at Buckeye's expense (Condition 24). *Id.* at 5-6, Supp. at 130-131.

Likewise, the Board found that, because the *Buckeye Wind I* case addressed underground placement of electric interconnect lines, any concerns or issues related to this should have been raised in that proceeding. *Id.* at 6, Supp. at 131. The Board stated:

> Initially, we note that, in the Buckeye I application approved by the Board, Buckeye proposed placing underground several miles of electric interconnect lines involved in this project. Thus, any concerns with the depth of these lines, the media in which the lines would be encased, and any emergency procedures are issues that should have been raised by the County/ Townships in that proceeding in which they were intervening parties.

Buckeye Wind I Amendment (Entry on Rehearing at 6) (May 19, 2014) *Buckeye Wind I Amendment* (Entry on Rehearing at 8) (May 19, 2014), Supp. at 133. The traffic and right-of-way concerns either were, or could have been, resolved in the *Buckeye Wind I* case. Appellants' traffic and right-of-way concerns are barred by *res judicata* and collateral estoppel.

Appellants also argue they were denied the opportunity to be heard because other township, county, and city officials would have testified on traffic safety and right-of-way concerns. Again, these topics have already been fully litigated and they are covered by conditions approved by the Board to minimize impacts, all of which have been affirmed by this Court. *In re Application of Buckeye Wind, LLC*, 131 Ohio St.3d 449, 2013-Ohio-878 Appellants' clearly want to re-litigate the conditions from the original certificate case:

> Therefore, Appellant County and Townships believe it would also be reasonable for Appellee OPSB to review all the conditions of the Certificate approved in 2010 for Buckeye I to ascertain if there were modifications necessary at the current time, with additional information gleaned and legislation enacted after the approval of Buckeye I in 2010.

Appellants' Merit Brief at 8.

The doctrine of *res judicata* encompasses the two related concepts of claim preclusion and issue preclusion or collateral estoppel. *Grava v. Parkman Twp.*, 73 Ohio St.3d 379, 381, 653 N.E.2d 226 (1995). Claim preclusion prevents subsequent actions, by the same parties or their privies, based upon any claim arising out of a transaction that was the subject matter of a previous action. *O'Nesti v. DeBartolo Realty Corp.*, 113 Ohio St.3d 59, 2007-Ohio-1102, 862 N.E.2d 803 (citing *Fort Frye Teachers Assn., OEA/NEA v. State Emp. Relations Bd.* (1998), 81 Ohio St.3d 392, 395, 692 N.E.2d 140 (1998)). Where a claim could have been litigated in the previous suit, claim preclusion also bars subsequent actions on that matter. *Grava*, 73 Ohio St.3d at 382, 653 N.E.2d 226.

Issue preclusion, on the other hand, serves to prevent re-litigation of any fact or point that was determined by a court of competent jurisdiction in a previous action between the same parties or their privies. *Fort Frye*, 81 Ohio St.3d at 395, 692 N.E.2d 140. Issue preclusion applies even if the causes of action differ. *Id.* The Court previously explained that *res judicata*, whether claim preclusion or issue preclusion, applies to administrative proceedings. *Consumers' Counsel v. Pub. Util. Comm.*, 16 Ohio St.3d 9, 475 N.E.2d 782 (1985).

A. Appellants' right-of-way issue is precluded under *res judicata* and collateral estoppel.

The electric collection line system plan, including the requirements for installing the lines, was addressed in the *Buckeye Wind I* case that was fully litigated over a three-week period. *Buckeye Wind I* (Opinion, Order, and Certificate at 2, 4, 23, 84) (Mar. 22, 2010), App. at 6, 8, 27, 88. Appellants were parties of record in that proceeding. *Id.* at 1,

App. at 5. The same construction methods and installation requirements that the Board approved for the buried lines in *Buckeye Wind I* also apply here because the Board approved Buckeye's amendment *subject to* the conditions set forth in the original certificate. *Buckeye I Amendment* (Order on Certificate Amendment at 12) (Feb. 18, 2014), Supp. at 137. Appellants had a full opportunity to challenge the burial requirements and construction methods for installation of the electrical collection line system in the *Buckeye Wind I* case.

In addition, Condition 4 in the Buckeye Wind I certificate requires that Buckeye obtain and comply with all applicable permits and authorizations as required by federal and state entities prior to commencement of construction and/or operation of the facility. *Buckeye Wind I* (Opinion, Order, and Certificate at 83) (Mar. 22, 2010), App. at 87. The Board explained how Condition 4 in the original certificate will ensure that buried lines will be done safely and properly, addressing Appellants' right-of-way concerns:

> As such, Buckeye's electrical system will necessarily have to meet all applicable electrical requirements and standards set forth by DP&L [Dayton Power & Light], all applicable general tariff terms and conditions of DP&L, and any and all other authorizing agencies. Such standards include the National Electrical Safety Code, which establishes the standards for the safe installation, operation, and maintenance of electric power systems.

Buckeye I Amendment (Entry on Rehearing at 7) (May 19, 2014), Supp. at 153. Appellants' right-of-way concerns lack merit and are barred by the doctrine of *res judicata* and collateral estoppel because they were decided on the merits by the Board in the *Buckeye Wind I* case. Appellants' attempt to re-litigate that claim here should be denied.

B. Appellants' traffic claim is precluded under *res judicata.*

Appellants' contend that, because there is no Road use Agreement (RUMA) condition to the certificate issued in *Buckeye Wind I*, the manner in which access roads will abut the existing public rights-of-way is not addressed in the amendment. The Board found no merit in Appellants' claim, noting that the lack of a RUMA as a condition to the Buckeye Wind I certificate was a matter that should have been addressed in the *Buckeye Wind I* proceeding. *Id.* at 5, Supp. at 151. The Board stated:

> Moreover, the record reflects that all of the proposed relocated access roads involved in the amendment application are located in farm fields and all disturbances are consistent with the disturbances from the initial application approved in Buckeye I. Such modifications were thoroughly reviewed and considered in our Order and found to be appropriate and in compliance with the statutory requirements for our approval of amendments to certificates for major utilities. In addition, the Order approved the amendment subject to the conditions in the certificate for Buckeye I, as well as the conditions set forth in the Order, several of which specifically address the issues raised by the County/Townships in this assignment of error.

Id.

The lack of a RUMA requirement in the Buckeye Wind I certificate does not mean that Buckeye is free to do whatever they want on local roads. Quite to the contrary, the original Buckeye Wind I certificate, through conditions 4, 23, 24, and 56, obligates Buckeye to work closely with local highway authorities and to repair any damage that its operations may cause. *Id.* at 5-7, Supp. at 151-153. Those conditions cover similar subject matter and ensure the same protections as a RUMA.

For these reasons, Appellants' claims are barred by *res judicata*.

Proposition of Law No. V:

Appellants have failed to show that the order has a prejudicial effect.

Appellants' appeal should be dismissed for failure to demonstrate any harm from the Board's order limiting the scope of the hearing. The case law is clear that an allegedly aggrieved party must show that it will suffer actual prejudice from an order to warrant reversal. *Holladay Corp. v. Pub. Util. Comm.*, 61 Ohio St.2d, 402 N.E.2d 1175 (1980). Appellants have failed to point to any authority compelling the Board to hear non-material matters – adjustments to the construction staging areas, modifications to four previously approved access roads, and placing a shortened electrical collection line underground – previously addressed in other cases. No harm has been demonstrated. It is well settled that the Court will not reverse an order of the [Board] unless the party seeking reversal shows that it has been or will be harmed or prejudiced by the order. *Cincinnati v. Pub. Util. Comm.*, 151 Ohio St. 353, 86 N.E.2d 10 (1949), ¶ 6 of the syllabus. A generalized harm is insufficient because, as the parties seeking reversal, Appellants must show harm *to themselves*. See *Ohio Edison Co. v. Pub. Util. Comm.*, 173 Ohio St. 478, 184 N.E.2d 70 (1962), ¶ 10 of the syllabus; *Ohio Contract Carriers Assn., Inc. v. Pub. Util. Comm.*, 140 Ohio St. 160, 42 N.E.2d 758 (1942), syllabus; *Indus. Energy Consumers v. Pub. Util. Comm.*, 63 Ohio St.3d 551, 553, 589 N.E.2d 1289 (1992).

Buckeye did not propose to relocate or add wind turbines under its amendment application. Staff Exhibit 1 at 2, Supp. at 57. The adjustments to the staging areas were

requested by private landowners whose agricultural fields will be impacted. The adjudicated staging areas remain on the same private parcels of land as initially planned and approved by the Board in *Buckeye Wind II*. Staff Exhibit 1 at 2, Supp. at 57; Company Exhibit 2, Supp. at 1-55. There will be no incremental impact from this change. The sizes and locations of the proposed staging areas are identical to those approved by the Board in the *Buckeye II* case. *Buckeye Wind I Amendment* (Staff Report of Investigation) (Nov. 1, 2013) (Staff Exhibit 1) at 2, Supp. at 57. The County and Townships have no public interest in this property. The amendment changes promote efficiency and reduce impacts by allowing Buckeye to use the same staging areas for both Buckeye Wind I and Buckeye Wind II projects. Staff Exhibit 1 at 2, Supp. at 57.

The four relocated access roads are all located in farm fields, with no tree clearing required. *Id.* at 3, Supp. at 58. Two of the relocated access roads do not abut any roads or right-of-ways. The other two relocated access roads abutted the same public roads before and after the amendment. A parallel shift of theses access roads south or east will make them abut those public roads the same way with no impact change. The difference is the relocated access roads now avoid a stream crossing and a house. *Id.* This benefits the environment and the community. The access roads are on private property that is being leased to Buckeye.

Finally, reducing the electric collection line system by more than 1/3 and safely burying it underground is positive for the environment and aesthetics. The amendment reduces the total length of the collection line system to 41.1 miles all to be installed underground on parcels of participating landowners. *Id.* at 4-5, Supp. at 59-60. The lines

will now be located on private property that have no impact to the public rights-of-way. The County and Townships have no public interest affected by this change. A majority of the amended line was previously reviewed and approved by the Board either in the *Buckeye Wind I* or *Buckeye Wind II* cases, both of which were fully litigated cases. Staff Exhibit 1 at 5, Supp. at 60; Company Exhibit 1 at 4, Supp. at 87; *Buckeye I Amendment* (Order on Certificate Amendment at 9) (Feb. 18, 2014), Supp. at 134. The redesigned collection line avoids direct impacts to roads.[4] Staff Exhibit 1 at 5, Supp. at 60; Company Exhibit 1 at 4, Supp. at 87; *Buckeye I Amendment* (Order on Certificate Amendment at 9) (Feb. 18, 2014), Supp. at 134.

The County and Townships cannot show harm or prejudice from the Board's order granting a hearing on only the proposed changes in Buckeye's amendment application that satisfied the criteria of R.C. 4906.07(B). The changes that did not require a hearing were made to facility components located on private property and leased from participating landowners to Buckeye.

Appellants bear the "burden of demonstrating *** that it has or will be prejudiced by the error." *AK Steel Corp. v. Pub. Util. Comm.*, 95 Ohio St.3d 81, 88, 2002-Ohio-1735, 765 N.E.2d 862. This Court "will not reverse an order of the [Board] absent a showing of prejudice by the party seeking reversal." *Myers v. Pub. Util. Comm.*, 64 Ohio St.3d 299, 302, 595 N.E.2d 873 (1992). Appellants' failure to demonstrate that they were

---

[4] Where Buckeye is required to bore under any county or township road, it is required to coordinate such efforts with the local highway authorities.

prejudiced by the Board's order is fatal to their appeal. For these reasons, Appellants' appeal should be denied because Appellants' failed to show how they suffered prejudice or harm from the Board's orders.

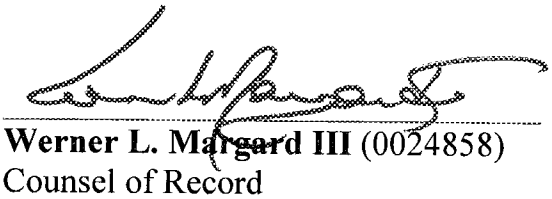
CONCLUSION

The appellants were provided a hearing and ample opportunity to be heard on matters that met the criteria of R.C. 4906.07(B). The Board's decision was reasonable, lawful, and should be affirmed.

Respectfully submitted,

Mike DeWine (0009181)
Ohio Attorney General

William L. Wright (0018010)
Section Chief

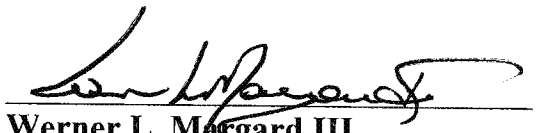


Werner L. Margard III (0024858)
Counsel of Record
John H. Jones (0051913)
Assistant Attorneys General
Public Utilities Section
180 East Broad Street, 6th Floor
Columbus, Ohio 43215-3793
614.466.4397 (telephone)
614.644.8764 (fax)
werner.margard@puc.state.oh.us
john.jones@puc.state.oh.us

Counsel for Appellee
Public Utilities Commission of Ohio

PROOF OF SERVICE

I hereby certify that a true copy of the foregoing Merit Brief, submitted on behalf of appellee, the Ohio Power Siting Board, was served by regular U.S. mail, postage pre-paid, or hand-delivered, upon the following parties of record, this 12th day of November, 2014.



Werner L. Margard III
Assistant Attorney General

Parties of Record:

Kevin S. Talebi
Jane A. Napier
Champaign County Prosecutor's Office
200 N. Main Street
Urbana, Ohio 43078

M. Howard Petricoff
Michael J. Settineri
Miranda R. Leppla
Vorys, Sater, Seymour and Pease LLP
52 East Gay Street, P.O. Box 1008
Columbus, OH 43216-1008

APPENDIX

APPENDIX

TABLE OF CONTENTS

PAGE

In the Matter of the Application of Buckeye Wind, LLC for a Certificate to Construct Wind-Powered Electric Generation Facilities in Champaign County, Ohio, Case No. 08-666-EL-BGN (Opinion, Order, and Certificate) (Mar. 22, 2010) 1

In the Matter of the Application of Champaign Wind, LLC for a Certificate to Construct Wind-Powered Electric Generating Facility in Champaign County, Ohio, Case No. 12-160-EL-BGN (Opinion, Order, and Certificate) (May 28, 2013) 106

R.C. 4903.10 Application for Rehearing 212

R.C. 4906.01 Power Siting Definitions 213

R.C. 4906.03 Powers and Duties of Power Siting Board 215

R.C. 4906.07 Public Hearing on Application 216

R.C. 4906.12 Procedures of Public Utilities Commission to be Followed 217

Ohio Adm. Code 4906-5-10 Amendments of Accepted, Complete Certificate Applications and of Certificates 217

BEFORE

THE OHIO POWER SITING BOARD

In the Matter of the Application of Buckeye Wind, LLC for a Certificate to Construct Wind-powered Electric Generation Facilities in Champaign County, Ohio.	))))	Case No. 08-666-EL-BGN

OPINION, ORDER, AND CERTIFICATE

APPEARANCES: 1
OPINION: 2
I. SUMMARY OF THE PROCEEDINGS 2
II. PROPOSED FACILITY 4
III. CERTIFICATION CRITERIA 5
IV. PROCEDURAL ISSUES 6
A. Waiver of Site Alternatives, Intervenor Standing to Oppose Waivers and to Cross-Examine Applicant on Site Alternatives 6
1. UNU Arguments 6
2. Buckeye and Staff Arguments 7
3. Board Analysis and Conclusion 8
B. Michael Nissenbaum Testimony by Deposition 8
1. UNU Arguments 8
2. Buckeye Arguments 8
3. Board Analysis and Conclusion 9
C. Access to Drafts of the Buckeye Application 10
D. Testimony of Buckeye Witness Shears 11
1. UNU, the County, and UCC Arguments 11
2. Buckeye Arguments 12
3. Board Analysis and Conclusion 12
V. SUMMARY OF THE EVIDENCE 13
A. Local Public Hearing 13
B. Basis of Need - Section 4906.10(A)(1), Revised Code 14
C. Nature of Probable Environmental Impact and Minimum Adverse Environmental Impact - Sections 4906.10(A)(2) and (3), Revised Code 14
1. Environmental Impacts 15
a. Site Selection 15
b. Ecological Impacts 15
c. Wildlife 16
i. Avian Species 17
ii. Bat Species 18
(a) Buckeye 18
(b) Staff 18
(c) UNU and UCC 19
(d) Buckeye Response 21
(e) Board Analysis and Conclusion 21
2. Cultural Resources and Socioeconomic Impacts 22
a. Buckeye 22
b. Staff 23
c. UCC 24
d. Board Analysis and Conclusion 25
D. Electric Grid - Section 4906.10(A)(4), Revised Code 26

E. Air, Water, Solid Waste, and Aviation - Section 4906.10(A)(5), Revised Code 28
1. Air 28
2. Water 28
3. Solid Waste 29
4. Aviation 30
a. Staff 30
b. Buckeye 31
c. Urbana and the County 31
d. Party Responses 33
5. Board Analysis and Conclusion 33
F. Public Interest, Convenience, and Necessity - Section 4906.10(A)(6), Revised Code 34
1. Alternative Energy Portfolio Standards 34
2. Setbacks 35
a. Buckeye Proposal 35
b. Staff 35
c. Safety 36
d. Development 36
e. Property Value 37
f. Board Analysis 40
3. Aesthetics 40
4. Blade Shear 41
5. Ice Throw 43
6. Shadow Flicker 44
a. Buckeye 44
b. Staff 44
c. UCC and UNU 45
d. Buckeye Response 46
e. Board Analysis 47
7. Safety Manuals 47
8. Noise 48
a. Construction Noise 48
b. Operational Noise 48
i. Buckeye 48
ii. Staff – Operational Sound Level 50
iii. UCC – Turbines 48 and 49 51
iv. Buckeye Response to UCC - Turbines 48 and 49 52
v. Board Analysis 52
c. Background Sound Evaluation 53
i. UNU 53
ii. Buckeye 54
iii. Board Analysis 55

d. Modeling of Noise Impact Assessment 55
i. UNU 55
ii. Buckeye 57
iii. Board Analysis 58
e. Health Affects 58
i. UNU 58
ii. Buckeye 60
iii. Board Analysis on Health Impacts 62
iv. Board Analysis and Conclusion of Noise 64
9. Communications Systems Interference 64
a. Buckeye 64
b. Telephone Company 66
c. Responses 67
d. Board's Analysis 67
10. Local and Long Range Radar Interference 68
11. Traffic and Transportation 68
12. Landowner Leases 69
13. Road Repair 69
14. Decommissioning 70
a. Plan for Decommissioning 70
b. Financial Assurance 72
i. Buckeye 72
ii. Staff 72
iii. Buckeye Response to Staff 73
iv. UNU and the County 74
v. Buckeye Response to UNU and the County 76
vi. Board Analysis 76
15. Conclusion 76
G. Agricultural Districts - Section 4906.10(A)(7), Revised Code 77
H. Water Conservation Practice - Section 4906.10(A)(8), Revised Code 78
I. Other Issues 78
1. Complaint Resolution Procedure 78
2. Surveillance Cameras 80
3. Taxation 80
4. Changes in conditions after certificate issuance 81
CONCLUSION AND CONDITIONS: 82
FINDINGS OF FACT AND CONCLUSIONS OF LAW: 96
ORDER: 99

The Ohio Power Siting Board (Board), coming now to consider the above-entitled matter, having appointed administrative law judges (ALJs) to conduct the hearings, having reviewed the exhibits introduced into evidence in this matter, and being otherwise fully advised, hereby issues its opinion, order, and certificate in this case, as required by Section 4906.20, Revised Code.

APPEARANCES:

Vorys, Sater, Seymour, and Pease LLP, by M. Howard Petricoff, Stephen M. Howard, Michael J. Settineri, and Gina R. Russo, 52 East Gay Street, P.O. Box 1008, Columbus, Ohio 43216-1008, on behalf of Buckeye Wind LLC.

Richard Cordray, Ohio Attorney General, by Duane W. Luckey, Section Chief, and Werner L. Margard and John H. Jones, Assistant Attorneys General, Public Utilities Section, 180 East Broad Street, 6th Floor, Columbus, Ohio 43215, by Margaret A. Malone and Christina Grasseschi, Assistant Attorneys General, Environmental Enforcement Section, 30 East Broad Street, 25th Floor, Columbus, Ohio 43215, and by Anthony J. Logan, Chief Legal Counsel, Ohio Department of Natural Resources, 2045 Morse Road, Building D3, Columbus, Ohio 43229, on behalf of the staff of the Board.

Van Kley & Walker, LLC, by Christopher A. Walker, 137 North Main Street, Suite 316, Dayton, Ohio 45402, and Jack A. Van Kley, 132 Northwood Boulevard, Suite C-1, Columbus, Ohio 43235, on behalf of Union Neighbors United, Inc., Robert and Diane McConnell, and Julia F. Johnson.

Nick Selvaggio, Champaign County Prosecuting Attorney and Jane Napier, Assistant Prosecuting Attorney, 200 N. North Main Street, Urbana, Ohio 43078, on behalf of The Board of Commissioners of Champaign County and the Boards of Trustees of the Townships of Goshen, Rush, Salem, Union, Urbana, and Wayne.

Brown Law Office, LLC, by Daniel A. Brown, 204 South Ludlow Street, Suite 300, Dayton, Ohio 45402, on behalf of the Urbana Country Club.

Larry Gearhardt, Chief Legal Counsel, Ohio Farm Bureau Federation, 280 North High Street, Columbus, Ohio 43218, on behalf of the Ohio Farm Bureau Federation.

Gil Weithman, Urbana City Law Director, 205 South Main Street, Urbana, Ohio 43078, on behalf of the City of Urbana.

Thompson Hine, LLP, by Carolyn S. Flahive and Sarah Chambers, 41 South High Street, Suite 1700, Columbus, Ohio 43215, on behalf of Champaign Telephone Company.

OPINION:

I. SUMMARY OF THE PROCEEDINGS

All proceedings before the Board are conducted according to the provisions of Chapter 4906, Revised Code, and Chapter 4906, Ohio Administrative Code (O.A.C.).

On June 4, 2008, Buckeye Wind, LLC (Buckeye or applicant), a wholly-owned subsidiary of EverPower Wind Holdings, Inc., filed a copy of the notice to be published, in accordance with Rule 4906-5-08, OA.C., of a public informational meeting regarding an application for a certificate of environmental compatibility and public need (certificate) that it intended to file for the construction of electricity generating wind turbines and electrical substations to be located in southern Logan County and Champaign County, Ohio.[1] The public informational meeting was held on June 10, 2008.

Buckeye filed its application on April 24, 2009, as supplemented on August 28, 2009, and September 1, 2009, for a certificate of environmental compatibility to construct a wind-powered electric generation facility in Champaign County, Ohio. The proposed project consists of 70 wind turbines, access roads, an electric substation, operations and maintenance building, 3 construction staging areas, and an electric collection system over approximately 9,000 acres in the townships of Goshen, Rush, Salem, Union, Urbana, and Wayne, in Champaign County, Ohio.

On April 24, 2009, Buckeye filed a motion for waivers of various aspects of Chapter 4906-13, O.A.C., and the one-year notice requirement contained in Section 4906.06(A)(6), Revised Code. Staff filed its response to the waiver requests on July 20, 2009. By entry issued July 31, 2009, the ALJ granted Buckeye's requests for waiver of the one-year notice period required by Section 4906.06(A)(6), Revised Code; the alternative site information and the formal site selection study required by Rules 4906-13-2(A)(1) and 4906-13-03, O.A.C; the mapping of the proposed facility and utility corridors, as it relates to gas transmission lines, required by Rule 4906-13-04(A)(1)(c), O.A.C.; the mapping of vegetative cover that may be removed during construction and layout of the proposed project in a 1:4,800 scale required by Rules 4906-13-04(A)(3), (A)(3)(g), and (B)(2), O.A.C.; the mapping of a cross-sectional view indicating geological features of the proposed facility site and the location of test borings required by Rule 4906-13-04(A), O.A.C.; the mapping of, among other things, fuel, waste, storage facilities, and water supply and sewage lines for the proposed project; the mapping of the layout including grade elevations where such will be modified during construction as required by Rule 4906-13-

[1] We note that the original notice covered both Champaign and Logan Counties. However, the application, subsequently filed with the Board, includes only Champaign County for the siting of the proposed facility.

04(B)(2)(i), O.A.C. Buckeye's requests for waiver of the financial data required by Rule 4906-13-05, O.A.C.; the provision of a ten-year projected population estimate for the communities within a five-mile radius of the proposed project site required by Rule 4906-13-07(A)(1), O.A.C.; the information based on a survey regarding the ecological impact of the proposed facility and a list of major species observed in the area as required by Rule 4906-13-07(B)(1)(b) through (e), O.A.C.; the estimated impact of construction on undeveloped areas as required by Rule 4906-13-07(B)(2)(a); and the mapping of all agricultural land and all agricultural district land required by Rule 4906-13-07(F)(1), O.A.C., were denied.

By letter dated June 23, 2009, the Board notified Buckeye that its application had been found to comply with Rule 4906-1, *et seq.*, O.A.C. On July 7, 2009, and July 16, 2009, Buckeye served copies of the application upon local government officials and filed proof of service of the application, pursuant to Rule 4906-5-06, O.A.C. By entry issued July 31, 2009, the local public hearing was scheduled for October 8, 2009, and the adjudicatory hearing was scheduled to commence on October 13, 2009.

By entry of September 1, 2009, the hearing schedule was modified and the local public hearing rescheduled for October 28, 2009, at Triad High School Auditeria, 8099 Brush Lake Road, North Lewisburg, Ohio 43060, and the adjudicatory hearing was scheduled to commence on October 27, 2009, at the offices of the Public Utilities Commission of Ohio in Columbus, Ohio. The July 31, 2009, entry also directed Buckeye to publish notice in accordance with Rule 4906-5-08, O.A.C. Notice of the application was published in the *Urbana Daily Citizen*, a newspaper of general circulation in Champaign County. Proof of publication of the first notice was filed on September 11, 2009, and proof of publication of the second notice was filed on November 5, 2009.

The ALJ granted the motions to intervene filed by the following: Union Neighbors United, Robert and Diane McConnell, and Julia F. Johnson (jointly UNU); the Ohio Farm Bureau Federation (Farm Bureau); the Urbana Country Club (UCC); the Board of Commissioners of Champaign County, Ohio, along with the Boards of Trustees of the Townships of Union, Goshen, Rush, Salem, Urbana, and Wayne (jointly County); the City of Urbana (Urbana); The Champaign Telephone Company (Telephone Company); and the Piqua Shawnee Tribe (Piqua Shawnee).

All of the parties, including staff, conducted significant discovery and, on October 13, 2009, staff filed a report of its investigation of the proposed facility (Staff Report).

The local public hearing was held on October 28, 2009. The adjudicatory hearing was called and continued on October 27, 2009. The adjudicatory hearing reconvened on November 9, 2009. Initial testimony concluded on November 20, 2009. Rebuttal testimony occurred on December 1-2, 2009. At the hearing, Buckeye presented eight witnesses, UNU

presented six witnesses, UCC presented two witnesses, staff presented eight witnesses, the County presented three witnesses, the Telephone Company presented a single witness, and Urbana presented five witnesses. Buckeye also presented three witnesses on rebuttal.

Initial briefs were filed on January 15, 2010, by the Telephone Company and UCC, and on January 20, 2010, by Buckeye, UNU, Urbana, staff, and the County. On February 1, 2010, reply briefs were filed by Buckeye, UNU, the Telephone Company, UCC, staff, and the County.

II. PROPOSED FACILITY

According to the application, Buckeye proposes to construct 70 wind turbines, access roads, an electric substation, operations and maintenance building, three construction staging areas, and an electric collection system over approximately 9,000 acres in the townships of Goshen, Rush, Salem, Union, Urbana, and Wayne, in Champaign County, Ohio.

Buckeye proposes to install one of three models of turbines, depending on availability at the time the applicant places its order. Each turbine will have a nameplate capacity rating of 1.8 to 2.5 megawatts (MW), depending on the turbine installed. Buckeye expects a capacity factor of approximately 30 percent. Buckeye estimates that the proposed wind facility will have a total generating capacity of 126 MW to 175 MW. The hub height for the turbine will be up to 100 meters (328 feet), with a rotor diameter of up to 100 meters; therefore, the turbine would have a maximum height of 150 meters (492 feet), with the blade tip in its highest position. The electric substation will be located in Union Township adjacent to the existing Urbana-Mechanicsburg-Darby transmission line and will transmit power carried by the 34.5 kilovolt (kV) collection lines serving the wind facility. Buckeye will also have an operations and maintenance building to accommodate operations personnel, equipment, and materials. The applicant expects to purchase or lease an existing structure in the vicinity of the proposed wind project as its operations and maintenance building. However, if the applicant must construct a building for operations and maintenance, according to the application, the building would not exceed 6,000 square feet and will be designed to resemble an agricultural building. As proposed project will require approximately 23.3 miles of new or improved access roads to support the facility, utilizing existing farm lanes to the extent possible. The proposed project will require the use of three construction staging areas to be located on leased private property at Ludlow Road, Perry Road, and Pisgah Road. The purpose of the staging areas is to accommodate material storage, parking for construction workers, and construction trailers (construction trailers will be stored at the Ludlow Road location only). In total, the staging areas will use approximately 12 acres. According to the application, Buckeye plans to commence construction in 2010 and place the facility in-service in mid-2011. (Buckeye Ex. 1 at 2, 12-16; Staff Ex. 2 at 3-5.)

III. CERTIFICATION CRITERIA

Pursuant to Section 4906.10(A), Revised Code, the Board shall not grant a certificate for the construction, operation, and maintenance of a major utility facility, either as proposed or as modified by the Board, unless it finds and determines all of the following:

(1) The basis of the need for the facility if the facility is an electric transmission line or gas or natural gas transmission line.

(2) The nature of the probable environmental impact.

(3) The facility represents the minimum adverse environmental impact, considering the state of available technology and the nature and economics of the various alternatives, and other pertinent considerations.

(4) In the case of an electric transmission line, or generating facility, such facility is consistent with regional plans for expansion of the electric power grid of the electric systems serving this state and interconnected utility systems and that the facility will serve the interests of electric system economy and reliability.

(5) The facility will comply with Chapters 3704, 3734, and 6111, Revised Code, and all rules and standards adopted under those chapters and under Sections 1501.33, 1501.34, and 4561.32, Revised Code.

(6) The facility will serve the public interest, convenience, and necessity.

(7) The impact of the facility on the viability as agricultural land of any land in an existing agricultural district established under Chapter 929, Revised Code, that is located within the site and alternate site of the proposed major facility.

(8) The facility incorporates maximum feasible water conservation practices as determined by the Board, considering available technology and the nature and economics of various alternatives.

The record in this case addresses all of the above-required criteria. In addition, pursuant to Section 4906.20, Revised Code, the Board's authority applies to economically significant wind farms and provides that such entities must be certified by the Board prior

to commencing construction of a facility. In accordance with Chapter 4906, Revised Code, the Board promulgated rules which are set forth in Chapter 4906-17, O.A.C., prescribing regulations regarding wind-powered electric generation facilities and associated facilities.

IV. PROCEDURAL ISSUES

In their briefs, UNU and the County challenge certain procedural rulings made by the ALJ in this proceeding and request that the Board reconsider and reverse each ruling. UNU raises six procedural issues and the County raises one procedural issue.

A. Waiver of Site Alternatives, Intervenor Standing to Oppose Waivers and to Cross-Examine Applicant on Site Alternatives

On April 24, 2009, along with the application, Buckeye filed a motion for waiver of certain filing requirements set forth in Chapter 4906-13, O.A.C. On May 8, 2009, UNU filed a memoranda contra Buckeye's request for waivers to which Buckeye filed a reply on May 15, 2009. By entry issued July 31, 2009, the ALJ concluded that UNU lacked standing to oppose the applicant's request for waivers of certification application filing requirements in as much as the purpose of the requirements is to obtain sufficient information to enable staff to fulfill its statutory duty to conduct an investigation of the application and file a report of investigation. Nonetheless, each of UNU's arguments was considered, along with staff's position, by the ALJ in making a decision on the waiver request. The July 31, 2009, entry noted that, although the application in this case was filed prior to the effective date of the Board's certification application requirements for wind-powered electric generation facilities set forth in Chapter 4906-17, O.A.C., the discussion of each waiver included the parallel provision in the Board's wind rules in parentheses.

1. UNU Arguments

At this juncture, UNU requests that the Board reverse the ALJ's rulings as to the waiver of Rule 4906-13-03, O.A.C., regarding the submission of site alternatives, and to Rule 4906-17-04, O.A.C., the parallel wind rule. UNU argues that Buckeye only requested waiver of Rule 4906-13-03, O.A.C., not the parallel wind rule and contends that, pursuant to Rule 4906-1-03, the Board or ALJ may only waive any requirement, standard, or rule, for good cause shown, as supported by a motion and supporting memorandum, not *sua sponte*, or on its own motion. (UNU Br. at 99-100.)

UNU further argues that granting Buckeye's request to waive the requirement for site alternatives essentially released Buckeye from its burden to demonstrate that the proposed facility represents the minimum adverse environmental impact, considering the state of available technology and the nature and economics of the various alternatives, and other pertinent considerations, as required by Section 4906.10(A)(3), Revised Code. Based

on this reasoning, UNU contends that neither the Board nor the ALJ can waive the submission of site alternatives. (UNU Br. at 100.)

UNU posits that an intervenor in a Board proceeding has standing to oppose the waiver of Board rules to the extent that the waiver has the potential to bar the intervenor from conducting discovery and cross-examination on issues relevant to the certification criteria. UNU asserts that the practical effect of the waiver was to preclude intervenors from cross-examination on the basis of the waivers, created the impression that site alternatives were not relevant to the proceeding, and ultimately shifted the burden of proof to the intervenors and foreclosed the intervenors' right to cross-examine witnesses. (UNU Br. at 101- 104.)

2. Buckeye and Staff Arguments

In regard to UNU's standing arguments, Buckeye notes that, unlike the intervenors, staff has a statutory obligation to conduct an investigation of the application and file an investigative report. Buckeye notes that UNU's standing to request discovery and file motions to compel discovery were not affected by the grant of the waivers and no interlocutory appeal was filed by UNU. (Buckeye Reply Br. at 99.)

Further, Buckeye states that UNU's arguments regarding the waiver of Rule 4906-13-03, O.A.C., were addressed and disposed of in the July 31, 2009, entry, and UNU failed to file an interlocutory appeal of the ALJ's entry. Further, Buckeye notes that the June 23, 2009, letter of completeness indicated that sufficient information had been provided to allow staff to commence its investigation in this case. The applicant and staff note that the Board has addressed this issue directly in *In the Matter of the Power Siting Board's Adoption of Chapter 4906-17, and the Amendment of Certain Rules in Chapters 4906-1, 4906-5 and Rule 4906-17*, Case No. 08-1024-EL-ORD, Opinion and Order, at 21 (October 28, 2008) (*Wind Rulemaking Case*). In the *Wind Rulemaking Case*, the Board concluded that an applicant is not required to file information for both a preferred and an alternate site, "only one proposed site is necessary, as with other types of proposed electric generation facilities." Further, Buckeye reasons that Rule 4906-5-04, O.A.C, permits the Board or the ALJ to waive the requirement of fully developed information on the alternative site. Buckeye reasons that UNU misreads the statute at Section 4906.10(A)(3), Revised Code. Section 4906.10(A)(3), Revised Code, requires the Board to find that the proposed project "represents the minimum adverse environmental impact, considering the state of available technology and the nature and economics of the various alternatives, and other pertinent considerations." Buckeye reasons that the phrase "of the various alternatives" does not relate to site alternatives but to other alternative technologies considered by the applicant. Buckeye cites *In re American Municipal Power–Ohio, Inc.*, Case No. 06-1358-EL-BGN, Opinion, Order, and Certificate, at 14 (March 3, 2008), in support of its interpretation of the statute by the Board. Thus, Buckeye concludes that UNU's arguments are flawed and should be rejected. (Buckeye Reply Br. at 96-98; Staff Reply Br. at 6.)

3. Board Analysis and Conclusion

The Board agrees that a person or entity, like UNU, may have standing to assert its interest under the jurisdiction of the court or an administrative agency, such as the Board, where the person has, in an individual or representative capacity, some real interest in the subject matter of the action. In this matter, while UNU has a real and direct interest in the Board proceeding and, therefore, its request for intervention was granted, there is no equivalent interest in the certification application filing requirements. The record reveals that UNU exercised its ability to issue discovery requests and to compel discovery. We further note that UNU's request to compel discovery was granted, in part. Based on the record, particularly the extensive transcript in this proceeding, neither UNU nor any other intervenor was foreclosed from cross-examining the applicant's witnesses on site analysis performed for this application. We agree with the ALJ's analysis and ruling as set forth in the July 31, 2009, entry regarding the intervenor's lack of standing to challenge the Board's consideration of a waiver of its certification application filing requirements. Furthermore, we do not find that the ALJ granted a waiver of Rule 4906-17-04, O.A.C., *sua sponte*. The reference to the comparable wind rule and the Board's decision on the issue in the *Wind Rulemaking Case* was an appropriate aspect of the ALJ's analysis. As Buckeye argued, UNU has misinterpreted the statute at Section 4906.10(A)(3), Revised Code, to relate to site alternatives, rather than technological alternatives to the proposed project. Accordingly, the Board affirms the ALJ's ruling.

B. Michael Nissenbaum Testimony by Deposition

1. UNU Arguments

UNU requests that the Board reconsider the ALJ's October 21, 2009, ruling denying UNU's request to admit the deposition of Dr. Nissenbaum in lieu of live testimony at the hearing. UNU argues that Dr. Nissenbaum's testimony responds to the request by the Ohio Department of Health (ODH) for hard scientific evidence on potential health impacts associated with utility scale wind projects. UNU proffers that Dr. Nissenbaum's direct testimony was excluded in error and requests that the hearing be reopened for the purpose of admitting Dr. Nissenbaum's deposition transcript as testimony in this case. UNU also notes that a witness at the public hearing sought to offer the affidavit of Dr. Nissenbaum at the public hearing and the ALJ, at that time, took submission of the affidavit under advisement indicating that the matter would be addressed during the adjudicatory proceeding. (UNU Br. at 105-107.)

2. Buckeye Arguments

Buckeye supports the ruling of the bench. The applicant recalls that, at the public hearing, a witness requested that the affidavit of Dr. Nissenbaum be placed in the

evidentiary record (Public Hearing Tr. at 40-41). The applicant contends that, because Dr. Nissenbaum was not present at the public hearing, his affidavit was correctly placed in the correspondence docket and not the evidentiary record. Buckeye notes that UNU offered to make Dr. Nissenbaum available by telephone. Buckeye also argues that UNU should have filed an interlocutory appeal of the ruling on Dr. Nissenbaum's testimony rather than wait until this late stage of the proceeding to request the hearing be reopened. (Buckeye Reply Br. at 105-107.)

3. Board Analysis and Conclusion

The Board has reviewed the circumstances surrounding Dr. Nissenbaum's availability to attend the evidentiary hearing and the submission of his affidavit at the public hearing. We note that his affidavit was included in the correspondence docket, on December 1, 2009, like any other interested person who submits correspondence to the Board. We find that including Dr. Nissenbaum's affidavit in the correspondence docket is appropriate given that he was not at the public hearing and available for cross-examination by the parties to the proceeding. Thus, we affirm that aspect of the ALJ's ruling.

The Board notes that Rule 4906-7-07(E)(13), O.A.C., states:

> Depositions *may* be used in board hearings to the same extent permitted in civil actions in courts of record. Unless otherwise ordered for good case shown, any depositions to be used as evidence must be filed with the board at least three days prior to the commencement of the hearing.

We also recognize that Rule 32(A)(3), Ohio Rule of Civil Procedure (ORCP), states:

> The deposition of a witness, whether or not a party, may be used by any part for any purpose if the court finds: (a) that the witness is dead; or (b) that the witness is beyond the subpoena power of the court in which the action is pending or resides outside of the county in which the action is pending unless it appears that the absence of the witness was procured by the party offering the deposition; or (c) that the witness is unable to attend or testify because of age, sickness, infirmity, or imprisonment; or (d) that the party offering the deposition has been unable to procure the attendance of the witness by subpoena; or (e) that the witness is an attending physician or medical expert, although residing within the county in which the action is heard; or (f) that the oral examination of a witness is not required; or (g) upon application and notice, that such

> exceptional circumstances exist as to make it desirable, in the interest of justice and with due regard to the importance of presenting the testimony of witnesses orally in open court, to allow the deposition to be used.

With these provisions in mind, we reconsider UNU's request and the ALJ's ruling regarding the submission of Dr. Nissenbaum's deposition, in lieu of live testimony at the evidentiary hearing. The Board notes that, according to UNU, Dr. Nissenbaum volunteered his services contingent upon UNU assuring him he would not be required to travel to Ohio to offer testimony in-person. UNU represented that a replacement radiologist must be hired to cover Dr. Nissenbaum's duties and that Dr. Nissenbaum is unable to hire a replacement physician for periods of less than one week. The Board recognizes that UNU presented the testimony of other witnesses (UNU witnesses James, and Taylor) regarding the health affects of wind turbines. Accordingly, the Board finds that it was properly within the ALJ's discretion to require Dr. Nissenbaum to offer live testimony at the evidentiary hearing, like most of the other witnesses to this proceeding.[2] The Board concurs in the rationale and the decisions set forth by the ALJ entry issued October 21, 2009. Accordingly, UNU's request to reverse the decision and to reopen the hearing in this matter is denied.

C. Access to Drafts of the Buckeye Application

By entry issued October 30, 2009, the ALJ considered and rejected UNU's request to compel discovery of Buckeye's drafts and preliminary versions of the application. On brief, UNU argues that draft versions of the application may have provided or led to the discovery of useful relevant information or inconsistent statements. UNU requests that the Board reverse the ALJ's decision, remand the application to allow parties to conduct discovery, and reopen the hearing to the extent necessary to introduce any probative evidence. (UNU Br. at 107.)

Buckeye reiterates that the ALJ rejected this argument in light of the fact that the only application subject to review by the Board is the application docketed with the Board. Further, Buckeye notes that the ALJ also recognized that edits to drafts of the application were the result of the advice of counsel; therefore, the drafts would be protected by the work product doctrine and attorney-client privilege. (Buckeye Reply Br. at 104-105.)

The Board has reviewed UNU's motion to compel discovery, Buckeye's response, and the ALJ's October 30, 2009, entry as discussed above. We affirm the ALJ's decision

---

[2] The Board notes that the direct testimony and deposition of UNU witness McKew was admitted into the record by Stipulation of the parties as a result of Ms. McKew's unexpected inability to appear at the evidentiary hearing. Counsel for UNU represented that Ms. McKew had been hospitalized for a serious medical condition (Tr. at 1163-1165).

and further find that the request of UNU was overly broad and unduly burdensome. The Board, accordingly, denies UNU's request to reverse the ALJ's decision and remand the case for further proceedings.

D. Testimony of Buckeye Witness Shears

1. UNU, the County, and UCC Arguments

UNU and the County request that the Board reconsider certain of the ALJ's rulings made during the course of the evidentiary hearing. UNU requests that the Board review the ALJ's denial of the intervenors' motion to strike portions of the direct testimony of Buckeye witness Christopher Shears (Buckeye Ex. 4) on the basis that Mr. Shears had not been qualified as an expert (UNU Br. at 108-113). The County also moved to strike 11 exhibits to the application or at least delay admission of the exhibits until Buckeye authenticated the exhibits by an expert (Tr. at 371-372).[3]

UNU argues that Mr. Shears was not qualified as an expert to render opinions on emissions offset, the estimation of jobs to be created as a result of the proposed project, noise impact assessment, property values, shadow flicker, ice shedding, health issues, and the impact of the proposed project on Indiana bats; therefore, UNU moved to strike seven sections of Mr. Shears' direct testimony. UNU states that the subject matter of Mr. Shears' degree was not established on the record and a foundation was not provided for the witness to demonstrate that he possessed the requisite knowledge to offer testimony on the above subjects. The County joined in UNU's motion to strike portions of Mr. Shears' direct testimony. (UNU Br. 108-114; Tr. at 363-370.)

In addition, the County asserts that Mr. Shears had not been qualified as an expert through specialized knowledge, skill, experience, training, or education regarding the subject matter set forth in the testimony or exhibits pursuant to Ohio Rule of Evidence 702(B). The County argues, on brief, that no foundation had been laid for the admission of certain exhibits to the application, namely Exhibits K (Noise Impact Assessment), L (Shadow Flicker), M (Surface Waters, Ecological Communities, and Threatened and Endangered Species Report by Hull & Associates, Inc.), N, O, R (Socioeconomic Report), T (a two-sided, one-page sheet by the American Wind Energy Association entitled "Keep Ohio Competitive for Wind Energy"), U (Cultural Resources Literature Review, and Archaeological and Visual Impact Assessment by ASC Group, Inc. on behalf of Hull & Associates, Inc. for Buckeye), V (Communications Analyses), W (Phase I Route Evaluation Study for Construction by Hull & Associates, Inc.), and X (Summer 2008 Bat Mist-netting Report by Stantec Consulting). (County Reply Br. at 15-19.)

---

[3] The Board notes that counsel for UNU subsequently joined in the County's motion and UCC joined in UNU's motion to strike exhibits to the application as to property values, noise, and shadow flicker (Tr. 371-372).

2. Buckeye Arguments

Buckeye responds that Mr. Shears is an officer with Buckeye, has 15 years of experience in the industry, and has been involved with over 60 wind projects. The witness has offered testimony before the British House of Lords and was chairman and vice chairman of the British Wind Energy Association. The applicant also notes that Mr. Shears was subject to cross-examination by all of the intervenors and staff. Buckeye notes that no interlocutory appeal of the ruling was made. On the basis of Mr. Shears' experience and involvement in the wind industry, Buckeye states that the witness has sufficient expertise and insight to offer valuable information on wind power issues. (Buckeye Reply Br. at 105-107; Buckeye Ex. 4 at 2; Tr. at 40-41.)

3. Board Analysis and Conclusion

Initially, the Board notes that Mr. Shears was the applicant's first witness in this proceeding and that, in two instances, the motions to strike refer to the testimony of Buckeye witness Shears in reference to other Buckeye witnesses (Mundt and Hessler) and Shears' opinion of what the other witness' testimony will demonstrate (Buckeye Ex. 4 at 12, 15). As such, it is a permissible introduction of Buckeye's case and the Board will accept the admission of Buckeye witness Shears' testimony as no more than an introduction. We further note that Buckeye presented the testimony of witness Meinke, of Stantec Consulting (Stantec), who supported exhibits to the application, specifically Exhibit N (Fall 2007 Bird and Bat Migration Survey Report by Stantec [formerly known as Woodlot Environmental Consultants]), Exhibit O (Spring, Summer and Fall 2008 Bird and Bat Survey Report by Stantec Consulting), and Exhibit X (Summer 2008 Bat Mist-netting Report by Stantec Consulting). Therefore, the Board will also accept the admission of Buckeye witness Shears' testimony as an introduction of those exhibits to the application.

As for the balance of the exhibits to the application to which UNU and the County object, the Board denies the intervenors request to overturn the ALJ's ruling. The Board notes that it is a long-standing practice in Board proceedings for an applicant to sponsor exhibits to an application through the testimony of a witness that is an officer or experienced employee of the applicant. The Board has admitted the testimony of a witness, and the related exhibits, where the witness demonstrates that the exhibits or studies were performed at the applicant's request, under the witness' direct or indirect supervision, and that the officer is sufficiently knowledgeable about the information in the exhibit or study to offer testimony. We have found this process to be an efficient method by which to introduce large amounts of data necessary to process certificate applications. Further, the Board notes that, pursuant to Section 4906.07, Revised Code, the Board is required to direct an investigation of the application and file a written report of the investigation.

In this instance, we find that Mr. Shears is an officer of EverPower, the parent company of Buckeye, with 15 years of experience in the industry, including 60 wind projects, and has experience offering testimony as the Chairman of the British Wind Energy Association before the government of the United Kingdom. We also note that, in this proceeding, Mr. Shears was extensively cross-examined by both staff and intervenors. (Buckeye Ex. 4; Tr. at 15-359.) Accordingly, the Board affirms the decision of the ALJ to deny intervenors' motion to strike the specified portion of the direct testimony of Buckeye witness Shears and the exhibits to the application.

V. SUMMARY OF THE EVIDENCE

The Board will review the evidence presented in this case with regard to each of the criteria by which we are required to evaluate this application. Any evidence not specifically addressed herein has still been considered and weighed by the Board in reaching its final determination.

A. Local Public Hearing

At the local public hearing, 46 people testified. Witness testimony at the public hearing was approximately evenly split between those who oppose and those who support the proposed facility. Testimony from those supporting the project primarily emphasized the potential positive economic impacts of the project, the potential for job growth in Champaign County, and the environmental benefits of wind energy. Several farmers, who would have turbines located on their land if the proposed facility is approved, expressed the importance of receiving the lease payments to the health of their businesses. Testimony in opposition to the proposed facility focused on the potential negative consequences that could result from the siting of turbines with improper setbacks, including: health consequences of the project, the potential noise generated by the proposed facility, and the safety impacts. The potential negative environmental consequences were also discussed, including the potential for negative impacts on wildlife, as well as the potential disruption of the quiet country setting of rural Champaign County.

In addition to the testimony received at the public hearing, the Board has received numerous public correspondence, which is docketed in this case. The public correspondence received raises similar arguments to those expressed at the public hearing. In addition, concerns have been expressed about the potential economic benefits of the project, should the proposed facility receive a special tax status. Additional concerns have been raised by pilots, who fly in and around Champaign County, about the potential impact of turbine siting around two of Champaign County's two airports.

B. Basis of Need - Section 4906.10(A)(1), Revised Code

Staff notes that, as an electric generation facility, pursuant to Section 4906.10(A)(1), Revised Code, the basis of need for the proposed facility is not applicable to this electric generating project (Staff Ex. 2 at 12).

No issues were raised by any party related to the basis of need for the project. The Board recognizes that Section 4906.10(A)(1), Revised Code, specifies that it applies to the Board's determination process only if the facility proposed is exclusively an electric transmission line or a gas or natural gas transmission line. Given that the application in this case is for a wind-powered electric generation facility, the Board finds that Section 4906.10(A)(1), Revised Code, is not applicable.

C. Nature of Probable Environmental Impact and Minimum Adverse Environmental Impact - Sections 4906.10(A)(2) and (3), Revised Code

Staff evaluated the application and supplemental information received from the applicant, and conducted field visits to evaluate the nature of the probable environmental impact and whether the proposed facility represents the minimum adverse environmental impact. As part of the Staff Report, staff discusses 27 factors regarding the nature of the probable environmental impact of the construction and operation of the proposed wind-powered electric generation facility. The factors include the air emissions, the wetlands and streams within the project area, the electric collection lines proposed as part of the application, access roads, the removal of trees and vegetation in the project area, threatened or endangered species, traffic in the project area, cultural resources, residences or other structures that will be removed as a result of the proposed project, projected operational noise levels, turbine setbacks, the composition of the project area, regional development, and jobs associated with the proposed project. (Staff Ex. 2 at 13-19.)

Staff also evaluated the site selection process and the ecological, cultural, and socioeconomic impacts of the construction and operation of the proposed wind-powered electric generation facility in its consideration of whether the proposed facility represents the minimum adverse environmental impact (Staff Ex. 2 at 20-26).

To the extent intervenors have raised an issue regarding the nature of the probable environmental impact or the proposed facility's minimum adverse environmental impact, only the more salient issues are addressed by the Board in this order. If a party raised an issue as to the nature of the environmental impact or to the minimum adverse environmental impact, and the issue is not addressed in this decision, it is hereby denied by the Board.

1. Environmental Impacts

a. Site Selection

Buckeye requested, and was granted, a waiver from providing a complete site alternative analysis due to the unique nature of wind-powered electric generation facilities. Staff reports that Buckeye evaluated the following criteria in siting the proposed facility: adequate wind resources, proximity to electric transmission infrastructure with adequate capacity, accessibility via public roads and railroads that can accommodate delivery of equipment, adequate geotechnical conditions, limited sensitive ecological resources, compatible land use, and landowners who are willing to lease their property for the construction and operation of the facility. (Staff Ex. 2 at 20.)

With respect to the siting of each turbine, according to staff, Buckeye reported the use of additional criteria, including: setbacks from residences, property lines, public right-of-ways, and other features. Within the remaining available area, Buckeye represented to staff that it considered: shadow flicker and noise constraints, slopes and other access road limitations, ecologically-sensitive resources, wind resources and turbine engineering requirements, agricultural impacts, and landowner preferences regarding the placement of the wind turbines. Staff asserts that Buckeye considered numerous potential configurations before presenting the application to the Board. (Staff Ex. 2 at 20.)

The Board finds that the site selection for the proposed facility complies with Section 4906.10(A)(2) and (3), Revised Code, as the probable impact of the site selection has been adequately determined, and the Board is able to determine that the site selection, as presently configured, represents the minimum adverse environmental impacts, provided the certificate issued includes staff's recommendations set forth in the Staff Report and modified in the Conclusion and Conditions Section of this opinion, order, and certificate.

b. Ecological Impacts

To evaluate the potential ecological impacts of the project, Buckeye hired Hull & Associates, Inc. (Hull). In evaluating the proposed project area, Hull identified 12 wetlands within the project area. Buckeye asserts in its application that, although wetlands are present within the project area, the proposed facility has been designed to avoid any permanent or temporary impacts to the wetlands. However, some wetlands are close enough to the proposed facility components that specific avoidance steps will be necessary during construction to prevent any disturbance. These steps may include prominently flagging or temporarily fencing the wetland areas prior to construction to avoid material storage or vehicle traffic within the wetlands. Additional erosion and sediment controls will be utilized around wetlands to prevent disturbance. (Buckeye Ex. 1 at 144-145; Staff Ex. 2 at 13, 20-21; Buckeye Ex. 1A at Table 2.)

Hull also evaluated 21 streams located within the project area. According to the applicant, effective techniques are available and will be used to avoid stream impacts. To prevent erosion and downstream sedimentation, silt fencing and/or straw bales will be used around the work site. Moreover, where possible, cleared tree stumps will be left in place to help maintain soil stability. Existing crossings will be strengthened via placement of a steel plate to allow crossing by heavy equipment and turbine components. After construction, the steel plate will be removed and maintenance vehicles will use the existing crossing without modification. Where there is no existing crossing, in-water work will be avoided and special crossing techniques will be utilized, including: creating permanent bridges or the use of directional boring for buried electrical collection lines. (Buckeye Ex. 1 at 148-149, Ex. M; Staff Ex. 2 at 13-14, 21; Buckeye Ex. 1A at Table 2.)

Staff concludes that there would be minimal tree and vegetation clearing for construction, due to the agricultural nature of the project area. However, it is estimated that 4.1 acres of forested area would need to be cleared to accommodate various project components, representing less than 0.1 percent of the project area. Therefore, the impact on plants and wildlife, due to tree clearing would be minimal. (Staff Ex. 2 at 14, 21.)

The Board finds that the nature of the ecological impacts of the proposed facility have been adequately determined, in compliance with Section 4906.10(A)(2), Revised Code, and that the proposed facility represents the minimum ecological impacts from the proposed facility, provided the certificate issued includes staff's recommendations set forth in the Staff Report and modified in the Conclusion and Conditions Section of this opinion, order, and certificate.

c. Wildlife

In its application, Buckeye states that it hired Hull to conduct a review of the potential impacts of the construction of the proposed facility on wildlife. This review was conducted from 2007 to 2008, and involved numerous onsite studies. Hull identified numerous birds, mammal, and reptiles that typically live in the vicinity of the proposed facility. (Buckeye Ex. 1 at 115-117.)

Buckeye states that it expects construction-related impacts to wildlife to be limited to incidental injury and mortality due to construction activity. Buckeye expects the project to have little impact on any resident species. With respect to permanent displacement, Buckeye states that the proposed facility will be sited away from sensitive habitats, such as forestland, streams, and wetlands, which will minimize the potential impact that the proposed facility will have on wildlife through the risk of permanent displacement. Although the proposed project area covers approximately 9,000 acres, construction of the facility will result in the permanent loss of 0.3 acres of forest habitat, and the conversion of 3.8 acres of forest to successional communities. (Buckeye Ex. 1 at 150-151.)

Additionally, Buckeye asserts that it is taking the proper steps to minimize the impact of the proposed facility on the local ecosystem and wildlife. To minimize the impacts of the proposed facility, Buckeye outlines mitigation measures including: avoidance of sensitive areas, such as wetlands; limiting the area disturbed to the smallest possible area; and reestablishing vegetative cover in disturbed areas. Buckeye asserts that these measures will avoid any significant disruption to local wildlife. (Buckeye Ex. 1 at 152.)

Staff concluded that, based on the field surveys conducted, as well as information contained in the Ohio Department of Natural Resources' (ODNR) Natural Heritage Database, this proposed facility would result in limited impacts on wildlife. Moreover, no significant impacts to reptilian or amphibian species is expected as a result of the construction of the proposed facility. (Staff Ex. 2 at 15.)

i. Avian Species

Buckeye hired a consultant, Stantec, to determine the impact of the potential facility on the avian and bat populations (Buckeye Ex. 1 at 112). Through Stantec, Buckeye conducted numerous surveys under guidelines recommended by ODNR. After conducting a survey of the area, Buckeye noted the presence of several state listed species. Specifically, the surveys included limited sightings of several species of concern: the northern harrier (state endangered); the least flycatcher (state threatened); and the sandhill crane (state endangered) (Buckeye Ex. 1 at 118, 121). However, due to the predominately agricultural nature of the area, Buckeye states that the project area does not provide suitable habitat for many of these species (Buckeye Ex. 1 at 140).

Staff states, in its review of the application, that Buckeye properly consulted with ODNR's Division of Wildlife, as well as the United States (U.S.) Fish and Wildlife Service (USFWS) to determine the impact of the proposed facility on avian species and to develop an adequate preconstruction avian surveying plan. Staff concluded that, based on the results of the avian studies, as well as the location of the proposed facility within a largely agricultural area, significant impacts to bird species were not expected as a result of the proposed project. (Staff Ex. 2 at 14-15.)

However, UNU disagrees with Buckeye's conclusion that the proposed facility will not kill an unacceptable number of birds. Specifically, UNU, argues that Buckeye has provided insufficient data, including the use of only a single radar station to detect migratory birds within the project area and the use of a single observation point to observe raptors passing through the area. Of particular concern to UNU is the possible presence of bald eagles in the project area. UNU avers that Buckeye has not conducted sufficient studies to assure that bald eagles are not nesting in the project area and will not be affected by the construction of the proposed facility. (UNU Br. at 68.)

ii. Bat Species

(a) Buckeye

According to Buckeye's witness Cara Meinke, a consultant with Stantec, of particular concern in the project area is the Indiana bat, a federally endangered species. The witness explained that the Indiana bat is a cave dwelling bat, which hibernates in caves during the winter, and spends the remainder of the year in tree roosts (Tr. at 617-618). Buckeye asserts that, in bat mist-net surveys conducted by Stantec during the fall of 2007 and in the spring, summer, and fall of 2008, Stantec did not capture or identify any Indiana bats in or near the project area. However, in 2009, a survey by another developer resulted in the capture of Indiana bats less than one mile from the proposed project area. (Buckeye Ex. 7 at 3; Tr. at 2289-2291.)

Despite the presence of the Indiana bat near the project area, Buckeye asserts that the proposed facility will not cause an adverse impact on the Indiana bat. Specifically, Buckeye states that it is working with the USFWS and ODNR to develop a Habitat Conservation Plan (HCP), which will include obtaining an Incidental Take Permit (ITP) (Buckeye Br. at 35; Tr. at 2263). According to Buckeye, the HCP and ITP would mitigate any mortality of bats caused by the turbines. In fact, Buckeye asserts that, because of its efforts, there will be no impact to the Indiana bat. (Buckeye Br. at 35; Buckeye Ex. 7 at 7.) In support of this assertion, Buckeye's witness Meinke testified that, in order to obtain an ITP, Buckeye must prepare an HCP that demonstrates that take will be minimized and mitigated to the maximum extent practicable, and the HCP must meet with the approval of the USFWS and comply with the National Environmental Policy Act. Moreover, Ms. Meinke testified that the typical foraging activities of the Indiana bat, among trees, over streams, along habitat edges, and in small clearings in forests, will not be affected by the proposed facility in its present configuration. (Buckeye Ex. 7 at 4-7.)

(b) Staff

Staff states that Buckeye is generally avoiding habitat that is typically identified as suitable habitat for the Indiana bat, which reduces the likelihood of the project impacting the species. In addition, staff indicates that Buckeye consulted with ODNR and the USFWS to assess the potential impact of the proposed facility on the Indiana bat and to develop an appropriate preconstruction surveying plan. Staff supports the implementation of an HCP to assist in the minimization and mitigation of potential impacts to the Indiana bat. Moreover, staff agrees with Buckeye's assertions that location of the proposed facility away from sensitive areas such as wetlands, streams, or wooded areas will minimize the potential impacts of the facility. (Staff Ex. 2 at 15, 22.)

Staff witness Keith Lott also testified as to potential measures that could be included in the HCP. Mr. Lott stated that appropriate setbacks from the edges of forested areas would minimize bat mortality. Additionally, Mr. Lott testified that Buckeye could feather its turbine blades during times of low wind. Feathering occurs where blades are rotated so that they do not catch the wind. Feathering at low wind speeds has been shown to decrease bat mortalities by blade strike by more than 50 percent. Mr. Lott further noted that feathering would protect other bat species as well. (Tr. at 2265-2279.)

(c) UNU and UCC

UNU asserts that the risk of impact on the Indiana bat is greater than the risk estimated by Buckeye or staff. UNU asserts that the state has a duty to protect the bats, which can be harmed in several ways (UNU Br. at 62). First, bats can be attracted to the movement of the turbines and fly into the turbines, as stated by staff witness Lott (Tr. at 2260). Bats, in general, also suffer a risk of barotraumas, where the change in air pressure, created by a turning wind turbine, causes a rapid decompression and a collapsing of their lungs (Tr. at 615). Therefore, according to UNU, bats, including the Indiana bat, will likely be harmed by the proposed facility, which in turn will have an impact on the local ecosystem. Moreover, UNU asserts that Buckeye has not included sufficient information in its application on corrective measures or other recommendations of a protocol for measuring acceptable effects on bats. (UNU Br. at 67-68.)

UNU states that additional conditions must be placed on the proposed facility to protect the Indiana bat. First, UNU recommends that the Board prohibit Buckeye from clearing any suitable habitat of the Indiana bat, including any isolated trees which provide a suitable habitat, as bats may be harmed or killed during tree removal. UNU also recommends that the Board disallow any tree clearing in the habitat area of the Indiana bat between April 1 and November 30, the times of the year during which the Indiana bat is tree roosting. (UNU Br. at 63-64; Tr. at 2281-2282.) Additionally, UNU supports the recommendation that turbine blades be feathered at wind speeds of 5.0 meters per second or less (UNU Br. at 66).

As an additional measure, UNU recommends five-mile setbacks from any bat capture site or roosting location of the Indiana bats (UNU Br. at 64). UNU argues that Mr. Lott stated that ODNR has identified setbacks as an effective method for protecting Indiana bats (Tr. at 2265). Because USFWS has determined that a five-mile setback is appropriate, unless Buckeye goes through a formal consultation process with the USFWS, UNU asserts that turbines should be setback at least five miles from any capture sites or roost locations (Tr. at 648-649; UNU Br. at 64; UNU Ex. 53 at 50). UNU not only supports the inclusion of a certificate condition that would require a five-mile setback from all Indiana bat capture and roost locations, but UNU supports a requirement that, if an Indiana bat roost is subsequently discovered within five miles of an operational turbine,

use of the turbine be discontinued until it can be verified that the roost is no longer in use. (UNU Br. at 65.)

In addition to the five-mile setback from all roost or capture locations, UNU believes that a 10-mile setback from all hibernacula is necessary. UNU argues that this setback is necessary to protect bats, which may arrive at their hibernacula as early as July, where they remain to buildup fat for hibernation. During this time, prior to hibernation, bats have been known to forage at greater distances, up to 19 miles. (UNU Ex. 53 at 40-42.) UNU argues that a 10-mile setback from all hibernacula is necessary to adequately protect the Indiana bats during autumn swarming prior to hibernation (UNU Br. at 65).

Finally, UNU believes that Buckeye should develop a meaningful post-construction avian and bat mortality plan to prevent excessive bat deaths (UNU Br. at 66). UNU notes that the Staff Report recommends the development of such a plan that is approved by both staff and ODNR (Staff Ex. 2 at 61). However, according to UNU, the condition recommended by staff does not adequately protect bat and avian life, as it only records the number of bats and birds that have died, but will not require Buckeye to reduce unacceptably high mortality numbers. UNU recommends that a meaningful post-construction avian and bat mortality plan would identify the number of bird and bat fatalities deemed to be unacceptably high and would specify the mitigation measures that Buckeye should undertake to reduce avian and bat mortalities, if they reach an unacceptably high number. (UNU Br. at 66-67.)

In addition to the use of setbacks to protect the Indiana bat, testimony by staff witness Lott provided that a colony of Northern Myotis bats was found near the site for Turbine 48 (Tr. at 685, 2260-2261). UNU argues that siting of this turbine may discourage the bats from continuing to use the area and would increase the risk of bat mortality. UNU asserts that some of the mitigation measures used to protect the Indiana bat should also be used to protect other bat species, including disallowing Buckeye from cutting down trees in which bats are currently roosting. (UNU Br. at 66-68.)

UCC also raises additional concerns about the colony of Northern Myotis bats roosting on the southwestern edge of UCC property, near the location of proposed Turbine 48 (UCC Br. at 10). Should the colony of Northern Myotis bats be disturbed, UCC is concerned about the negative impacts on the country club. UCC states that bats are beneficial to the golf course because they naturally reduce the number of flying insects in the area (UCC Br. at 10). Moreover, UCC relies on the testimony of Ms. Meinke that operation of a wind turbine near the golf course might reduce the number of bats foraging for insects around the course (Tr. at 696-697). In its brief, UCC concludes that any disruption of the bat colony located near proposed Turbine 48 could be detrimental to the enjoyment of UCC property due to the presence of additional insects (UCC Br. at 11).

Therefore, UCC is concerned that Buckeye's application offers no mitigation strategy for the impact on the Northern Myotis bats (UCC Br. at 18).

(d) Buckeye Response

Buckeye disagrees with UCC's assertion that the construction of Turbine 48 will disrupt the Northern Myotis bat colony located on UCC's property. Specifically, Buckeye argues that UCC's assumption that construction of Turbine 48, which is located on agricultural land, will disrupt the colony is based solely on speculation (Buckeye Reply Br. at 65-66). Moreover, Buckeye points out that Mr. Lott testified that all of the proposed facility is located on agricultural land which would not impact the habitat or the colony itself (Tr. at 2279).

Additionally, Buckeye disagrees with the assertion of UNU that an HCP and ITP are insufficient, or that additional setbacks are necessary beyond those imposed in the Staff Report or recommended in the HCP obtained from USFWS (Buckeye Reply Br. at 57-63). Instead, Buckeye states that its intention to comply with an HCP and ITP should be sufficient for the Board to determine that the proposed facility will not have an adverse impact on the Indiana bat (Buckeye Reply Br. at 58; Buckeye Ex. 4 at 17-18). Buckeye asserts that intervenors, UNU and UCC, ignore the involvement of staff, ODNR, and USFWS, when they seek to impose additional conditions on the construction of the proposed facility. Buckeye does not believe UNU's proposed additional conditions are necessary, as the HCP will set forth appropriate safeguards (Buckeye Reply Br. at 58). Moreover, Buckeye states that staff's proposed condition that would require Buckeye to have an environmental specialist on site at all times that construction is being performed in or near a sensitive habitat should be sufficient to safeguard local wildlife (Staff Ex. 2 at 60; Buckeye Reply Br. at 59).

Buckeye also takes issue with UNU's proposed requirement that a condition be imposed on the certificate requiring turbines to be feathered at wind speeds of 5.0 meters per second or less (UNU Br. at 65-66). According to Buckeye, both Mr. Lott and Ms. Meinke provided significant testimony indicating that the HCP and ITP would provide assurances against any adverse impact on the Indiana bat (Buckeye Ex. 7 at 7-8; Tr. at 2283). Buckeye asserts that, rather than try to duplicate the efforts contained in the HCP, the Board would be better served to simply require Buckeye to obtain an HCP and comply with the conditions imposed therein (Buckeye Reply Br. at 63).

(e) Board Analysis and Conclusion

The Board has reviewed the record with respect to the conservation of wildlife. Although UNU and UCC believe that additional safeguards are necessary to protect local wildlife, we find that Buckeye has taken adequate steps, and will continue, to avoid, minimize, and mitigate the effects of the proposed facility on local wildlife, including the

Indiana bat. Additionally, because Buckeye is pursuing an HCP and ITP with USFWS, we do not find it necessary for the Board to impose any additional conditions on the certificate, beyond those initially recommended by staff, due to the continued oversight by USFWS that will result from the HCP and ITP.

We believe that the potential bird and bat mortality rates were appropriately addressed on the record by Buckeye and that Buckeye conducted adequate avian studies. Therefore, the Board finds that, with respect to the potential impact on wildlife, the record in this proceeding shows that the nature of the probable environmental impact, as well as the minimum adverse environmental impact, has been determined for the proposed facility, in accordance with Section 4906.10(A)(2) and (3), Revised Code, provided the certificate issued includes staff's recommendations set forth in the Staff Report and modified in the Conclusion and Conditions Section of this opinion, order, and certificate.

2. Cultural Resources and Socioeconomic Impacts

a. Buckeye

The application includes data collected by ASC Group, Inc. concerning the cultural and archaeological resources in the project area. The data was compiled into a cultural resource literature review and impact assessment of such resources within a five-mile radius of the proposed wind project area. (Buckeye Ex. 1 at 180-189, App. Ex. U.)

The application included a cultural assessment of 33 cultural resources listed with the National Register of Historic Places (NRHP), one location with a determination of eligibility for listing with the NRHP, numerous historic inventory, and archaeological inventory, and identified 70 cemeteries (Buckeye Ex. 1 at 180, App. Ex. U).

Buckeye asserts that, based upon the cultural resource study, impacts to archaeological and historic resources and landmarks are likely to be extremely minimal. First, Buckeye contends other structures in Ohio that are similar to turbines, like telecommunications towers, rarely encounter significant archaeological sites given the small amount of ground disturbed to construct the structures and the fact that they are located in upland areas, rather than stream valleys where prehistoric archaeological sites are often found. The likelihood of disturbing archaeological sites, according to Bukeye, is also reduced by the use of farm land, public roads, and exiting utility right-of-ways (ROW) to the extent possible. Construction of the proposed facility is anticipated to disturb a total of approximately 373 acres of soil, of which 301 acres will be temporarily disturbed and approximately 72 acres will be permanently impacted. (Buckeye Ex. 1 at 181, App Ex. U.)

According to the application, there are 34 historical landmarks within five miles of the proposed facility as identified by the Ohio Historic Preservation Office (OHPO). Twenty of the landmarks are located in the village of Mechanicsburg and nine are in the

city of Urbana. Buckeye states that the proposed wind facility will not physically destroy, alter, or be located immediately adjacent to any registered or known eligible landmarks. In addition, Buckeye submits that, pursuant to the criteria recognized by the NRHP, the facility will not adversely affect the integrity of the historic landmarks. Buckeye contends that no turbine will be located close to landmarks so as to constitute a visual obstruction, although some turbines may be visible in the distance from some landmarks depending on obstructing terrain, tree lines, or other buildings. The historic district in Urbana is not likely to have a view toward any of the proposed turbines and the listed historic resources in the village of Mechanicsburg are not likely to have significant views of the wind turbines. (Buckeye Ex. 1 at 181-184, Ex. U.)

b. Staff

Staff reviewed Buckeye's assessment of the impacts to cultural resources within five miles of the project area and notes that Buckeye's cultural impact analysis was conducted utilizing a database or literature review of previously recorded elements. Staff concurs that impacts to known cultural resources are likely to be minimal in light of the fact that the project will be located in upland areas, the proposed turbine locations will not be near identified cultural resource sites, and the access roads and electric collection system will be placed along existing roads. (Staff Ex. 2 at 22-24.)

Staff recognizes that there are several sites of archeological interest in the area, including a band of Native American mounds identified to the south of the project area between the city of Urbana and the village of Mechanicsburg. Staff proposes that, to better determine the presence, or absence, of important archeological sites, at a minimum, Phase I testing is appropriate at turbine locations, access roads, and electric collection line locations. (Staff Ex. 2 at 23.)

Staff also discovered several structures of architectural interest in Union Township, in and around the village of Mutual, dating back to the 1800s, which were not inventoried in Buckeye's literature review. On that basis, staff suggests that Buckeye conduct additional architectural surveys and, if warranted, develop a mitigation plan for the staff's review, in coordination with OHPO with input from the Champaign County Historical Society, prior to construction. (Staff Ex. 2 at 23-24.)

As part of its investigation, staff also reviewed the socioeconomic and recreational impacts of the proposed facility. Staff concludes that the proposed wind facility is not likely to have a significant impact to existing land use within the project area, as minimal agricultural land will be permanently lost. Furthermore, staff points out that Buckeye has stated that all damaged drainage tiles from construction activities will be repaired, all construction debris will be removed, and landowners will be compensated for lost crops. (Staff Ex. 2 at 24-25.)

Staff acknowledges the proposed Buckeye wind facility is expected to have a long-term aesthetic impact on residences near the facility, as turbine(s) will be visible from many of the residences in the project area. All of the turbines in the project area are outside the residential setback (914 feet, in this instance), except for Turbine 70. In addition, except for Turbine 57, all of the turbines are outside the property line setback. Staff states that requiring Buckeye to screen the turbines from view is not a practical mitigation measure in most cases. (Staff Ex. 2 at 25.)

Staff lists 14 recreational land uses, two golf courses and one park within one mile of a turbine. The two golf courses are located within one-half mile of a turbine. With regard to shadow flicker, staff notes that shadow flicker has its longest reach during winter months, which is the off season for a golf course. However, staff states that the golf courses in the project area may receive some low intensity shadow flicker in the early morning and late evening. Furthermore, staff advises that both golf courses would be exposed to noise in the 35 dBA range. According to staff, traffic delays due to construction that may impact recreational land uses would be temporary and minimal. (Staff Ex. 2 at 25.)

Staff notes that, according to the application, the population in the townships of Champaign County is projected to grow by approximately 6.5 percent from 2010 to 2020. Staff believes that construction of the wind farm could limit future commercial and residential development in the project area; however, based on the population projections, the project will not limit growth beyond expected levels in the townships where the facility is planned. The proposed electric generation facility is expected to have a positive economic impact in the region by providing an additional source of tax revenue for the participating townships, lease revenues for participating landowners, 131 full-time construction jobs for approximately 12 months, and 12 full-time permanent jobs for facility operations. (Staff Ex. 2 at 25.)

Staff concludes that with the recommended conditions as set forth in the Staff Report, the proposed wind facility would not cause any temporary or permanent impacts to cultural resources. However, staff finds that the proposed facility would cause temporary and permanent social impacts in the project area. To address and minimize the nature of the socioeconomic impacts, staff recommends compliance with several conditions with which Buckeye must comply as part of the issuance of a certificate. Staff believes that, with the recommended conditions, the minimum adverse impacts will be realized in the project area and the surrounding community. (Staff Ex. 2 at 22-26.)

c. UCC

UCC, one of the golf courses in the project area, argues that the application fails to consider the distraction and visual impact proposed Turbines 48 and 49 will have on the golf course, as a result of the turbines appearance, movement on the horizon, and shadow

flicker. As proposed, Turbine 48 would be located approximately 2,000 feet from and directly behind the green on the fifth hole and Turbine 49 would be located approximately 2,800 feet south of the green on the fifth hole. For that reason, UCC argues that Buckeye has failed to meet its burden to prove that the nature of the environmental impact has been considered and that proposed Turbines 48 and 49 represent the minimum adverse environmental impact, considering the state of available technology and the nature and economics of the various alternatives, and other pertinent considerations that should have been considered. (UCC Br. at 2; Tr. at 246.)

UCC requests that if the Board grants Buckeye a certificate, the Board include as conditions of the certificate the following two additional conditions:

> That the applicant is prohibited from constructing the proposed collector lines on the south side of US Route 36, west of Ault Road and east of Ludlow Road, along the UCC road frontage around Hole No. 11. (Tr. at 230.); and
>
> That Buckeye is prohibited from constructing proposed Turbines 48 and 49. (UCC Reply Br. 2, 4-5.)

d. Board Analysis and Conclusion

First, the Board notes that Buckeye has agreed to UCC's request not to construct the proposed collector lines on the south side of Route 36, along the UCC road frontage (UCC Br. at 2, Buckeye Reply Br. at 93). The Board finds that Buckeye and UCC's agreement not to locate the collector lines on the south side of Route 36, immediately adjacent to UCC, to be reasonable and finds that this condition should be incorporated into the conditions of the certificate as set forth in the Conclusion and Conditions Section of this opinion, order, and certificate. Next, with regard to UCC's concern pertaining to the construction of Turbines 48 and 49, the Board finds that there is sufficient information in the record to determine the nature of the probable environmental impact of Turbines 48 and 49 and that the two turbines represent the minimal adverse environmental impact pursuant to Sections 4906.10(A)(2) and (3), Revised Code. UCC's concerns with shadow flicker and noise are addressed below in Section V.F.6 of this order.

The Board acknowledges that the project may have an impact on various cultural and socioeconomic resources in the area. For purposes of our consideration of the application, with regard to Sections 4906.10(A)(2) and (3), Revised Code, the Board finds that the nature of the probable impact on such resources has been adequately determined and the proposed facility is sited such that it represents the minimum adverse environmental impact on the cultural and socioeconomic resources, provided the certificate issued includes staff's recommendations set forth in the Staff Report, as modified in the Conclusion and Conditions Section of this opinion, order, and certificate.

D. Electric Grid - Section 4906.10(A)(4), Revised Code

Section 4906.10(A)(4), Revised Code, requires that the feasibility and impact of connecting the proposed electric generation facility to the regional electric power grid be determined prior to the issuance of a certificate to the applicant. In order to address this requirement, Buckeye caused studies to be performed. PJM Interconnection (PJM), the applicable regional transmission system operator, prepared the feasibility study (PJM feasibility study) and the system impact study (PJM impact study). A stability and short circuit analysis (PJM stability study) is also included in the PJM impact study. According to the application, the PJM feasibility study identified conditions under which the proposed facility's output could be curtailed. However, the likelihood of curtailment was determined by the study to be slight during the summer peak hours given that several of the curtailment conditions were based on outdated rating data. The remaining congestion issues listed were based on very specific system conditions with a very low probability of occurrence. In addition, Buckeye asserts that the PJM feasibility study found that the curtailment of the proposed facility to something less than full output for a few hours, if the conditions ever exist, should not have an adverse affect on the overall operation of the facility. (Buckeye Ex. 1 at 65-66, Exs. B and C.)

The PJM impact study evaluated a 200 MW interconnection that would be injected along the Givens–Mechanicsburg 138 kV line and be interconnected at a new switching station located along the Dayton Power & Light, Inc. (DP&L) Urbana-Mechanicsburg-Darby 138 kV circuit. The new station will be owned and operated by DP&L and will consist of three 138 kV breakers configured as a ring-bus, a 138 kV revenue meter, and other associated facilities. Compliance with reliability criteria was assessed in the PJM impact study for summer peak conditions expected in 2012. The PJM impact study identified two facilities that would likely experience thermal overloads, and three breakers that would be over-dutied as a result of the proposed facility. To correct the system violations, Buckeye asserts that the study found that the following upgrades are required: the line terminal equipment at the Urbana substation must be replaced; reconductoring of approximately 4.3 miles of circuit; and three 69 kV circuit breakers at Urbana must be replaced. (Buckeye Ex. 1 at 66-67, Exs. B and C.)

The results of the PJM impact study revealed no operating issues other than operating voltage and power factor ranges. Further, PJM concluded that the proposed project would not result in deliverability or transmission system congestion problems. (Buckeye Ex. 1 at 67.)

Staff reviewed the studies regarding interconnection of the proposed project to the existing regional electric transmission system. In the Staff Report, staff notes that Buckeye submitted the proposed project to PJM on December 6, 2006. Staff states that the only study conducted by PJM which had not been released by the issuance of the Staff Report

was the PJM facilities study, which identifies engineering design work necessary to begin construction, an estimate of costs that Buckeye will be charged for attachment facilities, local upgrades, and network upgrades, and a timeline for design and construction of facilities and upgrades. According to staff, Buckeye has not yet signed a Construction Service Agreement for the upgrades identified in the studies or an Interconnection Service Agreement with PJM for the proposed facility. The applicant's signature on the Interconnection Service Agreement will need to be obtained before PJM will allow Buckeye to interconnect the proposed facility to the bulk electric transmission system. (Staff Ex. 2 at 27.)

Staff reviewed the PJM impact study, which summarized the network impacts that may occur with the injection of 200 MW of energy (40 MW of capacity) when the proposed facility is connected to the bulk power system. Staff notes that only the 40 MW of capacity can be relied on for the facility to meet capacity obligations, although Buckeye requests a generation injection of 200 MW from PJM and listed 126 to 175 MW in its application to the Board. Both the PJM impact study and the PJM feasibility study revealed that some existing transmission lines would become overloaded with the addition of the proposed generating facility connected to the system under multiple contingency outage conditions. (Staff Ex. 2 at 28.)

The PJM feasibility study and the PJM impact study for the proposed project indicate that, pursuant to the North American Electric Reliability Corporation (NERC) electric transmission system reliability standards, the proposed wind facility would not overload the system with no contingencies or a single contingency, but noted that multiple contingencies would likely lead to outages and equipment failure. Staff notes that these issues can be alleviated by upgrading and reconductoring the line to maintain transmission system integrity. Staff confirmed that the PJM impact study revealed that three circuit breakers, transformer fuses, and holders would need to be replaced. (Staff Ex. 2 at 28-29.)

Staff also verified that, as stated in the application, the PJM stability study showed no stability issues were identified as a result of the proposed electric generation project and no overloads were identified as a result of previous projects or projects in queue prior to the proposed Buckeye project (Staff Ex. 2 at 29-30).

Thus, staff concluded that, with the upgrades identified in the PJM studies, the proposed facility is expected to provide reliable generation to the bulk electric transmission system, the facility is consistent with plans for expansion of the regional power system, and the facility will serve the interests of electric system economy and reliability. Further, staff states that the proposed generation facility will serve the public interest, convenience, and necessity by providing additional electrical generation to the regional transmission grid. (Staff Ex. 2 at 30-31.)

Initially, the Board notes that none of the intervenors to this matter raised any issues regarding the interconnection studies and the conclusions of the applicant and/or the staff based on the studies.

The Board finds that, based on the record in this proceeding, the proposed wind-powered electric generation facility is consistent with the plans for expansion of the regional power grid as set forth in the system impact and interconnection studies performed by the regional system operator and will serve the interest of electric systems economy and reliability. Therefore, the Board concludes that the proposed facility complies with the requirements specified in Section 4906.10(A)(4), Revised Code, provided the certificate issued includes staff's recommendations. (Staff Ex. 1 at 36.)

E. Air, Water, Solid Waste, and Aviation - Section 4906.10(A)(5), Revised Code

1. Air

According to the Staff Report, air quality permits are not required for construction and operation of the proposed facility, but fugitive dust rules adopted pursuant to the requirements of Chapter 3704, Revised Code, may be applicable. Staff notes that Buckeye has indicated an intention to control fugitive dust through the use of several practices. The extent to which areas of construction are disturbed at any given time will be minimized by stabilizing and restoring such areas quickly. Water or calcium carbonate will be used to control dust on unpaved public roads and facility access roads. Some road ways may be temporarily paved with a stone and oil mixture, but this process will not be used in the vicinity of streams or wetlands. Buckeye has reported to staff that it intends to develop a reporting process to monitor for excessively dusty conditions. (Staff Ex. 2 at 32.)

Staff also reports that other construction-related air emissions would result from the use of construction vehicles and equipment. Equipment-related emissions would be controlled by keeping construction equipment in good working condition. Staff concludes that construction and operation of the facility would be in compliance with air emission regulations. (Staff Ex. 2 at 32.)

2. Water

Staff states that neither construction nor operation of the proposed facility will require the use of significant amounts of water; thus, requirements under Sections 1501.33 and 1501.34, Revised Code, are not applicable to this project. (Staff Ex. 2 at 32.)

According to the Staff Report, the application indicates that there are 21 perennial and ephemeral streams and several acres of wetlands in the proposed project area. However, Buckeye has represented that it intends to avoid direct impact to all wetlands in

the placement of the facilities and in accessing the facilities during construction and operation. To indicate the presence of protected wetlands, such areas will be flagged or fenced during the construction of the proposed facility and appropriate erosion controls will be implemented in construction areas. Staff reports that many of the streams will need to be crossed by construction equipment or electrical collection lines. However, Buckeye intends to cross streams using methods that do not disturb the streambeds wherever possible. (Staff Ex. 2 at 32-33; Buckeye Ex. 1 at 144-148.)

Additionally, staff reports that Buckeye intends to implement a Storm Water Pollutant Prevention Plan (SWPPP), which would minimize impacts on streams and wetlands. The SWPPP would be developed in association with Buckeye's National Pollution Discharge Elimination System (NPDES) permits for the facility. Staff reports that Buckeye will likely need two separate NPDES construction permits: a construction storm water general permit, and a general permit for storm water discharge for construction activity within the Big Darby Creek watershed. However, staff states that, because of the planned avoidance of streams and wetlands, compliance with Clean Water Act Section 401 or 404 requirements may be achieved under nationwide permits. In conclusion, staff believes that construction of this facility would comply with requirements of Chapter 6111, Revised Code, and the rules and laws adopted under the chapter. (Staff Ex. 2 at 32-33.)

3. Solid Waste

Staff notes that the construction of the facility will result in the creation of solid waste, including plastics, wood, cardboard, metals, packaging materials, construction scrap, and general refuse. However, Buckeye intends to remove construction debris from work areas and dispose of those materials in dumpsters located at the staging areas. A private contractor will be used to remove waste collected in dumpsters. According to staff, Buckeye would also develop and follow Spill Prevention Containment and Countermeasure (SPCC) procedures to prevent the release of hazardous substances, such as petroleum products, into the environment during construction. Any spills of hazardous substances would be reported pursuant to Ohio Environmental Protection Agency (Ohio EPA) and ODNR procedures. (Staff Ex. 2 at 33.)

During operation of the proposed facility, staff reports that Buckeye will generate waste similar to a small business office, which will be disposed of through a solid waste disposal service. Waste oils generated during operation would be disposed of in accordance with state and local regulations. (Staff Ex. 2 at 33.)

With respect to the waste associated with the clearing of vegetation, staff reports that such waste would be cleared, with timber cut into logs and either left for the landowner or removed from the site. Limbs and brush will be chipped, buried, or otherwise disposed of, but will not be left on-site. Staff states that it believes that Buckeye's solid waste disposal plans will comply with solid waste disposal requirements

in Chapter 3734, Revised Code, and the rules and laws adopted under that chapter. (Staff Ex. 2 at 33.)

4. Aviation

a. Staff

Two airports are located within the footprint of the proposed facility. Grimes Field, a public use municipal airport, maintains two active runways. Weller Airport, a privately owned, public use airport, maintains a single active runway. Staff states that it contacted the Ohio Department of Transportation, Office of Aviation (ODOT-OA) during its review of Buckeye's application to assess the potential impact of the construction of the proposed facility. ODOT-OA recommended disapproval of 11 of the proposed turbines due to the proposed turbines penetration into protected airspace from the runway centerline of both airports. ODOT-OA notified Buckeye that it was recommending disapproval of those 11 turbines on April 27, 2009. (Staff Ex. 2 at 34-35.)

In accordance with Federal Aviation Administration (FAA) rules, Buckeye filed a FAA Form 7460-1 Notice of Proposed Construction or Alteration. According to staff, any structure that the FAA deems to be dangerous to air travel and/or that it deems would have an adverse physical or electromagnetic interference effect upon navigable airspace or air navigation facilities will receive a presumed hazard designation. Staff additionally states that a presumed hazard designation is effectively a disapproval of a structure's construction. On September 1, 2009, the FAA published the results of its aeronautical studies concerning the proposed facility, giving 38 turbines the designation of presumed hazard. The 11 turbines identified as problematic by ODOT-OA are included within the 38 that were noticed as presumed hazards by the FAA. (Staff Ex. 2 at 34-35.)

According to staff, FAA disapproval does not bar construction; however, if a disapproved structure is built, the FAA will require adjustments at any affected airport. Such adjustments may include raising an airport's minimum descent altitude (MDA). The MDA is the lowest altitude to which descent is authorized on final approach during a nonprecision instrument landing. Instrument flight rule (IFR) landings are conducted at an airport during times of low visibility or if inclement weather prohibits a pilot from making a visual flight rule (VFR) landing. Additionally, some pilots never obtain IFR ratings and always fly using VFR. Raising an airport's MDA creates a steeper glide slope/angle at which a plane must land in poor weather conditions. Additionally, raising an airport's MDA can reduce the amount of air traffic an airport receives relative to the amount of time the airport is under IFR conditions. (Staff Ex. 2 at 34-35.)

Staff explains that, at the time the Staff Report was issued, pending resolution of the issues presented in the initial FAA study, the FAA had determined that the 38 turbines that had received a determination of presumed hazard should not be constructed as

proposed. However, staff provided in the Staff Report that Buckeye could still employ an engineer to resurvey the disapproved turbine sites and present those resurveys to the FAA in order to attempt to obtain reversal of the hazard determination (Staff Ex. 2 at 34-35; Urbana Ex. 5 at 1-3.) Staff recommends a condition that turbines that do not satisfy the FAA's requirements should not be constructed (Staff Ex. 2 at 64).

b. Buckeye

Buckeye witness Thaddeus Brys, a consultant hired by Buckeye to evaluate the compliance of the proposed facility with the FAA regulations, testified that, on November 8, 2009, the FAA amended its findings and determined that, of the 38 turbines originally given a designation of presumed hazard, 22 were not hazards (Tr. at 383-384; Buckeye Ex. 25). According to the witness, in determining that 22 of the original 38 turbines presumed as hazards were not hazards, the FAA correctly reapplied the criteria for the VOR Alpha missed approach. The VOR Alpha approach is a circling approach to the airport, in which the pilot approaches the airport from a bearing of 130 degrees to the northwest and can circle to land on either runway (Buckeye Ex. 5 at 3). Therefore, 16 turbines are still presumed hazards to aviation. Of the remaining 16 turbines that are still presumed hazards, seven are considered hazards to Grimes Field, and nine are considered hazards at Weller Airport. (Tr. at 416-419.) With respect to turbines that have received FAA determinations of no hazard, Buckeye witness Brys testified that those turbines would not have any effect on flight operations at Grimes Field or Weller Airport (Buckeye Ex. 5 at 9).

With respect to the Urbana's potential expansion plans already in place for Grimes Field, Buckeye witness Brys testified that, under the proposed plan, the runway would be lengthened 600 feet. However, this expansion would not change the current landing category. Moreover, Mr. Brys stated that the FAA is required to consider any future expansion plans that Grimes Field would have on file with the FAA. Therefore, in rendering the findings of hazard or no hazard, the FAA would have considered any future plans on record, and Mr. Brys stated that he did not believe construction of the proposed facility would affect the future expansion of Grimes Field. (Buckeye Ex. 5 at 8.)

c. Urbana and the County

Urbana asserts that the FAA determinations may not be sufficient to fully protect Grimes Field. In support of its assertion, Urbana argues that construction of any of the proposed turbines will lessen safety around Grimes Field, may limit the number of aircraft choosing to fly into Grimes Field, and may cause certain yearly events that occur at Grimes Field to be canceled or changed. (Urbana Br. at 2-5). The County also stresses the importance of the airport to future local business growth (County Br. at 10).

Urbana witness, Nino Vitale, testified that even with the FAA determination of no hazard, the turbines located around Grimes Field would still present additional issues,

including a potential obstacle should a pilot overshoot the runway. Moreover, Mr. Vitale states that in VFR conditions, pilots are trained to be at pattern altitude, approximately 800 feet above ground, within four to five miles of the airport, in order to be able to "see and avoid" other aircraft in the pattern, as there is no control tower. According to Mr. Vitale, flying at this altitude makes it easier to see and identify other aircraft. However, when flying around turbines in Benton, Indiana, at a similar distance above the turbines, Mr. Vitale reported experiencing a feeling of dizziness, due to the unique nature of the turbines, and believes that flying at such an altitude above the proposed project would be unsafe. (Urbana Ex. 2 at 1-5; Tr. at 1536-1537.) Additionally, Mr. Vitale states that, because of the unique nature of the turbines and the inability to illuminate the blades, flying at night becomes increasingly difficult as pilots have to avoid an unlit blade, which increases the necessary altitude and, when placed too close to an airport, forces pilots to increase the descent rate into the airport (Tr. at 1537).

Mr. Vitale also testified that a number of experimental aircraft fly in and out of Grimes Field and these aircraft may not have any type of radio or navigation equipment. Therefore, their only method of safe navigation around the airport is the "see and avoid" method, at pattern altitude, which could be complicated by the desire to fly at a higher altitude due to the presence of turbines. Mr. Vitale testified that the turbines may have different impacts on pilots based on the type of aircraft they fly, and also based on their individual training. IFR pilots are trained to fly in the clouds, VFR pilots are not and, therefore, fly below cloud cover and, potentially, closer to the moving turbines. (Tr. at 1535-1539.) Richard Rademacher, a VFR rated pilot, testifying on behalf of Urbana, also testified to the importance of being in pattern altitude within five miles of approaching an airport to land. According to Mr. Rademacher, when a pilot is approaching an airport without a control tower, being in pattern altitude allows for pilots to visually recognize each other. Once in pattern altitude, Mr. Rademacher asserts that a pilot would not be too far above the tips of the turbine blades, for turbines located within the five-mile radius of the airport and that this would likely be an unsafe distance. (Tr. at 1695.)

Additional testimony established the presence of a number of yearly events occurring at Grimes Field. Urbana witness Vitale testified that some of the various events held at Grimes Field, including the Mid East Regional Fly In (MERFI), requires pilots to be at pattern altitude, at a distance of 4.5 miles from the airport. This event also includes other aviation-related activities, including passenger rides departing from, and flying around, Grimes Field, which occur in the four- to ten-mile area surrounding the airport. The MERFI event involves a large number of aircraft converging on Grimes Field in a short span of time. Mr. Vitale also stated that Grimes Field hosts an Annual Hot Air Balloon Festival, where hot air balloons fly around the airport. Mr. Vitale believes that construction of the proposed facility would likely require the cancellation of the balloon festival and cause the MERFI to be moved. (Urbana Ex. 2 at 3-4.) In sum, Mr. Vitale

concludes that a five-mile buffer zone around the airport would be necessary to protect the participants of these events (Tr. at 1543).

Urbana witness John Holland, asserts that the construction of the proposed facility will create a potential hazard for Care Flight operations within the area. Care Flight, an emergency response team that operates out of Champaign County, flies directly from Grimes Field to the scene of an accident or health emergency. However, Mr. Holland testified that, if the proposed facility was constructed, pilots would have to be mindful of the turbines and go around any turbine field, which could increase the amount of time it would take the emergency response team to reach the scene of an accident. (Tr. at 2151-2153.) Mr. Holland testified that construction of the proposed facility would also result in the requirement that any patients to be picked up must be moved a safe distance away from the turbines, so that Care Flight could safely land (Tr. at 2185).

d. Party Responses

With respect to mitigating the effects of the proposed facility on the airports in Champaign County, Buckeye witness Brys testified that a localizer could be installed at Grimes Field, which would help mitigate the effects of the turbines. However, Mr. Brys testified that installation of a localizer would require the consent of the city of Urbana. (Tr. at 439-440.) With respect to the potential of installing a localizer at Grimes Field, Urbana witness Vitale responded that a localizer essentially emits a beam, which pilots then follow to land. However, a localizer would only assist IFR pilots, which according to Mr. Vitale, is only 15 to 20 percent of the pilots that utilize Grimes Field (Tr. at 1541). Urbana witness Marc Skillman testified that a localizer would be of no benefit to VFR pilots (Tr. at 1647). Specifically, Richard Rademacher testified that, as a VFR-only rated pilot, he flies under the "see and avoid" method and tries to stay clear of clouds. According to Mr. Rademacher, a localizer would be of no benefit to him. (Tr. at 1692.)

Buckeye witness Brys also testified that the effects of the turbines on Weller Airport could be minimized and the FAA determinations of hazard could be removed through privatization of the airport. According to Mr. Brys, if the airport was privatized, the proposed turbines near the airport could be built and it would be up to a pilot flying into Weller to see and avoid any potential hazards. (Tr. at 447.) Urbana witness Vitale responded that privatizing Weller Airport would remove any FAA protections it receives as a private airport and also that, as a private airport, citizens would have to get special approval to fly in and out of the airport (Tr. at 1540).

5. Board Analysis and Conclusion

Staff recommends that the Board find that the proposed facility, with the recommended conditions, will comply with the requirements specified in Section

4906.10(A)(5), Revised Code. (Staff Ex. 2 at 56.) No intervenor raised any concerns regarding this criterion as it relates to air, water, and solid waste.

With respect to aviation, the Board finds that this project will not substantially interfere with aviation near the proposed project area, provided the 16 turbines deemed potential hazards to aviation not be constructed as proposed. The Board relies on the findings of both the ODOT-OA and the FAA, which determined that those 16 turbines pose a potential hazard to aviation. The Board is not convinced that the installation of a localizer at Grimes Field and the privatization of Weller Airport would be sufficient to mitigate the FAA's finding that there would be a potential hazard to aviation. Therefore, the Board finds that Turbines 19, 24, 26, 29, 30, 34, 38. 46, 48, 50, 57, 58, 60, 61, 62, and 63 shall not be constructed as proposed. Accordingly the Board finds that the proposed facility, as discussed in this paragraph, complies with the requirements specified in Section 4906.10(A)(5), Revised Code, provided the certificate issued includes staff's recommendations set forth in the Staff Report and modified in the Conclusion and Conditions Section of this opinion, order, and certificate.

F. Public Interest, Convenience, and Necessity - Section 4906.10(A)(6), Revised Code

1. Alternative Energy Portfolio Standards

Buckeye explains that, while the electricity generated by the proposed facility will be available within the PJM regional transmission system, Buckeye expects that the electricity generated will be sold to Ohio electric utilities to assist the utilities with the requirement to meet the Alternative Energy Portfolio Standards (AEPS) of Substitute Senate Bill 221, Section 4928.64, Revised Code. This section of the Revised Code requires each Ohio electric utility to procure or generate .25 percent of its usage from renewable energy resources beginning in 2009 and increasing annually to 12.5 percent of its usage by 2025. (Buckeye Ex. 1 at 20; Buckeye Ex. 4 at 4.)

The Staff Report acknowledges that AEPS requires that a portion of the electricity sold to retail customers in Ohio come from renewable and advanced energy resources beginning in 2009. Pursuant to Section 4928.01(A)(35), Revised Code, renewable energy resources specifically include wind energy. For that reason, staff concludes that it is likely that the proposed facility could contribute to Ohio's electric utilities' requirement to obtain renewable energy resources under Section 4928.64, Revised Code. (Staff Ex. 2 at 37.)

The Board recognizes that Section 4928.64, Revised Code, requires Ohio's electric utilities to procure at least 50 percent of the renewable energy requirement from resources located within the state of Ohio. For this reason the Board recognizes that an electric utility may fulfill a portion of its AEPS requirements by entering into an electric supply contract with the owner of a wind facility, like the proposed project. The Board believes

that this potential benefit of the project lends support to a finding that the proposed project is in the public interest, convenience, and necessity as required by Section 4906.10(A)(6), Revised Code.

2. Setbacks

a. Buckeye Proposal

Buckeye states that proposed turbines are sited with setbacks from residential structures and property lines consistent with Rule 4906-17-08(C)(1)(c)(i) and (ii), O.A.C., which provides, in pertinent part, as follows:

> (i) The distance from a wind turbine base to the property line of the wind farm property shall be at least one and one-tenth times the total height of the turbine structure as measured from its tower's base (excluding the subsurface foundation) to the tip of its highest blade.
>
> (ii) The wind turbine shall be at least seven hundred fifty feet in horizontal distance from the tip of the turbine's nearest blade at ninety degrees to the exterior of the nearest habitable residential structure, if any, located on adjacent property at the time of the certification application.

In the present case, the requirements of Rule 4906-17-08(C)(1)(c)(i) and (ii), O.A.C., translate to a required setback of at least 541 feet from nonparticipating property lines, and 914 feet from residential structures. (Buckeye Ex. 1 at 169.) However, Union Township has its own wind ordinance which requires setbacks from property lines of 1.2 times the total height of the turbine, in this case 590 feet. Moreover, the Union Township ordinance requires setbacks of 1,000 feet from residential structures. (Buckeye Ex. 1 at Ex. S.)

Buckeye states that, as proposed, the distance from each turbine to the nearest residential structure ranges from 873 to 4,503 feet, averaging 2,059. Only one turbine is currently sited within the 914 foot setback from a residence. Turbine 70 is currently sited approximately 873 feet from a residence. However, Buckeye represents that it intends to remedy the situation, and that Turbine 70 will not be constructed unless an appropriate waiver is executed or the 914 foot requirement is met. (Buckeye Ex. 1 at 168.)

b. Staff

Staff asserts that two turbines in the proposed facility do not satisfy the minimum setback requirements: Turbine 70 and Turbine 57. According to staff, Turbine 57 is not

sufficiently setback from a nonparticipating residence. However, staff states that there appears to be sufficient space on the hosting parcel to accommodate the slight adjustment to the turbine location that would be necessary to meet the minimum setback requirement. (Staff Ex. 2 at 38.)

c. Safety

UNU asserts that the minimum prescribed setbacks contained in Rule 4906-17-08(C)(1)(c), O.A.C. are insufficient. Specifically, UNU argues that the proposed setbacks under Ohio law are arbitrary, unreasonable, and contrary to the health, safety, and well-being of the host communities. (UNU Br. at 86.) In support of its assertion that the proposed setbacks are unsafe, UNU relies on the Nordex micro-sitting guide that suggests that turbines be sited at least 500 meters (approximately 1640 feet) from residences, so as not to disturb residents with noise and shadow flicker (UNU Ex. 12). UNU also cites to other manufacturer guides that recommend greater setbacks than those mandated by Rule 4906-17-08(C)(1)(c), O.A.C. (UNU Ex. 13; UNU Ex. 14).

Buckeye argues that the record does not reflect a need for setbacks beyond those delineated in Rule 4906-17-08(C)(1)(c), O.A.C. (Buckeye Br. at 29). Specifically, Buckeye asserts that UNU's concerns have already been squarely addressed and rejected by the Ohio General Assembly. In addition, Buckeye asserts that UNU failed to prove and has put forth no credible evidence to establish, in this case, that the Rule 4906-17-08(C)(1)(c), O.A.C., requirements are insufficient. Furthermore, Buckeye points out that the proposed facility goes beyond the minimum required setbacks, as the average setback for the proposed facility is over 2,000 feet. (Buckeye Reply Br. at 78-81.)

d. Development

UNU also argues that the setbacks, as currently proposed, will impair the ability of landowners to utilize their property to its highest and best use. According to UNU, this problem is compounded by the measurement of setbacks from residences, as opposed to property lines. Specifically, UNU cites the testimony of UNU witness Sandra McKew, which established that Union Township is zoned R-1 and U-1, which allows for the residential development of one housing unit per two acres. (UNU Br. at 79; UNU Ex. 19A at 10.) Therefore, according to the witness, there may be development issues with respect to larger parcels where setbacks are measured from the property line, with previously developable land rendered unsuitable for development (UNU Ex. 19A at 10; UNU Ex. 66 at 89-90). Based on the potential that future development of adjacent parcels may be impaired, UNU argues that setbacks should be measured from property lines, not residences. Moreover, UNU proposes requiring wind developers to procure a wind conservation easement from each affected nonparticipating property owner. (UNU Br. at 82; UNU Ex. 66 at 101-102.)

UNU also argues that approval of Buckeye's application could result in an unconstitutional taking, both by limiting development on adjacent nonparticipating parcels and by interfering with the wind-development rights of landowners of nonparticipating parcels. With respect to the potential development of adjacent nonparticipating parcels of land, UNU argues that development would be limited by the siting of turbines with only a property line setback of less than 914 feet, because any new residences would be required to be located a sufficient distance from the property line to accommodate the required setback. (UNU Br. at 83-84.)

Regarding UNU's assertion pertaining to the development of adjacent nonparticipating parcels, staff notes that this argument assumes that future development cannot occur without meeting the minimum setback requirements contained in Rule 4906-17-08(C)(1)(c), O.A.C. To the contrary, staff states that nothing contained in Section 4906.20, Revised Code, or Rule 4906-17-08, O.A.C., prohibit an adjacent landowner from developing on their parcels. (Staff Reply Br. at 10-11.) In addition Buckeye points out that Section 4906.20, Revised Code, specifically applies to structures in existence "at the time of the certificate application," not any future structure to be constructed (Buckeye Reply Br. at 68).

With regard to the wind development rights of an adjacent nonparticipating parcel, UNU argues that siting a turbine on one parcel may interfere with such rights because turbines need to be spaced four to five rotor diameters apart in order to minimize wind loss to other turbines (UNU Br. at 85).

In response to UNU's concern, the Board notes that, in the present case, we are to consider the application before us and not hypothetical future applications that may or may not be filed in the future by EverPower, or any other developer. Therefore, the Board will only consider the appropriateness of the siting of these turbines, as described in the application before us.

e. Property Value

In preparing the application, Buckeye engaged Saratoga Associates (Saratoga), who opined that, based on current information, it is difficult to reach a definitive understanding of the impact of wind facilities on property values. The report by Saratoga cites a study by Poletti and Associates (Poletti Study), which examined property sales in Illinois and Wisconsin for both residential and farmland properties in an area close to a wind facility. The study involved a comparison of properties located near a wind farm with similar properties that were not in proximity to a wind farm. The Poletti Study concluded that there was no difference in property values based on proximity to the wind farm. (Buckeye Ex. 1, Ex. R at 93-94.)

Buckeye also cites an additional study out of Bard College (Bard Study) which concluded that there was no difference in property values on homes within a one-mile or five-mile radius of an operating wind farm. The Bard Study further suggested the payments to the community balanced any adverse impacts that the turbines could have had on the community. (Buckeye Ex. 1, Ex. R at 93-94.)

In contrast, UNU raises concerns about the potential effect of inappropriate setbacks on property values and potential property use. UNU asserts that, although included in the application, none of Buckeye's assertions with respect to property value impacts were supported by testimony. UNU maintains that, instead, it presented significant evidence on the potential adverse effects on property values from the proposed facility. (UNU Br. at 70-71.) Thomas Sherick, a real estate appraiser, testified on behalf of UNU stating that construction of the proposed facility would result in a marked decrease in the value of properties within the project area (UNU Ex. 22A at 15). In support of his assertions, Mr. Sherick states that his paired-sale analysis, comparing the sales prices of similar properties, showed that the potential construction of the proposed facility has had a negative impact on residential real estate sales in the proposed project area (UNU Ex. 22A at 12). Mr. Sherick concluded that the construction of the proposed facility would result in a reduction of the value of vacant land in the project area by at least 6.5 percent and the value of parcels for development by as much as 50 percent (UNU Ex. 22A at 15).

In addition to his own findings, UNU's witness Sherick cites the 2009 Wind Turbine Impact Study by Appraisal Group One of Calumet County, Wisconsin (Appraisal Group Study), as a statistically sound study that shows the negative impact of wind turbine construction on property values. The Appraisal Group Study examined two separate wind farms and found that, at one farm, the value of land decreased between 19 and 74 percent, with an average value decrease of 40 percent. At the second wind farm, land values were found to have decreased between 12 and 47 percent, with an average decrease of 30 percent. The witness noted that an additional study site yielded inconclusive results. (UNU Ex. 22A at 9; UNU Ex. 25 at 36, 42.) Mr. Sherick relies on several additional studies, including one that concludes that view loss due to wind turbines is analogous to view loss as created by the proximity to transmission lines, which often results in a loss of value of between 17 and 20 percent (UNU Ex. 22A at 10; UNU Ex. 26 at 8-10). Finally, a study from the Gardner Appraisal Group (Gardner) found that the impact of wind turbines varied based on proximity to property, with an average decrease in value ranging from 25 to 37 percent for property that contains wind turbines to properties within 1.8 miles of a wind turbine (UNU Ex. 22A at 10).

Alternatively, witness Sherick criticized the Bard Study as fundamentally flawed due to a failure to account for changes in the real estate market during the period of the survey. Mr. Sherick additionally referenced criticisms of the Poletti Study as being

statistically flawed due to an inadequate sample size and sampling bias. (UNU Ex. 22A at 6-7; UNU Ex. 23 at 12-15.)

UNU proposes that a condition be included in any certificate issued that would require Buckeye to offer nonparticipating landowners price protection in the form of a property value protection agreement for any homes within three-quarters of a mile of any turbine. In addition, UNU would prefer that this condition obligate EverPower to compensate eligible property owners should they be unable to sell their property for a fair market value. UNU argues that requiring wind developers to mitigate property loss is not unheard of in the industry. (UNU Br. at 78-79; UNU Ex. 41 at 5.7.2.2.)

In addressing UNU's concerns, Buckeye relies on the report by Saratoga, stating that the literature addressing the effect of utility-scale wind farms on property values is uncertain at best. Moreover, Buckeye asserts that the Poletti Study considered over 150 sales transactions of both residential and commercial properties within an area close to a wind farm and comparable properties in a controlled area, and found that development was flourishing near the 63-turbine wind farm in Illinois. (Buckeye Reply Br. at 46; Buckeye Ex. 1, Ex. R at 93-94.)

Buckeye also criticized UNU's witness Sherick's observations stating that the observations are based on minimal information, because there are not currently any turbines in Champaign County, which would allow for a true comparison of sales data based on proximity to wind turbines (Tr. at 1322). Buckeye notes that Mr. Sherick's observations were based on a single interaction, with a single real estate professional in Champaign County, and not on any wide sample of opinion. In addition, Buckeye asserts that, because a significant part of Mr. Sherick's testimony was based on an analogy to high voltage transmission lines, it is faulty, as there is no real measure available as to the strength of that comparison. (Buckeye Reply Br. at 48-49; Tr. at 1274, 1276.)

Buckeye also relies on the testimony of its witness, Jud Barce, who stated that, in Benton, Indiana, property with or without a turbine, as well as property with or without an option for a turbine has seen an increase in its value (Buckeye Ex. 27 at 5; Tr. at 2417). Mr. Barce also recalled an appraisal for a residence that was not on a farm that did not appear to have been negatively affected by the proximity of turbines (Tr. at 2431-2432).

UNU challenges the relevance of Buckeye's witness Barce's testimony, stating that Benton County, Indiana is dissimilar to Champaign County, Ohio in terms of population density and growth (UNU Reply Br. at 40). UNU points out that Mr. Barce testified that non-farm residential housing is limited and in his words "sparse," that there are very few residential developments in rural Benton County, Indiana, and that residential populations in that area are mostly limited to the towns. (Tr. at 2431, 2447.) UNU also argues that the composition of residents, in terms of participation in the projects, is vastly

different, with, according to Mr. Barce, over 90 percent of the Benton County residents participating as leaseholders (UNU Reply Br. at 40; Tr. at 2449).

f. Board Analysis

Based on our review of the record and the arguments raised by the parties, and in keeping with the statutory requirements set forth in Chapter 4906, Revised Code, the Board concludes that the setbacks for the proposed facility are adequate. The Board believes that, as the record reflects, the minimum setback proposed in the application will address the safety concerns mentioned by UNU. In addition, the Board finds that nothing in Chapter 4906, Revised Code, prohibits adjacent landowners from developing their property regardless of the presence of wind turbines on adjacent property. Moreover, the Board notes that Chapter 4906, Revised Code, and Rule 4906-17-08, O.A.C., which also provides for wind farm setbacks, does not prohibit the construction of residences within the proposed setback, after a wind farm has already been constructed. Finally, with regard to the concern pertaining to the property value of the affected area, the Board acknowledges that various studies have shown that similar projects in other locations have not affected property values in those areas. Therefore, the Board finds that the proposed setbacks adhere to the requirements set forth in the statute and support a finding that the proposed project is in the public interest, convenience, and necessity, provided that Buckeye addresses staff's concerns regarding Turbines 70 and 57.

3. Aesthetics

Each wind turbine will consist of three major components: the tower, the nacelle, and the rotor. The tower height, or hub height will be up to 328 feet. The nacelle sits at the top of the tower and the rotor hub is mounted on the front of the nacelle. The rotor diameter will be up to 328 feet; therefore, the total turbine height will be up to 492 feet. The towers will be painted an off-white color to increase visibility to aircraft and decrease visibility from ground vantage points. (Buckeye Ex. 1 at 47-48.)

Staff reports that microwave and communication towers were already located within the area. The preexisting towers are readily noticeable in contrast to the surrounding agricultural landscape. Visibility in the project area is reported to be 10 miles; however, staff reports that this value can be exceeded if the observer is elevated above an object or if the object is elevated from the observer and surrounding landscape. (Staff Ex. 2 at 38-39.)

Staff notes that Buckeye conducted an analysis of the project visibility to identify locations within the proposed project area where the turbines could be visible from ground-level vantage points. Staff states that the applicant's analysis illustrated both a worst-case daytime visibility and the nighttime visibility of the turbines, over a five-mile study area. The worst-case analysis showed that the proposed project could potentially be

visible within 95.5 percent of the five-mile study area. The analysis further noted that this worst-case scenario indicates where any portion of any turbine could be seen without considering the screening effects of existing vegetation and structures. According to staff, the applicant's analysis reflected that approximately 15 percent of the five-mile study area has the potential for views that include less than 19 turbines. In evaluating potential nighttime visibility, the analysis showed that 92.7 percent of the five-mile study area was found to have nighttime visibility. Furthermore, staff points out that the analysis showed that, when the 40-foot vegetation screen was introduced, visibility values decreased to 84.6 percent for the worst-case analysis. (Staff Ex. 2 at 39-40.)

In addition to the wind turbines, approximately 40 miles of 34.5 kV overhead collection systems may be installed to support the project's energy generation. Staff reports that Buckeye believes these lines would be a combination of over build and new construction, which would generally parallel public roads until they reach the appropriate substation. Staff expects that the visual impacts of these lines will be minimal where the lines can be coordinated with existing lines. (Staff Ex. 2 at 40.)

Staff explains that a newly constructed substation will be located on private land near the intersection of Pisgah Road and Route 56 in the town of Union, adjacent to the Givens to Mechanicsburg section of the Urbana-Mechanicsburg-Darby 138 kV transmission line. The substation will occupy 1.75 acres and will be enclosed by a chain link fence to be accessed by a gravel access road. (Staff Ex. 2 at 40.)

UCC asserts that construction of the proposed facility will have an adverse aesthetic impact on its facility. Specifically, UCC asserts that any visibility of the turbines will be a major distraction to golfers on its course, and that the constant movement of the turbines will create an additional distraction to golfers. (UCC Br. at 9-10.) UNU presented the testimony of Julia Johnson, who stated concern over the industrialization of the community by the constant visual presence of the turbines (UNU Ex. 1A at 14).

While the Board recognizes that construction of the proposed facility would alter the character of the proposed project area, the Board does not believe the impact to be so negative as to make the construction of this facility contrary to the public interest, convenience, or necessity. Accordingly, the Board concludes that the overall benefit of this project outweighs any negative aesthetic consequences that may result from the construction of the proposed facility.

4. Blade Shear

Buckeye states that blade shear occurs when a rotor blade drops or is thrown from the nacelle. Buckeye offers that, although these occurrences are extremely rare, they can be dangerous. However, Buckeye points out that no member of the public has ever been injured as a result of wind turbine blade shear. (Buckeye Ex. 1 at 106.)

Buckeye reports that past instances of turbine collapse or blade throw have generally been the result of design defects, poor maintenance, control system malfunction, or lightning strike. According to Buckeye, evidence suggests that the most common cause of blade failure is human error in interfacing with control systems; however, Buckeye asserts that the chance of such a failure has been reduced by a manufacturer reduction of human adjustments that can occur in the field. (Buckeye Ex. 1 at 107.)

In support of the current application, Buckeye asserts that modern utility-scale turbines are certified according to international engineering standards, including ratings for withstanding hurricane-strength winds. The engineering standards of the turbines under consideration for the proposed facility are of the highest level and, according to Buckeye, meet all federal, state, and local codes, and possess state-of-the-art braking systems, pitch controls, sensors, and speed controls. Turbines proposed for the current facility will be equipped with two independent braking systems that allow the rotor to be manually halted, and these turbines will automatically shutdown at wind speeds over the manufacturers threshold. Moreover, Buckeye asserts that the turbines under consideration for the proposed facility will cease operation if significant vibrations or rotor blade stress is sensed by the monitoring systems. Buckeye argues that all of these technological improvements reduce the risk of catastrophic tower collapse or blade shear. (Buckeye Ex. 1 at 107.)

To mitigate the risk of blade shear, staff recommends a condition that requires Buckeye to provide a formula that supports its consultant's calculations that a blade can be thrown up to a distance of 500 feet. Staff believes that this will allow for appropriate measures to be taken to mitigate the risk of blade shear. (Staff Br. at 20; Staff Ex. 2 at 63.)

UNU asserts that there is insufficient information in the record to assure that the setbacks, as currently configured, are sufficient to protect against blade shear. Specifically, UNU asserts that staff has not received sufficient information from Buckeye to calculate the potential maximum distance for blade throw, making reliance on the statutory minimum faulty. (UNU Reply Br. at 32.) UNU does not believe consideration of this information should be deferred until after the issuance of a certificate and recommends that the Board reopen the evidentiary hearing to further consider the issue (UNU Reply Br. at 34).

The Board recognizes that blade shear is an important issue and believes that staff's recommendation that Buckeye be required to provide a formula that supports the consultant's calculations that a blade can be thrown up to a distance of 500 feet is appropriate and responsive to UNU's concerns. Moreover, the Board notes that Buckeye has sufficiently demonstrated that the setbacks, as currently configured, when combined with advances in wind turbine technology, are sufficient to protect residents from any risk

of blade shear. With staff's condition in place, the Board finds that the risk of blade throw has been adequately addressed, and is not so likely that it renders the proposed project contrary to the public interest.

5. Ice Throw

Ice throw is the phenomenon where accumulated ice on the wind turbine blades separates from the blade and falls or is thrown from the blade. According to the applicant, under certain weather conditions, ice builds up on the rotor blades, slowing the rotational speed, and potentially creating an imbalance in the weights of the blades. Buckeye explains that such an imbalance can be sensed by the turbine's computer controls and would typically result in the turbine being shut down until the ice melts. (Buckeye Ex. 1 at 105.)

Buckeye asserts that field observations and studies of ice shedding indicate that most ice shedding occurs as air temperatures rise and the ice on the rotor blades begins to thaw, leading to a tendency for ice to drop off and fall near the base of the turbine. Occasionally, ice can be thrown when it begins to melt and the blades begin to rotate again. However, Buckeye asserts that there have been no reported injuries caused by ice throw. (Buckeye Ex. 1 at 105.)

Staff states that it reviewed Buckeye's assertions and found them to be reasonable. Moreover, staff believes that any potential for ice throw would occur well within the recommended setbacks. However, to minimize the risk of ice throw, Staff recommends a condition requiring training, concerning potential ice hazards, for construction and maintenance personnel. (Staff Br. at 20-21; Staff Ex. 2 at 63.)

UNU asserts that there is insufficient information in the record to assure that the setbacks, as currently configured, are sufficient to protect against ice throw. UNU also voices concern over the failure of staff to recommend a condition that the turbines not operate during icy conditions. UNU does not believe consideration of this information should be deferred until after the issuance of a certificate and recommends that the Board reopen the evidentiary hearing to further consider the issue. (UNU Reply Br. at 33-34.)

The Board finds that the risk of ice throw has been adequately addressed by Buckeye. Specifically, it appears that safeguards, both automatic and manual, will be sufficient to protect those residing in the surrounding area from the risk of ice throw. Additionally, staff's recommendation of a condition that will provide additional training to allow personnel to appropriately recognize ice conditions and the potential for ice throw so that any risk can be mitigated, provides an additional safeguard. Therefore, the Board finds that, with staff's condition in place, the risk of ice throw has been adequately addressed and is not so egregious as to render the construction, operation, and maintenance of the proposed facility contrary to the public interest.

6. Shadow Flicker

a. Buckeye

Buckeye submitted, as part of the application at Exhibit L, a shadow flicker analysis conducted by its consultant, Environmental Design & Research, P.C. Shadow flicker from wind turbines occurs when rotating wind turbine blades move between the sun and the observer. Shadow flicker passing over the window of a structure has the effect of increasing and decreasing the light intensity in the room. Shadow flicker is most noticeable within approximately 1,000 meters of the turbine and becomes more and more diffused as the distance between the turbine and an observer increases. Using a computer model, to input turbine coordinates, turbine specifications, shadow receptor coordinates, wind speed and direction frequency distribution, and monthly sunshine probabilities and height contours, Buckeye determined the theoretical number of hours per year of shadow flicker expected at each receptor. (Buckeye Ex. 1 at 108-111, App. Ex. L.)

The application indicates that there currently are no state or national standards for acceptable frequency or duration of shadow flicker from wind turbines. Buckeye used 30 hours per year as a shadow flicker threshold. Based on the results of the initial shadow flicker analysis, Buckeye's consultant determined that, of the 2,087 residences within 1,700 meters of a proposed turbine, 99.3 percent would experience less than 25 hours of shadow flicker per year. According to the applicant, shadow flicker is expected to approach 30 hours per year at 14 residences. (Buckeye Ex. 1 at 108-111, App. Ex. L.)

Based on the initial shadow flicker analysis, a more detailed greenhouse-mode analysis was conducted in relation to the seven residences predicted to receive shadow flicker in excess of 30 hours per year. Of the seven residences analyzed, one of them is a participating residence. The greenhouse-mode analysis assumes the residences have windows in all directions and no trees or neighboring structures to block shadow flicker. Based on this phase of the shadow flicker analysis, Buckeye anticipates that the six nonparticipating residences are expected to experience shadow flicker between 33.36 and 57.04 hours per year. (Buckeye Ex. 1 at 108-111, App. Ex. L.)

b. Staff

Staff submits that, based on its review and investigation, receptors more than 0.6 miles from wind turbines are unlikely to experience shadow flicker because the wind turbine covers an increasingly smaller portion of the sun. Staff also states that no shadow flicker will be cast when the sun is obscured by clouds or when the turbine is not rotating. According to staff, shadow flicker values rarely exceed 0.6 miles in northern latitudes such as Ohio, but can occur seasonally at sunrise or sunset when lower sun elevation angles are

experienced. Staff concurs with Buckeye's statement that any shadow flicker beyond 0.6 miles would be low intensity shadow flicker. (Staff Ex. 2 at 42.)

Staff notes that, while currently there are no state or national standards for acceptable frequency or duration of shadow flicker from wind turbines, international studies and guidelines from Germany and Australia have suggested 30 hours of shadow flicker per year as the threshold of significant impact, or the point at which shadow flicker is commonly perceived as an annoyance. According to staff, the 30-hour standard is used in at least four other states, Michigan, New York, Minnesota, and New Hampshire. Accordingly, staff agrees with Buckeye's use of a threshold of 30 hours of shadow flicker per year for the analysis. (Staff Ex. 2 at 42.)

Staff explains that, because the model used by the applicant applies a minimum solar elevation angle of three degrees and considers the topographic characteristics of the project area, higher elevations may exist outside the modeled boundary which would obstruct the sun at or above the three-degree angle, thus reducing the impact of shadow flicker during dusk or twilight time periods (Staff Ex. 2 at 42-44).

In the Staff Report, staff recognizes that Buckeye's initial shadow flicker analysis indicated that 14 residences were expected to experience nearly 30 hours or more of shadow flicker each year. The shadow flicker expected at the 14 residences ranged from approximately 25 hours to 57 hours per year. Staff acknowledged that incorporating average monthly sunshine probabilities, obtained from the National Climatic Data Center, and representative wind turbine operational hours based on the model specific cut-in speeds from five proposed turbines (Turbines 70, 21, 18, 48, and 16), reduced the number of residences expected to experience annual shadow flicker in excess of 30 hours from 14 residences to seven residences. Of the seven residences expected to experience more than 30 hours of shadow flicker per year, six are nonparticipants. (Staff Ex. 2 at 42-43.)

As part of the Staff Report, staff specifically proposes that approved turbines are subject to mitigation after construction, up to and including removal, if shadow flicker at any nonparticipating receptor exceeds 30 hours per year. Further, staff recommends that the Board find that the proposed facility will serve the public interest, convenience, and necessity, provided any certificate issued include the recommended conditions. (Staff Ex. 2 at 43, 63.)

c. UCC and UNU

UCC argues that Buckeye's shadow flicker analysis fails to appropriately consider the wind turbines' affect on a golf course, is not accurate, and fails to take into account that golfers use the course during the autumn season. More specifically, UCC argues that Buckeye witness Shears' estimation that UCC will conservatively experience approximately 10 hours of shadow flicker per year during the winter months is

misguided. UCC, using Buckeye's study, interprets the shadow flicker to occur in October and November when, depending on weather, the club's members and their guests may be playing golf. The country club argues that Buckeye's shadow flicker study reveals that the golf course will experience 10.16 hours of shadow flicker at one receptor but that the actual shadow flicker to be experienced by golfers and others on the golf course will be the total experience for all four shadow flicker receptors, which Buckeye did not provide as part of the application. (UCC Br. at 8-9, 15-16.)

UNU argues that shadow flicker will diminish the value and development of neighboring nonparticipating properties. UNU points out that the country of Denmark imposes a 10-hour per year standard on its wind projects, and that the Board should likewise apply the 10-hour per year standard for all nonparticipating properties not just the residences. Furthermore, UNU requests that the Board prohibit the construction of Turbines 21, 18, 41, and 16, since they have been determined to cause more than 30 hours of shadow flicker per year at a residence. (UNU Br. at 60-61.)

d. Buckeye Response

Buckeye responds that Turbine 48 is over 2,000 feet from the closest point on the golf course and, at such distances, the effects of shadow flicker will be reduced and less pronounced. Buckeye also asserts that the wooded area and trees around the golf course will further diffuse any shadow flicker on the course. Buckeye contends that the majority of the golf course will not be affected by shadow flicker and that shadow flicker will be periodically distracting on two greens, one tee location, two complete holes, and 80 percent of another hole. For these reasons, Buckeye argues that UCC's claims are without merit. (Buckeye Reply Br. at 55; UNU Ex. 45 at 110; Tr. at 940, 956.)

Buckeye retorts that UNU failed to put any evidence in the record to support UNU's 10-hour recommendation or how that level was modeled. Further, Buckeye notes that Denmark is further north of the equator than Champaign County, Ohio, and, therefore, the lower angle of the sun at the higher latitude in Denmark will lead to a greater impact from shadow flicker. For this reason, Buckeye claims that the 10-hour limit on shadow flicker is inappropriate in Ohio. The applicant contends that UNU's request to prohibit the construction of Turbines 21, 18, 41, and 16 overlooks the conservative modeling done by Buckeye to lessen the likelihood of shadow flicker, as well as the other measures that may be taken to reduce the effects of shadow flicker, including planting vegetation or trees, installing window treatments, modifying room lighting or, as a last resort, curtailing turbine operation. (Buckeye Reply Br. at 51-54; Tr. at 126-128, 528-529, 2221-2222.)

e. Board Analysis

The Board is aware that shadow flicker will result from the presence of the turbines, and we find that staff's recommendation that approved turbines should be subject to mitigation after construction, up to and including removal, if shadow flicker at any nonparticipating receptor exceeds 30 hours per year, is appropriate and should be adopted.

The Board does not find UCC's claims that the shadow flicker from Turbine 48 will be a serious distraction to golfers to be persuasive. The Board recognizes that shadow flicker may, at times, be a distraction to a golfer at a particular location on the golf course; however, because golf in Ohio during the late autumn months is dependent upon the weather, and given the intermittent nature of shadow flicker, it is unreasonable to conclude that the location of Turbine 48 is problematic to the point where Turbine 48 is not in the public interest.

Similarly, we find the request of UNU to prohibit the construction of Turbines 21, 18, 41, and 16 on the basis that construction of the turbines is not in the public interest, convenience, or necessity as a result of shadow flicker to be unreasonable in light of the intermittent nature of shadow flicker, the available mitigation measures, and staff's recommendation that approved turbines are subject to mitigation after construction, up to and including removal, if shadow flicker at any nonparticipating receptor exceeds 30 hours per year. Further, the Board notes the complaint process has been expanded to include more than noise as discussed in the Conclusion and Conditions Section of this opinion, order, and certificate. Therefore, the Board finds that, with staff's condition in place, the concern about shadow flicker has been adequately addressed and is not so excessive as to render the project contrary to the public interest as required pursuant to Section 4906.10(A)(6), Revised Code.

7. Safety Manuals

According to staff, although Buckeye has not yet chosen a turbine model for the proposed facility, Buckeye has stated that it will install the Nordex N100, Nordex N90, or RePower MM92. Included in the application is a copy of the safety manual for each of the turbines, which address, among other topics: personal rescue, ascent and fall protection, protection against falling objects, material transport using the onboard crane, lighting, protection against noise, handling of hazardous substances, and electrical equipment. Staff asserts that it has reviewed the safety manuals and believes that they are adequate. Moreover, staff supports a condition requiring Buckeye to comply with the safety manuals and maintain a copy of the manual onsite for the model of turbine selected for the project. (Staff Ex. 2 at 45.) The Board finds that staff's recommendation should be adopted and believes that maintaining a copy of the manual onsite for the turbine model selected is sufficient to assure the protection of the public interest.

8. Noise

a. Construction Noise

Buckeye recognizes that noise from the construction of the proposed wind turbines will impact the surrounding residences and businesses in the project area. The impact to individual residences and businesses will last a few days to several weeks. Specifically, noise associated with the equipment used for construction and the construction of access roads, electrical interconnect line trenching, site preparation, turbine foundation installation, material subassembly delivery, and turbine erection will affect the community. (Buckeye Ex.1 at 87-90.)

Staff reviewed the applicant's noise assessment study and determined that the noise level experienced during construction will be considerably higher than during operation of the proposed facility. Staff points out that, as stated in the application, noise during construction will be intermittent and temporary with noise levels in the range of 85 to 92 A-weighted decibels (dBA) at individual property boundaries over a period of several weeks. According to the Staff Report, in order to mitigate the effects of construction noises, Buckeye will limit general construction activity to normal daytime working hours and follow best management practices (BMPs) for noise abatement during construction. Staff recommends that the Board find that noise associated with the construction of the proposed facility has been determined and will not be so excessive that it is contrary to the public interest, provided that any certificate issued includes the conditions specified in the Staff Report. (Staff Ex. 2 at 17, 19, 45-46, 53.) None of the intervenors raise any issues with regard to construction noise.

The Board concludes that, based on the record, Buckeye has properly evaluated and minimized the adverse noise impacts associated with the construction of the proposed wind facility. With staff's conditions in place, the Board finds that the issue of construction noise has been adequately addressed, thus, supporting a finding that the construction of the proposed project is in the public interest.

b. Operational Noise

i. Buckeye

Buckeye contracted with Hessler and Associates to conduct the noise impact assessment for the proposed project. The purpose of the noise impact assessment was to evaluate ambient sound levels and perform a computer modeling analysis of projected turbine sound levels. (Buckeye Ex. 1 at Ex. K.) David Hessler, an acoustical consultant, offered direct and rebuttal testimony on behalf of Buckeye (Buckeye Exs. 8, 26).

Buckeye states that its design goal for the proposed wind-powered electric generation facility is based on turbine placement whereby turbine noise at wind speeds creating the largest differential between background noise and turbine noise output would not exceed background levels by 5.0 dBA. To determine background sound levels at various wind speeds, Buckeye placed six monitors and two anemometers at 40 meters in the project area. Buckeye determined that the anemometers' readings were representative of the typical average wind speed over the area. Buckeye then used the average wind speed at 40 meters and estimated the speeds at 10 meters, in accordance with International Electrotechnical Commission Standard (IEC) 61400-11 requirements, to compare wind turbine manufacturers' sound levels for turbines as a function of wind speeds at 10 meters. The background sound levels were compared to the turbine sound levels and Buckeye witness Hessler determined that the "worst-case scenario" occurred at six meters per second (m/s) during the day and at five m/s at night. By adding 5.0 dBA to the sound level exceeded during 90 percent of the measurement interval (L90) daytime and nighttime background sound level, Buckeye established the design goal for the turbines at nearby residences of 40 dBA during the daytime and 34 dBA at night.[4] However, Buckeye witness Hessler claimed that the L90 background noise level is only useful as a design goal, not a regulatory standard, because it is nearly impossible to achieve in rural areas with scattered residences under critical wind speed conditions. (Buckeye Ex. 26 at 2; Tr. at 848; Buckeye Ex. 1, Ex. K at 9, 24.) Mr. Hessler testified that, based on his experience in actual communities, not the recommendation of the World Health organization (WHO), the 40 dBA guideline design goal avoids sleep disturbance and does not result in "very many and not very serious annoyance" (Buckeye Ex. 18; Tr. at 846-847, 2391-2392). Buckeye witness Hessler further asserted that, in his experience, there will always be some complaints if the project is audible, but that he could only recall a few instances where a sound level of less than 45 dBA was considered a significant problem (Buckeye Ex. 26 at 4).

Buckeye witness Hessler claims to have conservatively modeled the sound of the turbines. The witness makes this claim based on, among other factors, his use of: (1) a ground absorption coefficient of 0.5 (i.e., the ground absorption coefficient of water is 0 and for agricultural fields it is 1); (2) wintertime conditions, when environmental sound levels are normally the lowest; (3) estimated sound levels at the exterior of residences; and (4) an assumption that a downwind sound level existed from every turbine. (Buckeye Ex. 1, Ex. K at 26, 28.)

Mr. Hessler testified that, as conservatively modeled, a number of residences exceed the 34 dBA nighttime design goal at the residence, but only five nonparticipating residences are predicted to experience sound levels in excess of 40 dBA in the nighttime at the exterior of the home. Of those five nonparticipating residences, four are predicted to experience no more than a 41 dBA and the other residence no more than 42 dBA. (Tr. at

[4] Buckeye states that use of the L90 sound level has the quality of filtering out sporadic, short-duration noise events essentially capturing the quiet lulls between such events (Buckeye Ex. 1, Ex. K at 1).

2387-2388.) Buckeye emphasizes that the operational noise levels at all residences are predicted to be below the average sound level measurement interval plus 5.0 dBA. As modeled, a sound level of 50 dBA will be experienced at some participating properties. Where a turbine is proposed to be sited near the property boundary, the modeled sound level, sometimes exceeds 50 dBA, by no more than a few decibels for a short distance into the neighboring property. (Buckeye Ex. 1, Ex. K at 27; Buckeye Ex. 26 at 4.)

In order to provide the Board with a perspective of what 50 to 60 dBA sounds like, Buckeye witness Hessler claims that noise levels for conversational speech range from 50 to 60 dBA and emphasizes that the predicted sound levels are measured to the exterior of the residence. Buckeye estimates the sound level to be 10 to 20 dBA lower inside the residence. (Tr. at 900; UNU Ex. 45 at 108; Buckeye Ex. 1, Ex. K at 26.) Buckeye admits that noise from wind turbines is perceptible to most people below the 5.0 dBA over the background noise because of the blade "swish," also known as amplitude modulation (Buckeye Ex. 1 at 92-93, Ex. K at 21, 28).

Buckeye notes that the Board has considered operational noise levels on other types of electric generation facilities where the applicant's noise assessment revealed estimated operational noise levels which exceed the 40 to 42 dBA, estimated in this proceeding. Buckeye lists proceedings where the Board has approved applications for electric generation facilities with operational noise impact estimates of below 55 dBA at the fence line of the proposed facility to 75 dBA at the property line of the facility, and at or below 56 dBA at 1,000 feet from the facility. See, *In re American Municipal Power-Ohio, Inc.*, Case No. 06-1358-EL-BGN, Opinion, Order, and Certificate at 24, 29-30 (March 3, 2008); *In re PG&E Dispersed Generating Company, LLC*, Case No. 00-922-EL-BGN, Opinion, Order, and Certificate at 10 (February 12, 2001); *In re Duke Energy Hanging Rock, LLC*, Case No. 01-175-EL-BGN, Opinion, Order, and Certificate at 9; (September 17, 2001); *In re Aquila Fulton County Power, LLC*, Case No. 01-1022-EL-BGN, Opinion, Order, and Certificate at 12 (May 20, 2002) (*Aquila*); and *In re Columbiana County Energy, LLC*, Case No. 01-803-EL-BGN, Opinion, Order, and Certificate at 10 (May 20, 2002) (*Columbiana*). Buckeye specifically notes that, in *Aquila* and *Columbiana*, the operational noise levels measured at nearby residences were estimated to be 59 dBA, and 39 dBA to 54 dBA, respectively. (Buckeye Br. at 17-19.)

ii. Staff – Operational Sound Level

Based on its investigation, staff concludes that Buckeye's noise assessment is based on a conservative evaluation of the operational noise levels likely to be experienced in the project area. Staff determined that the noise assessment level was conservative based on Buckeye's use of: (1) the turbine with the higher sound power level of the two types of turbines under consideration at the time that the study was conducted; (2) modeling at the wind speed that produces the greatest incremental noise levels; (3) a background noise level at low wintertime sound levels; and (4) a ground absorption coefficient in its model

that underestimates noise absorption occurring through interaction with surface features. Further, staff emphasizes that Buckeye's noise assessment is moderated because Buckeye ignored any sound reduction occurring inside residential structures and assumed wind direction blowing toward every sensitive receptor at all times. (Staff Ex. 2 at 17, 19, 46.)

Staff believes that, while the applicant's operational noise assessment reveals operational noise will likely be below normally detectable levels during typical daytime and nighttime conditions, periodically, environmental conditions during the night will cause the turbines to be audible at numerous residences. To address noise complaints, staff recommends that Buckeye, as proposed in its application, develop a noise complaint resolution procedure, for the staff's review and approval, as a condition of any certificate issued by the Board for this facility. (Staff Ex. 2 at 17, 19, 46, 59.)

The Staff Report also specifically recognized, in its discussion of setbacks, that there exists "a lack of hard scientific evidence on potential health impacts associated with utility scale wind projects" and, therefore, ODH acknowledged that a setback from nonparticipating residences greater than the minimum included in Chapter 4906-17, O.A.C., may be warranted. Staff noted in its report that it expected this issue to be addressed at the hearings in this case and that the final record in this case should provide sufficient evidence to determine if a greater setback is needed. (Staff Ex. 2 at 38.) However, as of the issuance of the Staff Report, staff recommended that, based on its review of the application and investigation, Buckeye had properly evaluated and minimized any adverse impact associated with operational noise anticipated for the proposed wind facility. Staff recommends that, prior to the preconstruction conference, Buckeye provide staff with its complaint resolution process, to address all types of complaints not just noise. (Staff Ex. 2 at 46, 59; Staff Reply Br. at 26-27.)

iii. UCC – Turbines 48 and 49

UCC argues that noise from proposed Turbines 48 and 49 will be heard by UCC guests and affect the tranquil setting golfers and guests of the club have come to expect. Turbine 48 is proposed to be located 2,000 feet from, and directly behind, the green of the fifth hole and Turbine 49 is proposed to be located approximately 2,800 feet south of the green of the fifth hole (UCC Exs. B-2 and B-3).

Further, UCC claims that Buckeye did not satisfy its burden to provide the Board adequate information regarding the impacts of noise and shadow flicker on a golf course and; therefore, the business operations of the country club. UCC contends that, proposed Turbines 48 and 49 should not be constructed because of the negative impact on the golf course and the UCC. (UCC Br. at 14; UCC Reply Br. at 4-5.)

iv. Buckeye Response to UCC - Turbines 48 and 49

Buckeye notes that Turbine 48 is over 2,000 feet from the nearest point on the golf course and Turbine 49 is over 2,800 from the nearest point on the golf course at the fifth hole green (UCC Ex. 1, Exs. B-2, B-3). Buckeye argues that, based on the modeled sound contours, at over 2,000 feet, turbine operational noise will not be noticeable on the golf course. Buckeye states that Plot 2D, which models the sound from turbines at five m/s, reveals that only a small portion of the golf course will experience sound levels between 34 to 35 dBA at night and an even smaller portion between 35 to 40 dBA, with the balance of the course below 34 dBA. (Buckeye Ex. 1, Ex. K at Plot 2D.) In comparison, based on Plot 1D of Exhibit K to the application, Buckeye claims that at six m/s the turbine operational noise level is modeled at well below 40 dBA far from the nearest point on the golf course (Buckeye Ex. 1, Ex. K at Plot 1D). Buckeye retorts that the noise levels on the golf course are modeled to be below conversational levels, mowers on the course, cars traveling down the road, or tractors harvesting in nearby fields. Thus, Buckeye argues that modeled operational noise levels from Turbines 48 and 49 will not have an impact on the UCC golf course or golf play. (Buckeye Reply Br. at 50-51.)

v. Board Analysis

UCC claims that Buckeye failed to adequately analyze the noise impact on the UCC golf course as required pursuant to Section 4906.10(A)(2), Revised Code. We find UCC's claims to be without merit. We note that UCC is specifically recognized in the application and the effect of noise on the facility evaluated, consistent with the provisions of Rule 4906-13-07(D)(5), O.A.C., which requires that the applicant "describe the identified recreational areas within one mile of the proposed site" and "estimate the impact of the proposed facility on identified recreational areas within one mile of the proposed site and describe plans to mitigate any adverse impact."

The Board recognizes that Turbines 48 and 49 will emit some noise when operating. Based on Buckeye's noise impact assessment, at worst, a relatively small portion of the golf course will be exposed to noise in the range of 35 to 40 dBA, intermittently. In light of the staff's recommendation, that the facility operate within such parameters, and the intermittent nature of the noise impact, the Board finds that it is unreasonable to conclude that noise from the proposed facility is so egregious as to not be in the public interest. Thus, based on the record in this case as to the anticipated effect Turbines 48 and 49 will have on UCC and the UCC golf course, the Board does not find the effects so adverse that the proposed facility is not in the public interest.

c. Background Sound Evaluation

i. UNU

On the issue of noise, UNU presented the testimony of Richard R. James, an acoustical engineer with 40 years of experience (UNU Ex. 31). According to Mr. James, acoustical engineers regard an increase of 5.0 dBA or less from a new noise source as an acceptable impact (UNU Ex. 31A at Ans. 2). Mr. James explained that acoustical engineers generally believe that sound increases below the 5.0 dBA threshold usually are unnoticed to tolerable and, therefore, prevent complaints and nighttime sleep disturbance (UNU Ex. 31A at Ans. 25, 34-35).

To perform the background sound evaluation, Buckeye's consultant Hessler placed nine sound recording instruments on a post, pole, or tree (Buckeye Ex. 1, Ex. K at 2-7).[5] UNU asserts that there were significant errors made in the background noise assessment. First, UNU points out that, pursuant to American National Standards Institute (ANSI) S12.9, entitled Quantities and Procedures for Description and Measurement of Environmental Sound, Part 3, sound measurement devices should not be placed on reflecting objects with small dimensions such as trees, posts, or bushes and should not be positioned within 1.5 meters of such reflective objects (Tr. at 732-739; UNU Ex. 55 at 4). Further, UNU argues that Buckeye witness Hessler inappropriately placed his sound recording equipment where the sounds of livestock, birds chirping, or vehicular traffic could increase sound readings (UNU Br. at 20-21; Tr. at 733, 735, 737, 740, 742).

Second, UNU argues that Buckeye witness Hessler did not appropriately correlate wind speed at ground elevation, where the sound measurements were taken, to the wind speed at hub height, to allow Buckeye witness Hessler to postulate that noise from the wind and wind turbines would be masked by the noise experienced at ground level (UNU Br. at 21-22). ANSI S12.18, entitled Procedures for Outdoor Measurement of Sound Pressure Level, prescribes that "no sound level measurement shall be made when the average wind velocity exceeds 5 m/s when measured at a height of 2 ± .02 m above the ground" (UNU Ex. 61 at 5-6). UNU interprets this standard to require that sound measurements taken where the wind speed is greater than five m/s distort the sound recording and, therefore, should be discarded (UNU Br. at 23; UNU Ex. 61 at 5-6). UNU reasons, therefore, that it was essential that the wind speed at ground elevation be measured where the noise recordings were taken (UNU Br. at 21-23).

Third, UNU points out that, as Buckeye admits in the application, noise from wind turbines is different from the natural nighttime sounds of its host community because of the fluctuation in sound (due to wind gusts) and the turbines tonality or impulsiveness

[5] The Board recognizes that only six of the nine sound recording instruments were located within the project area for this application (Tr. 746-747).

character (Buckeye Ex. 1 at 92, Ex. K at 21, 28; UNU Br. at 15-16). For this reason, UNU argues that Buckeye's comparison of wind turbine noise to consistent sources of noise, such as conversational speech or refrigerators, is unfair. UNU witness James concluded that the background sound level in the project area is actually 27 dBA (UNU Ex. 31A, Ans. 37).

ii. Buckeye

Buckeye challenges the limit requested by UNU. Buckeye states that UNU's request to limit turbine noise to 5.0 dBA over UNU's calculation of the background noise of 27 dBA is extreme and mischaracterizes Buckeye witness Hessler's testimony. According to Buckeye, Mr. Hessler testified that UNU's requested design goal is not typically practical to use ... as a regulatory limit or standard for wind projects in rural areas with scattered residences because it is seldom, if ever, possible to limit project noise to less than 5.0 dBA above the near minimum background level, at least at critical wind speeds, and would preclude the development of wind-powered electric generation facilities east of the Mississippi River (Buckeye Ex. 26 at 2; Buckeye Ex. 8 at 7; Tr. at 848). The applicant reminds the Board that it previously rejected UNU's request and the request of its witness, Mr. James, to implement a similar standard in the *Wind Rulemaking Case*, Order at 39-40 (Buckeye Reply Br. at 15, 42-43).

As to UNU's arguments regarding the alleged errors in the noise impact assessment, Buckeye notes that UNU's arguments that significant errors were made are exaggerated. The applicant notes that UNU's witness James placed his sound monitors between bird feeders where the recordings could be influenced by birds chirping and traffic and based his background sound measurements on brief visits to the project area, short-term recordings of the background sound levels, and extremely selective sound samples (Buckeye Exs. 14-15; UNU Ex. 31A at 12; Tr. at 1409, 1413). Buckeye also asserts that Mr. James selected the quietest 10-minute periods over his seven-hour recording period (Buckeye Ex. 14 at 8). Buckeye's sound levels were recorded over a 14-day period (Buckeye Ex. 1, Ex. K at 7). Nonetheless, Buckeye argues that UNU's determination of the background sound level at L90 was 27 dBA, a difference of only two dBA from Buckeye's background sound level (Buckeye Reply Br. at 16-19).

Buckeye also responds to UNU's claim that Mr. Hessler asserted that wind noise will mask the noise from the turbines (UNU Br. at 21; Buckeye Reply Br. at 19-21). Buckeye asserts that UNU mischaracterizes Mr. Hessler's testimony. The applicant reiterates that Mr. Hessler never claimed that the background sound level would be a perfect masking source for turbine noise, but that it would provide some masking (Tr. at 802). The critical wind speed determination, according to Buckeye, allows the evaluator to determine where the greatest difference between the power sound level from the turbine and background sound level is and, thus, to establish the worst-case scenario for modeling the project (Buckeye Ex. 1, Ex. K at 24).

Temperature inversions, as Mr. Hessler refers to the phenomenon, happen when the temperature in the atmosphere is warmer above the surface with light wind conditions than it is near the ground. Temperature inversions change the way sound propagates through the air. Mr. Hessler admits that temperature inversions occur, but are site specific. (Tr. at 829-830.) Buckeye notes that temperature inversions were recognized and explained in the application in relation to the wind speed profile (Buckeye Ex. 1, Ex. K, at 20-21). Buckeye claims there is no way to calculate this phenomenon into the model (Tr. at 829; Buckeye Reply Br. at 22-23).

For these reasons, among others, Buckeye believes that UNU's opposition to the background sound component of Buckeye's noise impact assessment are not well-found. The applicant retorts that its background noise assessment provides sufficient evidence to determine the background noise level for the proposed project area. (Buckeye Reply Br. 22-24.)

iii. Board Analysis

Upon consideration of the arguments raised by UNU regarding the background sound evaluation conducted by Buckeye and the response to these concerns by Buckeye, the Board finds that Buckeye's evaluation was reasonable. We are convinced primarily by the fact that, despite the alleged errors in the background evaluation cited by UNU, UNU's determination of the background noise level is so close to Buckeye's determination of the background noise level. Accordingly, the Board finds that the applicant's determination of the ambient noise level in the project area was reasonable.

d. Modeling of Noise Impact Assessment

i. UNU

UNU asserts that Buckeye skews the noise assessment levels by comparing the modeled sound level of the proposed project to the average sound level (Leq) (UNU Br. at 18-19; UNU Ex. 31A, Ans. 55; Buckeye Ex. 26, Ans. 13; Tr. at 726, 824). Further, UNU argues that Buckeye's lack of commitment to a particular type of turbine invalidates the noise impact assessment, if any model other than the model used for the study is installed (Br. 29-30; Tr. at 767, 772-773). UNU witness James argued that Buckeye's noise impact assessment failed to take into account the manufacturer's sound measurement error. According to Buckeye's witness, the manufacturer's sound measurement error is 1.4 db to 1.6 db; however, UNU argues that the manufacturer's sound measurement error is 2.0 db (Tr. at 776, 1394-1395).

UNU also contends that the turbines were modeled as point sources (turbines scattered throughout an area), rather than a line source (turbines in a row), at a height of

80 meters above ground elevation, but Buckeye failed to recognize the uncertainty factor of at least ± 3.0 db for noise sources above 30 meters as recommended by International Standards Organization (ISO) 9613-2, entitled Acoustics – Attenuation of Sound During Propagation Outdoors (Buckeye Ex. 1, Ex. K at 26; UNU Ex. 57 at 14; Tr. at 751-752, 1396). UNU witness James admits, however, that ISO 9613-2 was not intended for wind turbines and its use for noise sources taller than 30 meters makes its use for wind turbines questionable (UNU 31A, Ans. 51-52; UNU 60; Tr. at 1455-1456).

UNU posits that the range of error of the noise impact assessment is ± 5.0 dBA. Further, UNU witness James testified that, to avoid subconscious bias, the individual who models the project should not also be the individual that subsequently field verifies the measures modeled after the project is constructed as Buckeye witness Hessler has done in this case (Tr. at 761, 751-753, 1391; Buckeye Ex. 8 at 10).

UNU argues that, based on the errors UNU alleges in the noise assessment, which total 14.4 dBA at night and 12.4 dBA to 13.4 dBA during the daytime, excluding evaluating the turbines as a line source, many homes will be exposed to excessive noise (UNU Br. at 13-35). Therefore, UNU requests that the Board direct Buckeye to revise its noise impact assessment to correct the issues UNU raised and, once the noise impact assessment is revised, the hearing process should be reopened to adjudicate the accuracy of the new noise impact assessment. Further, UNU asks the Board to limit turbine noise from this proposed project to no more than a 5.0 dBA increase over background noise. Furthermore, UNU requests that, if the Board elects not to impose such a limit on the proposed project, the Board include as a condition of the certificate that the turbines not increase the noise above the 27 dBA background levels in the community by more than 5.0 dBA at any nonparticipant's property line. (UNU Br. at 34-35.)

Buckeye claims that modern wind turbines of the type proposed in this application do not generate low frequency or infrasonic noise to any significant extent (Buckeye Ex. 1, Ex. K at 29-30). UNU retorts that the applicant has overemphasized the high frequency (A-weighted) noise that wind turbines generate to avoid the low frequency (C-weighted, dBC) noise generated by wind turbines. UNU offers that low frequency noise travels further with less attenuation over distances than higher frequency sounds (UNU Exs. 31A, Ans. 62, 64, 66; UNU Ex. 49 at 9). Further, UNU offered evidence which states that low frequency noises are not effectively attenuated by the walls of most homes and is more likely to be heard by residents and, therefore, more likely to be annoying (UNU Exs. 31A, Ans. 62, 64, 66; UNU Ex. 49 at 9). For this reason, UNU proposes that the Board incorporate a low frequency noise standard limiting operational noise to a C-weighted decibel limit (LCeq) at the receiving property line of no more than 20 dB above the measured dBA (LA90) preconstruction long-term background sound level + 5.0 dB or an absolute limit of 60 dBC. (UNU Ex. 32 at 15; UNU Br. at 49-55.)

ii. Buckeye

Buckeye admits that the noise impact assessment was performed utilizing the RePower MM92, a turbine model under consideration at the time the assessment was conducted. Buckeye witness Shears states that the applicant is committed to selecting a turbine that will operate within the noise profiles set forth in the application (Tr. at 284-285). Buckeye offers that staff's recommended condition that Buckeye operate the facility within the noise parameters set forth in the noise study referenced in the application ensures Buckeye's commitment to a comparable model (Buckeye Reply Br. at 26).

Buckeye witness Hessler admits that wind turbine noise is variable and, with atmospheric conditions, will fluctuate ± 5.0 dBA, about the mean predicted level for short periods of time during unusual wind conditions (Buckeye Ex. 8 at 10). While Mr. Hessler admits that the range of error could be ± 5.0 dBA, he qualifies the accuracy of the noise impact assessment in this case by comparing it to his modeling accuracy in other projects in relation to actual sound levels at those same wind projects. The witness claims that the variation in the wind turbine noise is not due to the calculation method; rather, it is due to variability in the turbine sound. (Tr. at 761, 752-753.) In regard to the manufacturer's margin of error, Mr. Hessler believes that the manufacturer's sound pressure power levels are highly controlled so that the errors are very small (Tr. at 774-775).

Buckeye contends that the National Aeronautics and Space Administration (NASA) technical paper on which UNU relies for its basis of concern that turbine should be modeled as line sources rather than point sources is based on a 20-year old theoretical study of small turbines with 15 meter rotors, assumed to be in an infinite line, with 30 meters between the blade tips of each turbine. Mr. Hessler claimed that the NASA study was a desktop mathematical evaluation as opposed to a field measurement study. In comparison, the representative turbine models presented in this case have a rotor diameter of up to 100 meters (Buckeye Ex. 1 at 14). Buckeye witness Hessler claims that modeling turbines as point sources is based on a study he conducted where he found the uncertainty factor of at least ± 3.0 db for noise sources above 30 meters. (UNU Ex. 60; Tr. at 914-915.)

Buckeye states that there is no evidentiary basis for UNU's requested noise standards for low frequency noise at nonparticipating property lines (Buckeye Reply Br. at 42-46). Modern turbines, according to Buckeye, do not generate any significant low frequency noise (Buckeye Ex. 1 at 29-30). According to Buckeye, UNU witness James admitted that he did not focus on and did not propose a low frequency noise level in this proceeding (Tr. at 1486-1487). Buckeye states that, as explained by Mr. Hessler, amplitude modulation (the swishing sound of the turbine rotors) is sometimes confused with "low frequency" noise. Mr. Hessler also conducted a wind tunnel test and published an article on the issue which is cited in the application. Mr. Hessler's test revealed that "wind-induced false-signal noise occurs only in the low frequencies, making the A-weighted sound level relatively insensitive to this effect." Furthermore, according to Mr. Hessler's

testing, skewing of the A-weighted sound level only began to occur at wind speeds of around 15 m/s to 20 m/s, which is above the range for a wind project. (Buckeye Ex. 1, Ex. K at 7.) Mr. Hessler testified that his firm has found that, when examining low frequency noise complaints in other contexts, the low frequency sound emanated from wind turbines is inconsequential and difficult to differentiate from the background sound level in rural communities. Buckeye recognizes that older downwind rotors emitted a low frequency pulse with each rotation but such is not the case with upwind rotor designs. Mr. Hessler claimed that C-weighted sound levels cannot accurately be measured in windy conditions and that artificially high C-weighted sound levels and A-C differentials of 20 dB or more are commonly found during preconstruction background sound surveys when no turbines are obviously present. Further, Buckeye witness Hessler testified that the threshold for C-weighted perceptible vibrations is between 75 to 80 dBC. According to Mr. Hessler, at 1,000 feet, a wind facility typically produces a C-weighted sound level in the range of 58 to 60 dBC and is completely imperceptible above the background noise level. For these reasons, Buckeye argues that UNU's reliance on low frequency noise levels emanated from wind turbines as a basis for requesting that the Board adopt two low frequency noise standards and a 1.25 mile setback is unfounded. (Buckeye Ex. 8 at 7-9; Buckeye Ex. 26 at 2; Buckeye Reply Br. at 42-46.)

iii. Board Analysis

UNU raises numerous concerns that the modeling of the expected noise generated by the proposed project was not conducted properly and, as a result, the actual noise level experienced in the community will be greater than the levels stated in the application. Based on Buckeye's noise impact assessment, five nonparticipating residences will experience 40 to 42 dBA in the nighttime at the exterior of the residence. According to Buckeye, the sound level should be reduced by 10 to 20 dBA inside the residence, to a range between 20 to 32 dBA. We find that, in conjunction with the staff recommendations as revised and set forth in the Conclusion and Conditions Section of this opinion, order, and certificate, based on our review of the record, and the arguments raised by UNU and Buckeye's responses, the noise impact assessment conducted by Buckeye was reasonable.

e. Health Affects

i. UNU

UNU notes that, as the project is proposed, 1,004 homes will be located within 1,000 meters (1 kilometer or .62 mile) from a Buckeye wind turbine (UNU Ex. 43 at 5). UNU proposes strict noise levels based on the belief that noise from wind turbines cause humans residing in the vicinity annoyance, serious discomfort, sleep deprivation, and other health issues. Admitted into evidence, at the request of UNU, are several studies, surveys, presentations, or literature reviews on the health impacts of wind turbines (UNU Exs. 44, 45, 47, 48, 49, 51). In addition, UNU also offered into evidence one article on the

effects of sleep restriction (UNU Ex. 46). Two of the exhibits, studies by Eja Pedersen, an epidemiologist in Sweden, reveal that persons living near wind farms may be annoyed by the sound from the wind turbines. More specifically, one Pedersen study revealed that six percent of persons exposed to wind turbine noise of 35 dBA reported being highly annoyed and another six percent reported being rather annoyed. The study further indicates that, with wind turbine noise at 37.5 dBA to 40 dBA, 20 percent of exposed residents report being very annoyed and eight percent report being rather annoyed. The same study concluded that, at noise levels greater than 40 dBA, 36 percent of residents reported being highly annoyed and another eight percent reported being rather annoyed. (UNU Ex. 47 at 3465-3467.) UNU argued that the results of this study are supported by two other Pedersen studies where 50 percent of the people surveyed (22 of 45 people) reported being annoyed when exposed to noise over 40 dBA (UNU Ex. 49 at 17).[6]

UNU witness James testified that several studies suggest that humans have an increased sensitivity to wind turbine noise in comparison to other types of noise, such as road traffic, because of the "swishing, whistling, pulsating/throbbing" characteristic of wind turbine noise (UNU Ex. 31A, Ans. 35; UNU Ex. 47 at 3469). UNU asserts that the most significant health problem caused by wind turbine noise is sleep deprivation (UNU Ex. 46). UNU emphasizes that the WHO has determined, based on evidence available at the time of the study, that there is sufficient evidence for biological effects of noise during sleep to cause an increase in heart rate, arousals, sleep stage changes, and awakening. Further, WHO determined that there is sufficient evidence that night noise exposure causes self-reported sleep disturbance, an increase in medicine use, an increase in body movements, and environmental insomnia. WHO also concluded, among other things, that there is limited evidence that disturbed sleep causes fatigue, accidents, and reduced performance (Buckeye Ex. 18 at XI-XII).[7]

Accordingly, UNU requests that, if the Board grants Buckeye a certificate for the proposed project, the certificate include a condition prohibiting the turbines from exceeding a noise level of 35 dBA at any nonparticipating property line. Consequently, UNU requests a setback of 1.25 miles from any nonparticipating residence to avoid considerable annoyance, sleep disturbance, and health effects. (UNU Br. at 45-47.)

---

6 The Board recognizes that three Pedersen studies are actually referenced in the Minnesota literature review, (UNU Ex. 49 at 17); however, only two of the Pedersen studies are included in the record in this proceeding, UNU Exs. 47 and 48.

7 Buckeye Ex. 18, entitled, "Night Noise Guidelines for Europe" defines "sufficient evidence" as "a causal relation has been established between exposure to night noise and a health effect. In studies where coincidence, bias, and distortion could reasonably be excluded, the relation could be observed. The biological plausibility of the noise leading to the health effect is also well established." "Limited evidence" is defined as "a relation between the noise and the health effect has not been observed directly, but there is available evidence of good quality supporting the causal association. Indirect evidence is often abundant, linking noise exposure to an intermediate effect of physiological changes which lead to the adverse health effects." (Buckeye Ex. 18 at XI.)

ii. Buckeye

Buckeye claims that UNU's noise limit and setback requests are extreme and unwarranted based on any alleged health affects or damage to property. As to the potential health affects associated with wind turbines, Buckeye offered the testimony of Dr. Kenneth A. Mundt, an epidemiologist with 20 years of experience. According to Dr. Mundt, there is no reason to believe, based on the available evidence, that human health will be harmed, given the proposed setback from turbines to residence. According to the witness, there may be a variety of nonhealth reasons to recommend specific minimal setbacks, including those unrelated to health concerns; however, based on the available scientific evidence, those setbacks proposed in the application appear to adequately protect human health, as well as reduce the level and frequency of annoyance. (Buckeye Ex. 6 at 16.) According to Buckeye witness Mundt, epidemiological evidence is key to determining the causal relationship, if any, between various risk factors and the occurrence of disease. Further, the witness concluded that "[b]ased on my review of the relevant published peer-reviewed scientific literature, I found no consistent or well-substantiated association between residential proximity to industrial wind turbines and any serious health effects." Dr. Mundt admits that residents living near wind turbines will intermittently, depending on a number of factors, experience noise associated with the operation of the turbines, but nonetheless concluded that "exposure to turbine noise or shadows, while potentially distracting or irritating to some people, are not known to harm human health." (Buckeye Ex. 6 at 5-7.) Buckeye argues that Dr. Mundt's testimony, as to the lack of adverse health impacts, should carry significant weight as the only expert testimony on the topic. Further, Buckeye reasons that the record demonstrates sufficient evidence for the Board to conclude that a setback greater than that proposed in the application is not necessary. (Buckeye Br. at 34.)

Buckeye asserts that UNU's request to limit the wind turbine noise to this level for human health is undercut by UNU's request for the standard to apply to nonparticipants only (Buckeye Reply Br. at 13). As to the health issues raised, Buckeye notes that UNU witness James is not qualified to opine on medical judgments as the witness admitted (Tr. at 1428-1429). Buckeye also challenges the validity of several of the studies, articles, and testimony offered by UNU regarding the effects of wind turbines on human health (Buckeye Reply Br. at 30-42).

Buckeye notes that the 2004 Pedersen and Waye article cited by UNU does not actually support UNU's claims that wind turbine noise leads to higher annoyance at lower levels of sound exposure than road noise. Buckeye points out that, as stated in the article, the results for annoyance from transportation noise are based on a large amount of data, where the results for annoyance from wind turbines is based on only one study. For this reason, the author cautions that "interpretations should be done with care." Buckeye also notes that the level of annoyance for wind turbine noise was formed when spending time

outdoors and the annoyance with sound pressure levels for transportation noise as perceived indoors. Buckeye emphasizes that Pedersen and Waye acknowledge in the study that "a low number of respondents were annoyed indoors by wind turbine noise." In response to the study, Buckeye witness Hessler noted that the number of actual respondents to the survey that were annoyed is very small. Of the 627 surveys distributed in the Pedersen and Waye study, 351 responded. Further, the witness noted that, of the 351 respondents, seven households reported being rather or very annoyed at 35 to 37.5 dBA and four households reported being rather or very annoyed at 37.5 to 40 dBA based on annoyance perceived when spending time outside. The study concluded that "the number of respondents disturbed in their sleep, however, was too small for meaningful statistical analysis, but the probability of sleep disturbances due to wind turbine noise can not be neglected at this stage." Therefore, Buckeye reasons that the 2004 Pedersen and Waye study does not support UNU's claims. (UNU Ex. 47 at 3461-3462, 3467-3468; Tr. at 2350-2351; Buckeye Reply Br. at 30-32.)

Buckeye alleges that UNU also misinterprets the WHO 2009 Night Noise Guidelines for Europe (Buckeye Ex. 18). Buckeye points out that the WHO recommends an $L_{night, outside}$ of 40 dBA which is equivalent to the lowest observed adverse effect level for night noise based on a long-term A-weighted average (Buckeye Ex. 18 at XVII). Buckeye contends that the WHO recommendation undercuts UNU's request for a 35 dBA standard at the nonparticipant's property line and for a 1.25 mile setback (Buckeye Reply Br. at 34-35). Buckeye reiterates that Mr. Hessler used 40 dBA as a design goal for the noise impact assessment based on Mr. Hessler's experience that 40 dBA would avoid sleep disturbance and complaints of serious annoyance (Tr. at 847, 2391-2392).

Buckeye proffers that, despite UNU's representations to the contrary, the Minnesota Department of Health literature review (UNU Ex. 49), the 2007 Pedersen and Waye study (UNU Ex. 48), and the testimony of UNU witness James do not support UNU's claims that noise that exceeds 35 dBA causes "unacceptable sleep disturbance, annoyance, discomfort, and health problems (UNU Br. at 43; Buckeye Reply Br. at 36-42). Buckeye opines that the Minnesota Department of Health review ultimately recommended that wind turbine noise estimates include the cumulative impact of all wind turbines using 40 to 50 dBA, not below 40 dBA (UNU Ex. 49 at 26; Buckeye Reply Br. at 36-42). Buckeye witness Dr. Mundt, declared that Dr. Amanda Harry's study (UNU Ex. 44) Wind Turbines, Noise and Health, dated February 2007, was of no scientific value to the decision-making process at issue, in light of the fact that it was a survey provided to persons that were known to be suffering from problems which the person believed was due to their proximity to wind turbines (UNU Ex. 44 at 3; Tr. at 498). Accordingly, Buckeye concludes that the results and recommendations are scientifically questionable (Buckeye Br. at 36-37). As to the health issues raised, Buckeye notes that UNU witness James is an acoustical engineer, but he is not qualified to opine on medical judgments, as the witness admitted in another proceeding (Tr. at 1428-1429). Further, Buckeye interprets Mr. James testimony to, in fact,

be contradicted by the two Pedersen and Waye studies (Tr. at 2349-2350; UNU 47). Buckeye offers that the presentation of Dr. Nissenbaum, which UNU introduced through UNU witness James, does not constitute a sound epidemiological study and, therefore, no valid conclusion can be drawn from it (Buckeye Ex. 5 at 13). Buckeye concludes that the testimony of its expert is that "based on the available scientific evidence, those [setbacks] proposed in the application appear to be adequate to protect health, as well as to reduce levels in frequency of annoyance factors" (Buckeye Ex. 6 at 16).

UNU requests that, in light of the alleged errors in Buckeye's noise impact assessment and the potential health affects posed by exposure to excessive noise, the Board direct Buckeye to revise its noise impact assessment based on the issues UNU raised and once the noise impact assessment is revised, the hearing process reopened to adjudicate the accuracy of the new noise impact assessment. Further, UNU would ask the Board to limit the low frequency noise from the proposed project to an absolute limit of 60 dBC and no more than 20 dB above the measured dBA (LA90) preconstruction long-term background sound level + 5.0 dBA. Further, UNU requests a 1.25 mile setback from residences (UNU Br. at 49).

iii. Board Analysis on Health Impacts

As noted in the Staff Report, in regard to setbacks, the ODH recognized that there exists "a lack of hard scientific evidence on potential health impacts associated with utility scale wind projects" (Staff Ex. 2 at 38). Accordingly, ODH deferred to the record evidence presented in this case. As summarized above, the parties presented extensive record information on the potential health impacts of the proposed wind-powered electric generation facility. The Board has thoroughly considered the record in this case with particular attention to the issue of operational noise from the turbines and the health impacts of noise.

The Board finds the Nissenbaum power point presentation (UNU Ex. 51) and the survey by Harry (UNU Ex. 44) to reflect intrinsic bias as a result of the survey process used in each case. For this reason, the Board concludes that such exhibits cannot be relied on as "hard scientific evidence" of the potential health impacts associated with wind turbines. In regard to the balance of the evidence presented in this case, we find the claims of the other studies on which UNU relied to make noise associated health claims to affect such a small portion of the available population, inconclusive, or based on self-reported claims as to be an insufficient basis on which to make a decision that serious health impacts will result from the proposed project. Thus, the Board finds that the record evidence in this case is insufficient to demonstrate potential health impacts associated with wind turbines. However, the Board acknowledges that the record demonstrates that wind turbine noise can be annoying to humans depending on the distance from the turbine and other background noise. The studies also reveal, as supported by the testimony of the lay

witnesses to this case, that the level of annoyance perceived is directly correlated to the person's perception of the turbines.

While we believe the record in this case demonstrates that the operation of the wind turbines may be annoying to some nonparticipating residents, there is insufficient "hard scientific evidence" in the record to support the conclusion that wind turbines are a direct cause of health impacts to humans, sufficient to justify setbacks from residences greater than proposed in the application and required by law. For these same reasons, we reject UNU's request to implement noise levels, particularly absolute noise levels, at nonparticipating property lines.

We recognize that the noise impact assessment predicted nighttime dBA generally is within the range of WHO's recommendations. WHO guidelines state:

> Below the level of 30 dB $L_{night,\ outside}$, no effects on sleep are observed except for a slight increase in the frequency of body movements during sleep due to night noise. There is no sufficient evidence that the biological effects observed at the level below 40 dB $L_{night,\ outside}$ are harmful to health. However, adverse health effects are observed at the level above 40 dB $L_{night,\ outside}$, such as self-reported sleep disturbance, environmental insomnia, and increased use of somnifacient drugs and sedatives.

(Buckeye Ex. 18 at XVI.)

Based on the information presented, noise below 40 dBA is not likely to result in health impacts, is unlikely to result in significant annoyance, and, we believe not likely to cause numerous serious noise complaints.

The Board notes that two of the recommended conditions in the Staff Report attempt to address the issues raised by UNU and the health impacts of wind turbine noise. First, the staff recommends that any certificate granted to Buckeye requires Buckeye to operate the facility within the noise parameters as set forth in the noise study presented in the application. Further, staff recommends that the applicant be required, at least 30 days prior to the preconstruction conference, to provide the staff, for review and acceptance, a complaint resolution procedure. (Staff Ex. 2 at 57-59.) With these conditions in place, the Board finds that UNU's concerns regarding the noise level and health issues have been addressed.

iv. Board Analysis and Conclusion of Noise

As stated previously, the Board believes that, with the requirement in place that Buckeye operate the facility within the noise parameters as set forth in the noise impact assessment presented in the application, along with the expansion of the complaint resolution process to include not only noise complaints but any type of complaint, any remaining concerns regarding the noise of the facility will be appropriately mitigated. For this reason while the Board is aware that operational noise from the proposed project will intermittently be audible to the community in the project area, and may be annoying, to some, at times, we find that staff's recommendations address the alleged errors in the noise impact assessment raised by UNU and the alleged health impacts. Accordingly, the Board finds that, with these conditions, the proposed project is not so adverse to the public interest that the operational noise expected from the proposed project rises to a level sufficient to override the construction of the proposed project.

Furthermore, the Board finds that the record does not support the adoption of absolute noise levels as requested by UNU. We expect that the proposed project will reasonably operate within the noise parameters presented in the application and recognize that, depending on weather conditions, the wind turbines may, for limited periods, operate at sound levels above that modeled in the application.

9. Communications Systems Interference

a. Buckeye

Buckeye hired a contractor, Comsearch, to conduct analyses of off-air television reception, AM/FM broadcast station operations, microwave paths, and cellular personal communications services (PCS) in the vicinity of the project area (Buckeye Ex. 1 at 192).

Off-air television stations transmit broadcast signals from terrestrially-located facilities that can be received directly by a television receiver or house-mounted antenna. According to Buckeye, the results of the study of off-air television stations indicated that there are 180 off-air television stations within 100 miles of the project area. However, stations most likely to produce off-air coverage to Champaign County are those at a distance of 40 miles or less. Within 40 miles of the project area, there are 41 licensed off-air stations, with 22 of those stations being fully operational. Six of the operating stations are translators, or stations that transmit at low power, with limited range, and limited programming. (Buckeye Ex. 1 at 192.)

Buckeye notes that the study revealed that there are five full-power analog television stations and four full-power digital television stations operating in the area. Additionally, there were three lower-power analog television stations with full programming and four full-power digital television stations operating on temporary

Special Transmit Authority from the Federal Communications Commission (FCC). (Buckeye Ex. 1 at 192.)

According to Buckeye, Comsearch expects that some channels may suffer some degradation of off-air television signal reception once the proposed facility is constructed. This degradation would be the result of television signal attenuation or reflection caused by one or more of the turbines. This affect is due to the relative locations of the off-air television antenna, the wind turbines, and the point of reception. However, any effect is unable to be predicted with certainty, but effects could include noise generation, reduced picture quality, and signal interruption. Furthermore, Buckeye points out that an FCC mandate required all off-air television broadcasts to transition from analog signals to digital signals by June 12, 2009, and this transition to digital will reduce the likelihood of impacts to television reception. (Buckeye Ex. 1 at 192-193.)

Comsearch also concluded, according to Buckeye, that there is a good selection of off-air television available to local communities in the proposed project area, since there are an adequate number of full-power digital channels available; therefore, it is likely that off-air television is an important method of reception for communities in the area based on the number of off-air television channels available. Some communities may see no effect on off-air television from the construction of the proposed facility, while others may have multiple channels affected. Buckeye states that, if the proposed facility has any impacts to existing off-air television coverage, Buckeye will address and resolve each individual problem as commercially practicable. (Buckeye Ex. 1 at 193.)

The analysis further showed that there are six AM radio stations and 16 FM stations within 20 miles, as measured from the approximate center of the project area. Two of the AM stations each have two database records because they operate at two distinct transmittal powers, meaning that there are actually only four AM radio stations in the area. Buckeye submits that, because the separation distance of the closest AM station antenna from the center of the proposed facility is approximately 14.83 miles, no degradation of AM broadcast coverage is expected due to the presence of the wind turbines. (Buckeye Ex. 1 at 193.)

Buckeye explains that, of the 16 FM radio stations, ten are licensed and operational, with the remainder being nonoperational or under application. Two of the operational FM stations are full-power stations, two are medium-power stations, and six are very low-power stations. Of the six nonoperational stations, one will likely be a full-power station, and the other five are expected to be very low-power stations. According to Buckeye, very low-power FM stations are typically designed for limited coverage of less than 0.5 miles, and should be unaffected by the proposed facility, as long as turbines are installed at distances greater than the coverage of the stations. For full- and medium-power stations, a separation distance of 2.5 miles is recommended to allow the station to maintain normal

operation and coverage. In addition, Buckeye states that all of the FM stations' antennas are located at distances greater than 10 miles from the center of the project area; therefore, no degradation of FM radio broadcast coverage is anticipated. (Buckeye Ex. 1 at 193-194.)

Microwave telecommunication systems are wireless point-to-point links that communicate between two antennas and require clear line-of-sight conditions between each antenna. Buckeye identified 14 microwave paths in the vicinity of the proposed facility. To assure uninterrupted communications, a microwave link should be clear, not only at the axis between the center point of each antenna, but also within a mathematical distance around the centre axis. Buckeye calculated a worst-case scenario for each of the 14 microwave paths identified and analyzed digital files of each for potential interference. Based on this analysis, only Turbine 37 was shown to cause any potential interference. Buckeye states that Turbine 37 could be shifted slightly or eliminated to avoid any interference; therefore, Buckeye insists that no degradation of the microwave telecommunications system is anticipated. (Buckeye Ex. 1 at 194.)

Finally, with regard to the telephone communications in the cellular and PCS frequency bands, Buckeye avers that they should be unaffected by wind turbine presence and operation. According to Buckeye, signal blockage caused by the wind turbines would not degrade the telephone network because of the way these systems operate, allowing a signal to reach another tower if the nearest tower is unavailable. (Buckeye Ex. 1 at 194-195.)

b. Telephone Company

The Telephone Company owns two towers located within the project area, which are utilized to provide internet connectivity to its customers. Those towers communicate through wireless point-to-point links utilizing a frequency of 5.8 gigahertz (GHz) or a microwave. According to the Telephone Company, interference could occur if one of the proposed turbines is placed between the two towers or if one of the turbines is placed too close to either tower. Furthermore, the Telephone Company states that interference with the signal could cause a weak signal resulting in intermittent outages, fluctuations or variations in download speed, or complete outages. (Telephone Co. Ex. 1 at 2-3; Telephone Co. Br. at 2.)

The Telephone Company asserts that any interference with the signal will hinder the quality of service it provides to its customers. Moreover, the Telephone Company states that, in some of its service areas, it is the only provider of internet connectivity and, if service is interrupted due to turbine placement, those customers would have no options for internet connectivity. (Telephone Co. Br. at 3.)

To prevent any interference, Telephone Company witness Timothy Bolander testified that the distance between a proposed structure and either of the Telephone

Company's towers must be at least as great as the total height of the proposed turbine structure. Mr. Bolander testified that with this buffer, as long as there are no structures between the Telephone Company's towers, there will be no interference. (Telephone Co. Ex. 1 at 4.)

c. Responses

Upon cross-examination, Mr. Shears agreed that Buckeye would accept a condition on its certificate prohibiting it from placing a turbine in any location that would cause interference with the signals sent and received from either of the Telephone Company's towers (Tr. at 272). Likewise, staff recommends a condition be placed on the certificate which would prohibit Buckeye from locating a turbine such that it would interfere with the internet signals from the Telephone Company's towers (Staff Br. at 27).

In response to staff's proposed condition, Buckeye asserts that it does not oppose such a condition. However, Buckeye responds that the condition should be written to include Mr. Bolander's specific description of how interference can be avoided, which included not only the formula based on the height of the proposed structure, but also the specific longitudinal and latitudinal locations of the towers. (Buckeye Reply Br. at 92-93.)

The Telephone Company also expresses concern with staff's proposed condition, as it characterizes the signals sent and received from the towers as internet signals, which is a mischaracterization of the signals transmitted between the towers. Therefore, the Telephone Company requests that staff's recommended condition be revised to prohibit the location of a turbine in a location that would contribute to the interference of the signals transmitted to and/or from the Telephone Company's towers. (Telephone Co. Reply Br. at 2-3.)

d. Board's Analysis

The Board is cognizant of the necessity that the proposed project not unduly interfere with the off-air television reception, AM/FM broadcast station operations, microwave paths, PCS, and internet service in the vicinity of the project area. Upon consideration of the proposed conditions set forth by the Telephone Company, Buckeye, and staff, the Board finds that it is appropriate to prohibit Buckeye from locating a proposed turbine in a location that would contribute to the interference of the signals transmitted to and/or from the Telephone Company's two existing towers, the locations of which were detailed by Telephone Company witness Bolander. In addition, as promised by Buckeye, the Board expects that if the proposed facility has any impacts to existing off-air television coverage, Buckeye will address and mitigate each individual problem. Accordingly, the Board concludes that, with these conditions in place, this project will have minimal impact on local communications systems and, therefore, it will not negatively impact the public interest or convenience.

10. Local and Long Range Radar Interference

According to staff, wind turbines have the potential to interfere with civilian and military radar. The potential interference occurs when wind turbines reflect radar waves and cause ghosting or shadowing on receiving monitors. Staff explains that radar interference raises national security and safety concerns. Staff states that Buckeye submitted written notification to the National Telecommunications and Information Administration (NTIA) of the U.S. Department of Commerce on February 13, 2008. NTIA responded on July 24, 2008, notifying Buckeye that no concerns regarding blockage of communication systems were identified; however, NTIA prescribed notification of the FAA. As of the date of the Staff Report, the applicant was waiting for the FAA to determine whether radar interference is expected to be an issue. (Staff Ex. 2 at 50-51; Buckeye Ex. 1 at 195-196.)

The Board finds that, based upon the information provided on the record, the project will not have a detrimental effect on local or long range radar according to NTIA. Therefore, based upon the record, the Board finds that the construction and operation of the proposed facility will not interfere with local or long range radar. The Board believes that this determination supports a finding that the facility will serve the public interest, convenience, and necessity. We also find that, upon receipt of the FAA's response pertaining to radar interference, Buckeye should immediately provide staff with a copy of the response.

11. Traffic and Transportation

According to Buckeye, the project area will be accessible through numerous highway, state, and local roads, which will experience an increase in traffic due to the delivery of turbine components, concrete, gravel, and heavy equipment to each turbine site. Buckeye explains that a designated experienced transportation provider, to be determined, will obtain all necessary permits from ODOT and the Champaign County Engineer prior to the commencement of any transportation of the components. (Buckeye Ex. 1 at 196-198.)

Buckeye explains that temporary turn-outs, as well as reinforcement of roads, bridges and/or culverts, will be completed prior to the movement of any heavy equipment. Gravel access roads will also be constructed prior to the delivery of any heavy equipment and will be repaired if damaged. According to Buckeye, all areas where clearance needs to be considered will be identified prior to the transportation of heavy equipment and turbine components. Buckeye offers that all damage will be repaired or replaced, with documentation of conditions and restoration of any impacts performed in

conjunction with state and local permitting.[8] In addition, Buckeye attests that all construction signs and flagging will be coordinated with ODOT and the corresponding townships. (Buckeye Ex. 1 at 196-198.)

Due to the numerous access points to the project, Buckeye maintains that any road closures should not cause significant impacts to the transportation network or to the limited number of nearby residents, as alternative routes are readily available. Finally, Buckeye states that the project is not expected to have any significant impact on the rail network. (Buckeye Ex. 1 at 196-198.)

While the Board recognizes that construction of the proposed facility will affect traffic and transportation in the area, the Board does not believe the impact to be so negative as to make the construction of this facility contrary to the public interest, convenience, or necessity. Accordingly, the Board concludes that the overall benefit of this project outweighs any negative consequences relating to traffic and transportation that may result from the construction of the proposed facility.

12. Landowner Leases

Buckeye indicates that voluntary lease agreements will accommodate the majority of the project facilities, with the possible exception of portions of the collection system, which will be constructed in public ROWs. Buckeye explains that the term of the lease agreements will be for a period of 20 years from the initial date of operation, with a bilateral option for a 20-year extension. According to Buckeye, the amount of the lease payments would be based on annual generation production levels and power purchase agreements. Overall, Buckeye estimates that, initially, the lease payments would total approximately $1.5 to $2 million per year. The lease payments would be distributed among participating landowners that host a wind turbine. (Buckeye Ex. 1 at 5, 68.)

The Board believes that the fact that Buckeye will be entering into lease agreements with participating landowners and paying these participants for the use of their land is a positive outcome from this project. We conclude that this benefit of the project supports a finding that the proposed project is in the public interest, convenience, and necessity.

13. Road Repair

The County asserts that increased traffic, as well as the type of traffic, on local roads will likely result in damage to local roadways beginning with construction through decommissioning (County Br. at 9; Buckeye Ex. 1 at 196). According to the County, if

[8] Bonding to assure that sufficient funds are available to repair of any damage to roads or bridges that occurs during construction, operation, or decommissioning is discussed in the Decommissioning section of this order.

Buckeye is unable, or unwilling, to repair the damage to local roadways, local government will be obligated to complete and finance the repairs. Therefore, the County believes that a bond that provides for road repair should be in place prior to the commencement of construction. (County Br. at 9.) In support of its assertion, the County relies on the testimony of Buckeye witness Leon Cyr, a county commissioner in Benton, Indiana, who stated that his county has a bond for road repairs and that he believes that a bond would be in the best interest of any county in a similar situation (Tr. at 2473). With respect to the amount of financial assurance necessary to assure adequate protection for local roadways, the County asserts that the County Engineer would have the expertise to establish the correct amount of financial assurance sufficient to cover the cost of the damage to the roads due to construction and decommissioning (County Br. at 10).

Staff agrees that an additional condition should be included in the certificate, which would require Buckeye to procure a bond to provide adequate funds to repair any damage to public roads resulting from either erection or decommissioning of the proposed project (Staff Br. at 30). UNU supports this condition, as it asserts that nothing else in staff's recommendations addresses how Buckeye will compensate the local community if its roads are damaged during construction or decommissioning. (UNU Br. at 98.)

Buckeye does not dispute that the County should get some assurance that the roadways will not go unrepaired during the erection and decommissioning of the proposed facility. However, Buckeye recommends that, as opposed to requiring a decommissioning bond, the Board adopt a condition requiring it to follow the rules and procedures for permitting and bonding as required in Champaign County for bringing heavy equipment on the roads and bridges. Buckeye further states that it would not object to having ODOT or staff participate in the process of setting road bonds, so long as Buckeye does not receive disparate treatment from any other party bringing heavy equipment on the local roads. (Buckeye Reply Br. at 88-89.)

Recognizing the potential damage to the local roads that may occur due to the increase of construction traffic, through the decommissioning stages of this project, the Board agrees that, as a condition of the certificate, Buckeye should procure a bond in order to provide adequate funds to repair any damage to the public roads. Accordingly, the Board concludes that, with this condition in place, the County's concern has been addressed and the public interest, convenience, and necessity will be served.

14. Decommissioning

a. Plan for Decommissioning

According to Buckeye, utility-scale wind turbines have a typical life-span of 20 to 25 years, with the current trend being to replace or repower older wind energy projects by upgrading older equipment to more efficient turbines. However, Buckeye recognizes that,

if a turbine is not upgraded or if a turbine is nonoperational for an extended period of time, the turbine will need to be decommissioned. Buckeye proposes a decommissioning plan with two primary aspects: removal of facility components and improvements, and bonding. (Buckeye Ex. 1 at 199.)

With respect to the removal of the facility components and improvements, Buckeye will dismantle and remove improvements and other above-ground property at the termination of the lease. Buckeye proposes that below-ground structures, such as turbine foundations and buried interconnect lines should be removed to a minimum depth of 36 inches, and any underground infrastructure at a greater depth will remain in place. After removal to 36 inches, Buckeye will regrade disturbed areas, restoring them to their original grade, to the extent possible. Buckeye states that, at the request of the landowner, it may consider allowing roads, foundations, buildings, structures, or other improvements to remain in place, but it is not obligated to do so. (Buckeye Ex. 1 at 199.)

Staff recommends, in evaluating Buckeye's decommissioning plan, some additional requirements. With respect to the time for decommissioning, staff recommends that the facility be decommissioned: within 12 months of the end of the useful life of the facility or an individual turbine; if no electricity is generated for a continuous 12-month period for an individual turbine or the entire facility; or if the Board deems the facility or turbine to be in a state of disrepair warranting decommissioning, the facility or turbine will be presumed to have reached the end of its useful life. Staff also recommends a greater depth than was proposed by Buckeye for the removal of the foundation of each turbine; specifically, staff recommends that the foundation be removed to a depth of 60 inches. (Staff Ex. 2 at App. 1.) Additional conditions were recommended in the Staff Report that were accepted by Buckeye and those conditions are set forth below in the Conclusion and Conditions Section (Buckeye Br. at 58).

Buckeye responds to staff's recommendations by stating that it is not necessary to require the foundation for each wind turbine to be removed to a depth of 60 inches. Buckeye witness Shears testified that there would be no practical difference between 36 and 60 inches, in terms of the potential future use of the land, but that the additional removal may result in greater ground disturbance. (Buckeye Br. at 58-59; Tr. at 198-200.) Moreover, Mr. Shears states that most potential leaseholders have been satisfied with the removal of the foundation to between 36 and 48 inches (Buckeye Ex. 4 at 23-24). However, staff still maintains that removal to a minimum of 48 inches is necessary (Staff Reply Br. at 22). The Board agrees with staff's recommendation that removal of the foundation should be to a minimum depth of 48 inches.

Upon consideration of Buckeye's decommissioning plan, as well as staff's recommendations, the Board finds that, with the inclusion of the necessary conditions on

Buckeye's decommissioning plan, as proposed by staff, the plan will be reasonable and will serve the public interest, convenience, and necessity.

b. Financial Assurance

i. Buckeye

With respect to the provision of a financial assurance, Buckeye proposes that, by the fifth anniversary of the commercial operation date of the project, Buckeye will provide a surety bond, letter of credit, or other security in a form reasonably acceptable to landowners, in an amount sufficient to cover the costs of removal and disposal of the facility improvements and costs of restoration, minus the salvage value. The initial amount of the bond or undertaking will be based on a study undertaken by an independent certified engineer that will determine the estimated costs of removal and decommissioning, and the salvage value of the improvements, with the amount of the bond or other undertaking to be reviewed every fifth year from the commercial operation date. If the estimate of decommissioning costs increase, so will the amount of the bond or undertaking. The cost of the independent certified engineer will be paid for by Buckeye. (Buckeye Ex. 1 at 199-200.)

In support of its decommissioning plan, Buckeye witness Christopher Shears testified that he found it inconceivable that the proposed facility would not operate during the first five years, such that decommissioning would be required prior to the five-year point. The only scenario Mr. Shears could imagine that would hinder the first five years of the project would be financial difficulties on the part of Buckeye; however, Mr. Shears asserted that, in the event of such a financial failure, another entity would almost surely begin operating the project. (Tr. at 192-193.)

ii. Staff

To review Buckeye's proposal, staff researched how other wind farms provide financial assurances and found that the wind farms researched all required a performance bond, surety bond, letter of credit, escrow account, corporate guarantee, or other form of financial assurance. Other states had varying timelines for when the financial assurance should be in place; however, all utilized independent engineers to determine the amount of potential decommissioning costs. Staff also asserts that all states have a set time period for nonoperation, after which the company is required to begin decommissioning; typically, that period varies from 12 to 18 months. Under the regulations operating in other states, if the company does not begin decommissioning when required, the state may take necessary action to begin decommissioning, including requiring forfeiture of the bond. At least one state requires state approval of all decommissioning efforts before the bond is released. (Staff Ex. 2 at 53.)

Staff recommended an additional condition, which provides for the determination of decommissioning costs and the recommendation of a bond amount for decommissioning. Specifically, staff recommends that, subject to approval of staff, an independent and registered professional engineer, licensed to practice engineering in the state of Ohio, shall be retained by Buckeye to provide two estimates: an estimate of the total cost of decommissioning in current dollars without regard to salvage value of the equipment (decommissioning costs); and the cost of decommissioning net salvage value of the equipment (net decommissioning costs). Staff also provided a detailed recommendation as to what should be included in the analysis of costs, including a provision for the inclusion of a certain amount of contingency costs. According to staff, the estimate should be on a per turbine basis and should be submitted for staff review and approval after one year of facility operation and every fifth year thereafter. (Staff Ex. 2A.)

Staff also recommends that, after one year of facility operation, Buckeye should post and maintain decommissioning funds in an amount equal to net decommissioning costs; provided that at no point shall the net decommissioning funds be less than 25 percent of the decommissioning costs. Furthermore, staff submits that the decommissioning funds (financial assurance) should be in a form approved by staff, should be payable to the Board, and should be conditioned on the faithful performance of all requirements and conditions of this application's approved decommissioning and reclamation plan. (Staff Ex. 2A.)

In its brief, staff modified its recommendations to include a provision that decommissioning estimates be reviewed every three years, rather than every five years. Staff also removed the condition that financial assurance be payable to the Board, and has included the use of a performance bond as an alternative mechanism for financial assurance. (Staff Br. at 31.)

iii. Buckeye Response to Staff

In response to staff's recommendations, as modified in staff's brief, Buckeye responds that it is agreeable to the recommendation that financial assurance be put in place within one year of operation. Buckeye also agrees to an estimation of decommissioning costs occurring every three years. (Buckeye Reply Br. at 90.)

In response to the remainder of staff's proposed conditions, Buckeye agrees, generally, to the conditions. However, Buckeye requests that the conditions be modified in two respects. First, Buckeye proposes that the conditions be modified to assure that Buckeye does not have to post multiple bonds with multiple parties. Buckeye explains that, as a condition of Buckeye's leases, it is required to post bonds with the landowners as a party to the bonds. In the condition, as proposed by staff, Buckeye would have to enter a separate bond with the Board. To rectify this situation, Buckeye proposes that any bond required to be posted with the Board be reduced by the amount of any bond posted on

behalf of any landowners, if Buckeye provides appropriate evidence of the existence of such a bond. (Buckeye Br. at 59-60; Tr. at 195.)

Second, Buckeye disagrees with the requirement that the minimum bond amount be set at 25 percent of decommissioning costs. Buckeye asserts that it is highly unlikely that the project will be decommissioned in the first few years of operation; furthermore, the salvage value of the proposed facility would be significant as the turbines will still be under warranty. (Buckeye Br. at 60; Tr. at 194.) Additionally, Buckeye asserts that there is no reason for the requirement that 25 percent of decommissioning costs be posted. According to Buckeye, staff could only testify that the amount was taken from another state's wind ordinance and staff did not have rationale to support the requirement (Buckeye Br. at 60; Tr. at 2117). Instead, Buckeye recommends that any bonding requirement should be related to the decommissioning cost relative to the salvage value to avoid unnecessary bonding costs; therefore, Buckeye recommends that the required bond be equal to the decommissioning costs minus 75 percent of the salvage value, as estimated by an independent and registered professional engineer (Buckeye Br. at 60).

iv. UNU and the County

In response to Buckeye and Staff's consensus that financial assurance should occur within one year of operation, UNU asserts that the risk of facility abandonment is not an unreasonable concern, even at the beginning of construction (UNU Ex. 27A at 4). UNU also argues that financial assurance for decommissioning should be required for the entire life of the project, as it is not inconceivable that Buckeye could go bankrupt before the construction of the facility is even completed. UNU supports this condition and recommends an additional condition requiring Buckeye to demonstrate, well in advance of the expiration of any bond procured, a renewal or replacement of the bond, to assure that a bond cannot lapse before the decommissioning process occurs. (UNU Br. at 97).

Although Buckeye asserts that equipment warranties, insurance, or potential equipment resale value will cover the cost of decommissioning in the first few years of operation, according to UNU, none of those options protect the community if decommissioning is necessary before financial assurance is required. (UNU Br. at 97-98.) Moreover, UNU argues that the cost of decommissioning can be as much as $300,000 per turbine for the decommissioning of an entire wind farm, and can be much higher if only a single turbine is being decommissioned; therefore, appropriate financial assurance is important (Tr. at 1118). The County also asserts that financial assurance should be in place upon commencement of construction of the proposed facility (County Br. at 11).

In addition, UNU asserts that staff did not adequately consider the necessary amount of a decommissioning bond. According to UNU witness John Stamberg, prices for scrap metal fluctuate greatly; therefore, it is important to consider this fluctuation to assure necessary funds for decommissioning are available throughout the life of the

proposed facility. (UNU Ex. 27A at 8.) Although staff's recommended condition contains a consideration of contingency costs, those costs are capped and staff was unsure as to whether those costs would be sufficient to cover fluctuations in the cost of scrap (UNU Br. at 92; Tr. at 2210; UNU Ex. 29). UNU also expresses concern over the 25 percent of decommissioning costs that must be maintained, as UNU does not believe this provides sufficient financial assurance to cover decommissioning over the life of the proposed facility given the nature of the scrap market fluctuations (UNU Br. at 93).

With respect to the recommended bond amount, UNU argues that neither Buckeye nor staff's recommended bond amounts will be sufficient to cover decommissioning costs. With respect to staff's recommendation that a surety bond of no less than 25 percent of decommissioning costs is sufficient, UNU asserts that this amount does not adequately protect the community's interests and is not supported by any underlying rationale. With respect to Buckeye's approach, which would calculate the bond amount as decommissioning costs minus 75 percent of salvage value, UNU argues that this approach is also not supported by any justification. (UNU Reply Br. at 41-42; UNU Br. at 92-93.)

UNU also argues that, if Buckeye is allowed to use a surety bond for financial assurance, the bond must be payable to the Board, in order to facilitate the Board's enforcement of the decommissioning requirements (UNU Reply Br. at 42; UNU Ex. 27A at 16). In the alternative, UNU witness Stamberg testified that the county engineer could be named as holder or coholder of the bond (UNU Ex. 27A at 16).

UNU also concurs with staff's recommendation that the decommissioning estimate be prepared by an independent professional engineer whose selection is approved by staff. In addition, UNU believes that a community representative should be given the opportunity to review and provide comments or objections to the selection of the independent engineer (Tr. at 1127-1128). UNU suggests that the Champaign County Engineer would most likely be the appropriate community member to review the selection (UNU Br. at 96).

UNU witness Stamberg recommends two means of curing what he views as a defect in staff's recommendations. First, the witness recommends a performance bond, which would eliminate the need for periodic review by staff and place the risk of performance directly on the bond issuer. Second, Mr. Stamberg states that a surety bond, set at double the estimated decommissioning costs, as estimated by a Board-approved professional engineer would be sufficient to insure against fluctuations in the scrap market. Mr. Stamberg believes that this would not double the cost of the bond, but would likely result in a percentage premium of something less than total the double cost of decommissioning; therefore, it would not place an undue burden on Buckeye. (UNU Ex. 27A at 14-15.)

v. Buckeye Response to UNU and the County

Initially, Buckeye asserts that financial assurance upon construction would be an unnecessary requirement, as the value of the turbines at that time, would far outweigh any potential cost of decommissioning (Buckeye Reply Br. at 87). Furthermore, Buckeye agrees to a provision that provides for a representative of the community to help select the engineer, as long as final estimate approval rests with Staff (Buckeye Reply Br. at 90).

In response to UNU's recommendation that Buckeye be required to procure a performance bond, Buckeye asserts that a performance bond is not a viable alternative to a financial bond. Buckeye asserts that finding a financial institution that will have the face value of the bond available over the next few decades to cover decommissioning is a much smaller risk than finding a firm that will agree to perform decommissioning, if called upon to do so, sometime in the next few decades. According to Buckeye, performance bonds are not typical for wind farms and a performance bond will not alleviate any risk, as a bonding agent still may not be financially able to perform decommissioning. (Buckeye Reply Br. at 84-85; Tr. at 1122.) Buckeye also argues that a surety bond, set at double the estimated decommissioning costs is impractical and appears calculated to inflict a maximum degree of financial stress on the project (Buckeye Reply Br. at 86). Buckeye still recommends its initial proposal of financial assurance equal to the decommissioning costs minus 75 percent of the salvage value, as estimated by an independent and registered professional engineer (Buckeye Br. at 60; Buckeye Reply Br. at 91).

vi. Board Analysis

The Board agrees that decommissioning and the associated financial assurance is an important issue that must be evaluated in our consideration of the proposed project. Having thoroughly reviewed the concerns and proposals raised by the parties on this issue, the Board believes that some financial assurance is appropriate upon construction and we have set forth such a requirement in the Conclusion and Conditions Section of this opinion, order, and certificate. The necessary conditions include those recommended by staff, as summarized above and detailed further below, as well as the requirement requested by UNU that a representative of the community assist in selecting the independent engineer, with the final selection decision resting with staff. Accordingly, the Board concludes that, with these conditions for decommissioning and financial assurance in place, public interest will be protected.

15. Conclusion

Initially, the Board notes that in considering whether this project is in the public interest, convenience, and necessity, the Board has taken into account that the renewable energy generated by this facility will benefit the environment and consumers. In addition we note this project will assist Ohio's electric utilities in meeting their renewable energy

benchmarks required pursuant to statute. Moreover, upon review of the record, we find that this project has been designed to have minimal aesthetic impact on the local community. With respect to safety and health concerns, such as setbacks, blade shear, ice throw, shadow flicker, and noise, the Board finds that these concerns have been adequately addressed, both in the initial application, as well as in staff's proposed conditions and, ultimately, in the conditions contained in the Conclusion and Conditions Section of this order.

The Board also notes that, with respect to communications, radar interference, traffic, and transportation, we believe that based on the record this project has been designed to avoid any alteration of the resources available to the community. Specifically, Buckeye has studied the potential for interference with communications systems, and local and long-range radar. The results of these analyses have lead to a project that is configured to have the minimum impact on these resources. With respect to traffic, road repair, and decommissioning, the potential impacts have been ascertained, and the conditions contained in the Conclusion and Conditions Section of this order require the appropriate financial assurances to make certain that the community is not harmed by those aspects of the project. Accordingly, based on our consideration of all of the issues noted in the proceeding sections, the Board finds that this project is appropriately tailored to serve the public interest, convenience, and necessity in accordance with Section 4906.10(A)(6), Revised Code, provided the conditions set forth in the Conclusion and Conditions Section are adhered to by the applicant.

G. Agricultural Districts - Section 4906.10(A)(7), Revised Code

Staff explains that classification as agricultural district land is achieved through an application and approval process that is administered through local county auditors' offices. Staff notes that, based upon parcel information obtained from the Champaign County Auditor's records, Buckeye has stated that 43 agricultural district parcels are located within the project area. The project facilities will directly impact 25 of the 43 agricultural parcels in the project area. Staff has also evaluated potential impacts on agricultural production and notes that Buckeye has indicated that the project would disturb 372 acres of agricultural land, of which 303.5 acres would be temporarily disturbed during construction, and the remaining 68.5 acres would be permanently disturbed and taken out of production. (Staff Ex. 2 at 54.)

According to staff, construction-related activities, such as vehicular traffic and materials storage, could lead to temporary reductions in farm productivity caused by direct crop damage, soil compaction, broken drainage tiles, and reduction of space available for planting. However, staff reports that Buckeye has indicated that it intends to take precautionary steps in order to address such potential impacts to farmland, including: repairing or replacing damaged drainage tiles to the landowner's satisfaction, subsoil de-compaction, and rock picking prior to respreading of topsoil in disturbed areas. Buckeye

also states that the value of any crops damaged by construction activities or by soil compaction will be reimbursed to the landowner. Staff further states that, after construction, only the agricultural land associated with the turbine locations, the substation, and access roads will be removed from production. (Staff Ex. 2 at 54.)

In sum, staff concludes that there would be no significant permanent impacts from the construction or maintenance of this proposed electric generation facility on agricultural districts. Further, staff states that construction and maintenance of this proposed facility will not impact the viability of any agricultural district farmland, as only 68.5 acres would be removed from agricultural production. (Staff Ex. 2 at 54.) Therefore, it is staff's conclusion that the Board should find that the impact of the proposed facility on the viability of existing farmlands and agricultural districts has been determined and will be minimal. (Staff Ex. 2 at 56.) No intervenor raised any concerns regarding this criterion.

The Board finds that, in accordance with Section 4906.10(A)(7), Revised Code, the impact of the proposed facility on the viability of existing farmland and agricultural districts has been determined and the impact will be minimal.

H. Water Conservation Practice - Section 4906.10(A)(8), Revised Code

Staff reports that the proposed facility involves the utilization of numerous wind turbines to generate electricity. Wind-powered electric generating facilities do not utilize water in their process of electricity production; therefore, water consumption associated with the proposed electric generation equipment is not an issue warranting conservation efforts. However, portable water will be needed for personal use by employees at the facility's operation and maintenance building, but those needs are expected to be minimal. Therefore, staff recommends that the Board find that the proposed facility will comply with Section 4906.10(A)(8), Revised Code. (Staff Ex. 2 at 56.) No intervenor raised any concerns regarding this criterion. Accordingly, the Board finds the proposed facility complies with Section 4906.10(A)(8), Revised Code.

I. Other Issues

1. Complaint Resolution Procedure

According to staff, the proposed facility must be constructed, operated, and maintained in conformity with the certificate issued by the Board, including any terms, conditions, and modifications contained therein. Staff recommends that any certificate issued to Buckeye include a condition that would require Buckeye to submit to staff, for review and acceptance, a completed complaint resolution procedure at least 30 days prior to the preconstruction conference, which would cover complaints on issues such as noise, shadow flicker, and decommissioning, etc. and would require notification to staff of any complaint submitted to Buckeye. (Staff Ex. 2 at 58-59; Staff Br. at 35.) Buckeye witness

Shears testified that he supports the creation of a complaint resolution process for the proposed facility and he believes the Board is the appropriate entity to put the procedure in place (Tr. at 130). Buckeye supports the creation of a complaint resolution process, as it will allow complaints to be addressed and mitigated as they arise, instead of through the imposition of extreme conditions on the certificate (Buckeye Reply Br. at 54).

Staff states that it believes any remedies available to parties utilizing an informal complaint process with Buckeye would be limited to mitigation and performance. However, if a complaining party wished to pursue a formal process for a certificate violation, it would do so under Section 4906.97, Revised Code, and Rule 4906-9-01, O.A.C. Under these provisions, a party would request that the Board initiate a proceeding to investigate whether the facility is operating in compliance with its certificate. Pursuant to Section 4906.97, Revised Code, if a violation is found using this formal process, the Board would have the option of assessing a forfeiture that would be deposited in the state treasury of not more than $5,000 for each day of the violation, not to exceed an aggregate of $1 million. Other penalties may also apply. However, staff notes that relief such as monetary or injunctive relief could not be obtained from the Board, but instead would have to be pursued in an action before a court of common pleas with jurisdiction over the matter. (Staff Br. at 36-37.)

Therefore, staff recommends a two-tiered complaint process to address complaints regarding any aspect of the proposed facility, with informal complaints being resolved with Buckeye, which may lead to a more efficient resolution, and formal complaints being resolved through the process with the Board. More formal complaints, those not satisfied through the informal complaint process, can be pursued by the formal process already provided in Section 4906.97 and 4906.98, Revised Code, and Rule 4906-9-01, O.A.C. (Staff Br. at 37.)

In response to staff's recommendation, UNU asserts that the Board should require Buckeye to submit a proposed complaint procedure as part of the application, so that public input can be provided to increase its effectiveness. UNU also recommends that the certificate require Buckeye to provide staff with funds necessary to retain a consultant answerable only to staff to investigate any complaints because UNU believes that the Board will inevitably need to hire a consultant to deal with the wide variety of complaint topics. Furthermore, UNU offers that, if the complaint resolution procedure involves Buckeye receiving and investigating complaints, Buckeye should be required to forward a detailed record of each complaint to the Board, so as to allow the public to monitor the adequacy of Buckeye's response, as well as the number of complaints arising out of the operation of the proposed facility. (UNU Reply Br. at 29-30.)

Specifically, with respect to noise, UNU asserts that any complaint resolution procedure is meaningless without an objective standard to evaluate the merits of noise

complaints; therefore, UNU requests that the certificate identify a decibel level that is too high, in order to provide a numeric standard by which to judge whether a complaint is valid. In addition to a numeric noise limit, UNU argues that the certificate should also require Buckeye to submit a plan to reduce noise levels if they are found to be higher than the limit, in order to make the complaint resolution procedure as effective as possible. (UNU Reply Br. at 30-31.)

The Board is mindful of the need for a complaint resolution process that is both effective and offers an efficient resolution of complaints. Therefore, the Board agrees with staff's proposal for both an informal complaint resolution process conducted through Buckeye, with notification to staff, as well as the formal process, already in place, for any alleged certificate violation. With regard to UNU's proposal that the Board require that the certificate be conditioned on Buckeye providing the Board with funds to hire a consultant, the Board finds such a condition unnecessary. As for setting a specific decibel noise limit, the Board addressed UNU's concerns with noise previously in this order.

2. Surveillance Cameras

UNU witness James stated that other wind farms use surveillance cameras on their turbines (UNU Ex. 31A at 21). Although Buckeye has not expressed an intent to install surveillance cameras as part of the proposed facility, UNU recommends a condition which would prohibit the installation of surveillance cameras on the turbines within the proposed facility (UNU Br. at 90).

In response to UNU's concern, Buckeye witness Shears testified that he had never been aware of the installation of surveillance cameras on wind turbines and could not understand the need for such measures. However, when asked if he would object to a condition in the certificate prohibiting the installation of surveillance cameras, Mr. Shears stated that he was skeptical of why that would be required as a condition, but stated that it sounded sensible. (Tr. at 150-152.)

Therefore, the Board finds that a condition prohibiting the installation of surveillance cameras on turbines, as a routine practice as part of the proposed facility is appropriate. Should a reasonable, justifiable need arise to install surveillance cameras, Buckeye must first seek approval from staff.

3. Taxation

With respect to the possible tax benefits the construction of the proposed facility could have on the surrounding community, the County asserts that any potential benefits are uncertain (County Br. at 16; Tr. at 1676-1677). Given recent efforts in the Ohio General Assembly, as well as the potential for Buckeye to obtain financing through the Ohio Air Quality Development Authority, the Board is unable to determine, at this time, the amount

of any additional tax revenue that local governments would receive if the proposed facility were constructed and operated as proposed in the application.

4. Changes in conditions after certificate issuance

UNU opposes eight of the staff's recommended conditions, as well as three other conditions proposed by Buckeye that require Buckeye to present information for staff's review and acceptance or approval after the Board has granted Buckeye a certificate to construct the proposed facility (UNU Reply Br. at 43-46; Staff Ex. 2 at 57-66; Staff Br. 16-18, 20, 26; Buckeye Br. 15-17).[9] Generally, the conditions which UNU opposes relate to the submission of certain information at least 30 days prior to the preconstruction conference, including; the final electric collection system plan; the tree clearing plan; the site-specific geotechnical report and final turbine foundation design; the fire protection and medical emergency plan; the complaint resolution process; the development of a post-construction avian and bat mortality survey; development of an HCP and securing the ITP; blade shear information specific to the turbine model selected; compliance with FAA and ODOT-OA requirements; performance of a Fresnel zone analysis; notice of and compliance with the turbine selection criteria; specifics of a decision regarding the relocation of Turbines 57 and 70, if constructed; and the establishment of shadow flicker monitoring and testing complaint procedures.

UNU argues that the referenced conditions either allow the proposed project to be revised based on information that was not presented at the public information meeting, in the application or at the evidentiary hearing, or to defer steps that should be taken before the Board issues a certificate. UNU argues that issuing a certificate with such conditions relieves Buckeye of its burden of proof, permits the arbitrary circumvention of the rights of public notice and participation as set forth in Chapter 4906, Revised Code, and deprives the intervenors of procedural due process. UNU requests that the Board eliminate the above-referenced conditions, direct Buckeye to file all the information required pursuant to the above-referenced conditions and that the evidentiary hearing be reopened to allow for the "full evidentiary exchange by all parties regarding the new information," prior to the Board issuing Buckeye a certificate to construct the proposed wind-powered electric generation facility. (UNU Reply Br. at 43-46.)

The Board notes that it is the Board's long-standing policy to require the applicant to hold a preconstruction conference with the staff, to demonstrate compliance with the associated requirements of other state and federal agencies, and other specific particulars

[9] UNU opposes staff's proposed and revised conditions as set forth in the Staff Report and modified in the staff's brief, conditions 8(e), (f), (h), (i) and (j), (15), (16), (33), (36), (40), (45), (46) and (50), as well as Buckeye's requested revisions to staff's recommended conditions (31), (45), and (50). The conditions of the certificate have been modified as set forth in the Conclusion and Conditions Section of this opinion, order, and certificate.

of construction after the certificate is issued for efficiency of the certificate process, and the use of Board resources. The certificate conditions also require the applicant to demonstrate that the final construction plans for the facility comply with the Board's opinion, order, and certificate, and the conditions thereof, as adopted by the Board. The certificate conditions also may require the applicant to have in place certain procedures, like the complaint procedures proposed in this case, that the Board finds appropriate for the construction of the project or to address public interest concerns without unduly delaying the certification process. Further, the Board's certificate conditions recognize and incorporate into the certificate, and to some extent the Board's certificate to construct, operate, and maintain the proposed project, the requirements of other state and federal agencies to construct the electric generation facility.

We find UNU's claims regarding the Board's process requiring the submission of information, as set forth in the conditions of a certificate, to be unfounded. Any party to a certificate application has an opportunity, as UNU has done in this matter, to oppose staff's recommended conditions or to propose additional conditions. Furthermore, the Board notes that, in accordance with Section 4906.07, Revised Code, the Board is required to hold a hearing in the same manner as on the application, where the amendment of a certificate involves any material increase in any environmental impact or substantial change in the location of all or a portion of the facility. Therefore, we find that, given the safeguard under Section 4906.07, Revised Code, which would require Buckeye to file an amendment to the certificate, we find UNU's arguments to be without merit.

CONCLUSION AND CONDITIONS:

The Board has considered the record in this proceeding, and the interests and arguments of each party. Based upon the record, the Board finds that all of the criteria established in accordance with Chapter 4906, Revised Code, are satisfied for the construction, operation, and maintenance of the facility as described in the application filed with the Board on April 24, 2009, as supplemented on August 28, 2009, and September 1, 2009, subject to certain conditions proposed by staff and other parties, and modified herein. In addition, upon review of the record and certain issues raised in this case, the Board finds that certain requirements delineated in this order, while not conditions on the certificate, are appropriate. To the extent that a request to amend a particular condition or to supplement the conditions is not discussed or adopted in the conditions set forth below, it is hereby denied. Accordingly, the Board approves the application and hereby issues a certificate to Buckeye for the construction, operation, and maintenance of the proposed facility, subject to the conditions set forth below.

(1) The facility shall be installed at Buckeye's proposed site as presented in the application filed on April 24, 2009, and as further clarified by supplemental filings.

(2) Buckeye shall utilize the equipment and construction practices as described in the application, and as clarified in supplemental filings, and recommendations in the staff report, as modified herein.

(3) Buckeye shall implement the mitigative measures described in the application, any supplemental filings, and recommendations in the staff report, as modified herein.

(4) Buckeye shall obtain and comply with all applicable permits and authorizations as required by federal and state entities prior to the commencement of construction and/or operation of the facility, as appropriate.

(5) A copy of each permit or authorization, including a copy of the original application, if not already provided, and any associated terms and conditions, shall be provided to the staff within seven days of issuance or receipt by Buckeye.

(6) Buckeye shall operate the facility within the noise parameters as set forth in its noise study and presented in its application.

(7) Buckeye shall conduct a preconstruction conference prior to the start of any project work, which staff shall attend, to discuss how environmental and other concerns will be satisfactorily addressed.

(8) At least 30 days prior to the preconstruction conference, Buckeye shall provide the following documents to staff for review and acceptance:

(a) A final equipment delivery route and transportation routing plan.

(b) One set of detailed drawings for the proposed project so that the staff can confirm that the final project design is in compliance with the terms of the certificate.

(c) A stream crossing plan including details on specific streams to be crossed, either by construction vehicles and/or facility components (i.e., access roads, electric collection lines), as well as a specific discussion of proposed crossing

methodology for each stream crossing and post-construction site restoration. The stream crossing plan shall be based on final plans for the access roads and electric collection system.

(d) A detailed frac-out contingency plan for stream crossings that are expected to be completed via horizontal directional drill. Such contingency plan can be incorporated within the stream crossing plan herein.

(e) A final electric collection system plan, specifically identifying the planned location of all lines, indicating whether the lines will be buried or overhead, describing the types of construction method(s) to be used for installing the lines, showing all construction access points, and explaining how impacts to all sensitive resources (e.g., streams, wetlands, trees, steep slopes, etc.) in and along the planned electric collection line routes will be avoided or minimized during construction, operation, and maintenance.

(f) A tree clearing plan describing how trees and shrubs around turbines, along access routes, in electric line corridors (buried and overhead), at laydown areas, and in proximity to any other project facilities will be protected from damage during construction, and, where clearing cannot be avoided, how such clearing work will be done so as to minimize removal of woody vegetation. Priority should be given to protecting mature trees throughout the project area and all woody vegetation in wetlands and riparian areas, both during construction and during subsequent operation and maintenance of all facilities.

(g) A final access plan, including both temporary (construction) and permanent (operation) access routes for all facilities, as well as the measures to be used for restoring all temporary segments and any long-term stabilization required along permanent access routes.

(h) A site-specific geotechnical report and the final turbine foundation design for each turbine location.

(i) A fire protection and medical emergency plan developed in consultation with the fire department having jurisdiction over the area.

(j) A completed informal complaint resolution procedure, including, at a minimum, a process to periodically inform staff of the number and substance of complaints received by Buckeye.

(9) Buckeye shall properly install and maintain erosion and sedimentation control measures at the project area in accordance with the following requirements:

(a) During construction, seed all disturbed soil, except within cultivated agricultural fields that will remain in production following project completion, within seven days of final grading with a seed mixture acceptable to the appropriate County Cooperative Extension Service. Denuded areas, including spoils piles, shall be seeded and stabilized within seven days, if they will be undisturbed for more than 21 days. Reseeding shall be done within seven days of emergence of seedlings as necessary until sufficient vegetation in all areas has been established.

(b) Inspect and repair all such erosion control measures after each rainfall event of one-half of an inch or greater over a 24-hour period and maintain controls until permanent vegetative cover has been established on disturbed areas.

(c) Obtain NPDES permits for storm water discharges during construction of the facility. A copy of each permit or authorization, including terms and conditions, shall be provided to the staff within seven days of receipt. Prior to construction, the construction SWPPP and SPCC procedures shall be submitted to the staff for review and acceptance.

(10) Buckeye shall employ the following construction methods in proximity to any watercourses:

(a) All watercourses, including wetlands, shall be delineated by fencing, flagging, or other prominent means.

(b) All construction equipment shall avoid watercourses, including wetlands, except at specific locations where staff has approved construction.

(c) Storage, stockpiling, and/or disposal of equipment and materials in these sensitive areas shall be prohibited.

(d) Structures shall be located outside of identified watercourses, including wetlands, except at specific locations where staff has approved construction.

(e) All stormwater runoff is to be diverted away from fill slopes and other exposed surfaces to the greatest extent possible and directed instead to appropriate catchment structures, sediment ponds, etc., using diversion berms, temporary ditches, check dams, or similar measures.

(11) Buckeye shall employ BMPs when working in the vicinity of environmentally-sensitive areas. This includes, but is not limited to, the installation of silt fencing (or similarly effective tool) prior to initiating construction near streams and wetlands. The installation shall be done in accordance with generally accepted construction methods and shall be inspected regularly.

(12) Buckeye shall dispose of all contaminated soil and all construction debris in approved landfills in accordance with Ohio EPA regulations.

(13) Buckeye shall have an environmental specialist on site at all times that construction, including vegetation clearing, is being performed in or near a sensitive area such as a designated wetland, stream, river, or in the vicinity of identified

threatened/endangered species or their identified habitat. The environmental specialist shall be familiar with water quality protection issues and able to field identify potential threatened/endangered species of plants and animals that may be encountered during project construction.

(14) Buckeye will immediately contact staff, ODNR, and/or USFWS if threatened or endangered species are discovered on-site during construction or operation.

(15) Buckeye shall develop and implement a post-construction avian and bat mortality survey plan that is approved by staff and members of ODNR-DW.

(16) Buckeye shall develop an HCP and obtain the associated ITP from USFWS regarding the potential take of Indiana bats.

(17) Buckeye shall implement all avoidance, minimization, and mitigation measures to protect the Indiana bat that are identified in an HCP and ITP as described in said documents.

(18) Buckeye shall not dispose of gravel or any other construction material during or following construction of the facility by spreading such material on agricultural land unless otherwise agreed to by the landowner. All construction debris shall be promptly removed and properly disposed of after completion of construction activities.

(19) Buckeye shall avoid, where possible, or minimize to the maximum extent practicable, any damage to field tile drainage systems and soils resulting from construction, operation, and maintenance of the facility in agricultural areas. Damaged field tile systems shall be promptly repaired to at least original conditions at Buckeye's expense. Excavated topsoil will be segregated and restored upon backfilling. Severely compacted soils will be plowed or otherwise decompacted, if necessary, to restore them to original conditions.

(20) Prior to construction, Buckeye shall prepare a Phase I cultural resources survey program for archeological work at turbine locations, access roads and auxiliary lines acceptable to staff. If the resulting survey work discloses a find of cultural or archaeological significance, or a site eligible for inclusion on the NRHP, then Buckeye shall submit an amendment,

modification, or mitigation plan for staff's acceptance. Any such mitigation effort, as appropriate, shall be developed in coordination with the OHPO with input from the Champaign County Historical Society and submitted to staff for review and acceptance.

(21) Prior to the commencement of construction, Buckeye shall conduct an architectural survey of the project area. Buckeye shall submit to staff a work program that outlines areas to be studied, with the focus on crossroad towns and villages in Champaign County that are located in the study area between the city of Urbana and the village of Mechanicsburg. If the architectural survey discloses a find of cultural or architectural significance, or a structure that is eligible for inclusion on the NRHP, then the applicant shall submit an amendment, modification, or mitigation plan for staff's acceptance. Any such mitigation effort, as appropriate, shall be developed in coordination with the OHPO with input from the Champaign County Historical Society and submitted to staff for review and acceptance.

(22) Buckeye shall not commence construction of the facility until it has a signed interconnection service agreement with PJM, which includes construction, operation, and maintenance of system upgrades necessary to reliably and safely integrate the proposed generating facility into the regional transmission system. Buckeye shall provide a letter stating that the agreement has been signed or a copy of the signed interconnection service agreement to the staff.

(23) Any permanent road closures, road restoration, or road improvements necessary for construction and operation of the proposed facility shall be coordinated with the appropriate entities, including but not limited to, the Champaign County Engineer, ODOT, local law enforcement, and health/safety officials.

(24) At its expense, Buckeye shall promptly repair all impacted roads and bridges following construction to at least their condition prior to the initiation of construction activities.

(25) General construction activities shall be limited to daylight hours Monday through Saturday. On Sunday, general

construction activities shall be limited to the hours between 8:00 a.m. and 5:00 p.m. Impact pile driving operations shall be limited to the hours between 8:00 a.m. to 5:00 p.m., Monday through Friday. Construction activities that do not involve noise increases above background levels at sensitive receptors are permitted when necessary.

(26) No commercial signage or advertisements shall be located on any turbine, tower, or related infrastructure.

(27) The turbines shall be numbered on two opposing sides consisting of 12-inch block numerals, eight feet up from the tower base. These numerals shall be painted in silver reflective paint outlined by a one-half inch black painted border to facilitate both night and day visibility.

(28) Each turbine tower will be placarded with a 24-hour emergency telephone number for Buckeye.

(29) If vandalism (i.e. spray painted graffiti) should occur, Buckeye shall remove or abate the damage immediately as to preserve the visual aesthetics of the project. Any abatement is subject to approval by staff.

(30) Buckeye will work with the property owner(s) adjacent to, and the owner of Fairview Cemetery in Mutual, Ohio, to develop a screening plan to be reviewed and accepted by staff. This screening plan shall, at the least, screen along the west and north sides of the chain link fence that serves as a property boundary between the two parcels.

(31) Approved turbines are subject to mitigation after construction, up to and including removal, if they exceed 30 hours per year of shadow flicker at any nonparticipating receptor. At least 30 days prior to the preconstruction conference, Buckeye shall provide staff with its informal complaint process to be used in shadow flicker complaints. The informal process shall include, at a minimum, testing procedures and monitoring duration when Buckeye is contacted with a shadow flicker complaint and a process to periodically inform staff of the number and substance of shadow flicker complaints received by Buckeye.

(32) All structures shall be lit in accordance with FAA circular 70/7460-1 K Change 2, Obstruction Marking and Lighting,

white paint/synchronized red lights- Chapters 4, 12 & 13 (Turbines), or as otherwise prescribed by the FAA. Strobing shall be prohibited unless specifically required by the FAA.

(33) Prior to the preconstruction conference, Buckeye shall provide staff with both the maximum potential distance for a blade shear event from the three turbine models under consideration and the formula used to calculate the distance.

(34) Buckeye shall conduct appropriate training to instruct construction and maintenance workers on potential hazards of wind turbines, including ice conditions.

(35) Buckeye shall provide all local fire and emergency management service personnel with turbine layout maps, tower diagrams, schematics, turbine safety manuals, and an emergency 24-hour toll-free phone number for Buckeye.

(36) Buckeye shall not construct Turbines 19, 24, 26, 29, 30, 34, 38, 46, 48, 50, 57, 58, 60, 61, 62, and 63 due to the hazard to aviation. Buckeye must also meet all recommended and prescribed FAA and ODOT-OA requirements to construct an object that may affect navigable airspace. This includes the nonpenetration of any FAA Part 77 surface, unless authorized to do so by the FAA. Turbines that do not satisfy FAA and ODOT-OA requirements shall not be constructed.

(37) At least 90 days prior to any construction, Buckeye shall notify in writing any airport owner, whether public or private, whose operations, operating thresholds/minimums, landing/approach procedures, and/or vectors are altered, or are expected to be altered by the construction, operation, maintenance, or decommissioning of the proposed facility.

(38) Buckeye shall meet all recommended and prescribed FCC and federal agency requirements to construct an object that may affect communications, and mitigate any effects or degradation caused by wind turbine operation, up to and including removal of afflicting turbine(s).

(39) If the facility's operation results in any impacts to existing off-air television coverage, cellular/PCS, or AM/FM reception, Buckeye shall address and resolve (i.e. mitigate) each

individual problem as commercially practicable and that mitigation shall be subject to staff approval.

(40) Buckeye shall conduct an in-depth vertical Fresnel-Zone analysis to determine if Turbine 37 will cause microwave interference. Pursuant to staff review and approval, Buckeye shall shift the location of, or eliminate, Turbine 37 based on the results of the aforementioned study.

(41) Buckeye shall maintain the turbine manufacturer's safety manual onsite at the operations and maintenance building, and shall comply with the safety manual.

(42) At the discretion of the landowner, Buckeye shall install gates at access roads to prohibit public access. Such gates shall include appropriate warning signs.

(43) Buckeye must meet all recommended and prescribed FAA and federal agency requirements to construct an object that may affect local/long-range radar, and mitigate any effects or degradation caused by wind turbine operation, up to and including removal of afflicting turbine(s).

(44) If, at a later date, it is determined that a turbine, or a turbine's operation, causes interference with existing radar installations, Buckeye must immediately notify the staff and the afflicting turbine would be subject to mitigation up to and including removal.

(45) Buckeye shall not construct Turbine 70, as proposed. If Buckeye elects to modify the location of proposed Turbine 70, Buckeye shall provide staff a hard copy of the geographically-referenced electronic data, all changes in relation to the proposed relocation of Turbine 70, and any associated facilities. All changes will be subject staff review and approval prior to construction and shall comply with the conditions set forth in this opinion, order, and certificate.

(46) Buckeye shall propose an adjusted location for Turbine 57 so that it complies with the minimum property line setback, pursuant to Rule 4906-17-08(C)(1)(c), or, in the alternative, obtains waiver of the setback by the affected property owner.

(47) Buckeye shall comply with all setback requirements as prescribed by the Board.

(48) Buckeye shall establish, maintain, and manage a toll-free phone number for public contacts regarding the facility's operation. Buckeye shall exercise reasonable efforts to inform local communities of the existence of this phone number. Buckeye shall further maintain records of contacts and share these records with staff upon request.

(49) At least 60 days prior to construction, Buckeye shall file a letter with the Board that identifies which of the three turbine models listed in the application has been selected. If Buckeye selects a turbine model other than one of the three models listed in the application, in addition to the letter, Buckeye shall also: file copies of the safety manual for the turbine model selected and manufacturer contact information; and provide assurances that no additional negative impacts would be introduced by the model selected.

(50) Within 30 days after completion of construction, Buckeye shall submit to staff a copy of the as-built plans and specifications.

(51) Buckeye shall provide staff the following information, as it becomes known: the date on which construction will begin; the date on which construction was completed; and the date on which the facility began commercial operation.

(52) The certificate shall become invalid if Buckeye has not commenced a continuous course of construction of the proposed facility within five years of the date of journalization of the certificate.

(53) Buckeye shall be prohibited from locating a proposed turbine where: (1) the distance from the turbine to either of two towers owned by the Champaign Telephone Company located at 10955 Knoxville Road, Mechanicsburg, Ohio 43044 (LAT: 40-0-30.16 N; LONG: 83-35-14.39 W) and at 2733 Mutual Union Road, Cable, Ohio 43009 (LAT: 40-9-26.0 N; LONG: 83-37-52.0 W) is less than the total height of the turbine above ground level or (2) the turbine would be in the direct line of sight between the two towers.

(54) Buckeye will not construct the proposed collector lines on the south side of Route 36, west of Ault Road and east of Ludlow Road, along the UCC road frontage around Hole No. 11.

(55) Buckeye will not locate surveillance cameras on or around the turbines, absent a showing of good cause, and approval by staff.

(56) Prior to the commencement of construction, Buckeye shall secure a road bond(s), or other similar surety, through the Champaign County Engineer's Office to provide adequate funds to repair any damage to public roads resulting from the construction or decommissioning of the proposed facility. Buckeye shall submit proof of the bond or other similar surety, for staff's approval in coordination with ODOT.

(57) Buckeye shall, at its expense, complete decommissioning of the facility, or individual wind turbines, within 12 months after the end of the useful life of the facility or individual wind turbines. If no electricity is generated for a continuous period of 12 months, or if the Board deems the facility or individual turbine to be in a state of disrepair warranting decommissioning, the facility or individual wind turbine will be presumed to have reached the end of its useful life.

(58) Decommissioning of the facility shall include the removal of all physical material pertaining to the facility to a depth of at least 36 inches beneath the soil surface and restoration of the disturbed area to substantially the same physical condition that existed immediately before construction. The foundation for each wind turbine shall be removed beyond the aforementioned depth of 36 inches to the greater depth of 60 inches, unless the landowner consents to the removal of 48 inches of the foundation. The decommissioning shall include removal of wind turbines, buildings, cabling, electrical components, roads, and any other associated facilities.

(59) During decommissioning, the disturbed earth shall be regraded, reseeded, and restored to substantially the same physical condition that existed immediately before construction.

(60) If Buckeye does not complete decommissioning within the period prescribed in Condition 57, the Board may take action as

necessary to complete decommissioning, including requiring forfeiture of financial assurance. The entry into a participating landowner agreement constitutes agreement and consent of the parties to the agreement, their respective heirs, successors, and assigns, that the Board may take action that may be necessary to implement the decommissioning plan, including the exercise by the Board, staff, and contractors of the right of ingress and egress for the purpose of decommissioning the facility.

(61) The escrow agent shall release the decommissioning funds when Buckeye has demonstrated, and the Board concurs, that decommissioning has been satisfactorily completed, or upon written approval of the Board in order to implement the decommissioning plan.

(62) Prior to construction, a determination of the probable hydrologic consequences of the decommissioning and reclamation operations, both on and off the project area, with respect to the hydrologic regime, providing information on the quantity and quality of the water in surface and groundwater systems including the dissolved and suspended solids under seasonal flow conditions and the collection of sufficient data for the site(s) and surrounding areas so that cumulative impacts of all actions in the area upon the hydrology of the area and particularly upon water availability be provided to staff for review and approval. This determination shall be required in addition to the hydrologic information of the general area prior to construction.

(63) Prior to construction, Buckeye shall identify lands in the application that a reconnaissance inspection suggests may be Prime Farmlands, a soil survey shall be made or obtained according to standards established by the Secretary of the U.S. Department of Agriculture and/or Ohio Department of Agriculture in order to confirm the exact location of the Prime Farmlands, if any. The results of this study shall be submitted to staff for review and approval. Any confirmed Prime Farmlands should be reclaimed to such standards after site decommissioning and reclamation.

(64) Prior to construction, Buckeye shall indicate the future use that is proposed to be made of the land following reclamation, including information regarding the utility and capacity of the

reclaimed land to support a variety of alternative uses and the relationship of the proposed use to existing land use policies and plans. This shall be submitted for staff review and approval.

(65) Prior to construction, Buckeye shall provide staff the engineering techniques proposed to be used in decommissioning and reclamation and a description of the major equipment; a plan for the control of surface water drainage and of water accumulation; and a plan, where appropriate, for backfilling, soil stabilization, compacting and grading. This plan shall be subject to review and approval by staff.

(66) Prior to construction, Buckeye shall provide staff with a detailed timetable for the accomplishment of each major step in the decommissioning/reclamation plan; the steps to be taken to comply with applicable air and water quality laws and regulations and any applicable health and safety standards; and a description of the degree to which the decommissioning/reclamation plan is consistent with the local physical, environmental, and climatological conditions. This timetable shall be subject to staff review and approval.

(67) During construction, operation, and decommissioning, all recyclable materials salvaged and nonsalvaged shall be recycled to the furthest extent possible. All other nonrecyclable waste materials shall be disposed of in accordance with state and federal law.

(68) Buckeye shall leave intact any improvements made to the electrical infrastructure, pending approval/acceptance by the concerned utility.

(69) Prior to construction of each turbine, Buckeye shall post and maintain financial assurance for said turbine in the amount of $5,000. This financial assurance shall be in place until such time that the facility has been operational for one year.

(70) With regard to financial assurance after the first year of operation of the facility, the following shall apply: Subject to approval by staff, an independent and registered professional engineer, licensed to practice engineering in the state of Ohio, shall be retained by Buckeye to estimate the total cost of

decommissioning in current dollars (decommissioning costs), without regard to salvage value of the equipment, and the cost of decommissioning net salvage value of the equipment (net decommissioning costs). Said estimate shall include: an analysis of the physical activities necessary to implement the approved reclamation plan, with physical construction and demolition costs based on ODOT's Procedure for Budget Estimating and RS Means material and labor costs indices; the number of units required to perform each of the activities, and an amount to cover contingency costs (not to exceed 10 percent of the above-calculated reclamation cost). Said estimate should be on a per turbine basis and shall be submitted for staff review and approval after one year of facility operation and every third year thereafter, until the facility is decommissioned. The Board reserves the right to hire its own expert, at the generation facility's expense, to evaluate any of the periodic reports. After one year of facility operation, Buckeye shall post and maintain decommissioning funds in an amount equal to the net decommissioning costs, provided that at no point shall the net decommissioning funds be less than 25 percent of the decommissioning costs. Buckeye shall adjust the funds, if necessary, based on the updated estimate within 90 days after notice of staff's approval of the estimate. The decommissioning funds (financial assurance) shall be in a financial instrument mutually agreed upon by staff and Buckeye, and conditioned on the faithful performance of all requirements and conditions of the approved decommissioning and reclamation plan. Alternatively, Buckeye may use a performance bond in lieu of the 25 percent requirement. Decommissioning funds shall be in a form approved by staff.

FINDINGS OF FACT AND CONCLUSIONS OF LAW:

(1) Buckeye is a corporation and a person under Section 4906.01(A), Revised Code.

(2) The proposed Buckeye wind-powered electric generation facility project is a major utility facility under Section 4906.01(B)(1), Revised Code.

(3) On June 4, 2008, Buckeye filed notice of the present case and attached a copy of the notice to be published for the informational public meeting held on June 10, 2008, at Triad

High School, 8099 Brush Lake Road, North Lewisburg, Ohio 43060.

(4) On April 24, 2009, as amended and supplemented on August 28, and September 1, 2009, Buckeye filed an application for a certificate to site a wind-powered electric generation facility in excess of 50 MW in Champaign County, Ohio.

(5) On June 23, 2009, the Board notified Buckeye that its application had been found to be complete pursuant to Chapter 4906, *et seq.*, O.A.C.

(6) On July 7, 2009, and July 16, 2009, Buckeye served copies of the application upon local government officials and filed proof of service of the application pursuant to Rule 4906-5-06, O.A.C.

(7) By entry issued July 31, 2009, the ALJ granted Buckeye's requests for waiver of the one-year notice period required by Section 4906.06(A)(6), Revised Code; the alternative site information and the formal site selection study required by Rules 4906-13-2(A)(1) and 4906-13-03, O.A.C; the mapping of the proposed facility and utility corridors, as it relates to gas transmission lines, required by Rule 4906-13-04(A)(1)(c), O.A.C.; the mapping of vegetative cover that may be removed during construction and layout of the proposed project in a 1:4,800 scale required by Rules 4906-13-04(A)(3), (A)(3)(g), and (B)(2), O.A.C.; the mapping of a cross-sectional view indicating geological features of the proposed facility site and the location of test borings required by Rule 4906-13-04(A), O.A.C.; the mapping, of among other things, fuel, waste, and other storage facilities, and water supply and sewage lines for the proposed project; and the mapping of the layout including grade elevations where such will be modified during construction as required by Rule 4906-13-04(B)(2)(i), O.A.C. Buckeye's requests for waiver of the financial data required by Rule 4906-13-05, O.A.C.; the provision of a ten-year projected population estimate for the communities within a five-mile radius of the proposed project site required by Rule 4906-13-07(A)(1), O.A.C.; the information based on a survey regarding the ecological impact of the proposed facility and a list of major species observed in the area as required by Rule 4906-13-07(B)(1)(b) through (e), O.A.C.; the estimated impact of construction on undeveloped areas as required by Rule 4906-

13-07(B)(2)(a); and the mapping of all agricultural land and all agricultural district land required by Rule 4906-13-07(F)(1), O.A.C., were denied.

(8) The ALJ granted motions to intervene filed by UNU, the Farm Bureau, UCC, the County, Urbana, the Telephone Company, and the Piqua Shawnee.

(9) On October 13, 2009, as supplemented on November 18, 2009, staff filed a report of the investigation of Buckeye's application.

(10) A local public hearing was held on October 28, 2009, at Triad High School, North Lewisburg, Ohio.

(11) On October 27, 2009, the adjudicatory hearing was called and continued until November 9, 2009. The hearing reconvened on November 9, 2009, and continued each business day through November 20, 2009. Rebuttal testimony was taken on December 1 and 2, 2009.

(12) On September 11, 2009, and November 5, 2009, Buckeye filed its proofs of publication of the hearing notice.

(13) The ALJ's rulings are reasonable and shall be affirmed.

(14) Adequate data on the Buckeye wind-powered electric generation facility has been provided to make the applicable determinations required by Chapter 4906, Revised Code, and the record evidence in this matter provides sufficient factual data to enable the Board to make an informed decision.

(15) Buckeye's application filed on April 24, 2009, as amended and supplemented on August 28, and September 1, 2009, complies with the requirements of Chapter 4906-13, O.A.C.

(16) The record establishes that the basis of need, under Section 4906.10(A)(1), Revised Code, is not applicable.

(17) The record establishes that the nature of the probable environmental impact of the facility has been determined and it complies with the requirements in Section 4906.10(A)(2), Revised Code, subject to the revised conditions set forth in this opinion, order, and certificate.

(18) The record establishes that the proposed facility represents the minimum adverse environmental impact, considering the state of available technology and the nature and economics of the various alternatives, and other pertinent considerations under Section 4906.10(A)(3), Revised Code, subject to the conditions set forth in this opinion, order, and certificate.

(19) The record establishes that the facility is consistent with regional plans for expansion of the electric power grid and will serve the interests of electric system economy and reliability, under Section 4906.10(A)(4), Revised Code, subject to the conditions set forth in this opinion, order, and certificate.

(20) The record establishes, as required by Section 4906.10(A)(5), Revised Code, that the facility will comply with Chapters 3704, 3734, and 6111, Revised Code, and Sections 1501.33 and 1501.34, Revised Code, and all rules and standards adopted pursuant thereto and under Section 4561.32, Revised Code.

(21) The record establishes that the facility will serve the public interest, convenience, and necessity, as required under Section 4906.10(A)(6), Revised Code, subject to the conditions set forth in this opinion, order, and certificate.

(22) The record establishes that the facility will not adversely impact the viability of any land in an existing agricultural district, under Section 4906.10(A)(7), Revised Code.

(23) The record establishes that the facility will comply with water conservation practices under Section 4906.10(A)(8), Revised Code.

(24) Based on the record, the Board shall issue a Certificate of Environmental Compatibility for the construction, operation, and maintenance of the Buckeye wind-powered electric generation facility in Champaign County, Ohio, subject to the conditions set forth in this opinion, order, and certificate.

ORDER:

It is, therefore,

ORDERED, That, UNU's, UCC's and the County's requests to reverse the ALJ's rulings are denied as set forth in Section IV of this opinion, order, and certificate. It is, further,

ORDERED, That a certificate be issued to Buckeye for the construction, operation, maintenance, and decommissioning of the proposed wind-powered electric generation facility, as modified pursuant to this opinion, order, and certificate. It is, further,

ORDERED, That the certificate contain the conditions as set forth in the Conclusion and Conditions Section of this opinion, order, and certificate. It is, further,

ORDERED, That a copy of this opinion, order, and certificate be served upon each party of record and any other interested persons of record.

THE OHIO POWER SITING BOARD

Alan R. Schriber, Chairman of the
Public Utilities Commission of Ohio

Lisa Patt-McDaniel, Board Member
and Director of the Ohio Department
of Development

Sean Logan, Board Member
and Director of the Ohio Department
of Natural Resources

Alvin Jackson M.D., Board Member
and Director of the Ohio Department
of Health

Christopher Korleski, Board Member
and Director of the Ohio
Environmental Protection Agency

Robert Boggs, Board Member
and Director of the Ohio Department
of Agriculture

Board Member
and Public Member

GNS/KLS/vrm

Entered in the Journal

MAR 22 2010

Renee J. Jenkins
Secretary

BEFORE

THE OHIO POWER SITING BOARD

In the Matter of the Application of Champaign Wind, LLC, for a Certificate to Construct a Wind-Powered Electric Generating Facility in Champaign County, Ohio.	)))))	Case No. 12-160-EL-BGN

OPINION, ORDER, AND CERTIFICATE

APPEARANCES: 1
OPINION: 2
I. SUMMARY OF THE PROCEEDINGS 2
II. PROPOSED FACILITY 3
III. PROCEDURAL PROCESS 5
IV. CERTIFICATION CRITERIA 6
V. PROCEDURAL ISSUES 7
A. Subpoenas 7
B. Request to Reopen Proceeding - Blade Shear Incidents 9
C. Request to Reopen Proceeding - Caithness Database 9
D. Request to Strike Blade Shear Testimony of Champaign Witnesses Shears and Poore 10
E. Draft Versions of Staff Report and Application 11
F. Admission of Application and Testimony of Champaign Witnesses Speerschneider and Crowell 12
G. Denial of UNU's Motion to Compel Lease Agreements 13
H. Motion to Reopen Hearing 14
I. Gamesa Motion for Protective Order 15
VI. DISCUSSION 17
A. Local Public Hearing 17
B. Basis of Need - Section 4906.10(A)(1), Revised Code 18
C. Nature of Probable Environmental Impact and Minimum Adverse Environmental Impact - Sections 4906.10(A)(2) and 4906.10(A)(3), Revised Code 18
1. Socioeconomic Impacts 19
2. Ecological Impacts 24
3. Conclusion – Environmental Impact 26
D. Electric Grid - Section 4906.10(A)(4), Revised Code 27
E. Air, Water, Solid Waste, and Aviation - Section 4906.10(A)(5), Revised Code 29
1. Air 29
2. Water 29
3. Solid Waste 30
4. Aviation 30
5. Conclusion - Air, Water, Solid Waste, and Aviation 33
F. Public Interest, Convenience, and Necessity - Section 4906.10(A)(6), Revised Code 35
1. Alternative Energy Portfolio Standards 35
2. Setbacks 35
a. General – Setbacks 35
b. Blade Shear and Fire 37
c. Ice Throw 42
d. Aesthetics 45

e. Shadow Flicker 47
f. Property Values 52
g. Operational Noise 54
h. Construction Noise 64
i. Conclusion 65
3. Communications Systems Interference 65
4. Traffic and Transportation 68
5. Landowner Leases 68
6. Roads and Bridges 68
7. Decommissioning 70
8. Conclusion - Public Interest, Convenience, and Necessity 72
G. Agricultural Districts - Section 4906.10(A)(7), Revised Code 73
H. Water Conservation Practice - Section 4906.10(A)(8), Revised Code 74
I. Other Issues 74
1. Emergency Services 74
2. Surveillance Cameras 75
3. Changes in conditions after certificate issuance 76
CONCLUSION AND CONDITIONS: 77
FINDINGS OF FACT AND CONCLUSIONS OF LAW: 99
ORDER: 102

The Ohio Power Siting Board (Board), coming now to consider the above-entitled matter, having appointed administrative law judges (ALJs) to conduct the hearings, having reviewed the exhibits introduced into evidence in this matter, and being otherwise fully advised, hereby issues its opinion, order, and certificate in this case, as required by Section 4906.20, Revised Code.

APPEARANCES:

Vorys, Sater, Seymour, and Pease LLP, by M. Howard Petricoff, Stephen M. Howard, Michael J. Settineri, Miranda R. Leppla, and Gretchen Petrucci, 52 East Gay Street, P.O. Box 1008, Columbus, Ohio 43216-1008, on behalf of Champaign Wind, LLC.

Mike Dewine, Ohio Attorney General, by William L. Wright, Section Chief, and Werner L. Margard, Stephen A. Reilly, and Devin D. Parram, Assistant Attorneys General, Public Utilities Section, 180 East Broad Street, 6th Floor, Columbus, Ohio 43215-3793, and by Summer J. Koladin Plantz and Sarah Bloom Anderson, Assistant Attorneys General, Environmental Enforcement Section, 30 East Broad Street, 25th Floor, Columbus, Ohio 43215, on behalf of the Staff of the Board.

Van Kley & Walker, LLC, by Jack A. Van Kley, 132 Northwood Boulevard, Suite C-1, Columbus, Ohio 43235, and Christopher A. Walker, 137 North Main Street, Suite 316, Dayton, Ohio 45402, and on behalf of Union Neighbors United, Inc., Robert and Diane McConnell, and Julia F. Johnson.

Nick Selvaggio, Champaign County Prosecuting Attorney, and Jane Napier, Assistant Prosecuting Attorney, 200 North Main Street, Urbana, Ohio 43078, on behalf of The Board of Commissioners of Champaign County and the Boards of Trustees of the Townships of Goshen, Union, and Urbana.

Chad Endsley and Leah Curtis, Ohio Farm Bureau Federation, 280 North High Street, Columbus, Ohio 43218-2382, on behalf of the Ohio Farm Bureau Federation.

Gil Weithman, Urbana City Law Director, and Breanne Parcels, Staff Attorney, 205 South Main Street, Urbana, Ohio 43078, on behalf of the City of Urbana.

Thompson Hine, LLP, by Philip B. Sineneng, Kurt P. Helfrich, and Ann B. Zallocco, 41 South High Street, Suite 1700, Columbus, Ohio 43215-6101, on behalf of Pioneer Rural Electric Cooperative, Inc.

OPINION:

I. SUMMARY OF THE PROCEEDINGS

All proceedings before the Board are conducted according to the provisions of Chapter 4906, Revised Code, and Chapter 4906, Ohio Administrative Code (O.A.C.).

On January 6, 2012, Champaign Wind LLC (Champaign or Applicant), a wholly-owned subsidiary of EverPower Wind Holdings, Inc. (EverPower), filed a copy of the notice regarding an application for a certificate of environmental compatibility and public need (certificate) that it intended to file for the construction of electricity generating wind turbines and electrical substations to be located in Champaign County, Ohio, and that a public informational meeting would be held on January 24, 2012. The public informational meeting was held, as scheduled, on January 24, 2012.

The ALJs granted motions to intervene filed by the following: Diane McConnell, Robert McConnell, Julia Johnson, and Union Neighbors United, Inc. (collectively, UNU); the Ohio Farm Bureau Federation (Farm Federation); the Board of Commissioners of Champaign County, Ohio, and the Boards of Trustees of the Townships of Union, Urbana, and Goshen (collectively, County/Townships); the City of Urbana (Urbana); and the Pioneer Rural Electric Cooperative (Pioneer).

On May 9, 2012, Applicant filed a motion for waivers of various aspects of Chapter 4906-17, O.A.C., and the one-year notice period requirement contained in Section 4906.06(A)(6), Revised Code.1 Staff filed a response indicating that it did not object to Applicant's waiver requests on May 17, 2012. UNU filed a memorandum contra Applicant's request for a waiver of Section 4906.06(A), Revised Code. By entry issued August 2, 2012, the ALJ granted Champaign's request for waiver of the one-year notice period required by Section 4906.06(A)(6), Revised Code; the requirement that Applicant provide certain cross-sectional views and locations of borings, pursuant to Rule 4906-17-05(A)(4), O.A.C.; and the requirement that Applicant submit a map of the proposed electric power generating site showing the grade elevations where modified during construction pursuant to Rule 4906-17-05(B)(2)(h), O.A.C.

Champaign filed its application on May 15, 2012, for a certificate of environmental compatibility to construct a wind-powered electric generation facility in Champaign County, Ohio. The proposed project (Buckeye Wind II) consists of up to 56 wind turbine generators, access roads, electrical interconnection, construction staging areas, an operations and maintenance facility, substation, and up to four meteorological towers, to be located on approximately 13,500 acres of leased private land in Goshen, Rush, Salem,

1 Section 4906.06(A)(6), Revised Code, was modified by the General Assembly, effective September 10, 2012, to no longer require a one-year notice period.

Union, Urbana, and Wayne Townships, in Champaign County, Ohio. The Board notes that the proposed project is adjacent to another wind project that has already been certificated in *In re Application of Buckeye Wind, LLC*, Case No. 08-666-EL-BGN (*Buckeye Wind I*), Opinion, Order, and Certificate (March 22, 2010).

By letter dated July 13, 2012, the Board notified Champaign that its application had been found to comply with Rule 4906-1, et seq., O.A.C. On July 20, 2012, Champaign filed a certificate of service of its accepted and complete application, in accordance with the requirements of Rule 4906-5-06, O.A.C.

By entry issued on August 2, 2012, the ALJ established a procedural schedule providing that the local public hearing would be held on October 25, 2012, at Triad High School Auditeria, 8099 Brush Lake Road, North Lewisburg, Ohio 43060, and the adjudicatory hearing would commence on November 8, 2012, at the offices of the Public Utilities Commission of Ohio in Columbus, Ohio. The August 2, 2012, entry also directed Champaign to publish notice in accordance with Rule 4906-5-08, O.A.C. Notice of the application was published in the Urbana Daily Citizen, a newspaper of general circulation in Champaign County. Champaign filed proof of publication of the first notice on September 13, 2012, and proof of publication of the second notice on November 6, 2012.

All of the parties, including the Board's Staff (Staff), conducted significant discovery and, on October 10, 2012, Staff filed a report of its investigation of the proposed facility (Staff Report).

The local public hearing was held, as scheduled, on October 25, 2012. The adjudicatory hearing commenced, as scheduled, on November 8, 2012. Initial testimony concluded on November 28, 2012. Rebuttal testimony was heard on December 6, 2012. At the hearing, Champaign presented ten witnesses, UNU presented six witnesses, the County/Townships presented four witnesses, the Farm Federation presented one witness, Pioneer presented one witness, Urbana presented five witnesses, and Staff presented eight witnesses. Champaign also presented one witness on rebuttal. Additionally, 122 exhibits were marked and 3,010 pages of testimony were transcribed.

Initial briefs were filed on January 16, 2013, by Champaign, Staff, UNU, the County/Townships, and Urbana. On January 28, 2013, reply briefs were filed by Champaign, Staff, UNU, the County/Townships, and Urbana.

II. PROPOSED FACILITY

According to the application, Champaign proposes to construct up to 56 wind turbine generators, access roads, electrical interconnection, construction staging areas, an operations and maintenance facility, substation, and up to four meteorological towers

located on approximately 13,500 acres of leased private land in Goshen, Rush, Salem, Union, Urbana, and Wayne Townships in Champaign County, Ohio (Co. Ex. 1 at 2).

In its application, Champaign proposes to install one of six models[2] of turbines: the REpower MM100, REpower MM92, Nordex N100, Gamesa G97, General Electric (GE)100, or GE103. Champaign explains that, because construction is not scheduled to begin until 2013, and, due to changing market factors such as availability and cost, a specific turbine model could not be selected at the time the application was submitted. The six turbines under consideration have nameplate capacity ratings ranging from 1.6 to 2.5 megawatts (MW). Champaign expects a capacity factor ranging from 30 to 35 percent. Additionally, Champaign estimates that the proposed wind facility will have a total generating capacity of 89.6 to 140 MW. The hub heights for the turbines will range from 98.5 to 100 meters (323 to 328 feet), with a rotor diameter ranging from 92.5 to 103 meters (303 to 338 feet); therefore, the total height of the turbines will range from 146 to 150 meters (479 to 492 feet), with the blade tip in its highest position. (Co. Ex. 1 at 10-11.)

The application proposes that the electric substation would be located in the town of Union, adjacent to the existing Urbana-Mechanicsburg-Darby transmission line and will transmit power carried by the 34.5 kilovolt (kV) collection lines serving the wind facility. Champaign also proposes an operations and maintenance building to accommodate operations personnel, equipment, materials, and parking. Applicant expects to purchase or lease an existing structure in the project vicinity for the operations and maintenance building, but asserts that, if Applicant must construct a building, it would not exceed 6,000 square feet and would be designed to resemble an agricultural building. (Co. Ex. 1 at 15.)

The application further proposes the construction of new or improved roads to provide access to the facility, expected to be about 25 miles of private access roads. Further, Applicant expects the use of three temporary construction staging areas, to be located on private leased land, in order to accommodate material and equipment storage, parking for construction workers, and construction trailers. In total, the application states that the staging areas will not exceed 23 acres. Finally, according to the application, Champaign plans to commence construction in 2013 and place the facility in service in late 2013. (Co. Ex. 1 at 14-16.)

---

2 Although the application originally identified seven models under consideration, on October 1, 2012, prior to commencement of the hearing, Champaign filed correspondence in the docket indicating that the Vestas V100 model was no longer under consideration.

III. PROCEDURAL PROCESS

Pursuant to Section 4906.04, Revised Code, a certificate issued by the Board is required prior to the commencement of construction of a major utility. Section 4906.04, Revised Code, further provides that a certificate may only be issued pursuant to Chapter 4906, Revised Code. An application for a certificate is required to be filed with the Board and a copy of the application must be served on the chief executive officer of each municipal corporation and county, as well as the head of each public agency charged with environmental protection or land use planning in the area in which the facility is proposed to be located. Section 4906.06(B), Revised Code. Further, public notice of such an application is required to be given to persons residing in the municipal corporations and counties in which the facility is proposed to be located by newspaper publication. Section 4906.06(C), Revised Code. Upon receipt of an application in compliance with Section 4906.06, Revised Code, the Board is required to schedule a public hearing within a certain time frame and the chairperson is required to cause the application to be investigated and a report submitted to the board, applicant, and any person upon request, in accordance with Section 4906.07(A) and 4906.07(C), Revised Code. Additionally, Section 4906.02, Revised Code, governs the organization of the Board and provides that the chairperson may assign or transfer duties among the Board's Staff, with the exception of the authority to grant certificates pursuant to Section 4906.10, Revised Code. In accordance with Chapter 4906, Revised Code, the Board promulgated rules in Chapter 4906-17, O.A.C., regarding wind-powered electric generation facilities and associated facilities.

Notably, Chapter 4906, Revised Code, provides that a number of these provisions are also applicable to applications for an amendment of a certificate (amendment applications). Section 4906.06(E), Revised Code, provides that amendment applications should be in the form and contain information prescribed by the Board and that notice of an amendment application shall be given as required for an application in Section 4906.06(B) and 4906.06(C), Revised Code. Additionally, Section 4906.07(B), Revised Code, provides that the Board must hold a hearing on an amendment application if the proposed change would result in a material increase in any environmental impact[3] of the facility or substantial change in the location of any portion of the facility not provided for as an alternate in the original application. Rule 4906-5-10(B), O.A.C., pertaining to amendment applications provides, in pertinent part:

> (B) Applications for amendments to certificates shall be submitted in the same manner as if they were applications for a certificate,

---

[3] The Board notes that environmental impact includes, but is not limited to, the following factors: demographics, land use, cultural and archaeological resources, aesthetics, economics, surface waters, threatened and endangered species, vegetation, setbacks, roads and bridges, geology and seismology, water supplies, pipeline protection, blade shear, high winds, ice throw, noise, shadow flicker, communications, and decommissioning.

unless such amendment falls under a letter of notification or construction notice pursuant to the appendices to rule 4906-1-01 of the Administrative Code.

(1) The board staff shall review applications for amendments to certificates pursuant to rule 4906-5-05 of the Administrative Code and make appropriate recommendations to the board and the administrative law judge.

(a) If the board, its executive director, or the administrative law judge determines that the proposed change in the certified facility would result in any significant adverse environmental impact of the certified facility or a substantial change in the location of all or a portion of such certified facility other than as provided in the alternates set forth in the application, then a hearing shall be held in the same manner as a hearing is held on a certificate application.

(b) If the board, its executive director, or the administrative law judge determines that a hearing is not required, as defined in paragraph (B)(1)(a) of this rule, the applicant shall be directed to take such steps as are necessary to notify all parties of that determination.

For examples of cases where the Board has considered amendment applications, see *In the Matter of the Application of Rolling Hills Generating, LLC, to Amend its Certificate,* Case No. 12-1669-EL-BGA, Entry (Jan. 16, 2013); *In the Matter of the Application of Hog Creek Wind Farm, LLC, for a Second Amendment,* Case No. 11-5542-EL-BGA, Order on Certificate Amendment (Nov. 28, 2011); *In the Matter of the Application of Blue Creek Wind Farm, LLC, for a Second Amendment,* Case No. 11-3644-EL-BGA, Order on Certificate Amendment (Nov. 28, 2011); *In the Matter of the Application of Hardin Wind Energy LLC for an Amendment,* Case No. 11-3446-EL-BGA, Order on Certificate Amendment (Aug. 29, 2011).

IV. CERTIFICATION CRITERIA

Pursuant to Section 4906.10(A), Revised Code, the Board shall not grant a certificate for the construction, operation, and maintenance of a major utility facility, either as proposed or as modified by the Board, unless it finds and determines all of the following:

(1) The basis of the need for the facility if the facility is an electric transmission line or gas or natural gas transmission line.

(2) The nature of the probable environmental impact.

(3) The facility represents the minimum adverse environmental impact, considering the state of available technology and the nature and economics of the various alternatives, and other pertinent considerations.

(4) In the case of an electric transmission line, or generating facility, such facility is consistent with regional plans for expansion of the electric power grid of the electric systems serving this state and interconnected utility systems and that the facility will serve the interests of electric system economy and reliability.

(5) The facility will comply with Chapters 3704, 3734, and 6111, Revised Code, and all rules and standards adopted under those chapters and under Sections 1501.33, 1501.34, and 4561.32, Revised Code.

(6) The facility will serve the public interest, convenience, and necessity.

(7) The impact of the facility on the viability as agricultural land of any land in an existing agricultural district established under Chapter 929, Revised Code, that is located within the site and alternate site of the proposed major facility.

(8) The facility incorporates maximum feasible water conservation practices as determined by the Board, considering available technology and the nature and economics of various alternatives.

The record in this case addresses all of the above-required criteria.

V. PROCEDURAL ISSUES

A. Subpoenas

In its initial post-hearing brief, UNU asserts that the ALJs erroneously denied UNU's attempt to obtain information about other wind projects' noise limitations, shadow flicker complaints, and blade shear or blade throw incidents. UNU argues that the ALJs

should not have granted motions to quash UNU's subpoenas for neighbors' noise complaints and other records pertinent to turbine noise. Similarly, UNU states that its attempt to obtain meaningful information about Champaign's 30 hour per year shadow flicker limit was proper, and notes that even Champaign's witness testified that shadow flicker limitations are relevant for this proceeding. Finally, UNU opines that the ALJs wrongfully quashed UNU's subpoenas for records about blade shear incidents, including travel distances of the blade pieces. (UNU Br. at 28, 42, 47, 57.)

Champaign counters that the ALJs properly determined that UNU's subpoenas of General Electric, EDP Renewables, and Gamesa were overbroad and sought information unrelated to the proceeding. Champaign states that the ALJs' ruling regarding UNU's subpoenas should be affirmed. (Co. Br. at 41.)

The Board finds that UNU's request is improper and should be denied. UNU's assertion that the ALJs prevented UNU from obtaining any relevant information on noise limitations is erroneous and misleading, as the ALJs did not quash UNU's request for noise information for turbine models that are being considered in the application. (Oct. 22, 2012, ALJ Entry at 11-12). Regarding UNU's subpoenas to obtain shadow flicker complaints, the Board also affirms the ALJs' decision to quash parts of UNU's subpoenas. The subpoenas filed by UNU requested the following:

> All studies, reports, and other documents relating to adverse effects caused or potentially caused by wind turbines on humans, wildlife, aviation, property values, or the environment through noise, shadow flicker, blade throw, blade icing, wildlife collisions with turbines, or other effects. All documents relating to any complaints that wind turbines have caused the forgoing effects.

(UNU Subpoenas filed Sept. 28, 2012.) The request for information relating to shadow flicker complaints was extraordinarily overbroad and the Board concurs with the ALJs that it would be unreasonable to force a nonparty to expend its time and resources toward a request that is unlimited in scope. The unreasonableness of the request is further compounded by UNU's own admission that it could refine the scope of its requests, including narrowing the subject matter and the types of documents to be produced (UNU Oct. 15, 2012, Memorandum Contra Motion to Quash at 15-16). Despite UNU's offer to subpoenaed entities to narrow the scope of its requests, UNU never filed an amended or revised subpoena, therefore, we affirm the ALJs' decision to quash UNU's overly broad subpoena of all items that relate to shadow flicker complaints.

Finally, we affirm the ALJs' decision quashing subpoena matters relating to blade shear incidents for similar reasons. In its subpoenas, UNU sought "all studies, reports,

and other documents relating to the distance turbine blades can fly when released from wind turbines." (UNU Subpoenas filed Sept. 28, 2012.) Again, this request is overly broad and not focused on obtaining information that could be admissible before the Board. Further, in its memorandum contra the motions to quash, UNU did not identify any substantial need or undue hardship that would occur absent the subpoenas being enforced to overcome the burden that would be imposed on entities that were not parties in this proceeding. We do note that, while UNU's request pertaining to a blade shear incident at a wind farm certificated by the Board was not overbroad because it identified a specific incident at a specific time and place, the request related to turbine models that are not under consideration in the proposed project before us. Accordingly, UNU's request that the Board overturn the ALJs' determinations regarding UNU's subpoenas should be denied.

B. Request to Reopen Proceeding - Blade Shear Incidents

UNU argues that the ALJs improperly sustained objections related to blade shear incidents at the *Timber Road II* wind farm during the adjudicatory hearing.[4] UNU requests that the hearing be reopened to admit the evidence about the *Timber Road II* wind farm. (UNU Br. at 43.)

Champaign replies that the ALJs properly limited the details of Staff's investigation of the Timber Road II incident, and still permitted UNU to present evidence about the blade shear incident with regard to appropriate setbacks. (Co. Reply Br. at 42.)

The Board affirms the ALJs' rulings and finds that UNU's questions regarding the specific blade shear travel distances were outside the scope of the application before us. The distance in which turbine blades traveled at a different wind farm with a turbine model that is not under consideration in this proceeding is not a fact of consequence in determining whether the proposed setbacks considered within the application at hand are reasonable; thus, it is irrelevant. Furthermore, counsel for UNU was permitted to question Staff's witness on how the *Timber Road II* blade shear incident affected Staff's determination of appropriate setbacks in the instant application. Therefore, we find UNU's request to reopen the proceeding should be denied. (Tr. at 2570-2571.)

C. Request to Reopen Proceeding - Caithness Database

In its initial brief, UNU states that the ALJs wrongfully denied admission of the Caithness database into the record, as well as UNU witness Palmer's testimony regarding the database's accuracy. UNU adds that UNU witness Palmer not only testified that the

---

4 Certificated in *In the Matter of Paulding Wind Farm II, LLC*, Case No. 10-369-EL-BGN, Opinion and Order (Nov. 18, 2010) (*Timber Road II*).

database is accurate, but also verified much of the data within the database, indicating it has probative value. UNU requests that the hearing be reopened to consider the database. Champaign responds that the ALJs properly determined that the evidence was inadmissible hearsay from third parties; therefore, it was properly stricken. (UNU Br. at 44, 48; Co. Reply Br. at 44-45.)

The Board finds that UNU's request to reopen the hearing should be denied. The Caithness database is an open, online forum, where information is obtained from individuals who can add information, documents, and data into the database. However, the database consists entirely of third-party information, in which UNU witness Palmer relied upon in creating his testimony. The website itself disclaims any accuracy of the items contained within its database, and there was no possible way for either UNU witness Palmer or the ALJs to independently verify who the author of the information was and whether the information was reliable. The website itself serves to function in a similar manner to other online forums, such as Wikipedia, where anyone can author or edit content without peer review or qualitative analysis.[5] Here, UNU witness Palmer, in formulating his conclusions, relied on data and information that had not been shown to be reliable, nor had the voluminous amounts of data contained within the database been subject to peer review or analysis. Accordingly, we affirm the ALJs' rulings and find that UNU's request to reopen the hearing should be denied. (Tr. at 1350-1352, 1356.)

D. Request to Strike Blade Shear Testimony of Champaign Witnesses Shears and Poore

UNU argues that the ALJs were inconsistent in their rulings and should not have allowed Champaign to introduce testimony indicating that blade shear is rare. Specifically, UNU notes that Champaign witness Shears was permitted to testify about wind farm safety incidents and Champaign witness Poore was able to use statistics from two PowerPoint presentations prepared by consultants in order to formulate his opinions on the wind industry. (UNU Br. at 44-45.)

Champaign points out that UNU actually elicited the evidence from Champaign witness Poore about the industry's safety. Champaign notes that both witnesses presented general statements based on personal knowledge and industry experience and, therefore, their testimony is admissible and properly included in the record. (Co. Reply Br. at 44.)

The Board finds that the ALJs' rulings were not inconsistent by allowing testimony of Champaign witnesses Poore and Shears into the record. First, the two PowerPoint presentations, while hearsay, are admissible under the learned treatise exception. Both

---

5 In the course of the adjudicatory hearing, the ALJs affirmed that references from Wikipedia are inadmissible hearsay and cannot be admitted as a learned treatise (Tr. at 1021).

presentations were relied upon by Champaign witness Poore in direct examination and were established as a reliable authority, as both authors of the presentations were known and their backgrounds were included. In addition, direct testimony questions about wind turbine incidents directly pertain to personal knowledge the witnesses had from their own experiences in the wind industry. Further, while UNU is critical of the inclusion of parts of Champaign witness Shears' testimony in the record, the questions and answers directly relate to his experience as the Chairman of the British Wind Energy Association and his 18 years of experience in the wind industry. However, we believe the sentence in Champaign witness Shears' testimony, which provides "[b]ut the operation of wind farms has far fewer safety related incidents even on a proportional basis then other means of obtaining energy such as the mining of coal or drilling for oil" is inadmissible hearsay, and no exception applies. Accordingly, this sentence should be stricken from the record. Accordingly, UNU's request to strike certain testimony of Champaign witnesses Poore and Shears relating to blade shear is granted, in part, and denied, in part as set forth above. (Co. Reply Br. at 44; Co. Ex. 12 at 3.)

E. Draft Versions of Staff Report and Application

UNU argues that an ALJ entry issued November 7, 2012, wrongfully denied its motion to compel Champaign to produce correspondence and draft documents of the proposed project application. UNU contends that the documents may have led to the discovery of relevant information and could have contained statements inconsistent with the application. UNU requests that the Board remand the application to conduct further discovery on the drafts of the application. (UNU Br. at 66-67.)

In addition, UNU states that the ALJs further erred in the adjudicatory hearing by failing to admit drafts of the Staff Report. UNU opines that the ALJs wrongfully cited and extended their ruling about the application's drafts to the draft of the Staff Report. UNU believes that the draft of the Staff Report shows that Staff accepted all of Champaign's recommendations at face value. Further, UNU argues that its right to discovery under Section 4903.082, Revised Code, was violated. (UNU Br. at 66-67.)

Champaign provides that it was appropriate for the ALJs to preclude admission of a draft of the Staff Report and questioning on the draft because the draft was not relevant. Further, Champaign points out that UNU was still able to make its point and asked Staff's witness several questions about the draft. (Co. Reply Br. at 43; Tr. at 2554-2555, 2566.)

The Board finds that UNU's request to remand the application for further discovery should be denied. While UNU is correct that Section 4903.082, Revised Code, provides parties with ample rights of discovery, under Ohio Civ.R. 26(B)(1), these rights extend only to matters that are relevant to the subject matter involved in the pending action. As Section 4906.10, Revised Code, sets forth, the Board's responsibility is to render a decision

upon the record either granting or denying the application as filed, or modifying and granting the application. The sole consideration of the Board is on the application, as filed. Accordingly, the admission of any drafts, whether it be an application or staff report, will not make it more or less probable that Champaign's application meets or does not meet the requirements of Section 4906.10, Revised Code. Therefore, UNU's requests to be provided with drafts of the Staff Report and the application should be denied.

F. Admission of Application and Testimony of Champaign Witnesses Speerschneider and Crowell

In its initial brief, the County/Townships contend that intervenors were not afforded due process at the adjudicatory hearing. The County/Townships argue that it was improper for Champaign to use a corporate executive to sponsor Champaign's application, and the ALJs wrongfully admitted the application into evidence despite objections by several parties. Furthermore, the County/Townships allege that the ALJs erroneously allowed Champaign witness Crowell to testify as an expert about Exhibit E of the application and improperly admitted the exhibit into the record. UNU adds that admission of the application, as well as Champaign witness Speerschneider's testimony, was inappropriate, as Champaign witness Speerschneider was not qualified to offer expert testimony on the application. (County/Townships Br. at 19-21; UNU Br. at 54-55.)

Staff argues that the County/Townships did not explain how due process was denied nor did they provide any support for their claims. Staff believes the Board should not be swayed by arguments without any merit or support, and the ALJs' rulings should be upheld. (Staff Reply Br. at 2.)

Champaign responds that the Board has a longstanding practice of allowing applicants to sponsor an application and its corresponding exhibits through the testimony of a witness that is an employee of the applicant. Champaign adds that the Board also has precedent of admitting a witness's testimony and related exhibits or studies that were performed at the applicant's request or under the direction of the applicant. (Co. Reply Br. at 40-41.)

The Board finds no error in the admission of the application and testimony of Champaign witnesses Speerschneider and Crowell into the record. As the ALJs explained at the adjudicatory hearing, Champaign witness Speerschneider has a wide range of experience in developing and permitting renewable energy projects, and, as a high-ranking corporate officer and the senior director of permitting, the answers to questions within his direct testimony clearly fell within his job description. (Tr. at 31-32.)

The Board also finds it was entirely appropriate to admit the application as an exhibit in this proceeding. As Champaign witness Speerschneider testified, he not only

directed and supervised the selection and work of third-party consultants that were utilized in developing the application, but he also managed the production of the entirety of the application, including the studies and exhibits contained within the application. In addition, Champaign witness Speerschneider was able to confirm that the information contained within the application was accurate and correct. Further, as Champaign correctly identified in its initial brief, Board precedent allows for the introduction of an application by a sponsoring witness who had significant responsibility in the creation and production of the application. (Tr. at 154-155.)

Similarly, Champaign witness Crowell's testimony was appropriately admitted into the record. Champaign witness Crowell is a senior project manager in ecological areas such as wetland surveys and permitting matters; thus, his testimony is appropriate and consistent with his job description. In addition, the transportation route study included within the application was conducted under his direction. Accordingly, we affirm the ALJs' rulings and find that Champaign witness Crowell's direct testimony and corresponding exhibits within the application are admissible. (Co. Ex. 19 at 1; Tr. at 1598.)

G. Denial of UNU's Motion to Compel Lease Agreements

By entry issued November 7, 2012, the ALJs granted in part, and denied in part, UNU's motion to compel discovery from Champaign. Specifically, the ALJs determined that certain documents, including private lease agreements between landowners and Champaign, were not relevant to the application and unlikely to lead to admissible evidence. In its initial brief, UNU contends that the ALJs wrongfully denied UNU's motion to compel all documents relating to leases of turbine sites in the project area that were obtained by Champaign from Invenergy. UNU provides that the ALJs erroneously precluded UNU from inquiring about the nature of records that Champaign had acquired from EverPower. UNU argues that it was seeking to determine what information still existed in order to seek immediate production of the items, or, in the alternative, to request sanctions against Champaign in the event that valuable evidence had been destroyed. (UNU Br. at 67-68.)

Champaign notes that the documents sought by UNU were not relevant to the proceeding at hand, and the request was overly broad and unduly burdensome. Champaign adds that UNU failed to present any new or different arguments to justify a reversal of the ALJs' ruling. (Co. Reply Br. at 44.)

The Board affirms the ALJs' rulings and finds that UNU's motion to compel and the corresponding questions in the adjudicatory hearing would not have lead to information that is relevant for this proceeding. UNU fails to present any persuasive reasoning as to how participating landowner lease agreements could lead to the production of relevant information. Rather, UNU attempts to loosely connect these lease agreements to

environmental characteristics of property sites, but UNU fails to provide any foundation as to how a private financial lease transaction between a company and a landowner would lead to relevant information for our evaluation of the application before us. UNU's request should be denied.

H. Motion to Reopen Hearing

On January 17, 2013, UNU filed a motion to reopen the hearing record for the admission of newly discovered evidence. UNU explains that the Wisconsin Public Service Commission conducted an evidentiary hearing on a proposed wind farm and recommended that a sound measurement study be conducted to assess low frequency noise (LFN) and infrasound noise. UNU states that four acoustical firms, including Hessler Associates, participated in the study and issued a report on December 24, 2012. UNU opines that the report provides important recommendations that Champaign witness Hessler was unable to provide in this proceeding. UNU believes the study resolves any uncertainty associated with Champaign witness Hessler's testimony and essentially supplements the testimony he has already provided. In support of its motion, UNU points to the Public Utilities Commission of Ohio's Rule 4901-1-34, O.A.C., which allows for the reopening of a proceeding with good cause shown prior to the issuance of a final order. UNU argues that the study's conclusions indicate the seriousness of noise issues related to turbines, showing that good cause exists for the reopening of this proceeding.

In its memorandum contra filed January 22, 2013, Champaign contends the Board should deny the motion as UNU has not sustained its burden pursuant to Rule 4906-7-17(C), O.A.C. Champaign states that the evidence UNU seeks to introduce is cumulative and notes that UNU presented two expert witnesses who testified on LFN, and UNU had the ability to cross-examine two Champaign witnesses that testified on LFN. Champaign explains that UNU is improperly trying to reopen the hearing for impeachment purposes of Champaign witness Hessler, and that, even if it were admitted, the report is not a definite statement on infrasound noise that could be material evidence for this proceeding. Champaign points out that the report is currently being contested before the Wisconsin Public Service Commission and provides only a snippet of information without providing all other relevant information, including Mr. Hessler's.

On January 25, 2013, UNU filed its reply in support of the motion to reopen the proceeding. UNU points out that nothing in the Board's rules or case law precludes reopening a hearing in order to impeach a witness. UNU notes that it is not trying to introduce the study solely to impeach Champaign witness Hessler, as the study resolves an important question that Champaign witness Hessler could not answer on cross-examination: that LFN can be measured from wind turbines. UNU argues the inclusion of the study would not be cumulative because it helps establish new and distinct facts.

On February 1, 2013, Champaign filed a motion for leave to file a surreply to UNU's reply in support of its motion to reopen the hearing. UNU filed a reply to Champaign's motion to file surreply on February 4, 2013, and Champaign docketed correspondence addressing the reply to the motion to file surreply on February 6, 2013.

The Board finds that UNU's motion to reopen the proceeding should be denied. Rule 4906-7-17(C), O.A.C., provides that an application to reopen a proceeding for further evidence must provide the nature and purpose of the evidence, including a statement that the evidence was not available at the time of the hearing and the evidence is not merely cumulative. Initially, we note that, despite providing the wrong rule reference, UNU did indicate the nature and purpose of the evidence within the report stating that it was to provide support for the claim that LFN is a serious issue and may affect the future of the wind industry. However, UNU not only had ample opportunity to question Champaign witness Hessler on his findings in the pending Wisconsin proceeding during the adjudicatory hearing, but UNU also presented two witnesses who testified that wind turbine noise includes LFN which causes adverse health effects. Any additional evidence on LFN would be cumulative in nature and would not add anything to the record. Moreover, a review of the information within the LFN study reveals that it is neither inconsistent nor contradictory with the position that UNU presents in this proceeding. It would be in poor practice for the Board to establish precedent that allows parties to delay proceedings in order to add cumulative information already contained within the record. Accordingly, UNU's request to reopen the proceeding should be denied. (Tr. at 864.)

I. Gamesa Motion for Protective Order

By entry issued on October 22, 2012, the ALJs ruled on a motion to quash filed by Gamesa Wind, US, LLC (Gamesa), regarding motions for issuances of subpoenas duces tecum filed by UNU on Gamesa. In the entry, the ALJs granted, in part, and denied, in part, the motions to quash and ordered Gamesa to deliver the requested records not quashed to UNU. Thereafter, on October 26, 2012, Gamesa elected, on its own volition, to file redacted copies of records under seal with the Board, accompanied by a motion for protective order. By entry issued November 5, 2012, the ALJs found that, as Gamesa had chosen to file records with the Board, thereby making them subject to public records regulations, Gamesa should file unredacted versions of those records under seal so that the Board could appropriately rule on the accompanying motion for protective order. Thereafter, on November 13, 2012, Gamesa filed the unredacted records accompanied by a motion for protective order.

In its November 13, 2012, motion for protective order, Gamesa argues that the records, consisting of a Gamesa General Characteristics Manual for the G97 turbine model, contain proprietary, trade secret information concerning the noise levels of its G97 turbine;

that Gamesa does not share this information with the general public; and that, if the redacted information was made public, it would place Gamesa at a competitive disadvantage.

Rule 4906-7-07(H)(4), O.A.C., provides that, upon motion of any party or person filing a document with the Board's Docketing Division relative to a case before the Board, the Board may issue any order, which is necessary to protect the confidentiality of information contained in the document, to the extent that state or federal law prohibits release of the information, including where it is determined that both of the following criteria are met: the information is deemed by the Board to constitute a trade secret under Ohio law, and where nondisclosure of the information is not inconsistent with the purposes of Title 49 of the Revised Code. Any order issued under this rule should minimize the amount of information protected from public disclosure.

The Board has reviewed the information included in Gamesa's motion for protective order, as well as the assertions set forth in the supportive memorandum. Applying the requirements that the information have independent economic value and be the subject of reasonable efforts to maintain its secrecy pursuant to Section 1333.61(D), Revised Code, as well as the six-factor test set forth by the Ohio Supreme Court,[6] the Board finds that the redacted information contained in the Gamesa General Characteristics Manual for the G97 turbine model contains trade secret information. Its release is, therefore, prohibited under state law. The Board also finds that nondisclosure of this information is not inconsistent with the purposes of Title 49 of the Revised Code. Therefore, the Board finds that Gamesa's motion for protective order is reasonable with regard to the redacted information contained in the Gamesa General Characteristics Manual for the G97 turbine model and should be granted.

Confidential treatment shall be afforded for a period ending 18 months from the date of this entry or until November 28, 2014. Until that date, the docketing division should maintain, under seal, the information filed confidentially.

Rule 4906-7-07(H)(6), O.A.C., requires a party wishing to extend a protective order beyond 18 months to file an appropriate motion in advance of the expiration date, including a detailed discussion of the need for continued protection from disclosure. If Gamesa wishes to extend this confidential treatment, it should file an appropriate motion at least 45 days in advance of the expiration date. If no such motion to extend confidential treatment is filed, the Board may release this information without prior notice to Gamesa.

---

6 See *State ex rel. The Plain Dealer v. Ohio Dept. of Ins.*, 80 Ohio St.3d 513, 524-525, 687 N.E.2d 661 (1997).

VI. DISCUSSION

The Board will review the evidence presented in this case with regard to each of the criteria by which we are required to evaluate this application. After reviewing the evidence of each subject matter area, the Board will set forth its conclusion on the specific topical item and then, later in the order, we will evaluate and determine whether, as a whole, the application meets the statutory requirements. Any evidence not specifically addressed herein has still been considered and weighed by the Board in reaching its final determination.

Further, the Board notes that the numbering of Staff's recommended conditions differs between the Staff Report filed on October 10, 2012, and Staff's modified recommended conditions attached to its brief filed on January 16, 2013, due to deletion and modification of some conditions. Throughout this Opinion, Order, and Certificate, the Board will utilize the numbering of Staff's modified recommended conditions of January 16, 2013.

A. Local Public Hearing

At the local public hearing, 45 people testified. Of the 45 witnesses who testified, 34 opposed the proposed facility, while 11 witnesses testified in support of the project. There were 138 people in attendance at the public hearing that signed Board petitions, with 28 signatures in favor of the project, and 110 opposed to the project.

Witnesses in opposition to the project voice concerns about diminishing property values of homes in and around the project footprint. Multiple witnesses argue the proposed project should have greater setback requirements and express apprehension about potential health effects that may be associated with wind turbines. Numerous witnesses present arguments against the wind industry, with some expressing support for the use of coal and other traditional energy sources. Others oppose the use of government subsidies to develop wind energy projects. Many witnesses also oppose the use of turbines that are manufactured outside the United States.

Witnesses in favor of the proposed facility note that the community will benefit from increased tax revenue, particularly local schools faced with recent budget cuts. One witness explains that local infrastructure will be upgraded and improved at no cost to taxpayers, while another witness testified in favor of renewable energy projects. Several witnesses state that the proposed project will allow Champaign County to retain its rural and agricultural character, as it will bring additional revenue to struggling farmers and prevent farmland from being sold for residential and commercial development.

In addition to the testimony heard at the public hearing, the Board received over 400 public comments which were docketed in the "public comments" section of the docket card for this case. The public comments raised similar arguments to those expressed at the public hearing.

B. Basis of Need - Section 4906.10(A)(1), Revised Code

Staff notes that, as an electric generation facility, pursuant to Section 4906.10(A)(1), Revised Code, the basis of need for the proposed facility is inapplicable to this electric generating project. (Staff Report at 19.)

No party raised issues related to the basis of need for the project. The Board recognizes that Section 4906.10(A)(1), Revised Code, provides that it applies to the Board's determination process only if the facility proposed is exclusively an electric transmission line or a gas or natural gas transmission line. Give that the application in this case concerns a wind-powered electric generation facility, the Board finds that Section 4906.10(A)(1), Revised Code, is inapplicable.

C. Nature of Probable Environmental Impact and Minimum Adverse Environmental Impact - Sections 4906.10(A)(2) and 4906.10(A)(3), Revised Code

Staff evaluated the application to determine the nature of the probable environmental impact and whether the proposed facility represents the minimum adverse environmental impact. As part of its evaluation, Staff discusses factors regarding the nature of the probable environmental impact of the construction and operation of the proposed wind-powered electric generation facility. These factors include demographics, land use, cultural and archaeological resources, aesthetics, economics, surface waters, threatened and endangered species, vegetation, setbacks, roads and bridges, geology and seismology, public and private water supplies, pipeline protection, blade shear, high winds, ice throw, construction noise, operational noise, shadow flicker, communications, and decommissioning. (Staff Report at 20-37.)

Additionally, Staff evaluated the site selection process to determine whether the proposed facility represents the minimum adverse environmental impact. (Staff Report at 38-39.)

To the extent intervenors have raised an issue regarding the nature of the probable environmental impact or the proposed facility's minimum adverse environmental impact, the Board will address only the more significant issues in this order. As many of the factors and issues raised by intervenors pertaining to the nature of probable environmental impact and minimum adverse environmental impact under Sections

4906.10(A)(2) and 4906.10(A)(3), Revised Code, overlap with the factors considered under the public interest, convenience, and necessity under Section 4906.10(A)(6), Revised Code, those factors, including setbacks (aesthetics, blade shear, ice throw, noise, and shadow flicker), roads and bridges, communications, and decommissioning will be discussed in Section (VI)(F) of this Opinion, Order, and Certificate. Where a party has raised an issue as to the nature of the environmental impact or the minimum adverse environmental impact, and the Board does not specifically address the issue in this decision, it is hereby denied.

1. Socioeconomic Impacts

In its application, Champaign indicates that its consultant, Camiros, Ltd. (Camiros), conducted a population and socioeconomic analysis of the proposed project area. Champaign explains that the economic activity created by the proposed project will not only benefit Champaign County, but also the surrounding rural counties and nearby population centers. Champaign's population projections indicate that there are approximately 61,000 residents located within five miles of the proposed facility, with a slight increase of 3.9 percent projected over the next ten years. Champaign County has a population density of 93 persons per square mile, significantly lower than the statewide average of 282 persons per square mile. (Co. Ex. 1 at 66-67, Ex. G.)

Champaign explains that agricultural land occupies almost 97 percent of the total impacts, demonstrating the rural character of the region. Residential development around the proposed facility is mostly single-family homesteads located along rural roads. In considering land use impacts, Champaign notes that, while the proposed facility will utilize leases of private land, any temporary impacts that may occur will be on private land and compatible with agricultural land uses that are predominant within the project footprint. (Co. Ex. 1 at 135-138.)

Champaign provides that a cultural and archaeological resource study was conducted by Cultural Resource Analysts, Inc. The study indicates that there are 32 historic properties located within the five mile project radius, four historic districts, 791 previously identified historic structures, 260 archeological sites, and 55 cemeteries. Champaign states that five archaeological sites are located within or adjacent to lands leased for the proposed facility, but notes that none are eligible for listing in the National Register of Historic Place (NRHP), indicating no further work is required. Further, as construction and operation of the facility will not physically alter any NRHP listed or eligible structures, any potential impacts are limited to indirect visual effects. Champaign notes that Staff recommends the development of a historic mitigation plan, but believes the plan should not include any specific provisions in order to avoid unnecessary complications. Champaign also proposes to include a provision within the condition

providing that no part of the plan shall limit the operation of the turbines within the proposed project. (Co. Ex. 1 at 144-146, Co. Ex. 5 at 15.)

In addition, Champaign notes that a field review study reveals that some of the proposed turbines may be visible from portions of Urbana, Mechanicsburg, Woodstock, and Catawba, especially from properties on the outskirts of city and village limits that are not screened by other buildings. Champaign offers that it will utilize a mitigation plan for impacts to architectural resources. The mitigation plan will promote the preservation of the area's rural history and limit the alteration of the cultural landscape of the project area. Champaign provides that it will continue to consult with the Board, the Champaign County Historical Society, the Ohio Historic Preservation Office (OHPO), and the Champaign County Preservation Alliance to finalize a formal mitigation plan. (Co. Ex. 1 at 146-151.)

Champaign adds that the economic impact report prepared by Camiros utilizes the Job and Economic Development Impact Wind Model (JEDI), which evaluates economic impacts of wind-powered electric generation facilities. The JEDI model evaluates the effects of the construction phase of the project, as well as operations and maintenance phases. Champaign indicates that it intends to maximize the number of local workers throughout the construction process, with approximately 50 to 85 percent of all workers to be hired locally, but adds that workers with specialized skills of constructing wind farms will likely come from other locations. Champaign provides that the construction phase of the project will utilize 86 employees over a 12-month period, with an anticipated payroll of $4.9 million. At the conclusion of the construction phase, the application explains that there will be seven full-time workers with total wages estimated at $400,000 per year. In addition, Champaign notes that another 391 jobs and $19.8 million in earnings will be generated by indirect impacts stemming from inter-industry economic activity caused by the project. Further, Champaign states that there will be induced impacts resulting from changes in local household spending, with an estimate of an additional 121 jobs and approximately $5.1 million in wages and salaries. (Co. Ex. 1 at 138-140.)

Champaign provides that it will pay real and personal property taxes between $6,000 and $9,000 per megawatt (MW) of nameplate capacity per year throughout the life of the facility. According to the application, the increase in local tax revenues, based on an aggregate nameplate capacity of 140 MW, will be between $840,000 and $1.26 million. The distribution of the tax revenue will be approximately 25.9 percent for Champaign County, 10.3 percent for the local townships, and 63.8 percent to the local schools. The application provides that the annual lease payments to local landowners is not only a direct benefit to all participating landowners, but will also enhance the ability for those in the agricultural industry to continue farming. (Co. Ex. 1 at 140-141.)

Urbana expresses concern that the proposed project location will harm the city's future growth. Specifically, Urbana explains that geographic constraints to the west of the city require that all future residential and commercial growth occur to the city's east side. Urbana argues that Champaign fails to consider that the proposed project is directly in the path of the city's planned growth. (Urbana Br. at 20-21; Tr. at 1997-1999.)

Urbana asserts that Champaign overestimates the proposed project's potential tax benefits, noting that, under the current taxation system, Urbana would receive no tax revenue because the proposed project footprint is outside city limits. Urbana requests that the Board require Champaign to establish a permanent office within the city limits, noting that, although the proposed project will have a substantial impact on the Urbana community, impacted city residents may be unwilling or unable to drive to the local office in Bellefontaine. Urbana points out that the establishment of a permanent office in Urbana would allow Urbana to receive tax benefits for any Champaign employees that would work in an office located in Urbana. Urbana also believes that Staff testimony on the proposed project's socioeconomic benefits should be given little weight due to a Staff member incorrectly testifying that Bellefontaine is located in Champaign County, despite the fact that Bellefontaine is located in Logan County. (Urbana Br. at 23-24; Tr. at 2235-2236, 2378.)

The County/Townships add that the consideration of tax revenue should not be a determinative factor in considering whether the public interest is served by the proposed project, as Champaign has not yet made a request to the Champaign County Board of Commissioners to pay an amount in lieu of taxes (PILOT) pursuant to Section 5727.75, Revised Code. (County/Townships Br. at 14; Tr. at 67-69.)

Champaign responds that population estimates within the record indicate that Urbana's concerns over future development are unfounded, as Urbana's township population is expected to drop by a percent in the next decade, while the project area townships are expected to grow by up to 13 percent. Champaign opposes Urbana's proposal to open an office in Champaign, noting that Urbana will receive economic benefits from the increase of construction workers and equipment that is necessary to build the project, as acknowledged by Urbana's mayor. In response to the County/Townships' tax concerns, Champaign explains that the payment of taxes to the County/Townships are guaranteed if the project is built and will occur either through the PILOT program or annual property taxes, and adds that the PILOT program alone would result in an increase in tax revenues of $840,000 to $1.26 million. (Co. Reply Br. at 34-35; Co. Ex. 1 at 140; Tr. at 1989.)

UNU asserts that the project is not necessary to preserve agriculture in eastern Champaign County, as the project area is not threatened by any development, with the exception of the proposed project. UNU argues that Champaign failed to support its

claims that the proposed project will provide socioeconomic benefits. UNU contends that, while Staff's witness was familiar with Camiros, Staff failed to conduct its own study utilizing the JEDI model and could not independently verify the data inputs the consultant used to calculate the proposed project's economic benefits. UNU points out that the socioeconomic study assumed facts that have not been demonstrated to be true, including the assumption that leaseholders and construction workers will be local and spend their earnings in the local communities. Further, UNU explains that the local tax revenues are inflated, as the project may not produce more than 89 MW hours of electricity as opposed to 140 MW, and taxpayers will ultimately pay higher electricity prices. (UNU Reply Br. at 2-5; Tr. at 2637-3638, 2657-2673.)

In addition, UNU opines that the socioeconomic study ignores detriments that could result from approval of the proposed project. UNU notes that there was no consideration as to whether the jobs of any workers at traditional coal-fired plants would be eliminated, or whether lost job creation opportunities might occur as a result of employers being discouraged from siting new facilities due to the turbines' presence. Similarly, UNU explains that there could be indirect job losses through the ripple effect from losing important functions of Grimes Field Airport (Grimes Field) and any companies whose owners leave Champaign County to avoid the turbines. UNU also points out that, while Champaign agrees to submit a historic preservation mitigation plan, it is unacceptable to give Champaign veto authority as to whether the turbines may need to be shut down to protect the area's historic resources. (UNU Br. at 65; UNU Reply Br. at 36.)

Staff concludes that the demographics of the project area are unlikely to experience significant change within the next 20 years. Staff points out that, while Champaign County's population growth is projected to increase by 11.3 percent over the next 20 years, the population growth of the townships located within the five-mile radius of the proposed project is only projected to increase by 3.9 percent. Staff opines that the project is unlikely to limit any future population growth or have a substantial impact on the region's demographics. (Staff Ex. 2 at 20.)

In addition, Staff states that the development of a wind farm is consistent with regional land use plans to conserve farmland and promote economic diversity. Staff points out that there may be an increase in demand for temporary housing and retail services during construction of the proposed facility, but no long-term impacts are expected on housing or commercial demand. (Staff Ex. 2 at 20-21.)

Staff adds that avoiding or minimizing cultural and archaeological impacts for wind generation projects is not always practical, but Staff believes the mitigation plan proposed by Champaign will promote the continued meaningfulness of the area's rural history. However, Staff notes that it believes the historic preservation plan should still be

submitted with specific information and should not include a provision granting Champaign the discretion to determine when its operations and activities may be inhibited. Staff states that Champaign will also conduct a targeted Phase I archaeological reconnaissance survey to analyze potential impacts within five miles of the project area. Staff also believes a cultural resources avoidance plan should be developed. (Staff Br. at 36-37; Staff Ex. 2 at 21-22.)

Staff concludes the proposed facility would have an overall positive impact on the local economy. In support of its conclusion, Staff notes the increase in construction spending, wages, purchasing of goods and services, local tax revenues, and annual lease payments to the local landowners. (Staff Ex. 2 at 22.)

Upon consideration of the evidence presented, the Board finds that the proposed project will undoubtedly have a positive impact on the region. First, the tax revenues associated with the project will provide significant value to the local communities and the County/Townships. We understand the County/Townships' concern about whether Champaign elects to utilize the PILOT program or the normal property tax provisions, but, as the County/Townships' own witness Bialczak explains, regardless of which route Champaign elects to take, the County will receive revenues subject to its own discretion. If Champaign seeks and obtains a PILOT, the money will go into the County's general revenue fund and may be used in any way the county or local government officials choose. On the other hand, if Champaign chooses the traditional tax route, all tax dollars generated become local tax dollars to the taxing jurisdictions in which the proposed project is located; thus, providing even more revenue for the local governments. Therefore, we find that the regional tax revenue is a valuable benefit for the proposed project. (Tr. at 206-207, 2235-2236, 2235-2237.)

With regard to Urbana's concern that it may not receive tax benefits, we find this argument to be unfounded. The Board lacks any statutory authority to order Champaign to distribute revenue to a jurisdiction that is outside the proposed project area, and any proposed statutory changes should best be left to the General Assembly. However, we do note that, as County/Townships witness Bialczak points out, if Champaign chooses the PILOT program, Urbana may still be able to receive tax benefits from the county treasurer. Further, as Urbana witness Bean testified, there are several businesses located within the Urbana city limits that stand to benefit from the proposed project, which would contribute additional tax revenues. In addition, we find the record conflicts with Urbana's arguments that its growth could be impeded by the proposed project. In fact, Urbana witness Bean explains growth is only limited on the west side of the city, and that his vision is to help Urbana grow "whether it's east, north, south...." (Tr. at 1987-1989, 2008-2009, 2235-2236.)

Furthermore, the Board finds that the proposed project benefits the public by allowing the townships within the proposed footprint to maintain their agricultural

character and allowing for the continuation of agricultural activities without the risk of farmland being lost to development. We note that, while UNU raises concerns over potential economic detriments that may arise as a result of the proposed project, UNU fails to cite to any record support or introduce any evidence confirming its suspicions. Furthermore, although Staff relies on the JEDI model utilized by Camiros in reviewing the socioeconomic impact of the proposed project, there is no evidence in the record indicating the study is unreliable or should be disregarded. To the contrary, the economic model was established by an urban planning and economic development firm whose analysis was reviewed by Staff and deemed to be accurate. Finally, Champaign's proposal to make its historical preservation mitigation plan less specific should be rejected. Champaign's speculative claim of unnecessary complications is insufficient for us to determine that the condition is too stringent. Therefore, Champaign's request is denied. (Ohio Farm Bureau Ex. 1 at 8; Champaign Ex. 17 at 7-8, Staff Ex. 5 at 2; Tr. at 1560, 2653-2654.)

2. Ecological Impacts

Champaign explains that the proposed project will have almost no impact on surface waters. Champaign indicates that it will employ mitigation measures to minimize temporary and permanent impacts to streams located within the footprint of the proposed project. Champaign intends to develop a Storm Water Pollution and Prevention Plan (SWPPP) to control sedimentation, siltation, and run-off. (Co. Ex. 1 at 116-122.)

Champaign utilizes an environmental consultant, Hull & Associates, to study the potential impact of the proposed facility on threatened and endangered species. The study determines that the Indiana Bat, a federally endangered species, has a presence within the project area. Champaign notes that the proposed project will implement a habitat conservation plan (HCP) and shall obtain an incidental take permit (ITP) in order to minimize any adverse impacts to the Indiana bat. Champaign witness VanDeWalle adds that construction impacts may be minimized by limiting tree clearing from November 1 to March 31. Further, Champaign witness VanDeWalle explains that the HCP provides appropriate conservation measures to allow for the protection of endangered species. (Co. Ex. 1 at 108; Co. Ex. 19 at 4; Co. Ex. 7 at 7.)

Champaign adds that the siting of the proposed project will be away from sensitive habitats like forestlands and, due to the majority of the facility being located within agricultural active lands, additional impact on threatened or endangered species is unlikely. Champaign explains that, while 12.7 acres of forest and 1.7 acres of scrub-shrub habitat will be impacted by construction, most is temporary in nature. (Co. Ex. 1 at 136-137.)

Staff provides that the proposed facility would cross 31 streams and notes that Champaign has committed to installing buried collection lines by horizontal directional

drilling. While access roads and crane paths cross streams within the proposed project area, the Staff Report explains that the development of the SWPPP will reduce water quality impacts. In addition, through information obtained by the Ohio Department of Natural Resources (ODNR) and the Federal Emergency Management Agency, the Staff Report notes that flooding is unlikely to impact the proposed turbine locations. (Staff Report at 23.)

Staff explains that the primary threat to the Indiana bat would occur during operation of the facility due to collision and barotrauma, but that Champaign's commitment to its HCP addresses these issues. In addition to the HCP, Staff points out that ODNR Division of Wildlife (ODNR-DOW) recommends a post-construction bat monitoring program during the first two years of operation. The program would include a sample of turbines to be searched daily in accordance with ODNR protocols, and establishes a requirement that any consultant hired to conduct the program possess appropriate federal and state permits prior to any monitoring. As a condition, Staff also recommends that Champaign conduct a presence survey for the Eastern massasauga rattlesnake at the 20-acre wetland. (Staff Report at 28, 55.)

In addition, Staff recommends that Champaign enter into a cooperative agreement with ODNR or obtain any suggested permits that ODNR recommends in order to avoid liability for the impacts that the proposed project may have on wildlife species. Breeding bird studies conducted in 2008 indicate that 6,000 birds consisting of 97 different species were observed, above the average passage rates found in other wind project preconstruction surveys. Staff indicates that ODNR was concerned with its observations of the birds, and explains that, in the event of a mortality of a state-endangered species, ODNR-DOW would recommend that Champaign develop an effective avoidance, minimization, and mitigation strategy. Regarding vegetation, Staff adds that the proposed layout indicates a collection line that connects to a turbine would impact more of an adjacent wood lot than is necessary, but notes that Champaign indicated it is working with the landowner to reroute the line in order to minimize any negative impacts. (Staff Report at 21-28.)

Champaign responds that avian and bat monitoring set forth in Staff's proposed conditions is necessary, but should allow for flexibility in the protocol between Champaign and ODNR-DOW and should remove language requiring a daily turbine sampling. Champaign proposes the language in the condition be changed to allow Champaign and ODNR-DOW to determine if a better monitoring alternative is available by including the phrase "[u]nless otherwise agreed to by the DOW and Staff." In addition, Champaign suggests that the language requiring Champaign to develop and implement an avian monitoring program should be revised to state that Champaign will work with Staff and ODNR-DOW to develop a plan. (Co. Ex. 5 at 18-19.)

Staff disagrees with Champaign's recommended revisions, noting that ODNR's standardized protocols call for daily samplings, and adds that Champaign should be required to comply with the protocols as set forth within the condition. UNU adds that Staff's condition should be adopted as proposed, noting that other wind farms are required to perform these daily searches. (UNU Reply Br. at 38; Staff Ex. 1 at 2-4; Tr. at 2022-2023.)

UNU contends that the Board should include the former Staff condition requiring a vegetation management plan. UNU opines that the application shows the proposed project's collector lines and access roads will travel through wooded areas and a number of streams. In addition, UNU proposes that the former Staff condition to prevent the indiscriminate use of herbicides in natural vegetated areas be included if the certificate is approved. UNU opines that Staff has no justification for a change in its position, noting Staff witness Rostofer testified that spraying herbicides is not a best practice. (UNU Reply Br. at 37; Tr. at 2152-53.)

Upon review, the Board finds that the evidence in the record, as well as the addition of Staff's recommended conditions, supports the conclusion that the proposed project will appropriately mitigate any ecological impacts on the local environment. Champaign's request to revise Staff condition should be rejected, as it is clearly consistent with Board precedent in other proceedings. Champaign will not be permitted to self-regulate its own monitoring protocols, and we find Champaign's request is both inappropriate and unnecessary. (Staff Ex. 1 at 2-4.)

Likewise, we believe UNU's request to include Staff's original conditions regarding vegetation management and herbicides should be denied. UNU provides no justification in the record for the inclusion of a vegetation management program. Regarding any potential use of herbicide, the record actually indicates that the facility will utilize buried collection lines in open fields, making the condition unnecessary. Further, in order to use any commercial grade herbicides, Champaign would need to acquire an applicator's license, and report the use of herbicides around sensitive streams and wetlands to the Ohio Environmental Protection Agency (EPA). (Tr. at 2151-2152.)

3. Conclusion – Environmental Impact

The Board finds that the nature of the probable environmental impact, specifically the socioeconomic and environmental impacts, has been determined for the proposed facility and complies with Section 4906.10(A)(2), Revised Code, and the proposed project represents the minimum adverse impact consistent with Section 4906.10(A)(3), Revised Code. We note that this conclusion relates only to socioeconomic and environmental impacts, and Sections 4906.10(A)(2) and 4906.10(A)(3), Revised Code, will be further

reviewed in Section VI(F)(8), in conjunction with our consideration of the public interest, convenience, and necessity of the proposed project.

D. Electric Grid - Section 4906.10(A)(4), Revised Code

Section 4906.10(A)(4), Revised Code, requires that the feasibility and impact of connecting a proposed electric generation facility to the regional electric power grid be determined prior to the issuance of a certificate to an applicant. In order to address this requirement, PJM Interconnection (PJM), the applicable regional transmission system operator, prepared a feasibility study (PJM Feasibility Study) and a system impact study (PJM Impact Study). Further, a stability and short circuit analysis (PJM Stability Study) is included in the PJM Impact Study. According to the application, the PJM Feasibility Study identified conditions under which the facility's output could be curtailed, but several of the conditions identified in the PJM Feasibility Study are based on outdated rating data, and should be removed from the list. Consequently, the application notes that the remaining congestion issues listed are based on very specific system conditions that have a low probability of occurrence at any given time. Further, the application asserts that a curtailment of the proposed facility to something less than full output for a few hours, if the conditions ever exist, would not have an adverse effect on the overall operation of the facility. (Co. Ex. 1 at 50-51, Exs. C-D.)

The PJM Impact Study evaluated a 200 MW interconnection that would be injected along the Givens-Mechanicsburg 138 kV line and interconnected at a new switching station located along the Dayton Power & Light, Inc. (DP&L) Urbana-Darby 138 kV circuit. The new switching station will be owned and operated by DP&L and will consist of three 138 kV breakers configured as a ring-bus, a 138 kV revenue meter, and other associated facilities. Further, compliance with reliability criteria was assessed for summer peak conditions in 2012. The PJM Impact Study identified two facilities that would likely experience thermal overloads, and three breakers that would be over-dutied as a result of the proposed facility. To correct these violations, Champaign asserts that the following upgrades are required: (1) replacement of the line terminal equipment at the Urbana substation; (2) reconductoring of approximately 4.3 miles of circuit; and (3) replacement of three 69 kV circuit breakers at Urbana. (Co. Ex. 1 at 51-52, Exs. C-D.)

According to Champaign, the results of the PJM Stability Study revealed no operating issues other than identifying operating voltage and power factor ranges. Further, PJM's deliverability testing concluded that the project would not result in any deliverability or transmission system congestion problems. (Co. Ex. 1 at 52.)

In the Staff Report, Staff explains that it reviewed the studies regarding interconnection of the proposed facility to the existing regional transmission system. Staff notes that Champaign submitted its proposed project to PJM on March 18, 2006.

Additionally, Staff notes that Applicant has not yet signed a construction service agreement or an interconnection service agreement with PJM for the proposed facility, but that an interconnection service agreement would need to be signed before PJM would allow Applicant to interconnect the proposed facility to the bulk electric transmission system. (Staff Report at 40.)

Staff reports that it reviewed the PJM Feasibility Study and PJM Impact Study for the proposed project and that, pursuant to the North American Electric Reliability Corporation (NERC) reliability standards, the proposed facility would not overload the system in the presence of no contingencies or one contingency, but that multiple contingencies would likely cause an outage or breaker failure. Staff further indicates that this overload issue can be alleviated by upgrading and reconductoring several lines, and that the studies indicate that three circuit breakers and a set of transformer fuses and holders would need replacement. (Staff Report at 41-42.)

Additionally, Staff indicates in its report that, as set forth in the application, no stability problems were identified as a result of the proposed project and no overloads were identified as a result of earlier projects or projects in earlier queue positions (Staff Report at 42).

The Staff Report concludes that, with the upgrades identified in the PJM studies, the proposed facility is expected to provide reliable generation to the bulk electric transmission system, the facility is consistent with plans for expansion of the regional power system, and the facility will serve the interests of electric system economy and reliability. Finally, Staff concludes that the proposed facility will serve the public interest, convenience, and necessity by providing additional electric generation to the regional transmission grid. (Staff Report at 42.)

The Board initially notes that no intervenor in this proceeding raised issues regarding the interconnection studies or the portion of the Staff Report discussing interconnection issues. In light of the evidence in this proceeding, the Board finds that the proposed facility is consistent with the plans for expansion of the regional power grid as set forth in the PJM Impact Study, PJM Feasibility Study, and PJM Stability Study, and that the proposed facility will serve the interests of electric system economy and reliability. Consequently, the Board finds that the proposed facility complies with the requirements set forth in Section 4906.10(A)(4), Revised Code, provided that the certificate issued includes Staff's recommended Condition (14) . (Co. Ex. 1 at 50-52, Exs. C-D; Staff Report at 40, 42.)

E. Air, Water, Solid Waste, and Aviation - Section 4906.10(A)(5), Revised Code

1. Air

In the Staff Report, Staff states that the operation of the proposed facility would not produce air pollution; thus, there are no applicable air quality permits. Staff notes, however, that Applicant may need to obtain the Ohio EPA General Permit for Unpaved Roadways and Parking Areas, with a maximum of 120,000 vehicle miles traveled per year. Additionally, Staff notes that Applicant plans to minimize fugitive dust generated during construction by using best management practices (BMPs), such as applying water or other dust suppressants to open soil surfaces to prevent emission. Staff concludes that construction and operation of the facility, as described by Applicant and in accordance with the conditions included in the Staff Report, would be in compliance with air emissions regulations in Chapter 3704, Revised Code, and the rules adopted under that chapter. (Staff Report at 43.)

2. Water

The Staff Report notes that neither construction nor operation of the proposed facility would require the use of significant amounts of water; thus, requirements under Sections 1501.33 and 1501.34, Revised Code, are not applicable to this project. However, Staff reports that Applicant has indicated it will apply for the following permits: Ohio National Pollutant Discharge Elimination System (NPDES) construction storm water general permit; Ohio NPDES general permit for storm water discharges associated with construction activity in the Big Darby Creek watershed; permit under Section 404 of the Clean Water Act, if necessary; Water Quality Certification from the Ohio EPA, if necessary; Ohio Isolated Wetland Permit, if necessary; and, Ohio Permit to Install on-site sewage treatment, if necessary. Staff additionally notes that approximately 68 acres of impervious surface would be generated as a result of the facility, but that the facility will not significantly alter flow patterns or erosion and no significant modifications in the direction, quality, or flow patterns of storm water run-off are anticipated. (Staff Report at 43.)

Staff further notes that Applicant will mitigate effects to changes in quality and quantity of aquatic discharges by obtaining an NPDES Construction Water Permit from the Ohio EPA, preparing a SWPPP, and preparing a Spill Prevention, Containment, and Countermeasure (SPCC) plan. Staff concludes that, with these measures, construction and operation of the facility would comply with requirements of Chapter 6111, Revised Code, and the rules adopted under this chapter. (Staff Report at 44.)

Urbana asserts that blasting could disrupt and contaminate groundwater supplies for the city of Urbana. Urbana argues that Exhibit F of the application, the groundwater study, identified the buried aquifers in the project area as required by Rule 4906-17-

05(A)(5)(c), O.A.C., but failed to consider the city of Urbana's aquifer, the Mad River aquifer, which is located six miles west of the nearest turbine. Urbana argues that, due to concerns about groundwater supplies, the Board should require a condition that Applicant post an escrow amount to be determined by the City Water Superintendent to protect water during turbine construction. (Urbana Br. at 19-20; Urbana Reply Br. at 5.)

Champaign responds that Urbana has no basis for its requested condition requiring an escrow amount to protect water, as the city presented no evidence that blasting could disturb or contaminate the Mad River aquifer, which is located six miles from the nearest turbine in the proposed project according to Urbana's brief (Co. Reply Br. at 49-50).

Staff responds to Urbana's argument by pointing out that Exhibit F of the application, admitted into evidence, specifically discusses groundwater resources, identifies the presence of the Mad River Buried Valley Aquifer, indicates that there are multiple groundwater Source Water Protection Areas (SWPAs) in the eastern portion of Champaign County, but that only one SWPA is within close proximity to the project area and would not be affected by the proposed facility. Staff also points out that Urbana introduced no evidence that construction activities could impact groundwater supplies and that Applicant indicated blasting was not anticipated for the project. (Staff Reply Br. at 9-10; Co. Ex. 1 at 32-33, 60-61, Ex. F at 5-7; Staff Report at 30.)

3. Solid Waste

The Staff Report indicates that the construction of the facility will result in generation of solid waste including packing materials, plastic, wood, cardboard, metal packing, construction scrap, and general refuse. Further, Staff notes that Champaign intends to remove construction debris from work areas and to dispose of them in dumpsters in laydown yards to be collected by a private contractor. Additionally, Staff notes that the operations and maintenance facilities will utilize local solid waste and disposal services. Staff concludes that, with these measures, Applicant's solid waste disposal plans comply with solid waste disposal requirements in Chapter 3734, Revised Code, and the rules adopted under this chapter. (Staff Report at 44.)

4. Aviation

Grimes Field Airport and CareFlight, an emergency medical helicopter service located at Grimes Field Airport, are located in proximity to the proposed project. Staff remarks in its report that a determination of no hazard has been issued by the Federal Aviation Administration (FAA) for all 56 turbine locations in the proposed project. Staff notes that, given the preliminary FAA determination of no hazard to air navigation, neither construction nor operation of the facility is expected to create any adverse impact on the airport or existing air travel network. Staff also asserts that, in accordance with

Section 4561.32, Revised Code, Staff contacted the Ohio Department of Transportation, Office of Aviation (ODOT-OA), during its review of Champaign's application, in order to coordinate review of potential impacts the facility might have on public use airports. Staff reports that Applicant filed with ODOT-OA and received notices of clearance for all turbines associated with the proposed project. Additionally, Staff indicates that it implemented ODOT-OA and/or FAA recommendations where deemed justified in creating its recommended conditions. Staff recommends that all turbines be marked and/or lit in accordance with FAA marking and lighting standards; that, during construction, all turbines reaching 200 feet in height be temporarily marked and lit until permanent lighting is installed; that Applicant provide flight service stations with notices to airman (NOTAM) that include the latitude and longitude coordinates for all structures exceeding 200 feet in height; and that Applicant develop a medical needs service plan in coordination with CareFlight that incorporates measures assuring immediate shut-down of any portion of the facility necessary to allow direct routes for emergency medical helicopter services within the vicinity of the facility. (Staff Report at 44.)

UNU argues that wind turbines pose a challenge for pilots who fly near them, and that, consequently, the proposed project will delay emergency evacuation in and around the project via CareFlight. More specifically, UNU argues that aircraft cannot safely fly over a wind farm during periods of low visibility and would be forced to fly around the wind farm in these conditions, citing the testimony of Champaign witness Marcotte. UNU argues that, because of this possibility, the Board should deny the application. However, UNU states that, if the certificate is granted, the Board should require Applicant to shut down turbines when CareFlight is responding to a medical emergency in the project area. (UNU Br. at 61; UNU Reply Br. at 32-34; Tr. at 706-707, 926, 2040.)

Urbana argues that the Board should require Champaign to provide notice of the project to airports within 20 miles of the project area, including Grimes Field, regardless of whether operations would be altered. Additionally, although Urbana states that it supports Staff's conditions pertaining to aviation, Urbana expresses concern that compliance with FAA requirements may not adequately protect navigable airspace. More specifically, Urbana claims that Champaign's aeronautical report, contained in Exhibit S of the application, demonstrates that 19 of the turbines the FAA designated as "no hazard" exceed obstruction standards for navigable airspace, that the no hazard determinations were not circulated for public comment, and that the letter from ODOT-OA in Exhibit S only pertains to 28 of the 56 turbines. Urbana continues that, despite the FAA's no hazard determination, pilots who fly using visual flight rules might avoid Grimes Field due to safety concerns from decreased clearance when approaching the airport from certain directions near the proposed project. Further, Urbana contends that several major recreational attractions occur at Grimes Field including the Mid-Eastern Regional Fly-in for vintage, recreational, and experimental aircraft, and a hot air balloon festival, and that turbines in the flight paths for Grimes Field should be shut down during these events due

to safety concerns. Further, Urbana argues that, if the organizers for the Fly-in or hot air balloon festival cancel or change venues due to safety concerns because of the turbines, Champaign should be required to compensate Urbana for its economic loss. (Urbana Br. at 11-16; Urbana Reply Br. at 5-7; Co. Ex. 1, Ex. S; Tr. at 1920, 1942, 1955, 1965.)

Urbana also argues that Staff's proposed condition regarding emergency medical helicopter services should not solely address CareFlight, but should be expanded to include other regional emergency medical helicopter services including MedFlight. Additionally, Urbana argues that, if CareFlight cancels its sublease at Grimes Field due to the proximity of turbines, Champaign should be required to compensate Urbana for its economic loss. Finally, Urbana argues that there is a high volume of emergency medical helicopter responses in the project area and that, consequently, Champaign should construct one or two helipads on company-leased property in the project area. (Urbana Br. at 16-19; Urbana Reply Br. at 4; Tr. at 959-960, 2179.)

In response to UNU's arguments, Champaign cites testimony of Champaign witness Marcotte that wind turbines and aircraft are compatible, having coexisted for years and that emergency medical helicopter services will not be affected because it is possible to safely operate helicopters near a wind farm, both day and night. Additionally, Champaign argues that UNU's claim that Champaign witness Marcotte testified that helicopters would have to fly around the wind farm in low visibility is false, noting that the transcript does not contain this statement. Further, Champaign points out that Urbana is erroneous in its argument that only 19 of the turbines were determined to be "no hazard" by the FAA. Champaign specifies that: the FAA concluded that all of the proposed turbines were not hazardous, including the 19 turbines specifically cited by Urbana; although Urbana argues that the no hazard determinations were not circulated for public comment, the FAA specifically stated in its determinations filed as part of Exhibit S that it exempts certain proposals from circulation and the 19 turbines at issue fell into this exemption; and although Urbana claims the ODOT-OA has only cleared some of the turbines, Staff confirmed that the ODOT-OA cleared all 56 proposed turbines. In response to Urbana's argument that the proposed project will impair aviation, Champaign also points out that Urbana witnesses Hall and Rademacher both recognized that the proposed project is further from Grimes Field than turbines already certificated in *Buckeye Wind I*, and that pilots can make adjustments to their approaches due to any obstructions around the airport. Champaign also notes that pilots will have necessary information about the turbines, including updated sectional maps. Finally, Champaign contends that, despite Urbana's concerns regarding the Fly-in and hot air balloon festival, as previously stated, there are turbines already certificated in *Buckeye Wind I* to be built closer to the airport than those at issue in the proposed project. Moreover, Champaign asserts that Urbana presented no evidence that either event will be affected if the proposed project is certificated and the Board has no statutory authority to order monetary compensation as proposed by Urbana under Section 4906.03, Revised Code. (Co. Reply Br. at 31, 35-38;

Staff Report at 44; Co. Ex. 1, Ex. S; Co Ex. 10 at 3-5; Tr. at 665-666, 707, 1907-1908, 1910-1912, 1922, 1939-1940, 1948-1949, 1964-1965.)

Concerning emergency medical helicopter services, Champaign contends that no such service expressed opposition to the proposed project or participated in this proceeding. Citing the testimony of Champaign witness Marcotte, Champaign argues that it is not feasible to shut down turbines during every emergency medical helicopter flight, and contends that Staff's recommended condition regarding turbine shut-down during emergency medical helicopter flights when necessary, should not be adopted. Champaign also reiterates that the Board has no statutory authority to order monetary compensation as proposed by Urbana should CareFlight terminate its lease with Grimes Field due to the proximity of turbines. Finally, Champaign points out that no witness testified that helipads should be constructed in the project area. (Co. Reply Br. at 37-39; Tr. at 683-685, 689, 691, 695, 698, 700-701, 715-716, 725-726.)

5. Conclusion - Air, Water, Solid Waste, and Aviation

Staff recommends that the Board find that the proposed facility, with Staff's recommended conditions, will comply with the requirements specified in Section 4906.10(A)(5), Revised Code. No intervenor raised any concerns regarding this criterion as it relates to air or solid waste.

Regarding water, the Board finds that there is no evidence in the record to support Urbana's assertion that blasting could disrupt or contaminate groundwater supplies in the city of Urbana. Further, both Applicant and Staff concluded that SWPAs would not be affected by the proposed facilities. Consequently, the Board finds that Urbana's proposed condition requiring an escrow amount is unnecessary. (Co. Ex. 1 at 32-33, 60-61, Ex. F at 5-7; Staff Report at 30.)

Regarding aviation, the Board finds that this project will not substantially interfere with aviation near the proposed project area. The Board acknowledges Urbana's stated concerns about the FAA findings and ODOT-OA certifications, but finds that Champaign addressed these issues by pointing to record evidence that the FAA concluded that all of the proposed turbines were not hazardous and that the FAA noted exemptions for 19 of the turbine determinations from circulation in which the public had the opportunity to comment. Further, the Board stresses that Staff confirmed in the Staff Report that ODOT-OA cleared all 56 proposed turbines. The Board also finds that the proposed project will not substantially interfere with aviation near Grimes Field, as pilots can make adjustments during their approach of the airport and because the proposed project is further from the airport than an already certificated project. (Staff Report at 44; Co. Ex. 1, Ex. S; Tr. at 1907-1908, 1919, 1922.)

Next, although Champaign argues that shut-down of any portion of the project would not be necessary during emergency medical helicopter services, Staff's recommended condition is appropriate because it does not require shut-down during all emergency medical helicopter flights; rather it only requires that Champaign develop a plan with CareFlight that incorporates shut-down of portions of the facility during emergency medical helicopter flights when *necessary* to allow direct routes for such services within the vicinity of the facility. The Board finds that Staff's recommended condition is reasonable and practical to address UNU's and Urbana's safety concerns; however, the Board does not find that there is evidence in the record to support Urbana's requested condition requiring Champaign to construct helipads or UNU's assertion that safety concerns as to emergency medical helicopter services should result in denial of the application. Further, the Board finds that there is not sufficient, credible evidence in the record to demonstrate that the proposed project should be shut down during events at Grimes Field, particularly given that the turbines at issue in the proposed project are situated even further from the airport than turbines included in an already certificated wind project that does not require such shut-down as a condition of the certificate. *See Buckeye Wind I*, Opinion and Order (Mar. 22, 2012) at 33-34. Finally, as Champaign points out, the Board does not have authority to order monetary compensation as requested by Urbana. (Staff Report at 44; Co. Ex. 1, Ex. S; Tr. at 1907-1908, 1919, 1939-1940.)

In consideration of all of the evidence, including the findings of both the ODOT-OA and the FAA, which determined that none of the proposed turbine sites would pose hazards to aviation, the Board finds that any aviation safety concerns are adequately addressed by Staff's recommended condition requiring Champaign to provide flight service stations with NOTAM that include the latitude and longitude coordinates for all structures exceeding 200 feet in height; that all turbines be marked and/or lit in accordance with FAA marking and lighting standards; that, during construction, all turbines reaching 200 feet in height be temporarily marked and lit until permanent lighting is installed; and that Champaign develop a medical needs service plan in coordination with CareFlight that incorporates measures assuring immediate shut-down of any portion of the facility necessary to allow direct routes for emergency medical helicopter services within the vicinity of the facility.

Accordingly, the Board finds that the proposed facility complies with the requirements specified in Section 4906.10(A)(5), Revised Code, provided the certificate issued includes Staff's recommended Conditions (61), (62), (63), (64), (65), (66), and (67), as modified by the Conclusion and Conditions section of this Opinion, Order, and Certificate. (Staff Report at 44.)

F. Public Interest, Convenience, and Necessity - Section 4906.10(A)(6), Revised Code

1. Alternative Energy Portfolio Standards

In its application, Champaign asserts that Ohio's Alternative Energy Portfolio Standards (AEPS) of Substitute Senate Bill 221, require that, by 2025, at least 25 percent of all electricity sold in the state comes from alternative energy resources. Of that 25 percent, at least half must be generated by renewable resources in state. Champaign indicates that the electricity generated by the proposed facility would be available within the PJM regional transmission system, but that it is anticipated that the power will be sold within Ohio so that electricity companies may meet the AEPS. (Co. Ex. 1 at 19; Co. Ex. 5 at 3-4.)

The Staff Report acknowledges that AEPS require a portion of the electricity sold to retail customers in Ohio to come from renewable energy resources. Additionally, the Staff Report notes that renewable energy resources, as defined by statute, include wind generating technologies. Consequently, the Staff Report provides that the proposed facility would likely qualify as an in-state renewable energy resource under the AEPS and could help affected entities comply with their statutory requirements under the AEPS. (Staff Report at 47-48.)

The Board recognizes that Section 4928.64, Revised Code, requires Ohio's electric utilities to procure, at a minimum, 50 percent of the renewable energy requirement from resources located within the state of Ohio. Consequently, the Board is aware that an electric utility may fulfill a portion of its AEPS requirements by entering into an electric utility supply contract with the owner of a wind facility, such as the proposed facility in the application at issue. The Board believes that this potential benefit of the project adds support to a finding that the proposed project is in the public interest, convenience, and necessity as required by Section 4906.10(A)(6), Revised Code. (Co. Ex. 5 at 3-4; Staff Report at 47-48.)

2. Setbacks

a. General – Setbacks

Champaign states that the proposed turbines are sited with setbacks from residential structures and property lines consistent with Rule 4906-17-08(C)(1)(c)(i) and (ii), O.A.C., which provides, in pertinent part:

(i) The distance from a wind turbine base to the property line of the wind farm property shall be at least one and one-tenth times the total height of the turbine structure as measured from

its tower's base (excluding the subsurface foundation) to the tip of its highest blade.

(ii) The wind turbine shall be at least seven hundred fifty feet in horizontal distance from the tip of the turbine's nearest blade at ninety degrees to the exterior of the nearest habitable residential structure, if any, located on adjacent property at the time of the certification application.

In the present case, the requirements of Rule 4906-17-08(C)(1)(c)(i) and (ii), O.A.C., translate to a required setback of 541 feet from nonparticipating property lines, and 919 feet from residential structures. This calculation takes into consideration the worst-case scenario, meaning the tallest turbine with the longest rotor blade proposed under the application. (Co. Br. at 13; Co. Ex. 1 at 136.)

Champaign states that, as proposed, the distance from each turbine to the nearest residential structure ranges from 934 to 2,642 feet, averaging 1,512. Consequently, no turbines are currently sited within the 919 foot setback requirement. (Co. Ex. 1 at 136.)

In its report, Staff asserts that proposed Turbine 129 will be located 613 feet from a residential structure; however, Staff indicates that this residence has been abandoned, is no longer habitable, and is scheduled to be demolished. Further, in its brief, Staff states that it has heard of new construction that will result in a property line being within the minimum recommended setback for proposed Turbine 79. Staff continues that it heard at the local public hearing that a landowner decided not to become a participating leaseholder, which will result in a residence being within the recommended setback for proposed Turbine 95. (Staff Report at 28; Staff Br. at 13-15; Tr. at 2031-2032.)

Additionally, in its report, Staff recommends a minimum setback distance from gas pipelines of at least 1.1 times the total height of the turbine structure. Staff further notes that, in the course of its investigation, it found that certain turbine models proposed had safety standards pertaining to blade shear and ice throw risks that exceeded the statutory minimum. More specifically, GE recommended a setback of 150 percent the sum of the hub height and rotor diameter of the turbine from occupied structures and roads, or use of an ice detector if a lesser setback is utilized. Consequently, although ice detectors will be required on any turbine model selected, as discussed further below, Staff determined that the minimum setback from any occupied structure or heavily travelled road should be 150 percent the sum of the hub height and rotor diameter of the selected turbine. This formula requires a setback of approximately 991 feet for the GE turbine models proposed in the application. (Staff Report at 30-32; Staff Br. at 13-15; Tr. at 2489, 2492, 2560.)

In its brief, Champaign acknowledges Staff's concerns regarding setbacks and Turbines 79 and 95. Champaign proposes that the following condition be added to the certificate in order to allow Applicant to complete leasing or perform micrositing and to ensure that the turbines will only be constructed if the statutory minimum setbacks are met:

> Champaign Wind shall not construct Turbines 79 and 95 as proposed unless Staff confirms that the turbines satisfy the minimum property line and residential setbacks. If Champaign Wind elects to modify the location of proposed Turbines 79 or 95, Champaign Wind shall provide Staff a hard copy of the geographically referenced electronic data, all changes in relation to the proposed relocation of Turbine 79 or 95, and [any] associated facilities. All changes will be subject to staff review and approval prior to construction to ensure compliance with the conditions set forth in this opinion, order, and certificate.

(Co. Br. at 14; Tr. at 414-415, 2031-2032.)

Regarding setbacks in general, the Board finds that Champaign has accurately calculated the setbacks required by Rule 4906-17-08(C)(1)(c)(i) and (ii), O.A.C., using the tallest possible turbine model proposed under the application: 541 feet from non-participating property lines and 919 feet from residential structures. The Board also acknowledges Staff's findings that proposed Turbines 79 and 95 do not meet Staff's minimum recommended setbacks and Champaign's proposed condition to address Staff's concerns. However, the Board does not find that it would be appropriate to adopt Champaign's condition, as this would permit Champaign to modify the location of proposed Turbines 79 and 95, and no alternate locations for these turbines were proposed in the application. Consequently, the Board finds that Turbines 79 and 95 should not be constructed, and has modified Staff's proposed condition accordingly. The Board finds that, provided the certificate issued includes Staff's recommended Conditions (44) and (68), as modified by the Conclusions and Conditions section of this Opinion, Order and, Certificate, the proposed setbacks adhere to the requirements set forth in the statute and support a finding that the proposed project is in the public interest, convenience, and necessity. (Co. Ex. 1 at 136, Staff Report at 28; Tr. at 414-415, 2031-2032.)

b. Blade Shear and Fire

Champaign indicates in its application that blade shear, or blade throw, occurs when a rotor blade drops or is thrown from the nacelle, and that, while such occurrences are rare, they can be dangerous. Additionally, Champaign asserts that there are no

reported instances of a member of the public having been injured as a result of a blade failure of a wind turbine. Champaign goes on to explain that past occurrences of blade shear have generally been the result of design defects during manufacturing, poor maintenance, control system malfunction, or lightning strikes, and that the most common cause of blade failure is human error in interfacing with control systems. Champaign indicates, however, that this risk has been reduced by manufacturer limits on human adjustments that can be made in the field, technological improvements and mandatory safety standards during turbine design, manufacturing, and installation, as well as widespread introduction of wind turbine design certification and type approval, which typically includes quality control audits. (Co. Ex. 1 at 82-84.)

In support of the application, Champaign contends that modern utility-scale turbines are certified according to international engineering standards that include ratings for withstanding hurricane-strength winds. Additionally, Champaign asserts that the engineering standards of the turbines proposed in the application are of the highest level and meet all applicable federal, state, and/or local codes, and include state-of-the-art braking systems, pitch controls, sensors, and speed controls. Champaign specifically notes that the wind turbines proposed for the facility will be equipped with two fully independent braking systems that allow the rotor to be brought to a halt under all foreseeable conditions and that the turbines will automatically shut down at wind speeds over the manufacturers' threshold. Further, Champaign contends that the turbines will cease operation if significant vibrations or rotor blade stress is sensed by the monitoring systems. Champaign concludes that all of these features reduce the risk of blade shear. (Co. Ex. 1 at 83.)

UNU contends that the Board should increase the setbacks proposed in order to protect the public from potential blade shear, which UNU alleges is prevalent in the wind industry, and fire, which UNU argues can be spread by flying debris from blade shear. In support, UNU cites the testimony of UNU witness Palmer for the proposition that blades and blade parts, if propelled through the air, pose a threat to the public because they could strike and seriously injure or kill a person on an adjoining property or road. UNU also contends that blade shear incidents occur regularly in the wind industry. In support, UNU cites two occasions where turbines at Perkins High School in Sandusky, Ohio, experienced blade shear. Further, UNU argues that two blades on a turbine certificated by the Board in *Timber Road II* experienced blade shear due to a manufacturing defect and operating error and scattered "large chunks of metal debris in many directions." UNU contends that evidence presented at the hearing establishes that, as a result of the blade shear at the Timber Road II wind farm, one piece of a blade traveled 764 feet from the tower base as set forth in an incident report submitted by EDP Renewables North America, LLC, to the Board in that case. UNU further asserts, regarding the Timber Road II incident, that the testimony of UNU witness Schafner establishes that a blade piece traveled approximately 1,200 feet from the turbine tower and that several blade pieces

traveled approximately 1,500 feet from the tower. Finally, UNU contends that evidence demonstrates that the wind industry conceals incidents of blade failure at wind farms. (UNU Br. at 40-43; UNU Reply Br. at 23-24; UNU Ex. 21 at 3-4; UNU Ex. 22 at 11-13, Ex. A-7 - A-9; Tr. at 1330-1332, 2509-2510.)

UNU argues that, due to the risk of blade shear discussed above, the Board should require greater setbacks than are proposed in the application and should measure the setbacks from the property lines of nonparticipating landowners, rather than from residences. More specifically, UNU asserts that available data about blade shear supports a setback of 1,640 feet between turbines and the property lines of nonparticipating landowners. UNU supports this proposed setback by asserting that it represents the maximum distance a piece of a turbine blade has been reported to be thrown, and because the REpower safety manual for the MM92 turbine model instructs wind farm operators to cordon off an area this distance around a turbine afflicted by overspeed or fire. UNU points out that a safety manual from Gamesa recommends clearance of 1,312 feet around a burning turbine, and a safety manual from Vestas recommends clearance of 1,300 feet from turbines unless necessary to approach. UNU notes that an electric utility in Ontario advocates a setback distance of 1,640 feet between turbines and power lines. Further, UNU argues that the risk of blade shear requires a minimum of 1,000 feet setback from all public roads. UNU supports this setback from roads by citing the testimony of UNU witness Palmer that persons in vehicles are at risk of serious injury or death from blade shear distances of at least 1,000 feet from a turbine. Based on its proposed setbacks from property lines of nonparticipating landowners and public roads, UNU specifies that 35 of the proposed turbine locations are unacceptable because of their proximity to roadways and/or buildings. UNU complains that Staff failed to measure distances between the proposed turbine sites and public roads, and contends that the Board should direct Staff to measure these distances and to keep a detailed record. (UNU Br. at 48-50; UNU Reply Br. at 23-24; UNU Ex. 17, Ex. K; UNU Ex. 22 at 15, 23-25; UNU Ex. 29 at 76-77; Tr. at 908, 1433, 1472, 2526.)

Urbana contends, similar to UNU, that the statutory minimum setback from roads, property lines, and structures is inadequate to protect the public from the risk of blade shear. In support of this argument, Urbana cites the testimony of UNU witnesses Palmer and Schafner. The County/Townships make this argument as well, contending that the clearance areas set forth in the Gamesa safety manual in the event of a turbine fire should be used as the minimum setbacks for the project, rather than the statutory minimum setback. (Urbana Br. at 21-22; County/Townships Br. at 15-16; Co. Ex. 1, Ex. R, at 42; Tr. at 908, 1301-1303, 1419).

In its reply brief, Champaign contends that the record does not support UNU's proposed setback of 1,640 feet from nonparticipating residences and 1,000 feet from all public roads in order to protect against blade shear. Champaign points out that none of

UNU's witnesses were able to point out an incident where a member of the general public was injured as the result of a thrown blade, and that UNU witness Palmer admitted that one is more likely to be killed in an automobile accident or to strike an animal while driving than to be struck by a piece of a turbine blade. Champaign also emphasizes that Champaign witnesses Shears and Poore testified that they were unaware of any incident by which a member of the general public was injured by blade shear. Additionally, Champaign points out that Staff witness Conway testified that his research indicated that blade shear events were extremely rare and that his research did not reveal any instance of injury to a member of the general public as a result of blade shear. (Co. Reply Br. at 23; Co. Ex. 12 at 3; Co. Ex. 9 at 5; Staff Ex. 7 at 5-6; UNU Ex. 22 at 15; Tr. at 1432, 2493, 2547.)

Champaign counters UNU's argument that the Timber Road II blade shear incident involved metal pieces being thrown by pointing out that turbine blades are not made out of metal, but fiberglass. Further, Champaign points out that, despite UNU's argument that pieces from the Timber Road II blade shear incident landed in a residential yard across a public road, Staff witness Conway testified that the smaller pieces were blown around the site and UNU witness Schafner acknowledged that smaller, lighter pieces of fiberglass were likely blown further from their original landing site and that children in the area were picking up the pieces. Champaign also points out that UNU witness Schafner did not view the site until days after the incident and could not state that the blade pieces had not been moved from their original landing spots. Finally, Champaign addresses UNU's argument that blade failures have occurred at a high school in Sandusky, Ohio, by pointing out that Staff witness Conway testified those blade failures did not involve commercial grade wind turbines. (Co. Reply Br. at 24-25; Tr. at 1318-1320, 2509-2510, 2567-2568.)

Champaign additionally cites the testimony of Champaign witness Poore in support of the proposition that the low risk of blade shear can be even further reduced by third-party oversight in the manufacturing process; quality assurance processes; inspections based on the experience of the selected turbine model; use of proper maintenance practices; limitations on remote fault resets; and training. Champaign points out that Champaign witness Speerschneider testified that many of these practices will be used in the proposed project. Further, Champaign refutes UNU's assertion that the minimum setback from nonparticipating property lines should be 1,640 feet because a REpower manual and Gamesa manual instruct operators to cordon off such an area in the event of a burning turbine. Champaign points out that both of these instances involve dangerous events akin to measures that would be taken in the event of a gas leak near a road. Champaign further addresses UNU's argument that a Vestas manual instructs employees to stay 1,300 feet from a turbine unless necessary to approach by pointing out that this exhibit was obtained through the internet by UNU witness Johnson and that no such reference can be found in the complete Vestas safety manual, which is included in Exhibit R of the application. Further, Champaign points out that Staff witness Conway

contacted Vestas and was informed that Vestas does have a minimum setback recommendation, which was exceeded by the setback proposed by Champaign in the application. (Co. Reply Br. at 25-27; Co. Ex. 9 at 7-9; Tr. at 909-910, 2538.)

Staff also contends that UNU's proposed setback of 1,640 feet is unsupported and unnecessary. Staff points out that the applicable rule does not require that all danger or risk be eliminated, but only that impacts be identified and reasonably minimized. Staff explains that the distances discussed in Gamesa's turbine safety manual are not minimum setbacks intended to be permanent restrictions; but are recommendations for temporary clearance areas in the temporary event of a fire. Further, Staff indicates that Staff witness Conway contacted all of the potential turbine manufacturers and, with Staff's recommended conditions, the project will exceed all manufacturer setback recommendations. Finally, Staff notes that, contrary to the assertions of UNU, Staff measured distances from arterial roadways. Therefore, Staff concludes that the setbacks proposed by Champaign, as modified by Staff's recommendations, are adequate to protect public safety. (Staff Report at 28; Staff Br. at 13-17; Staff Reply Br. at 4-5, 7, 13-16; Tr. at 2498-2499, 2578.)

The Board acknowledges that, although rare, blade shear has occurred. However, the Board declines to find that the record indicates a need for a 1,640 foot setback between turbines and property lines of nonparticipating landowners and a 1,000 foot setback from all public roads in response to the assertions made regarding blade shear. Although UNU argues that blade shear is prevalent in the wind industry, UNU did not present any evidence that a member of the general public has ever been injured. In fact, UNU witness Palmer testified that an individual is more likely to be killed in an automobile accident or strike an animal in the roadway than be struck by a turbine blade. Additionally, although UNU cited two occasions of blade shear in Sandusky, Ohio, the evidence demonstrates that these incidents did not involve commercial grade wind turbines, such as the ones that are being considered in this application. Further, although UNU claims that testimony regarding the Timber Road II blade shear incident demonstrates that sheared blade pieces have travelled a distance of approximately 1,500 feet, the Board notes that UNU witness Schafner acknowledged that: he did not view the pieces until two to three days after the incident; he did not actually measure distances until four to five days after the shear occurred; the small pieces of fiberglass may have been blown further from their original landing spots; he did not know whether the pieces had been moved; and children in the area were picking up the blade pieces. Consequently, the Board does not find that the distance measured by this witness is reliable for purposes of determining an appropriate setback for blade shear purposes. The Board finds more credibility lies with the official report of the Timber Road II blade shear incident, which notes a travel distance of approximately 233 meters, or 764 feet, from the tower base for the largest piece of debris. The Board finds that this documented distance of a rare blade shear is consistent with

Staff's recommended setback distances. (Staff Report at 31; UNU Ex. 22 at 15, Ex. A-7 - A-9; Tr. at 1303, 1315-1316, 1318-1320, 1336, 1432, 2509-2510.)

The Board also finds that, although UNU, Urbana, and the County/Townships contend that turbine safety manuals recommend setbacks of approximately 1,300 feet, these parties misunderstand those provisions. As explained by Staff, these turbine safety manuals cited by UNU, Urbana, and the County/Townships refer to recommended temporary clearance areas in the event of temporary safety situations such as fire or overspeed, akin to temporary evacuations that might take place during a gas leak, and are not recommended permanent setback distances. To the contrary, Staff witness Conway testified that he contacted all of the potential turbine manufacturers and that, with Staff's recommended conditions, the project will exceed all manufacturer setback recommendations. Further, both Champaign's expert witness and one of Staff's expert witnesses testified that blade shear events are extremely rare and that research by such experts did not reveal any instances of injury to the general public as a result of blade shear. We note that Staff witness Conway testified that a full blade failure at nominal rotor speed and mechanical braking speed has a failure rate of 1 in 2,400 turbines per year, a full blade failure at mechanical braking two times the nominal rotor speed has a failure rate of 1 in 20,000 turbines per year, and the failure rate of a tip or a piece of a blade is 1 in 4,000 turbines per year. Under the Board's calculation, the failure rate is as high as 0.0004 percent and as low as 0.00005 percent. (Co Ex. 9 at 5-9; Co. Ex. 12 at 3; Staff Ex. 7 at 3; Tr. at 909-910, 2493, 2498-2499, 2538, 2536-2538, 2567-2568, 2578.)

The Board also stresses that evidence demonstrates that the rare occurrence of blade shear is even further reduced by certification of turbines according to international engineering standards, two fully independent braking systems, pitch controls, sensors, speed controls, monitoring systems that provide automatic shut down at wind speeds over a threshold, significant vibrations, or rotor blade stress, third-party oversight in the manufacturing process, quality assurance processes, inspections, proper maintenance practices, limitations on remote fault resets, and training. Additionally, the Board finds that the conditions proposed by Staff would further minimize the uncommon occurrences of blade shear, including restriction of public access and warning signs. Therefore, the Board finds that, provided the certificate issued includes Staff's recommended Condition (26), the setbacks currently proposed in the application are sufficient to protect residents from the risk of blade shear or turbine fire, and that the risk of blade shear or fire is not such that it renders the proposed project contrary to the public interest. (Staff Report at 28, 31-32; Co. Ex. 1 at 82-83.)

c. Ice Throw

Ice throw, or shedding, refers to the accumulation of ice on rotor blades that subsequently breaks free and falls to the ground. According to the application, under

certain weather conditions, ice can build up on the rotor blades and/or sensors, slowing rotational speed and potentially causing an imbalance in the weights of individual blades. Champaign contends that the effect of ice accumulation can be sensed by the turbine's computer controls and typically results in the turbine being shut down until the ice melts. Champaign notes that the tendency is for ice to drop off the rotors and land near the base of the turbine. Champaign explains that, although uncommon, ice can potentially be "thrown" when it begins to melt and stationary turbine blades begin to rotate again. Champaign contends, however, that turbines do not usually restart until the ice has largely melted and fallen straight down near the bases, and that no injuries have been reported due to ice throw. (Co Ex. 1 at 81-82.)

In its brief, Champaign points out that Champaign witness Speerschneider testified that there are hundreds of thousands of wind turbines operating throughout the world and that events such as ice throw are rare. Further, Champaign witness Shears, with 18 years of experience in the wind industry, testified that he was unaware of any incident where a member of the public was injured by ice throw. Champaign further asserts that the conditions proposed by Staff to further minimize any impact of ice throw are all agreeable to Champaign. (Co. Br. at 19-20; Co Reply Br. at 28; Co. Ex. 5 at 9-10; Co. Ex. 12 at 3.)

In the Staff Report, Staff recommends a number of safety measures in order to minimize the impacts of ice throw, including restriction of public access with appropriately placed warning signs, warning workers of potential hazards of ice, and ice detection software and alarms that trigger an automatic shutdown. Additionally, as previously discussed, Staff recommends a setback in excess of the statutory minimum near arterial roads and occupied structures to further mitigate the effects of ice throw. This increased setback distance is 150 percent of the sum of the hub height and rotor diameter of the selected turbine. Staff states that this requirement will make it necessary for Champaign to relocate and/or resize proposed Turbines 87 and 91. Staff contends that a lesser setback distance from non-arterial roads of 110 percent of the sum of the hub height and rotor diameter is reasonable given the expected level of traffic, citing the testimony of Staff witness Conway. (Staff Br. at 30-32; Staff Report at 31-32; Tr. at 2492.)

In its brief, UNU contends that ice detection and sensor alarms are ineffective to shut down turbines experiencing ice accumulation, citing testimony of UNU witness Palmer that, in Ontario, he observed that a turbine was still rotating even though ice on its blades had been thrown. Additionally, UNU contends that GE Energy's safety manual warns that wind farm personnel should stay at least 1,148 feet away from a rotating turbine with ice on its blades and the Vestas safety manual warns personnel to stay at least 1,312 feet away from a rotating turbine with ice on its blades. Consequently, UNU argues that the Board should adopt UNU witness Palmer's recommendation that a setback from all public roads of 1,000 feet should be utilized to protect motorists from ice throw. UNU

contends that, as a result, in addition to Turbines 87 and 91, identified by Staff as too close to heavily-traveled public roads, there are nine other turbines that should be moved due to proximity to public roads. (UNU Br. at 51-52; UNU Reply Br. at 27-29; UNU Ex. 22 at 32-33; Tr. at 1449.)

Urbana contends that the statutory minimum setbacks to roads, property lines, and structures are inadequate to protect the public from the risk of ice throw. More specifically, Urbana argues that the state minimum setback of 541 feet from roads is insufficient to protect the safety of motorists, citing the testimony of UNU witnesses Palmer and Schafner. Additionally, Urbana points out that Champaign witness Shears testified that, in the event of fire, one turbine manufacturer manual recommends evacuating a distance of 1,300 feet around a turbine. (Urbana Br. at 21-22; Tr. at 908, 1301-1303, 1419.)

The County/Townships contend again, with regard to ice throw, that the setbacks from turbines to nonparticipating landowners' property lines should be calculated in accordance with the manufacturers' setback recommendations, citing the turbine safety manual for the Gamesa turbine model indicating that, in the event of a fire, the area around the turbine should be cordoned off at a radius of 1,300 feet. (County/Townships Br. at 15-16; County/Townships Reply Br. at 8-10; Co. Ex. 1, Ex. R at 42.)

In its reply brief, Champaign disputes UNU's assertion that the turbines should be set back at least 1,000 feet from all public roads and nonparticipating landowners' property lines. Champaign claims that UNU's proposition was based solely upon the testimony of UNU witness Palmer and that he gave no legitimate justification for this distance. Additionally, Champaign contends that, although UNU witness Palmer testified that ice detection equipment on turbines does not work, he has never worked in the wind industry or operated a wind turbine. Finally, Champaign contends that Staff's recommended conditions regarding worker training, ice warning systems, and icing setbacks will minimize the already low risk to the general public of ice throw. (Co. Reply Br. at 27-28; Co. Ex. 1 at 82; Tr. at 1443, 1456, 1465-1466, 1468-1469, 1472.)

The Board acknowledges that, although rare, ice throw can occur. However, as with blade shear, the Board declines to find that the record indicates a need for a 1,640 foot setback between turbines and property lines of nonparticipating landowners and a 1,000 foot setback from all public roads. Although UNU witness Palmer testified that ice detection equipment on turbines does not work, the Board finds minimal credibility to this particular statement in his testimony because he also testified that he has never worked in the wind industry or operated a wind turbine. Further, as the Board found regarding blade shear and fire risks, the turbine safety manuals cited by UNU, Urbana, and the County/Townships all refer to recommended clearance in the event of temporary safety circumstances, not permanent setback recommendations. Again, the Board notes that Staff

contacted all potential turbine manufacturers and found that, with Staff's recommended conditions, the project exceeds all manufacturer setback recommendations. Further, the Board finds that the conditions proposed by Staff would further minimize the uncommon occurrence of ice throw, including restriction of public access and warning signs, warning workers of potential hazards, ice detection software and alarms that trigger automatic shutdown, and a setback distance of 150 percent of the sum of the hub height and rotor diameter of the selected turbine from occupied structures and arterial roads. The Board stresses that this setback distance is even more cautious than the recommendation by GE, as GE recommends this setback distance, *or* the use of an ice detector when the setback distance is not used. Additionally, Staff notes that Turbines 87 and 91, as proposed in the application, will not comply with this increased setback distance from occupied structures and arterial roads, and the Board finds that proposed Turbines 87 and 91 should not be approved. Therefore, provided the certificate issued includes Staff's recommended Conditions (41), (42), (43), and (44), as modified by the Conclusions and Conditions section of this Opinion, Order, and Certificate, the Board finds that the setbacks proposed in the application are sufficient to protect residents from risk of ice throw, and that the risk of ice throw is not such that it renders the proposed project contrary to the public interest. (Staff Report at 31-32; Co. Ex. 1 at 81-82; Co. Ex. 5 at 9-10; Co. Ex. 12 at 3; Tr. at 1443, 1456, 1465-1466, 1468-1469, 1472, 2492, 2498-2499, 2578.)

d. Aesthetics

In the application, Champaign asserts that each wind turbine consists of three major components: the tower, the nacelle, and the rotor. The tower height, or hub height, will be a maximum of 328 feet, and the nacelle height will be a maximum of 338 feet. Consequently, the total turbine height will be a maximum 492 feet. The towers will be painted white to make the structure visible to aircraft and to decrease visibility from ground vantage points. (Co. Ex. 1 at 40-41.)

Staff reports that Applicant conducted a visual assessment of the area within five miles of the proposed project to consider the cumulative impacts of both the project certificated in *Buckeye Wind I* and the proposed project, and finds that turbines would be visible throughout most of the study area, but, in some areas, turbines would be partially screened by buildings and vegetation (Staff Report at 22).

Staff further reports that visual impacts vary depending on the distance between the viewer and turbines, the number of turbines visible, the amount of screening, atmospheric conditions, and the presence of other elements such as utility poles and communication towers. Further, Staff notes that visual impact varies for each viewer depending on the viewer's value of the existing landscape, as well as his personal attitudes toward wind power. (Staff Report at 22.)

Champaign analyzes project visibility under a "worst-case" scenario, without considering the screening effect of existing vegetation and structures, and determined that the proposed project could potentially be visible in approximately 95.6 percent of the five-mile radius study area. Continuing under the worst-case analysis, Champaign found that, in most areas, the majority, 29 to 56, of the proposed turbines could be visible. Additionally, under the worst-case analysis, Champaign found that, at nighttime, the proposed project could potentially be visible in approximately 93.2 percent of the five-mile radius study area. Finally, Champaign stresses that this nighttime analysis likely overstates visibility because the analysis was based on the conservative assumption that all turbines would be equipped with FAA warning lights, when actual lighting of turbines typically results in warning lights being installed on about one-third to one-half of the turbines in a typical project. (Co. Ex. 1, Ex. Q at 28-29.)

Champaign's analysis of project visibility factors in vegetation for a more accurate reflection of predicted visibility. Considering vegetation, Champaign finds that some portion of the proposed project would likely be visible by 84.4 percent of the area, and that visibility would be eliminated in small areas throughout the area containing blocks of forest vegetation. Champaign further emphasizes that areas of actual visibility are anticipated to be more limited than indicated by the analysis due to the slender profile of turbine blades, the effects of distance, and screening from hedgerows, street trees, and structures, which were not considered in the analysis. (Co Ex. 1, Ex. Q at 29.)

Additionally, as part of the visual impact assessment, Champaign asserts that the project will involve approximately 47 miles of collection systems to support the project's energy generation, but that 41.6 miles will be underground, and only 5.4 miles overhead. Champaign asserts that these lines will be a very minor visual component of the project as these types of lines often run along rural roadways and will not appear out of place in the setting. (Co Ex. 1, Ex. Q at 7-8.)

Champaign further explains that the substation will be located near the intersection of Pisgah Road and Route 56 in the town of Union, which will be approximately 715 by 315 feet in size and will be enclosed by a chain link fence. Champaign further asserts that the substation will generally only be visible from foreground locations where natural screening is lacking. (Co Ex. 1, Ex. Q at 8.)

UNU asserts that the proposed facility will destroy the community's landscape. In support, UNU contends that UNU witness Johnson will be able to see all 56 of the turbines proposed from her property, in addition to approximately 50 turbines approved in the *Buckeye Wind I* project. UNU cites UNU witness Johnson's testimony that the pulsing red aviation warning lights will obliterate the view of the night sky. Further, UNU cites the testimony of Champaign witness Mundt for the proposition that studies have shown the appearance of a wind turbine can be perceived as intrusive and that the visual intrusion

can inhibit restful recovery. (UNU Br. at 39-40; UNU Reply Br. at 20; UNU Ex. 17 at 5, 11; Tr. at 2958-2959.)

In its reply, Champaign asserts that UNU witness Johnson's testimony that she will be able to see all of the approved turbines from her property is unfounded, as the visual impact assessment, included as Exhibit Q of the application, demonstrates that a significant number of the turbines will be at least partially screened by trees and structures, and because a cellular tower with red warning lights already exists near her property. Additionally, Champaign denies that Champaign witness Mundt testified that a wind turbine's appearance can inhibit restful recovery, instead noting that the record reflects an article was read into the record remarking that "[i]nability to disregard visual and audible intrusion possibly adds to the impression that the environment is unsuitable for restoration." Finally, Champaign contends that UNU has no basis for claiming that the turbines will destroy the community landscape, asserting that Champaign County is a working agricultural landscape that is compatible with the facility. (Co. Reply Br. at 22-23; Co. Ex. 1 at 42; Tr. at 972-973, 2957-2958.)

The Board recognizes that the proposed facility would alter the community landscape. However, the evidence in the record also demonstrates that: FAA warning lights are typically installed on only one-third to one-half of turbines in a project; some portion of the project would be visible in 84.4 percent of the area, but actual visibility will be more limited due to slender blade profiles, distance, and screening from hedgerows, street trees, and structures; and the collection system will be primarily buried, with only 5.4 miles of collection lines planned overhead. Considering all of these factors, the Board finds that the aesthetic impact will not be so negative that it will make the facility contrary to the public interest, convenience, or necessity. (Staff Report at 22; Co. Ex. 1 at 40-42, Ex. Q at 7-8, 28-29; Tr. at 972-973, 2957-2958.)

e. Shadow Flicker

Shadow flicker refers to the moving shadows that occur when an operating wind turbine rotor falls between the sun and a receptor. Champaign submits, as part of its application, a shadow flicker report conducted by its consultant, edr Companies. (Co. Ex. 1, Ex. P at 1.)

Champaign notes that, the introduction to the shadow flicker report states that shadow flicker does not occur when fog or clouds obscure the sun, or when the turbines are not operating. Additionally, Champaign asserts that, at distances of 1,030 meters or greater, shadow flicker is essentially undetectable. Champaign explains that its shadow flicker report utilized WindPRO, a computer modeling software package developed for design and evaluation of wind projects, to input turbine coordinates, shadow receptor/structure coordinates, topographic mapping, turbine specifications, joint wind

speed and direction frequency distribution, and monthly sunshine probabilities. The model then calculated the hours of shadow flicker for the turbine sites. Further, Champaign indicates that the study utilized the GE103 turbine model, because, among the turbines under consideration, this model represents the worst-case scenario as to shadow flicker. (Co Ex. 1 at 85, Ex. P at 1-2.)

Champaign indicates that there are currently no national, state, county, or local standards for acceptable frequency or duration of shadow flicker, but that it utilized 30 hours per year as a shadow flicker threshold. Based on the results of the initial shadow flicker analysis, Champaign's consultant determined that, of the 880 structures within 1,100 meters of a proposed turbine, 50 were expected to experience greater than 30 hours of shadow flicker per year. Of those 50 structures, there were 11 nonparticipating residential structures, 7 of which were classified as "pending" at the time of the application, indicating that the respective landowner is anticipated to become a participant. Consistent with its objective of projecting the worst-case scenario, however, Champaign's analysis considered the pending structures, as their participation or nonparticipation was uncertain. (Co Ex. 1 at 85, Ex. P at 5.)

Champaign indicates that, regarding the 11 residential structures at issue, flicker was projected under the initial analysis, a worst-case scenario analysis, to range from 31 to 57 hours per year. However, Champaign notes that the initial analysis did not consider the actual location or orientation of windows, or screening effects due to vegetation and/or buildings. When the screening effects of obstacles were considered in the obstacle analysis, 8 nonparticipating residential structures were expected to receive greater than 30 hour per year of shadow flicker, ranging from 31 to 57 hours per year. Champaign contends that this projection represents the worst-case scenario as far as turbine models and that the analysis will be reconducted if a turbine other than the GE103 turbine model is chosen. Champaign also indicates that, based upon the cumulative impact of shadow flicker of the Buckeye Wind I and Buckeye Wind II projects, less than a dozen nonparticipating receptors would be exposed to greater than 30 hours of shadow flicker per year. Further, Champaign states that, if necessary, shadow flicker minimization measures, including screening by vegetative planting or window treatments, and/or curtailment of operation during select times, will be utilized so that no nonparticipating receptors are exposed to more than 30 hours per year of shadow flicker. (Co. Ex. 1 at 87, Ex. P at 6.)

In its report, Staff confirms that Ohio law does not provide standards for frequency or duration of shadow flicker from wind turbine projects. Staff notes, however, that international studies and guidelines from Germany and Australia have suggested 30 hours of shadow flicker per year as the threshold of significant impact, or at the point at which shadow flicker is commonly perceived as an annoyance. Further, Staff notes that the 30-hour per year standard is used in at least four other states, including Michigan,

New York, Minnesota, and New Hampshire. Staff also points out that this is the threshold that has been applied in recent wind farm certificates in Ohio. Accordingly, Staff agrees with Champaign's use of a threshold of 30 hours of shadow flicker per year in its analysis. (Staff Report at 33.)

Staff acknowledges that shadow flicker at certain frequencies may potentially affect persons with epilepsy. However, Staff notes that flashing lights most likely to trigger seizures are between the frequency of 5 to 30 blade flashes per second, or hertz (Hz). In the proposed project, Staff contends, the maximum wind turbine rotor speed would equate to a frequency of approximately 0.9 Hz and, therefore, it would not trigger seizures. (Staff Report at 34.)

Additionally, Staff recognizes that Champaign's initial shadow flicker analysis indicated that fewer than one dozen nonparticipating residences were expected to experience more than 30 hours of shadow flicker per year. Further, Staff recognizes that, considering the cumulative impact of shadow flicker from the Buckeye Wind I and Buckeye Wind II, less than one dozen nonparticipating residences would be exposed to greater than 30 hours of shadow flicker per year by facility. Staff also finds that Champaign's assertion that it will use shadow flicker minimization measures to ensure nonparticipating residences are not exposed to more than 30 hours per year of shadow flicker should be achievable. (Staff Report at 34.)

Staff recommends that the certificate be conditioned upon the requirement that Champaign operate the facility so that no more than 30 hours of shadow flicker per year are actually experienced at any nonparticipating sensitive receptor, including the cumulative shadow flicker associated with both the Buckeye Wind I and Buckeye Wind II projects. Further, Staff recommends that Champaign implement a complaint resolution process through which complaints related to shadow flicker from the facility can be resolved. (Staff Report at 34.)

UNU contends that neither Champaign nor Staff presented a qualified expert witness that could testify regarding the facility's shadow flicker impacts. More specifically, UNU argues that Champaign witnesses Speerschneider and Poore and Staff witness Strom had no expertise in shadow flicker modeling. Additionally, UNU argues that the shadow flicker modeling used by Champaign is fundamentally flawed because it does not consider the actual size of the residences receptive to the shadow flicker. Further, UNU argues that the proposed turbines will cast excessive shadow flicker on neighboring land and residences and that the modeling used should have taken into consideration entire nonparticipating properties, not just residential structures. UNU also argues that Champaign's proposed minimization measures would force nonparticipating landowners to accept changes to their property including window treatments or shrubbery. Finally, UNU contends that the condition proposed by Staff is unenforceable because a member of

the public could not be expected to determine whether the shadow flicker at a residence was in compliance with the threshold, and that the condition is inappropriate because it calls for additional modeling after the certificate is issued. (UNU Br. at 52-53, 57-60; UNU Reply Br. at 29-30; Co. Ex. 1, Ex. P at 4; Co. Ex. 9 at 9-10; Tr. at 263, 540, 559, 2800.)

In its reply brief, Champaign responds that both Champaign witnesses Speerschneider and Poore were qualified to discuss the facility's shadow flicker impact. Champaign points out that witness Speerschneider holds a bachelor of science (B.S.) in physics, a bachelor of arts in environmental studies, a master of science (M.S.) in technology and policy, and an M.S. in materials science and engineering. Further, Champaign indicates that witness Speerschneider has worked for Everpower since 2004, with involvement in all facets of developed projects and operations. Next, Champaign contends that witness Poore holds a B.S. in mechanical engineering and has been employed in the wind industry for over 30 years. Further, Champaign contends that witness Poore has extensive experience working around wind energy project sites and turbines, and that an employee under his direction analyzed the shadow flicker studies. (Co. Reply Br. at 29-30; Co. Ex. 5 at 2; Co. Ex. 9 at 1.)

In its reply brief, Staff also responds to UNU's argument, noting that it has been the Board's longstanding practice to allow an applicant to sponsor exhibits to the application without the need for witnesses with specific knowledge thereof:

> The Board notes that it is a long-standing practice in Board proceedings for an applicant to sponsor exhibits to an application through the testimony of a witness that is an officer or experienced employee of the applicant. The Board has admitted the testimony of a witness, and the related exhibits, where the witness demonstrates that the exhibits or studies were performed at the applicant's request, under the witness' direct or indirect supervision, and that the officer is sufficiently knowledgeable about the information in the exhibit or study to offer testimony. We have found this process to be an efficient method by which to introduce large amounts of data necessary to process certificate applications. Further, the Board notes that, pursuant to Section 4906.07, Revised Code, the Board is required to direct an investigation of the application and file a written report of the investigation.

Buckeye Wind I, Opinion and Order (Mar. 22, 2010) at 12. Additionally, Staff points out that the shadow flicker report in the application was performed at Champaign's request, under its witnesses' direct or indirect supervision. (Staff Reply Br. at 16-18.)

Next, Champaign responds to UNU's contention that the shadow flicker study was fundamentally flawed because the actual size of residences was not considered in the analysis. Champaign points out that the model used very conservative assumptions, including turbines operating during all daylight hours and a receptor that was exposed to light on all sides. Furthermore, the field analysis of obstacles that was conducted for the 11 receptors initially modeled to receive over 30 hours of shadow flicker per year. As a result of the effect of screening, three receptors were below the 30-hour threshold. Champaign contends that, contrary to UNU's claim, the use of a field analysis was appropriate to estimate the effect of screening on the 11 residences. Champaign also argues that the record does not support UNU's assertion that the 30-hour threshold should apply to an entire nonparticipating property, rather than just residences. Champaign contends that Champaign witness Speerschneider testified that the 30-hour threshold has resulted in few complaints at wind projects, causing the logical conclusion that shadow flicker on other parts of a nonparticipating property will not be an issue. (Co. Reply Br. at 30-31; Co. Ex. 1 at 86-87, Ex. P at 2, 4; Tr. at 265.)

Further, Champaign contends that Staff's recommended condition regarding shadow flicker does not defer important siting issues, but enables Staff to enforce the appropriate threshold of 30 hours of shadow flicker per year for nonparticipating residential structures. Finally, Champaign contends that this condition is enforceable because shadow flicker can be predicted to the minute based on the location of the receptor, turbine, and sun. Further, although UNU contends that Champaign's proposed minimization measures would force landowners to accept changes to their property, Champaign points out that the condition does not require residents to undertake unwanted mitigation steps. (Co. Reply Br. at 29-31.)

The Board finds that, in light of their experience and educational backgrounds, Champaign witnesses Speerschneider and Poore were qualified to offer testimony regarding the shadow flicker report in the application and that Staff witness Strom was also qualified to discuss this portion of the Staff Report. The Board also notes that no expert testimony on shadow flicker was presented by any other party. Further, the Board finds that the evidence in the record demonstrated that Champaign's shadow flicker analysis utilized software commonly used and relied upon in the industry in order to model projected shadow flicker and that only eight nonparticipating or pending residences were projected to receive over the 30-hour threshold, even under conservative assumptions that the turbines will operate during all daylight hours and that the receptor will be exposed to light on all sides. Further, although UNU again argues that the Board is deferring important issues such as shadow flicker, the Board stresses that the shadow flicker analysis considered the turbine model under consideration that represents the worst-case scenario as to shadow flicker. Thus, even if Champaign selects one of the other turbines under consideration, the shadow flicker will not exceed the amount projected under the shadow flicker report. Further, Condition (47) does not defer issues to Staff, but

reflects the Board's determination of the appropriate amount of shadow flicker and gives Staff the ability to enforce that determination against Champaign after the facility is constructed. (Staff Report at 33-34; Co. Ex. 1 at 85-87, Ex. P at 1-6; Co. Ex. 5 at 2; Co. Ex. 9 at 1; Tr. at 265.)

Finally, although UNU argues that Champaign's proposed minimization measures will require nonparticipating homeowners to take unwanted action, this is not the case. Staff's recommended condition requires that Champaign operate the facility so that no more than 30 hours of shadow flicker per year are experienced at any nonparticipating sensitive receptor, and that a complaint resolution process be implemented through which complaints related to shadow flicker can be resolved. Champaign has merely noted that minimization measures can include screening by vegetative planting, window treatments, as well as curtailment of operation during select times. Consequently, Champaign has not asserted that it intends to force changes to the property of unwilling participants, but has listed multiple methods to minimize shadow flicker at the eight receptors in question, which includes curtailment of operation during select times. The Board finds that, in light of the intermittent nature of shadow flicker and the available mitigation methods, and provided the certificate issued includes Staff's recommended Condition (47), as modified by the Conclusions and Conditions section of this Opinion, Order, and Certificate, shadow flicker concerns are not so excessive as to render the project contrary to the public interest as required pursuant to Section 4906.10(A)(6), Revised Code. (Staff Report at 33-34; Co. Ex. 1 at 85-87, Ex. P at 1-6.)

f. Property Values

In support of its application, Champaign submits the testimony of witness Mark Thayer. Champaign witness Thayer testifies that, in his opinion, the proposed facility would have no impact on local property values, based upon a study he coauthored conducted by the Lawrence Berkley National Laboratory (LBNL Study) that analyzed 7,459 single family residences before, during, and after wind farm development in the United States (U.S.). Champaign asserts that the LBNL Study considered these sales by using multi-variable regression techniques, adjusted for the differences in each sale for square footage, scenic views, current market conditions, and various other pricing components in order that the only variable left was distance to a wind turbine. Further, Champaign asserts that the LBNL Study underwent statistical studies to verify the results in addition to being subject to peer review. Additionally, Champaign witness Thayer utilizes four other empirical studies conducted since December 2009, known as the Hinman Study, Carter Study, Clarkson Study, and Lempster Study, that also came to the conclusion that, post operation/construction, there was no identifiable effect of wind farms on nearby residential property values. Champaign witness Thayer further explains that there may be negative property value effects in the post-announcement, preconstruction phase due to anticipation stigma. However, he adds that the anticipation

stigma may be a result of the publicity by opponents to the wind project, but that, once construction is complete, prices will return to their former levels. (Co. Br. at 39-40; Co. Reply Br. at 32-34; Co. Ex. 8 at 2-6, 19.)

UNU argues that, contrary to Champaign's assertions, the project will substantially reduce the value of neighboring land and residences. In support, UNU cites the testimony of UNU witness Michael McCann, a professional appraiser, who opined that the proposed project will reduce the market value of properties in the immediate project area by 25 to 40 percent. UNU witness McCann's opinion was based upon his knowledge of actual repeat and paired sales of residential properties near wind farms, as well as a study known as the Lansink Appraisal Study. UNU also criticizes Champaign witness Thayer's testimony, arguing that his testimony focused on elaborate statistical regression studies that are not reliable for determining property value related to wind power projects. Further, UNU criticizes Champaign witness Thayer's use of the LBNL Study, arguing that the property value impacts associated with turbines were diluted because the data set included 7,459 separate property transactions near 24 wind farms in nine states. Additionally, UNU argues that the LBNL Study excluded data on sales that were clearly affected by the presence of turbines. UNU concludes that, due to property value concerns, the Board should require a condition requiring Champaign to offer nonparticipating landowners price protection with a property value protection agreement. (UNU Br. at 62-64; UNU Reply Br. at 34-35; UNU Ex. 18 at 9, 11-12, 23; Tr. at 1083, 1085, 1087-88.)

Champaign replies that the Board should not rely on UNU witness McCann's own study because: it was not controlled for the many variables that can affect prices; it utilized a very small sample size that has not been tested for statistical significance; and UNU witness McCann lacks the formal education and field experience to be qualified to conduct true statistical studies. Champaign points out that UNU witness McCann testified that he had no training in statistics, lacked a college degree, and did not have a basic understanding of regression analysis. Further, Champaign argues that, while UNU witness McCann's study is based on a hand-selected, small sampling of sales data, the LBNL Study relied upon by Champaign witness Thayer is a peer-reviewed, comprehensive statistical study that is more reliable because it considered 7,459 home sales before, during, and after wind farm development. Additionally, Champaign points out that, although UNU witness McCann criticized the LBNL Study for excluding certain data points, he testified that he did not know why these sales were excluded from the study or whether the data points were outliers. Further, Champaign argues that UNU's criticisms ignore the four other studies discussed by witness Thayer. (Co. Brief at 40-41; Co. Reply Br. at 32-34; Co. Ex. 8 at 2-6, 19; Tr. at 1053-1054, 1057-1060, 1062.)

The Board is mindful that five studies were presented by Applicant demonstrating that similar wind projects in other locations have not affected property values in those areas and that two studies were presented by UNU demonstrating that wind projects in

other locations have reduced the market value of properties in the immediate project area. However, the Board finds that the lack of a control group in UNU witness McCann's study, small sample size, and lack of testimony on statistical significance lessen the credibility of this study. In particular, the Board notes that the LBNL Study presented by Champaign was a peer-reviewed, comprehensive statistical study that considered a much larger number of property transactions near 24 wind farms, with a control group. Consequently, in light of the studies in the record, the Board finds more reliable the studies evincing that similar projects in other locations have not affected property values in those areas, and that concerns with property values do not render the project contrary to the public interest, convenience, and necessity. Additionally, in light of the Board's conclusion, the Board finds it is unnecessary to require Applicant to enter into a property value protection agreement as a condition of the certificate. (Co. Ex. 8 at 2-6, 19; Tr. at 1053-1054, 1057-1060, 1062.)

g. Operational Noise

In its application, Champaign explains that the operational noise associated with the facility will have a minimal impact on surrounding landowners. Champaign points out that it sited turbine locations in order to keep the modeled sound level at nonparticipating residences below the average sound level (Leq) for the site, plus 5 decibels (dBA), consistent, noting this methodology is consistent with the Board's acceptable noise conditions in recently approved facility certificates. In support of its assertion that the operational noise of the facility will provide minimal impacts, Champaign relies on the modeling performed by Champaign witness Hessler, a noise consultant. (Co. Ex. 1 at 73-74.)

Champaign witness Hessler reasons that sound levels associated with turbine rotors correlate with meteorological tower data on wind speeds, indicating that wind speed accounts for the largest differential between turbine noise and background noise levels. According to Champaign witness Hessler, the wind speed differential, known as the critical wind speed, results in a wind speed of 6 meters per second. In establishing a nighttime design goal, Champaign witness Hessler utilized the critical wind speed to determine an average nighttime Leq of 39 dBA. Therefore, Champaign's nighttime noise design goal for the project, based on the average Leq of 39 dBA sound level, plus 5 dBA, is 44 dBA. (Co. Ex. 1 at 76; Co. Ex. 11 at 7; Co. Ex. 11 at 5.)

Champaign witness Hessler explains that his model focuses on the worst-case scenario, meaning he assumes Champaign will select the noisiest turbine model (Nordex) of the five being considered. The noise model indicates that, in order to achieve the 44 dBA design goal under the worst-case scenario, 16 of the turbines would need to be operated in low-noise mode to ensure sound levels below the 44 dBA. Champaign's application indicates that, while some property boundaries may experience dBA levels as

high as 52 dBA, all nonparticipating residences will experience sound levels below 43 dBA, remaining outside the 44 dBA design goal. In addition, the application provides that the majority of nonparticipating residences would experience levels lower than 40 dBA, based on the worst-case scenario. (Co. Ex. 1 at 76; Co. Ex. 11 at 7.)

In support of Champaign's dBA design goal, Champaign witness Hessler explains that complaints are rare when sound levels remain below 45 dBA, pointing out that the rate of complaints for project sound levels between 40 and 45 dBA is only about 2 percent of the population within 2,000 feet of a turbine. In addition, Champaign notes that the World Health Organization (WHO) found that an outside noise level of 40 dBA is equivalent to the lowest observed adverse effect level for night noise, and that the WHO has a recommended interim target level of 55 dBA for outside night noise. (Co. Ex. 11 at 7.)

Regarding LFN from turbines, Champaign indicates that modern wind turbines do not generate significant LFN or infrasonic noise. While Champaign witness Hessler acknowledges that he is currently studying LFN and infrasound noise in a pending Wisconsin proceeding; Champaign witness Mundt points out that there is no evidence to support the claim that noise from wind turbines, including infrasound noise, causes adverse health effects. (Co. Ex. 1 at 77; Co. Ex. 29 at 28.)

UNU opines that Champaign's proposed design goal of 44 dBA will cause widespread discomfort, annoyance, sleep deprivation, and health disorders. In support of its assertion, UNU relies on the testimony of Richard James, an acoustical engineer, indicating that Champaign's proposed noise limit is excessive, and Champaign's methodology in calculating its proposed noise limit is questionable and contrary to traditional acoustical engineering methodologies. Specifically, UNU witness James explains that the ambient background sound level must be measured to accurately reflect existing noise levels and should utilize the L90 metric as opposed to the Leq metric. UNU explains that the L90 metric is preferable because it measures the quietest 10 percent of a time interval, filtering out short-term noise spikes. (UNU Br. at 21-29, Tr. at 786-788.)

UNU explains that Champaign witness Hessler's background sound readings were inconsistent and varied substantially between the reading stations. UNU points out that the daytime sound range varies as much as 11 dBA and the nighttime ranges were up to 10 dBA apart. In addition, UNU alleges that all ten noise stations were exposed to significant noise sources, including harvesting machinery and roads, elevating the sound levels at the sites. UNU also questions why Champaign witness Hessler disregarded the results from one of the testing stations, noting that the average dBAs are essentially the same as the averages from other monitoring stations. While Champaign witness Hessler acknowledged some of the wind noise in the background noise measurements result from the sound of wind blowing through trees, UNU explains that the inclusion of leaf rustle in

background noise measurements violates typical acoustic practices. (UNU Br. at 21-24; UNU Ex. 19 at 17.)

In addition, UNU states that Champaign witness Hessler's L90 background sound level of 33 dBA is significantly higher than his 29 dBA critical wind speed calculation from *Buckeye I*, and noticeably higher than UNU witness James' measurement of 27 dBA. UNU witness James explains that conditions in the project area remain the same from the previous background measurements, therefore, Champaign witness Hessler's previous study results should still be valid. (UNU Br. at 24-25; UNU Ex. 19 at 13.)

UNU also argues that the L90 metric is superior to the Leq methodology that Champaign witness Hessler utilized in his study. UNU witness James explains that the acoustical engineering profession prefers the L90 statistical sound level, which measures the quietest 10 percent interval and identifies the sound level available to mask turbine noise. In addition, UNU witness James explains that the L90 measure removes sporadic noise spikes that could taint the Leq noise study, which instead focuses on the average sound level during a specific measurement period. UNU notes that Champaign witness Hessler's consulting firm and his testimony in other proceedings supports the preference for the use of the L90 metric. (UNU Br. at 26-28.)

UNU witness James elaborates that Champaign's proposed noise limits are flawed as they focus only on measurements representing windy conditions, as stable atmospheric conditions might result in light winds at ground level but sufficient wind conditions at the level of the turbine blades to power the wind turbine. When stable atmospheric conditions occur, UNU explains that there is no ground level wind noise to mask the noise emitted from the wind turbines. In addition, UNU questions whether the proposed project would not exceed the design goal of 44 dBA and points out that Champaign witness Hessler relied on computer modeling software that was not designed for wind turbines. UNU proposes that the sound levels estimated by Champaign be increased by 5 dBA to more accurately reflect actual noise levels, as supported by UNU witness James's testimony. (UNU Br. at 31-32, 34; UNU Ex. 19 at 15-18; Tr. at 786-787.)

UNU proposes that a design goal of 35 dBA is more appropriate for the proposed project. In support of its proposition, UNU witness James testifies that 10 percent of the population experience annoyance with turbine noise levels of 30 to 35 dBA and this increases to 20 percent when exposed to turbine noise of 37.5 to 40 dBA. In addition, he states that up to 36 percent of the population experiences annoyance at sound levels above 40 dBA. In further support of UNU's proposed 35 dBA design limit, UNU witness James points out that WHO recommends noise levels of 40 dBA or below, and the United States EPA suggests a standard of 30 dBA at night for rural regions. Further, UNU opines that Champaign's model does not accurately represent a worst-case noise mode, as the Gamesa

G97 model has no low noise operating mode, and produces much louder noise than the Nordex turbine model. (UNU Ex. 19 at 14, Tr. 2793-2794, 2946.)

In addition to its contentions with Champaign's noise models conducted by Champaign witness Hessler, UNU argues that Champaign failed to model or evaluate LFN that is anticipated from the proposed project and, thus, failed to comply with Rule 4906-17-08(A)(2)(b), O.A.C. UNU explains that the noise wind turbines produce is primarily LFN, which travels further and with less attenuation over distance that higher frequency noise. Not only is LFN quantification feasible, UNU explains, but UNU witness James and other acousticians have measured LFN both inside and outside of homes near wind turbines and recorded substantially high levels of LFN. UNU adds that turbine manufacturers have LFN test data that can easily be modeled in order to comply with Rule 4906-17-08(A)(2)(b), O.A.C. (UNU Br. at 35-38.)

UNU contends that, in addition to annoyance, turbine noise can lead to health disorders for neighbors living near the proposed project area. In support of its assertion, UNU relies on the testimony of audiologist Jerry Punch. UNU witness Punch explains that adverse health effects from noise begin between 30 and 40 dBA and worsen at 40 dBA, as observed by WHO, with children and the elderly being particularly vulnerable. According to UNU witness Punch, audible sounds from wind turbines can not only cause annoyance but may also create stress, loss of concentration, loss of sleep, and may lead to serious health consequences. (UNU Br. at 7-10; UNU Ex. 23 at 11-23.)

While UNU believes that the WHO's recommendation is important, UNU opines that it would not provide sufficient protection for neighbors near wind turbines, because turbine noise is more intrusive, as evidenced by Dr. Punch's interview and visit with families living near wind turbines. UNU witness Punch explains that one family suffered from pressure, pulsations, and tinnitus when nearby wind turbines were operating. (UNU Ex. 23 at 20.)

UNU contends that nonparticipating neighbors near the project footprint could be adequately protected from negative health consequences associated with turbine noise by preventing any wind turbines from being located within 0.87 miles (4,594 feet) of nonparticipating property owners. In support of its proposed 4,594 foot setback, UNU witness Punch relies on two wind project studies that found residents located within 0.87 miles of a wind turbine suffered more health consequences than those living at distances greater than two miles away. UNU witness Punch adds that the health scores directly correlate with noise exposure levels. (UNU Br. at 15-18; UNU Ex. 23 at 14-16.)

UNU also expresses concern that the proposed noise standards pertain to residences of nonparticipating landowners, as opposed to nonparticipating landowners' property lines. UNU reasons that the wind project should comply with appropriate noise

standards at the property lines, not just the residences. UNU notes that even Champaign witness Hessler concedes that Champaign's consideration of only residences in evaluating noise levels could discourage property owners from utilizing their entire property. (UNU Br. at 38-39; Tr. at 744-745.)

Champaign asserts that there is no epidemiological evidence that confirms that residential proximity near wind turbines can cause disease or serious harm to human health. In support of its argument that turbine noise will not cause health disorders, Champaign relies on the testimony of witness Kenneth Mundt, an epidemiologist. Champaign witness Mundt explains that, while some people may find turbine noise distracting or annoying, there is no scientific or epidemiological evidence to support UNU's claims that turbine noise harms human health. Champaign witness Mundt adds that it is inappropriate to conclude there are any causal health effects until there is affirmative and qualitative scientific evidence to support the premise. (Co. Ex. 29 at 17, 33-38.)

Champaign argues that, not only are there no causal relationships between turbine noise and health disorders, but the evidence presented by UNU witness Punch is not credible and should be disregarded by the Board. Champaign witness Mundt explains that UNU witness Punch relied on deposition transcripts from court proceedings to develop his treatise and failed to offer any citations or conduct an appropriate peer review in support of his opinions. Champaign adds that self-reported symptoms are not sufficient to support any causal connection and are unlikely to be objectively peer reviewed by medical professionals. In addition, Champaign points out that, while UNU witness Punch may be an expert in audiology, he is not a medical doctor and does not understand how infrasound can result in adverse health effects. (Co. Reply Br. at 3-4.)

Champaign urges the Board to disregard UNU's suggestion of a proposed setback of 0.87 miles, as it is unwarranted due to the lack of credible evidence supporting a causal relationship between turbine noise and health problems. Specifically, Champaign points out that UNU's reliance on a study conducted by Dr. Michael Nissenbaum falls short of epidemiological standards, as it relied on self-reported measures and utilized subjectively titled surveys to gather information. (Co. Ex. 29 at 30.)

Champaign notes that Champaign witness Hessler utilized the L90 metric in taking background measurements. Champaign explains that, while Champaign witness Hessler used Leq measurements as well, UNU's arguments are misguided because the relevant consideration is that the turbines are modeled for the project and the nighttime noise will not exceed 44 dBA. In addition, Champaign argues that UNU's proposed sound limitation of 35 dBA is unwarranted and unnecessary. Champaign points out that, while WHO's noise guidelines are merely recommendations, they are at odds with UNU's recommendation. Further, Champaign provides that Champaign witness Hessler did

address UNU's concerns about stable atmospheric conditions in the adjudicatory hearing, noting that, while these conditions frequently occur, there are very few complaints, as long as the long-term noise level remains below 45 dBA. (Co. Reply Br. at 12-14.)

Champaign responds to UNU's allegations of background noise interference by pointing out that Champaign witness Hessler spoke with the majority of property owners about their property activities and that there were no known harvesting activities occurring during the study. Champaign adds that UNU's allegations of interference by wind noise through leaves and grass is unfounded, as Champaign witness Hessler indicated that there was a correlation between wind speed and the L90 background levels, which increased as the wind speed increased. Champaign witness Hessler explains that, while there were some sound increases as a result of wind blowing through trees, it was inevitable, considering measurements were taken over a period of 18 days. Champaign points to UNU witness James' study in which he took background measurements in areas with trees and hedges. Finally, Champaign notes that property line noise limits are unnecessary, as the point of a noise regulation is to control the noise where people spend the majority of their time, particularly at night. (Co. Reply Br. at 10-12; Co. Ex. 1, Ex. O at 26; Tr. at 774-775, 1168-1169.)

Furthermore, Champaign believes its application adequately addresses LFN and is compliant with Rule 4906-17-08(A)(2)(b), O.A.C. Champaign points out that several sections in its application contain discussions of modeling on lower ends of the frequency spectrum, as well as information on low frequency levels from wind turbines, including a graph of field measurements indicating no significant LFN levels as a result of turbine operation. Champaign argues it is a stretch for UNU to use testimony of Champaign witness Hessler from a separate state proceeding where he stated he was uncertain whether homeowners were bothered by LFN noise as supportive evidence that LFN will be heard and lead to serious health consequences. Accordingly, Champaign believes LFN noise limits are unnecessary. (Co. Reply Br. at 18; Co. Ex. 1 at 77-78; Tr. at 865-866.)

UNU contends that, despite concluding there is no causal relationship between wind turbines and negative health consequences, Champaign witness Mundt is unqualified to formulate this opinion because he has no training in acoustics and has never actually interviewed anyone suffering from health disorders due to wind turbine noise. UNU adds that Champaign witness Mundt admitted that it is common for epidemiologists to have contrary opinions, and that it is impossible to perform a perfect epidemiological study. (UNU Br. at 17; UNU Reply Br. at 15; Tr. at 2863-2864, 2885-2886.)

Staff indicates that, upon review of Champaign's noise modeling, it is unlikely that the worst-case scenario operation sound levels will generate nighttime noise levels above 44 dBA for nonparticipating residences. In addition, Staff witness Strom explains that, of the two operating wind farms in Ohio, both of which have similar noise conditions

imposed, only two complaints have been received, one of which turned out to be noise coming from an outside source and not a wind turbine. Nonetheless, Staff recommends that, as a precaution, Champaign operate its turbines at no more than 44 dBA during nighttime hours, and no more than the greater of 44 DBA or the actual measured ambient Leq, plus 5 dBA, at the location receptor during daytime hours. In addition, Staff recommends Champaign establish a complaint resolution process for any complaints that may arise due to excessive noise. Staff also explains that, while short-term deviations are likely, because they are impossible to determine, it is especially important to have a complaint resolution process included in the certificate. (Staff Report at 59; Tr. at 2798-99.)

Staff believes Champaign witness Hessler's noise assessment was reasonable. Staff acknowledges that both UNU witness James and Champaign witness Hessler utilized different methodologies in establishing their noise models. However, Staff notes that there is no uniform standard that exists in this field of study and, therefore, the Board should continue to review the studies on a case-by-case basis. Staff adds that the focus should remain on the fact that the likelihood of noise complaints is minimal, as long as the average sound level remains below 45 dBA, regardless of whether the Leq or L90 model is adopted. Staff witness Strom explains that, of the two fully-developed wind farms in Ohio with similar noise restrictions, only two complaints have been raised with Staff, one of which was entirely unrelated to wind turbine noise. Staff explains that this supports the assertion that sound levels below 45 dBA will result in minimal complaints. (Staff Br. at 19-25; Tr. at 2798-2799.)

Furthermore, Staff explains the noise mitigation condition recommended in the Staff Report will provide even more restrictive noise limitations during the nighttime hours in order to ensure noise levels are properly mitigated for nonparticipating property owners. Therefore, Staff recommends the Board find that Champaign's noise assessment, coupled with Staff's proposed noise condition, are reasonable. (Staff Report at 59; Staff Br. at 42-43.)

UNU questions the validity of Staff's recommendations, noting Staff witness Strom has no training in acoustical engineering, and he was unaware that UNU witness Milo Schaffner, who lives in the Blue Creek Wind Farm footprint, is experiencing discomfort from the wind turbine noise. Regarding Staff's noise recommendation, UNU opines that both Champaign witness Hessler and UNU witness James testified that the Board should not use the Leq method to set the nighttime noise standard. UNU adds that the condition allows for short-term duration above the noise level and lacks noise protection for nonparticipating landowners' entire premises. UNU points out that the condition again wrongly relies on the Leq standard for daytime noise limitations, fails to employ an LFN standard, and does not include the averaging period for calculating the Leq limits of the turbine noise. (UNU Reply Br. at 17-19.)

Champaign believes that, by establishing a set dBA limit during nighttime hours, Staff fails to take into account potential increases in ambient noise that may occur during periods of high winds. Champaign points out that Staff witness Strom agreed that turbine noise may not be detectible if there is high ambient wind. (Co. Br. at 56-57; Co. Ex. 11 at 8-9; Tr. at 2824-2825.)

The Board finds that, upon review of the record, it is apparent that no party disputes that operational noise is anticipated with the proposed project. There is dispute, however, as to whether the anticipated noise levels as modeled by Champaign are accurate and appropriate, and, if appropriate, whether any adverse effects contrary to the public interest are likely to occur as a result of the facility's operational noise. The Board must first determine if Champaign's background noise evaluation is reliable. If Champaign's studies are deemed to be reliable, we must next consider whether Champaign's design goal of 44 dBA is aligned with the public interest and consider whether there is evidence to support a lower threshold or greater setback requirements than what is proposed.

In beginning our analysis, we first look to the preconstruction background noise study conducted by Champaign. UNU alleges that Champaign's noise study contains serious flaws leading to biased modeling figures, however, we believe the record affirms that Champaign's preconstruction background noise study is reliable. While UNU may be correct in that the project footprint covers an area where farming machinery and grain dryers could potentially influence background noise levels, Champaign witness Hessler explains that he was not aware of any such activity occurring during the time of his study. In addition, the photographs contained within Champaign's application support Champaign witness Hessler's assertion that harvesting was mostly complete at the time of his study and there were no outlying readings to indicate potential influence of farm machinery. Further, to the extent some of Champaign's stations may have been located near trees or grasses, we note that it is inevitable that some stations may occasionally include outdoor noise from surrounding vegetation. It is disingenuous for UNU to point this out as a flaw when both Champaign witness Hessler and UNU witness James indicated at hearing that there was some degree of noise being observed as a result of nearby vegetation and wildlife. Accordingly, we see no undue influence or bias in Champaign's preconstruction background noise study. (Co. Ex. 1, Ex. O at 9-10; Tr. at 769-770, 775, 1168-1169.)

Turning to Champaign's noise modeling, UNU and Champaign dispute whether Champaign's use of the Leq metric was inappropriate in establishing background noise figures. Although the evidence in the record indicates that the L90 noise metric is a higher threshold by measuring the quietest 10 percent of a time interval, there is no credible evidence that the use of the Leq to establish the background sound level is in anyway unreasonable or inappropriate. Rather, the evidence presented focuses on the fact that

because the L90 metric is a higher noise threshold it should be adopted. However, we believe that the reliability of the Leq is still appropriate, as it represents an average background sound level over a ten minute picture and, while we note that Champaign witness Hessler concedes that he normally utilizes the L90 standard, the evidence presented in this case supports our finding that the Leq is a reasonable standard. We appreciate UNU's effort to promote the higher L90 methodology, but, ultimately, the record is devoid of any evidence that supports a finding that the Leq is unreasonable or that it is necessary for the Board to depart in our conclusion in this case from recent Board precedent. We point out that the governing statute is devoid of any mandate that applicants have to utilize a metric higher than the Leq, and we find that the Leq metric is reasonable and protects the public interest. (UNU Ex. 19 at 12-16; Tr. at 794, 795-797.)

Next, the Board will determine the appropriate design goal for the proposed project. Initially, we note that UNU, Staff, and Champaign all agree that the appropriate starting point is to utilize a threshold of 5 dBA over the average ambient nighttime noise level. Champaign and UNU propose ambient noise levels of 39 plus 5 dBA and 30 plus 5 dBA, respectively. Therefore, taking into consideration a 5 dBA threshold, UNU proposes a goal of 35 dBA, while Champaign's application proposes a goal of 44 dBA. Much of UNU's rationale in support of the 35 dBA limit relies on its arguments that turbine noise above 35 dBA causes unacceptable levels of annoyance and sleep disturbance, which, in turn, causes negative health consequences. Despite UNU's attempts to persuade the Board through the use of emotional rhetoric and the parade of negative scenarios that could occur upon approval of the proposed project, we find that UNU's evidence in support of alleged health consequences lacks credibility. (Staff Report at 32-33; UNU Ex. 19 at 10; Co. Ex. 11 at 4-5.)

As Champaign witness Mundt points out, UNU's reliance on UNU witness Punch's treatise is misguided, as the article not only failed to undergo proper peer review or scientific analysis, but also relied exclusively on self-reported complaints or symptoms of health effects, which casts doubt over the treatise's findings. Likewise, UNU's reliance on Dr. Michael Nissenbaum's study in requesting a 4,594 foot setback from property boundaries relies on self-reported health effects, and failed to meet epidemiological standards to prove an actual causal connection between turbine noise and health effects. The Board cannot in good conscience find that health disorders are caused by wind turbine noise based on UNU's reliance on studies that were not properly peer reviewed and were formed on the basis of self-reporting. Accordingly, the Board finds that UNU's requests for a minimum turbine setback of 4,594 feet and the imposition of noise limits at property lines be denied, as there is no record support for UNU's claims of adverse health effects. As discussed below, we believe the inclusion of Staff's recommended condition for a noise complaint resolution process provides continued protection of the public interest by providing a procedure that will ensure nonparticipating property owners' use and enjoyment of their property will not be compromised by the operation of the proposed

facility. The Board emphasizes that the worst-case scenario noise limits will be strictly enforced and nonparticipating landowners will have a remedial process in the event noise levels exceed what is approved herein. (Co. Reply Br. at 4; Co. Ex. 29 at 30.)

Turning back to UNU's request for a design goal of 35 dBA, UNU argues that, in the absence of a reasonable noise limit, the proposed project will cause extreme annoyance to neighboring landowners in the proposed project's footprint. We understand UNU's assertion that any new project may possibly cause incidents of annoyance, but we find UNU's proposed limit of 35 dBA to be too extreme. As both UNU and Champaign acknowledge, WHO determined that a nighttime sound level of 40 dBA is the threshold at which sound goes from being relatively unnoticed to intrusive and annoying. Therefore, based on the record, we find UNU's proposed design goal of 35 dBA is unreasonably restrictive. The only other figure recommended in the record is the 44 dBA, which Champaign proposes and Staff recommends. Based on the determination of the average ambient nighttime noise level of 39 dBA, and upon the addition of 5 dBA to the nighttime average, we believe a design goal of 44 dBA is a reasonable and appropriate level that is supported by the record in this case. The basis of this figure is consistent with both UNU and Champaign's agreement that a threshold of 5 dBA over the nighttime average is appropriate, and is consistent with public policy, as approximately 98 percent of the population would take no issue of a project sound level between 40 and 45 dBA. We realize that this figure also means that the rate of complaints at sound levels of 40 to 45 dBA is 2 percent. However, we believe that Staff's recommended condition, which calls for Champaign to establish a complaint resolution process, will protect the public interest by ensuring that nonparticipating residents will have an avenue by which their concerns about unacceptable levels of noise for the proposed project can be resolved. (UNU Ex. 19 at 10; Co. Ex. 11 at 7; Tr. at 738.)

We find that Staff's proposed complaint resolution process adequately addresses UNU's concerns by protecting the population in the footprint in the event there are short-term deviations above the 44 dBA nighttime design goal and the overall 50 dBA design. Furthermore, Staff's recommended condition also addresses UNU's concerns that Champaign's model does not represent a worst-case scenario noise mode, as this condition mandates that Champaign cannot operate any turbine, regardless of which of the five is ultimately selected, at levels exceeding 44 dBA at night. However, we agree with UNU that Staff's condition should include an Leq averaging system to define what a short-term deviation is and, accordingly, we believe the condition should be amended to protect any nonparticipating residents from an average Leq of 44 dBA over a 60-minute time period.

Regarding UNU's allegations that Champaign's application fails to adequately address LFN, we first turn to the rule before us. Rule 4906-17-08(A)(2)(b), O.A.C., provides that the applicant shall evaluate and describe the cumulative operation noise levels for the wind facility when modeling the operational noise levels and, among other

things, should consider LFN levels. Upon our review of the application, we believe Champaign adequately considers and addresses LFN. In its application, Champaign's model input sound power level considers LFN emissions from the noisiest turbine model (Nordex 100) and calculates frequency dependent propagation losses, including ground and air absorption. Not only does Champaign include LFN in its modeling, but it addresses the argument that turbines produce high levels of LFN by explaining that wind-induced microphone error can cause false-signal indicators of LFN, even when a wind turbine is not present in noise calculations. Accordingly, as Champaign's modeling adequately addresses the presence of LFN for the proposed project, we find an LFN limit is unnecessary. Even if the record contained credible evidence indicating the presence of LFN being emitted from wind turbines, the record confirms that there are no proven links between turbine noise and adverse health effects. (Co. Ex. 1, Ex. O at 30-33, 39-41.)

h. Construction Noise

Champaign indicates that construction activities associated with the proposed project will be temporary in nature and, at most, sound levels ranging from 56 to 63 dBA could occur over several weeks at homes nearest to the turbine sites. Champaign notes that the application includes a proposal to mitigate noise by utilizing mufflers and limiting construction hours to normal working hours. (Co. Ex. 1 at 70-72, 79.)

Staff notes that any adverse impacts of construction noise will be minimal as the construction activities are temporary and intermittent in nature, and occur away from most residential structures. Staff recommends that, in order to ensure impacts are limited to daytime hours, construction activities shall be limited to the hours of 7:00 a.m. to 7:00 p.m. On brief, Staff recommends the addition of a provision that would allow night construction, as long as it does not increase noise levels at sensitive receptors. (Staff Report at 32, 57; Staff Br. at 40.)

Champaign requests a modification to Staff's recommended condition to permit construction that is safer during lower wind time frames that often occur in the evening hours past 7:00 p.m. In support of its request, Champaign explains that the Board previously approved a similar condition in *In the Matter of the Application of Black Fork Wind Energy, LLC*, Case No. 10-2865-EL-BGN, Opinion and Order (January 23, 2012) (*Black Fork*). (Co Ex. 5 at 24; Tr. at 391-393.)

UNU believes that Staff's proposal to allow night construction if it does not increase noise levels to be a reasonable compromise and recommends the Board adopt the condition (UNU Reply Br. at 19).

The Board concludes that, based on the record, Champaign has appropriately considered potential construction noise impacts associated with construction of the

proposed project. While Champaign proposes to amend Staff's condition to allow for nighttime construction of certain aspects of the proposed project, we agree with UNU that Staff's proposal is an appropriate compromise. Staff's proposal not only allows for construction, as long as it does not increase noise levels, but it protects neighboring property owners from any nighttime noise disturbances. Accordingly, the Board finds that the issue of construction noise, with the inclusion of Staff's recommended Condition (35), as amended on brief, is not contrary to the public interest.

i. Conclusion

Based on our review of the record, the statutory requirements set forth in Chapter 4906, Revised Code, and the arguments raised by the parties in regard to setbacks in general, as well as setbacks in relation to blade shear, ice throw, fire, aesthetics, shadow flicker, property values, and noise, the Board concludes, for the reasons more specifically set forth above, that the setbacks for the proposed facility set forth in the application, as modified herein, are appropriate and support a finding that the proposed project is in the public interest, convenience, and necessity.

3. Communications Systems Interference

In its application, Champaign states that it hired a contractor, Comsearch, to conduct analyses of off-air television reception, AM/FM broadcast station operations, licensed microwave paths, and mobile phone carrier services in the vicinity of the project area. (Co. Ex. 1 at 153.)

Off-air television stations transmit broadcast signals from terrestrially located facilities that can be received directly by a television receiver or house-mounted antenna. According to the application, the results of the off-air television analysis indicated that there are 127 off-air television stations within 150 kilometers of the project area. However, stations most likely to produce off-air coverage to Champaign County are those located at a distance of 40.4 miles or less. Within this area, there are 24 licensed and operating stations. Thirteen of these stations include low-power digital stations or translators, which typically have limited range and limited programming. The application states that the turbines are located beyond the coverage area of all 13 low-power stations and translators; thus, where will be no impact to these stations. (Co. Ex. 1 at 153-154.)

Champaign also notes that it can be expected that the 11 full-power stations may suffer some degradation of off-air television signal reception once the proposed facility is constructed, as a result of television signal attenuation or reflection caused by one or more of the turbines. The application notes that this affect is due to the relative location of the off-air television antenna, turbines, and the point of reception. The application further notes that, based on the low number of channels available and, because the closest full

power station is 29 miles away, it is unlikely that off-air television stations are the primary mode of television service for the local communities. Nevertheless, Champaign asserts that, if the proposed facility results in impacts to existing off-air television coverage, Applicant will address and resolve each problem individually by offering cable television hookups or direct broadcast reception systems. (Co. Ex. 1 at 154.)

Regarding the AM/FM analysis, Comsearch identifies one AM station within 18.6 miles of the project, and notes that problems with AM broadcast coverage can occur when stations with directive antennas are located within 2 miles of turbines or when stations with nondirective antennas are located within 0.5 mile. Consequently, Champaign notes that, as the closest AM station is 18.6 miles from the project, no degradation of AM broadcast coverage is anticipated. Comsearch also determined that two FM stations are located within 18.6 miles of the project, and notes that a separation distance of 2.5 miles is recommended for FM stations. Champaign asserts that one FM station is located 2.47 miles from the nearest proposed turbine site, which may cause a slight reduction in the range obstructed by the turbine; however, the area impacted consists of approximately 14.8 acres of active farm fields, so there will be no loss of coverage at any structure or roadway. (Co. Ex. 1 at 154-155.)

Microwave telecommunications systems are wireless point-to-point links that communicate between two antennas and require clear line-of-sight conditions between each antenna. The application provides that Comsearch found 14 microwave paths in the vicinity of the proposed facility. Champaign states that, to assure an uninterrupted line of communications, a microwave link should be clear, not only along the axis between the center point of each antenna, but also within a mathematical distance around the center axis known as the Fresnel Zone. The application indicates that Comsearch calculated a worst-case Fresnel Zone for each of the microwave paths identified and determined that none of the turbines conflict with microwave paths and no degradation of microwave telecommunications is anticipated. (Co. Ex. 1 at 155.)

Comsearch investigated the potential impact of wind turbines on mobile phone operations in and around the proposed project. Comsearch found 18 mobile phone services across three frequency bands and noted that phone signals are typically not affected by physical structures because the widths of the signal are very wide and wrap around objects. Further, Comsearch found that the mobile phone network consists of multiple base stations designed to shift adjacent base stations to make a connection. Comsearch concludes that the presence of turbines would not require a special setback for signal obstruction consideration and that electromagnetic interference will not affect mobile telephone service in the vicinity of the proposed facility. (Co. Ex. 1 at 155-156, Ex. T.)

The Staff Report indicates that wind turbines can potentially interfere with civilian and military radar in some scenarios. Staff notes that a notification letter was sent to National Telecommunication and Information Administration (NTIA) on October 11, 2012, and that NTIA provided plans for the proposed facility to the federal agencies represented in the Interdepartment Radio Advisory Committee, which did not identify any concerns regarding blockage of communications systems. Therefore, Staff asserts that no impacts to radar systems are expected, but asserts that Applicant should be required to mitigate any such impacts if they are observed during operation of the facility, as outlined in the recommended conditions in the Staff Report. (Staff Report at 36; Co. Ex. 1 at 156.)

Urbana asserts that, in addition to television, radio, microwave paths, and mobile phone operations, Champaign should also have included public safety communications in its report. Urbana asserts that it will be implementing a Multi-Agency Radio Communications System for voice communications in the near future, citing the testimony of Urbana witness Mindy North, and contends that, although Comsearch reported that the turbines will not affect mobile telephone service, any additional interference could delay an emergency response. Additionally, Urbana asserts that technological innovations could pose new problems to public safety and contends that, consequently, the Board should require a condition that Champaign perform an updated analysis of communications impacts every two years and mitigate any impacts. In its brief, the County/Townships join this argument, stating that the Board should require a condition to prevent interference to the countywide 9-1-1 system due to concerns about potential interference with wireless phone signals. (Urbana Br. at 9-11; Urbana Reply Br., Appendix A at 5; County/Townships Br. at 16; City Ex. 11 at 2; Tr. at 1296, 1884.)

Champaign replies to the arguments made by Urbana and the County/Townships by noting that Staff's recommended conditions to the certificate require Champaign to complete a study and mitigate any interference it might discover. Champaign asserts that these conditions are appropriate given that little to no interference was discovered as set forth in the application, and that a reevaluation every two years of the area would be burdensome and unnecessary. (Co. Reply Br. at 47; Staff Report at 35-36.)

The Board notes that Staff's recommended Condition (50) requires Applicant to mitigate all observed impacts to microwave paths and systems identified in the communications studies. The Board also notes that Urbana witness North testified on cross-examination that she had not reviewed the Staff Report prior to being on the stand and was not aware that Staff and Applicant had concluded the turbines were not expected to affect mobile telephone service. Considering Staff's recommended condition and that the communications study included with the application indicated that phone signals are typically not affected by physical structures; that mobile phone networks can shift adjacent base stations to make a connection; and that electromagnetic interference will not affect mobile telephone service near the proposed facility, the Board finds that Urbana's and the

County/Townships' requested modification is unnecessary. (Staff Report at 36; Co. Ex. 1 at 153-156, Ex. T; Tr. at 2184, 2192.)

4. Traffic and Transportation

According to the application, state and local roads in the vicinity of the proposed project will experience increased traffic during construction due to delivery of materials and equipment. As part of the application, Champaign caused a Route Evaluation Study to be performed. The study concludes that, while sufficient infrastructure exists via primary and secondary roads to transport the turbine components, a number of intersection and sharp curve radii improvements will be required. Additionally, the study concludes that a transportation provider experienced with oversized loads will be engaged in the final route study, which will be performed in conjunction with special hauling permit processes for ODOT. (Co. Ex. 1, Ex. E at 1-2, 15.)

5. Landowner Leases

The Staff Report indicates that the construction of the facility involves lease of private land from approximately 100 landowners, collectively comprising approximately 13,500 acres. Additionally, Staff notes that the standardized lease for this project includes a 25-year term with an option to extend for two additional 10-year terms. Staff further indicates that the lease payments will be provided to local landowners participating in the project and that Applicant expects such payments to enhance the ability of those in the agricultural industry to continue farming. Finally, a consultant engaged by Applicant has estimated total lease payments to be $975,000 per year. (Staff Report at 47; Co. Ex. 1 at 4, 141, Ex. G at 14.)

6. Roads and Bridges

Champaign engaged Hull & Associates to conduct the preliminary Route Evaluation Study. Champaign indicates that Interstate 70 and U.S. Route 33 will be the primary roads used to access the project area. In addition, the roads used to transport materials and equipment will be documented by video prior to construction commencement and returned to preconstruction condition after completion of construction. (Co. Ex. 1 at 78, 156-159.)

The Staff Report notes that the delivery of materials and equipment will impact local roads and that township and county roads could be damaged by construction and material delivery equipment. Further, Staff indicates that some modifications to local roads would be needed, including expansion of intersections, subsurface drilling and test borings, temporary turnouts, and gravel access roads. Staff notes further that, once deliveries are completed, temporary roads and gravel roads would be removed and disturbed areas would be restored to previous conditions, unless requested otherwise by

the property owner or county engineer. Staff recommends that conditions be included that require Applicant to make all necessary improvements to roads used for the project, repair all damage to roads, and enter into a road use agreement with the county engineer. (Staff Report at 29.)

The County/Townships acknowledge Staff's proposed road use agreement, but contend that testimony from County/Township witness Wendel, County Engineer for Van Wert County, Ohio, demonstrates that negotiations for a road use agreement can be lengthy and a "headache" for the parties to the agreement, as that was the witness's experience in Van Wert County. Further, the County/Townships contend that the boards of township trustees are responsible for township roads and they should be included in negotiations of road use agreements. Consequently, the County/Townships contend that the Board should establish a condition mandating Applicant to "meet the requirements" of the relevant township, the county engineer, and the director of ODOT regarding the use of roads and bridges, and to execute such agreement in writing. The County/Townships did not submit complete wording for its proposed condition nor did they define the phrase "meet the requirements." (County/Townships Br. at 8-11; County Townships Reply Br. at 6-7; Tr. at 2319, 2335-2339.)

Urbana acknowledges that the preliminary route plan in the application shows that turbine components will not be transported through Urbana, but contends that Staff's proposed conditions regarding roads and bridges should be modified to include the Urbana city engineer, claiming that it is likely subcontractors will haul construction materials for the project through Urbana (Urbana Br. at 6-7; Urbana Reply Br., Appendix A at 2).

Champaign responds to the arguments of the County/Townships by contending that the terminology used by the County/Township seems to be intended to automatically hold Applicant to the requirements of the parties without any ability to negotiate the terms of the agreement. Champaign submits that Staff's proposed conditions are appropriate to address any repair concerns. Further, Champaign points out that Staff's conditions require Applicant to enter into a road use agreement with the "County Engineer(s) or other appropriate public authority[,]" which could include the relevant township. Additionally, Champaign argues that Urbana's recommendation that these conditions include the Urbana city engineer is unnecessary because the preliminary route study in the application shows that turbine components will not be transported through Urbana. Further, Champaign points out that, although Urbana has raised concerns as to subcontractors, those subcontractors would be subject to Urbana's existing road restrictions and the city has acknowledged that it can enter into road use maintenance agreements with any subcontractors hired. (Co. Reply Br. at 46-47.)

The Board finds that Staff's proposed conditions requiring Applicant to repair damage to government-maintained roads and bridges caused by construction activity and to enter into a road use agreement with the county engineer(s) or other appropriate public authority is reasonable and appropriate. The Board is mindful of the County/Townships' argument that negotiating a road use agreement could be lengthy or bothersome for parties; however, the Board is unclear how requiring Applicant to "meet the requirements" of various entities would alleviate these concerns and cultivate fair negotiations. Additionally, the testimony of the County/Townships' witness Shokouhi, the Champaign County Engineer, reflected that he had not actually read Staff's proposed conditions regarding the road use agreement prior to filing his testimony. Further, the Board notes that Urbana could enter into road use maintenance agreements with any subcontractors hired by Applicant. Upon consideration of all of the evidence of record, the Board finds that Staff's proposed condition is the best practical option available to ensure that the project serves the public interest, convenience, and necessity. (Co. Ex. 1 at 78, 156-159; Staff Report at 29; Tr. at 1858-1859.)

7. Decommissioning

In its application, Champaign notes that commercial grade wind turbines have a typical life expectancy of 20 to 25 years and the current trend in the wind industry is to replace older wind energy projects by upgrading old equipment with more efficient turbines. Where the turbines are nonoperational for an extended period of time, however, Champaign explains that they will be decommissioned. Champaign contends that decommissioning includes two components: removal of facility improvements and financial assurance. According to Champaign, removal of the facility improvements involves the dismantling and removal of the facilities and other above-ground property owned or installed by Champaign. Below-ground property, such as foundations and buried lines, will be removed to a minimum depth of 36 inches. This portion of the decommissioning process also includes regrading disturbed areas and restoration of slopes and contours to their original grade. Champaign goes on to discuss financial assurance and explains that Champaign will post and maintain financial assurance in the amount of $5,000 per turbine prior to construction of each turbine until the facility has been operational for one year. Thereafter, an independent and registered engineer will estimate the total cost of decommissioning and the net decommissioning costs (less the salvage value of the equipment). Champaign asserts that this per-turbine estimate will be submitted for Staff review and approval after one year of operation and every third year thereafter. After Staff approval, Champaign will post and maintain financial assurance in an amount equal to the net decommissioning costs. (Co. Ex. 1 at 159-160.)

Staff states that it is only appropriate to offset the total decommissioning costs with the salvage value when no other person or entity holds a lien against the property. Further, Staff asserts that it is unclear whether the $5,000 proposed by Applicant would be

sufficient financial assurance for the first year of the project. Consequently, Staff recommends several conditions to ensure availability of sufficient funds for decommissioning, including Applicant's: provision of a final decommissioning plan to Staff and the county engineer(s) at least 30 days prior to the preconstruction conference; filing of a revised decommissioning plan with Staff and the county engineer(s) every five years from the commencement of construction; complete decommissioning of the facility or individual wind turbines within 12 months after the end of the useful life; and removal of turbines off site, removal of associated facilities, and removal of physical material, and repair of damaged field tile systems. Further, Staff recommends a condition requiring Applicant to retain an independent, registered professional engineer to estimate the total cost of decommissioning in current dollars, without regard to salvage value of equipment, converted to a per-turbine basis and conducted every five years. Staff further recommends that Applicant post and maintain for decommissioning an amount equal to the per-turbine decommissioning cost multiplied by the sum of the number of turbines constructed and under construction. (Staff Br. at 45-46; Staff Report at 36, 60-62.)

In its brief, Champaign asserts its position that no decommissioning funds are necessary in the beginning of turbine operation, citing the testimony of Champaign witness Speerschneider that the possibility a newly built project would be decommissioned is practically zero, because newly installed technology is still useful and highly valuable. Consequently, Champaign argues that Staff should revise its proposed condition regarding financial assurance. (Co. Br. at 29-30; Tr. at 128, 133-134.)

The County/Townships support Staff's proposed conditions regarding decommissioning; however, they believe that the financial assurance posted should be equal to the aggregate cost of decommissioning every planned turbine, not solely the cost of decommissioning for each turbine actually constructed or under construction. Further, the County/Townships advocate that Applicant be required to file a revised decommissioning plan with Staff and the county engineer(s) every three years instead of every five years, citing the testimony of County/Townships witness Knauth. (County/Townships Br. at 11-13; County/Townships Reply Br. at 7-8; Tr. at 1377, 1384, 1386-1387, 1390.)

In its reply brief, Champaign responds to the County/Townships' arguments, contending that the County/Townships have failed to support their request that the decommissioning plan be revised every three years and that this request is economically unnecessary. Further, Champaign contends that the County/Townships' and Staff's recommendations that the financial assurance posted should be equal to the total decommissioning costs rather than on a per-turbine basis would require Champaign to post money for turbines that may not yet be in existence. (Co. Reply Br. at 48.)

In its reply brief, Staff points out that its proposed condition matches financial assurances to the actual turbines that must be decommissioned, both constructed or under construction, which differs from the County/Townships' argument that Champaign should post financial assurance for sums to decommission all turbines planned regardless of the number constructed or under construction. Staff asserts that the County/Townships' approach requires excessive assurances and costs, as it would require financial assurance for turbines that may never be built. Further, Staff submits that the County/Townships' request that a revised decommissioning plan be filed every three years, instead of five, is too short of a period, and that a five-year period is consistent with the Board's most recent decision in *Black Fork*, Opinion and Order (January 23, 2012) at 24-25, 47-49. (Staff Reply Br. at 3; Staff Report at 60, 62.)

The Board stresses that decommissioning and the accompanying financial assurance is an important issue in this case. Having reviewed the proposals set forth by Staff, Champaign, and the County/Townships, the Board finds that Staff's recommended condition regarding decommissioning should be adopted without the changes recommended by Champaign or the County/Townships. Regarding Champaign's arguments, the Board agrees with Staff that it is unclear whether the $5,000 proposed by Applicant would be sufficient financial assurance in the first year of the project and that it would be inappropriate to consider salvage value where another person or entity might hold a lien against the property. Further, regarding the County/Townships' argument, the Board agrees with Staff that the County/Townships' proposed condition would require Champaign to post financial assurance without consideration of the number of turbines actually constructed or under construction, and would require a revised decommissioning plan every three years, which is too short to be practicable and does not align with the Board's most recent decisions regarding decommissioning. The Board finds that, with Staff's proposed Condition (52) regarding decommissioning and financial assurance, the public interest will be protected. (Staff Report at 36, 60-62.)

8. Conclusion - Public Interest, Convenience, and Necessity

The Board emphasizes that, in considering whether the proposed project is in the public interest, convenience, and necessity, we have taken into account that the renewable energy generation by the proposed facility will benefit the environment and consumers. Additionally, the Board notes that the proposed project will assist Ohio's electric utilities in meeting their renewable energy benchmarks required under statute. Further, in light of the Board's review of the record, the Board finds that this project has been designed to have minimal aesthetic impact on the local community. Further, the Board finds that, with respect to health and safety concerns, such as setbacks (including blade shear, ice throw, shadow flicker, and noise), these concerns have been thoroughly considered and appropriately addressed in the conditions contained in the Conclusions and Conditions section of this Opinion, Order, and Certificate. Based upon our conclusions set forth

herein, the Board finds the nature of the probable environmental impact has been determined for the proposed project, consistent with Section 4906.10(A)(2), Revised Code, and we find the application complies with all terms and conditions set forth within the statute. In addition, we believe the facility, as modified by the Board and subject to Staff's proposed conditions adopted herein, represents the minimum adverse environmental impact consistent with Section 4906.10(A)(3), Revised Code.

Further, in light of the Board's review of the record, the Board finds that, with respect to communications, traffic, and transportation, the proposed project has been designed to avoid any alteration of the resources available to the community. Further, with respect to traffic, road and bridge repair, and decommissioning, the Board finds that potential impacts have been ascertained, and the conditions contained in the Conclusions and Conditions section of this Opinion, Order, and Certificate require the appropriate financial assurances to ensure the community is not harmed by those aspects of the proposed project. Based on our consideration of all of these issues discussed in the above section, the Board finds that the proposed project serves the public interest, convenience, and necessity, in accordance with Section 4906.10(A)(6), Revised Code, provided Applicant adheres to the conditions set forth in the Conclusions and Conditions section of this Opinion, Order, and Certificate.

G. Agricultural Districts - Section 4906.10(A)(7), Revised Code

Staff explains that, pursuant to Section 4906.10(A)(7), Revised Code, the Board must determine the facility's impact on the agricultural viability of any land in an existing agricultural district within the project area of the proposed facility. Staff further explains that agricultural district land can be classified such through an application and approval process administered through local county auditors' offices. Staff notes that, within the area of the proposed project, a total of 15.46 acres of permanent impacts would occur to agricultural district land, but that these impacts would not affect the agricultural district designation of any of the properties within the project area. (Staff Report at 49.)

Staff further notes that construction-related activities such as vehicle traffic and materials storage could lead to temporary reductions in farm productivity caused by crop damage, soil compaction, broken drainage tiles, and reduction of planting space. However, Staff reports that Champaign has discussed and approved the siting of facility components with landowners in order to minimize these impacts and also intends to take steps to reduce impacts to farmland including: repairing any drainage tiles damaged during construction, removing construction debris, compensating farmers for lost crops, and restoring temporarily impacted land to its original use. Additionally, Staff notes that, after construction, only the agricultural land associated with turbines and access roads would be removed from farm production. Staff concludes that the impact of the proposed facility on the viability of existing agricultural land in an agricultural district has been

determined and, therefore, complies with the requirements specified in Section 4906.10(A)(7), Revised Code, provided that any certificate issued by the Board for the proposed facility includes the conditions specified in the Staff Report. (Staff Report at 49.)

Initially, the Board notes that no intervenor raised any concerns regarding Section 4906.10(A)(7), Revised Code. The Board concludes that, in accordance with this section, the impact of the proposed facility on the viability of existing farmland and agricultural districts has been determined and the impact will be minimal. Therefore, the Board finds that the proposed project complies with Section 4906.10(A)(7), Revised Code, provided Applicant adheres to the conditions set forth in the Conclusions and Conditions section of this Opinion, Order, and Certificate.

H. Water Conservation Practice - Section 4906.10(A)(8), Revised Code

In its report, Staff notes that, pursuant to Section 4906.10(A)(8), Revised Code, a proposed facility must incorporate maximum feasible water conservation practices, considering available technology and the nature and economics of the various alternatives. Staff indicates, however, that wind-powered electric generating facilities do not utilize water in the process of electricity production; therefore, water consumption associated with the proposed project does not warrant specific conservation efforts. Staff further notes that a potable water supply would be provided to the operations and maintenance building for project and personal needs of employees, but that the amount of water would be minimal. Consequently, Staff recommends that the Board find that the requirements of Section 4906.10(A)(8), Revised Code, are not applicable to this project. (Staff Report at 50.)

The Board, initially, notes that no intervenor raised concerns with this criterion. Accordingly, upon consideration of Staff's recommendation, the Board concludes that Section 4906.10(A)(8), Revised Code, does not apply to the proposed project.

I. Other Issues

1. Emergency Services

Urbana raises concerns pertaining to the ability of local emergency services to respond to emergency incidents at the site of the proposed project and asserts that a condition should be included requiring each turbine to display a 24-hour toll-free telephone number to report emergencies. Further, Urbana contends that a condition should be included that requires each fire department to be provided with a copy of the manufacturer's turbine safety manual. Finally, Urbana asserts that its local fire and rescue first responders will need to be able to respond to emergencies that may occur at turbines. Consequently, Urbana contends that Champaign should provide annual training and equipment to first responders at its own expense, as well as overtime compensation for

first responders for time spent in training. (Urbana Br. at 5, 7-8; Urbana Reply Br. at 3-4; Tr. at 2218, 2224.)

Champaign responds that it should not be required to display a telephone number on each turbine for emergencies because the area surrounding each turbine will be restricted, making an emergency number superfluous. Further, Champaign contends that it should not be required to provide turbine safety manuals to local first responders because such manuals could be confidential and Champaign might not be allowed to distribute them to first responders. Champaign also points out that it will be required to house a copy of the most current safety manual in the facility's operations and maintenance (O&M) building, which it argues renders the city's request unnecessary. Finally, Champaign points out, as reflected in the record, Champaign holds annual training for first responders and will provide training for first responders in Champaign County. In addition, Champaign notes that Staff's conditions require Applicant to submit a fire protection and medical emergency plan to be developed in consultation with first responders. Champaign asserts that, rather than mandate the purchase of equipment, the better practice is to allow Champaign and the first responders to develop a plan to determine what equipment, if any, is necessary and appropriate. (Co. Reply Br. at 48-49; Tr. at 42-43.)

The Board finds that the conditions proposed by Urbana regarding toll-free telephone numbers and provision of turbine safety manuals are reasonable and serve the interest of public safety. Consequently, the Board has incorporated the requirements into Conditions (70) and (71). Regarding the confidentiality of turbine safety manuals, the Board notes that the public version of the application in the record contains safety manuals for GE, Nordex, and REpower. Should a more recent safety manual for the manufacturer of the turbine selected, or the Gamesa safety manual, if the Gamesa turbine model is selected, contain confidential information, Applicant should enter into an appropriate protective agreement with first responders. Regarding Urbana's proposal that Champaign provide mandated equipment to first responders, the Board agrees with Applicant that Staff's proposed condition requiring creation of an emergency plan in consultation with first responders is the more appropriate mechanism to permit Champaign and the first responders to determine what equipment is necessary.

2. Surveillance Cameras

UNU contends that some wind farms install surveillance cameras on their turbines that are sometimes used to watch neighboring properties, citing the testimony of UNU witness James. UNU argues that this would violate the privacy of nearby neighbors. Although UNU acknowledges that Champaign witness Speerschneider denied any intent to install surveillance cameras on the turbines in the proposed project, UNU contends that the certificate should contain a condition prohibiting surveillance cameras in order to

prevent Champaign from spying on its neighbors. (UNU Br. at 60-61; UNU Ex. 19 at 32; Tr. at 199-200.)

Champaign notes that Applicant has no plans to install surveillance cameras on the turbines and that it does not object to a condition prohibiting installation of surveillance cameras for surveillance of neighboring properties. However, Champaign contends that it is uncomfortable with a blanket ban on cameras because it may be helpful to install cameras at some point for safety purposes. Champaign asserts that, if safety reasons arise, it will work to ensure neighbors' privacy is not invaded. (Co. Reply Br. at 49; Tr. at 199-201.)

The Board agrees that Champaign should not be permitted to install surveillance cameras for any reason other than operational needs, such as safety or security. Should a justifiable operational reason arise and Champaign believes it is necessary to install surveillance cameras on any of the turbines, Champaign must notify Staff prior to such installation and take measures to ensure no invasion into the privacy of neighboring properties. The Board has created Condition (69) to advance this objective.

3. Changes in conditions after certificate issuance

UNU contends that Staff's recommended conditions would allow Champaign to relocate Turbines 87 and 91 without a hearing, as long as they were distanced a minimum of 150 percent of the sum of the hub height and rotor diameter from occupied structures, and that Champaign has also requested to relocate Turbines 79 and 95 in a similar manner. UNU states that allowing Champaign to relocate these turbines after issuance of the certificate and without a hearing would violate due process rights of affected landowners. (UNU Reply Br. at 39-40.)

As the Board previously stated in the sections regarding blade shear and ice throw, Staff found in its report that proposed Turbines 79, 87, 91, and 95 do not comply with the setbacks Staff has recommended for the proposed project, due to proximity to nonparticipating residences and/or arterial roads. Despite Staff's and Champaign's recommended conditions permitting relocation and/or resizing of these turbines, the Board made a finding in Section VI(F)(2), Setbacks, that proposed Turbines 79, 87, 91, and 95 shall not be constructed. Additionally, the Board notes that, consistent with the Board's procedure as summarized in Section III, Procedural Process, should Champaign wish, in the future, to relocate any of the turbines approved in this order or to use a turbine model not considered in this order, Champaign must file an amendment application pursuant to Section 4906.06, Revised Code.

CONCLUSION AND CONDITIONS:

The Board has considered the record in this proceeding, and the interests and arguments of each party. Based upon the record, the Board finds that all of the criteria established in accordance with Chapter 4906, Revised Code, are satisfied for the construction, operation, and maintenance of the facility as described in the application filed with the Board, subject to certain conditions proposed by Staff and other parties, and modified herein. In addition, upon review of the record and certain issues raised in this case, the Board finds that certain requirements delineated in this order are appropriate. To the extent that a request to amend a particular condition or to supplement the conditions is not discussed or adopted in the conditions set forth below, it is hereby denied. Accordingly, the Board approves the application and hereby issues a certificate to Champaign for the construction, operation, and maintenance of the proposed facility, subject to the conditions set forth below:

(1) The facility shall be installed as presented in the application, and as modified and/or clarified by Applicant's supplemental filings and the recommendations in the Staff Report, as modified and adopted in this Order.

(2) Applicant must utilize the equipment and construction practices as described in the application and as modified and/or clarified in supplemental filings, replies to data requests, and recommendations in the Staff Report, as modified and adopted in this Order.

(3) Applicant must implement the mitigation measures as described in the application and as modified and/or clarified in supplemental filings, replies to data requests, and recommendations in the Staff Report, as modified and adopted in this Order.

(4) Applicant must conduct a preconstruction conference prior to the start of any construction activities. Staff, Applicant, and representatives of the prime contractor and all subcontractors for the project must attend the preconstruction conference. The conference must include a presentation of the measures to be taken by Applicant and contractors to ensure compliance with all conditions of the certificate, and discussion of the procedures for on-site investigations by Staff during construction. Prior to the conference, Applicant must provide a proposed conference agenda for Staff review. Applicant may

stage separate preconstruction meetings for grading versus clearing work.

(5) At least 30 days prior to the preconstruction conference, Applicant must have in place a complaint resolution procedure to address potential public grievances resulting from project construction and operation. The resolution procedure must provide that Applicant will work to mitigate or resolve any issues with those who submit either a formal or informal complaint and that Applicant will immediately forward all complaints to Staff. Applicant must provide the complaint resolution procedure to Staff, for review and confirmation that it complies with this condition, prior to the preconstruction conference.

(6) At least 30 days before the preconstruction conference, Applicant must submit to Staff, for review and acceptance, one set of detailed engineering drawings of the final project design, including the wind turbines, collection lines, substation, temporary and permanent access roads, any crane routes, construction staging areas, and any other associated facilities and access points, so that Staff can determine that the final project design is in compliance with the terms of the certificate. The final project layout must be provided in hard copy and as geographically referenced electronic data. The final design must include all conditions of the certificate and references at the locations where Applicant and/or its contractors must adhere to a specific condition in order to comply with the certificate.

(7) If any changes are made to the project layout after the submission of final engineering drawings, all changes must be provided to Staff in hard copy and as geographically referenced electronic data. All changes outside the environmental survey areas and any changes within environmentally sensitive areas will be subject to Staff review and acceptance, to ensure compliance with all conditions of the certificate, prior to construction in those areas.

(8) Within 60 days after the commencement of commercial operation, Applicant must submit to Staff a copy of the as-built specifications for the entire facility. If Applicant demonstrates that good cause prevents it from submitting a copy of the

as-built specifications for the entire facility within 60 days after commencement of commercial operation, it may request an extension of time for the filing of such as-built specifications. Applicant must use reasonable efforts to provide as-built drawings in both hard copy and as geographically referenced electronic data.

(9) Any wind turbine site approved by the Board as part of this Opinion, Order, and Certificate, but not built as part of this project, may be available for Board review in a future case.

(10) If construction has commenced at a turbine location and it is determined that the location is not a viable turbine site, that site must be restored to its original condition within 30 days from such determination. If Applicant believes it is prevented from completing the site restoration within 30 days, it must file a motion for extension of time for completing such site restoration.

(11) At least 60 days before the preconstruction conference, Applicant must file a letter with the Board that identifies which of the turbine models listed in the application has been selected. If Applicant selects the GE103 turbine model, Applicant must submit a complete copy of the manufacturer's safety manual or similar document to Staff.

(12) The certificate shall become invalid if Applicant has not commenced a continuous course of construction of the proposed facility within five years of the date of journalization of the certificate.

(13) As the information becomes known, Applicant must provide to Staff the date on which construction will begin, the date on which construction was completed, and the date on which the facility begins commercial operation.

(14) Applicant shall not commence any construction of the facility until it has a signed interconnection service agreement with PJM, which includes construction, operation, and maintenance of system upgrades necessary to reliably and safely integrate the proposed generating facility into the regional transmission system. Applicant must provide either a letter stating that the agreement has been signed or a copy of the signed interconnection service agreement to Staff.

(15) Prior to commencement of any construction, Applicant must prepare a Phase I cultural resources survey program for archaeological work within the construction disturbance area, in consultation with Staff and

the OHPO. If the resulting survey work discloses a find of cultural or archaeological significance, or a site that could be eligible for inclusion in the NRHP, then Applicant must submit a mitigation plan to the Board.

(16) Prior to commencement of any construction, Applicant must develop a cultural resource avoidance plan in consultation with Staff and the OHPO, detailing procedures for flagging and avoiding all potentially NRHP-eligible archaeological sites in the project area, which shall be reviewed by Staff for confirmation that it complies with this condition. The avoidance plan must also contain measures to be taken should previously unidentified archaeological deposits or artifacts be discovered during construction of the project.

(17) Prior to commencement of construction, Applicant must develop a historic preservation mitigation plan in consultation with Staff and the OHPO, detailing procedures for promoting the continued meaningfulness of the survey area's rural history, which shall be reviewed by Staff for confirmation that it complies with this condition.

(18) No commercial signage or advertisements may be located on any turbine, tower, or related infrastructure. If vandalism occurs, Applicant must remove or abate the damage within 30 days of discovery to preserve the aesthetics of the project. If Applicant does not believe the removal or abatement can be completed within 30 days of discovery, Applicant must request an extension of time for the removal or abatement of damage. Any abatement other than the restoration to prevandalism condition is subject to review by Staff to ensure compliance with this condition.

(19) Applicant must have a Staff-approved environmental specialist on site during construction activities that may affect sensitive areas, as mutually agreed upon between Applicant and Staff, and as shown on Applicant's final approved construction plan. Sensitive areas include, but are not limited to, areas of vegetation clearing, designated wetlands and streams, and locations of threatened or endangered species or their identified habitat. The environmental specialist must be familiar with water quality protection issues and potential threatened or endangered species of plants and animals that may be encountered during project construction.

(20) Applicant must contact Staff, ODNR, and the U.S. Fish and Wildlife Service (USFWS) within 24 hours if state or federal threatened or endangered species are encountered during construction activities.

Construction activities that could adversely impact the identified plants or animals must be halted until an appropriate course of action has been agreed upon by Applicant, Staff, and ODNR in coordination with the USFWS. Nothing in this condition shall preclude agencies having jurisdiction over the facility with respect to threatened or endangered species from exercising their legal authority over the facility consistent with law.

(21) Applicant must adhere to seasonal tree cutting dates of November 1st through March 31st for removal of trees, if avoidance measures cannot be achieved.

(22) Applicant must implement all conservation measures and conditions outlined in the final HCP and USFWS' ITP. Applicant must also implement all conservation measures and conditions outlined in the USFWS' draft environment impact statement (EIS), EIS No. 20120211, which is subject to inclusion as an environmental commitment in the USFWS' Record of Decision. Following USFWS and/or ODNR approval of any modifications to the Avian and Bat Protection Plan, Applicant must implement the draft conditions in the Avian and Bat Protection Plan, as amended.

(23) Applicant shall not work in the types of streams listed below during fish spawning restricted periods (April 15th to June 30th), unless a waiver is sought from and issued by ODNR and approved by Staff releasing Applicant from a portion of or the entire restriction period.

(a) Class 3 primary headwater streams (watershed < one mi2)

(b) Exceptional Warmwater Habitat

(c) Coldwater Habitat

(d) Warmwater Habitat

(e) Streams supporting threatened or endangered species

(24) Sixty days prior to the first turbine becoming operational, Applicant shall submit a post-construction avian and bat monitoring plan for ODNR-DOW and Staff review and confirmation that it complies with this condition. Applicant's plan must be consistent with ODNR-approved, standardized

protocol, as outlined in ODNR's *On-Shore Bird and Bat Pre- and Post-Construction Monitoring Protocol for Commercial Wind Energy Facilities in Ohio.* This includes having a sample of turbines that are searched daily. The post-construction monitoring must begin within two weeks of operation of the first turbine and be conducted for a minimum of two seasons (April 1st to November 15th), which may be split between calendar years. If monitoring is initiated after April 1st and before November 15th, then portions of the first season of monitoring must extend into the second calendar year (e.g., start monitoring on July 1, 2013, and continue to November 15, 2013; resume monitoring April 1, 2014, and continue to June 30, 2014). Applicant may request a waiver of the second monitoring season. The monitoring start date and reporting deadlines will be provided in the ODNR-DOW approval letter and the Board's concurrence letter. If it is determined that significant mortality, as defined in ODNR's approved, standardized protocols, has occurred to birds and/or bats, or a state-listed species is killed, then ODNR-DOW and Staff will require Applicant to develop and implement a mitigation plan. If required, Applicant shall submit a mitigation plan to the ODNR-DOW and Staff for review and confirmation that it complies with this condition within 30 days from the date reflected on ODNR's letterhead, in coordination with Staff, in which ODNR-DOW is requiring Applicant to mitigate for significant mortality to birds and/or bats. Mitigation initiation timeframes shall be outlined in the ODNR-DOW approval letter and Staff's concurrence letter.

(25) Applicant must conduct a presence/absence survey for the presence of the Eastern massasauga rattlesnake at the 20-acre wetland. The survey must be conducted by an USFWS- and ODNR-approved herpetologist. If Eastern massasauga rattlesnakes are not detected, then no further avoidance and minimization measures are required. If Eastern massasaugas are detected, or if a survey is not conducted, then presence of this species will be assumed and Applicant must implement USFWS- and ODNR-approved avoidance and minimization measures for protection of this species.

(26) Applicant must restrict public access to the facility with appropriately placed warning signs or other necessary measures.

(27) Applicant must ensure all transportation permits are obtained prior to transport. Applicant must coordinate with the appropriate authority regarding any temporary or permanent road closures, lane closures, road access restrictions, and traffic control necessary for construction and operation of the proposed facility. Coordination must include, but not be limited to, the county engineer, ODOT, local law enforcement, and health and safety officials. This coordination must be detailed as part of a final traffic plan submitted to Staff prior to the preconstruction conference for review and confirmation that it complies with this condition.

(28) Applicant must provide the final Champaign County delivery route plan and the results of any traffic studies to Staff and the county engineer(s) 30 days prior to the preconstruction conference. Applicant must complete a study on the final equipment delivery route to determine what improvements will be needed in order to transport equipment to the wind turbine construction sites. Applicant must make all improvements outlined in the final delivery route plan prior to equipment and wind turbine delivery. Applicant's delivery route plan and subsequent road modifications must include, but not be limited to, the following:

(a) Perform a survey of the final delivery routes to determine the exact locations of vertical constraints where the roadway profile will exceed the allowable bump and dip specifications and outline steps to remedy vertical constraints.

(b) Identify locations along the final delivery routes where overhead utility lines may not be high enough for over-height permit loads and coordinate with the appropriate utility company if lines must be raised.

(c) Identify roads and bridges that are not able to support the projected loads from delivery of the wind turbines and other facility components and make all necessary upgrades.

(d) Identify locations where wide turns would require modifications to the roadway and/or

surrounding areas and make all necessary alterations. Any alterations for wide turns must be removed and the area restored to its preconstruction condition, unless otherwise specified by the county engineer(s).

(29) Applicant must repair damage to government-maintained (public) roads and bridges caused by construction activity. Any damaged public roads and bridges must be repaired promptly to their preconstruction state by Applicant under the guidance of the appropriate public authority. Any temporary improvements must be removed, unless the county engineer(s) request that they remain. Applicant must provide financial assurance to the Board of Commissioners of Champaign County that it will restore the public county and township roads in Champaign County it uses to their preconstruction condition. Applicant must also enter into a road use agreement with the county engineer(s) or other appropriate public authority prior to construction and subject to Staff review and confirmation that it complies with this condition. The road use agreement must contain provisions for the following:

(a) A preconstruction survey of the conditions of the roads.

(b) A post-construction survey of the condition of the roads.

(c) An objective standard of repair that obligates Applicant to restore the roads to the same or better condition as they were prior to construction.

(d) A timetable for posting of the construction road and bridge bond prior to the use or transport of heavy equipment on public roads or bridges.

(30) The facility owner and/or operator must repair damage to government-maintained (public) roads and bridges caused by decommissioning activity. Any damaged public roads and bridges must be repaired promptly to their predecommissioning state by the facility owner and/or operator under the guidance of the appropriate public

authority. Applicant must provide financial assurance to the Board of County Commissioners of Champaign County that it will restore the public roads and bridges it uses in Champaign County to their predecommissioning condition. These terms must be defined in a road use agreement between Applicant and the county engineer(s) or other applicable public authority prior to construction. The road use agreement is subject to Staff review and confirmation that it complies with this condition, and must contain provisions for the following:

(a) A predecommissioning survey of the condition of public roads and bridges conducted within a reasonable time prior to decommissioning activities.

(b) A post-decommissioning survey of the condition of public roads and bridges conducted within a reasonable time after decommissioning activities.

(c) An objective standard of repair that obligates the facility owner and/or operator to restore the public roads and bridges to the same or better condition as they were prior to decommissioning.

(d) A timetable for posting of the decommissioning road and bridge bond prior to the use or transport of heavy equipment on public roads or bridges.

(31) General construction activities must be limited to the hours of 7:00 a.m. to 7:00 p.m., or until dusk when sunset occurs after 7:00 p.m. Impact pile driving operations and blasting if required, must be limited to the hours between 10:00 a.m. to 5:00 p.m., Monday through Friday. Construction activities that do not involve noise increases above ambient levels at sensitive receptors are permitted outside of daylight hours when necessary. Applicant must notify property owners or affected tenants within the meaning of Rule 4906-5-08(C)(3), O.A.C, of upcoming construction activities including potential for nighttime construction activities.

(32) Applicant must complete a full detailed geotechnical exploration and evaluation at each turbine site to confirm that

there are no issues to preclude development of the wind farm. The geotechnical exploration and evaluation must include borings at each turbine location to provide subsurface soil properties, static water level, rock quality description, percent recovery, and depth and description of the bedrock contact and recommendations needed for the final design and construction of each wind turbine foundation, as well as the final location of the transformer substation and interconnection substation. Applicant must fill all boreholes, and borehole abandonment must comply with state and local regulations. Applicant must provide copies of all geotechnical boring logs to Staff and to the ODNR Division of Geological Survey prior to construction.

(33) Should site-specific conditions warrant blasting, Applicant must submit a blasting plan, at least 60 days prior to blasting, to Staff for review and confirmation that it complies with this condition. Applicant must submit the following information as part of its blasting plan:

(a) The name, address, and telephone number of the drilling and blasting company.

(b) A detailed blasting plan for dry and/or wet holes for a typical shot. The blasting plan must address blasting times, blasting signs, warnings, access control, control of adverse effects, and blast records.

(c) A plan for liability protection and complaint resolution.

(34) Prior to the use of explosives, Applicant or the explosive contractor must obtain all required local, state, and federal licenses/permits. Applicant must submit a copy of the license or permit to Staff within seven days of obtaining it from the local authority.

(35) The blasting contractor must utilize two blasting seismographs that measure ground vibration and air blast for each blast. One seismograph must be placed at the nearest dwelling and the other placed at the discretion of the blasting contractor.

(36) At least 30 days prior to the initiation of blasting operations, Applicant must notify, in writing, the local fire departments and all residents or owners of dwellings or other structures within 1,000 feet of the blasting site. Applicant or the explosive contractor must offer and conduct a pre-blast survey of each dwelling or structure within 1,000 feet of each blasting site, unless waived by the resident or property owner. The survey must be completed and submitted to Staff at least ten days before blasting begins.

(37) Applicant must comply with the turbine manufacturer's most current safety manual and must maintain a copy of that safety manual in the O&M building of the facility.

(38) At least 30 days before the preconstruction conference, Applicant must submit to Staff, for review and confirmation that it complies with this condition, a proposed emergency and safety plan to be used during construction, to be developed in consultation with the fire department(s) having jurisdiction over the area.

(39) Before the first turbine is operational, Applicant must submit to Staff, for review and confirmation that it complies with this condition, a fire protection and medical emergency plan to be used during operation of the facility, which must be developed in consultation with the first responders having jurisdiction over the area.

(40) Applicant must establish a postal address compatible with the local 9-1-1 system at each turbine site, which must be clearly labeled with that address in case of fire or other emergencies prior to commercial operation. These addresses must be provided to the 9-1-1 Dispatch Center Director located at 1512 South U.S. Route 68, Urbana, Ohio, prior to commercial operation.

(41) Applicant must instruct workers on the potential hazards of ice conditions on wind turbines.

(42) Applicant must install and utilize an ice warning system that may include an ice detector installed on the roof of the nacelle, ice detection software, warranted by the manufacturer to detect

ice, for the wind turbine controller, or an ice sensor alarm that triggers an automatic shutdown.

(43) Applicant shall not construct Turbines 87 and 91 in accordance with Section VI(F)(2)(c) of this Opinion, Order, and Certificate.

(44) Applicant must adhere to a setback distance of at least 1.1 times the total height of the turbine structure, as measured from its tower's base (excluding the subsurface foundation) to the tip of its highest blade, from any natural gas pipeline in the ground at the time of commencement of construction.

(45) Within six months of commencement of operation of the facility, Applicant must register the as-built locations of all underground collection lines with the Ohio Utilities Protection Service. Applicant must also register with the Ohio Oil and Gas Producers Underground Protection Service, if it operates in the project area. Confirmation of registration(s) must be provided to Staff.

(46) The facility shall be operated so that the facility noise contribution does not result in noise levels at the exterior of any currently existing nonparticipating sensitive receptor that exceed the project area ambient nighttime Leq of 39 dBA, plus five dBA. During daytime operation only, 7:00 a.m. to 10:00 p.m., the facility may operate at the greater of: (a) the project area ambient nighttime Leq, 39 dBA, plus five dBA; or, (b) the validly measured ambient Leq, plus five dBA, at the location of the sensitive receptor. After commencement of commercial operation, Applicant shall conduct further review of the impact and possible mitigation of all project-related noise complaints through its complaint resolution process. The complaint resolution process must include an Leq averaging system over a 60-minute interval.

(47) The facility must be operated so that the facility shadow flicker contribution does not result in shadow flicker levels that exceed 30 hours per year for any nonparticipating sensitive receptor. Applicant must complete a shadow flicker analysis for all inhabited nonparticipating sensitive receptors that have already been modeled to be in excess of 30 hours per year of shadow flicker. The analysis must show how modeled shadow flicker impacts have been reduced to 30 or fewer hours per year

for each such receptor. The analysis must be provided to Staff at least 30 days prior to the preconstruction conference, for review and confirmation that it complies with this condition. This analysis may incorporate shadow flicker reductions for trees, vegetation, buildings, obstructions, turbine line of sight, operational hours, wind direction, sunshine probabilities, and other mitigation confirmed by Staff to be in compliance with this condition. After commencement of commercial operation, Applicant shall conduct further review of the impact and possible mitigation of all project-related shadow flicker complaints through its complaint resolution process.

(48) Applicant must develop a complaint resolution process that shall include procedures for responding to complaints about excessive noise during construction, and excessive noise and excessive shadow flicker caused by operation of the facility. The complaint resolution process must include procedures by which complaints can be made by the public, how complaints will be tracked by Applicant, steps that will be taken to interact with the complainant and respond to the complaint, steps that will be taken to verify the merits of the complaint, and steps that will be taken to mitigate valid complaints. Mitigation, if required, must consist of either reducing the impact so that the project contribution does not exceed the requirements of the certificate, or other means of mitigation reviewed by Staff for confirmation that it complies with this condition.

(49) At least 30 days prior to construction, Applicant must perform a study of the potential impacts of the project to any known microwave path or system. Applicant must contact all electric service providers that operate within the project area for a description of specific microwave paths to be included in the study. A copy of this study must be provided to the electric service providers for review, and to Staff for review and confirmation that it complies with this condition. The assessment must conform to the following requirements:

(a) An independent and registered surveyor, licensed to survey within the state of Ohio, shall determine the exact locations and worst-case Fresnel Zone dimensions of all known microwave paths or systems operating within the project area, including all paths and systems identified by the

electric service providers that operate within the project area. In addition, the surveyor shall determine the center point of all turbines within 1,000 feet of the worst-case Fresnel Zone of each system, using the same survey equipment.

(b) Provide the distance (feet) between the surveyed center point of each turbine identified within section (a) above and the surveyed worst-case Fresnel Zone of each microwave system path.

(c) Separately provide the distance (feet) between the nearest rotor blade tip of each surveyed turbine identified within section (a) above and the surveyed worst-case Fresnel Zone of each microwave system path.

(d) Provide a map of the surveyed microwave paths and turbines at a legible scale.

(e) Describe the specific, expected impacts of the project on all microwave paths and systems considered in the study.

(50) Applicant must mitigate all observed impacts to: (a) microwave paths and systems identified in the communication studies performed for this project or required by the Board; (b) new microwave paths or systems identified by an electric service provider after the communication studies are performed but prior to the date Applicant advises such electric service provider of the final turbine layout, provided construction has commenced on such new paths or system prior to the date Applicant advises such electric service provider of the final turbine layout; or (c) new microwave paths or systems identified by an electric service provider following the date Applicant advises such electric service provider of the final turbine layout, but only if Applicant subsequently modifies the final turbine layout and such microwave paths or systems were modified or introduced in reliance upon the original final layout, provided construction has commenced on such new paths or systems prior to the date Applicant advises such electric service provider of the modified final turbine layout. Avoidance and mitigation must consist of measures acceptable

to Staff, Applicant, and the affected path owner, operator, or licensee(s).

(51) If any turbine is determined to cause Next-Generation Radar interference, Applicant must propose a technical or administrative work plan, protecting proprietary interests in wind speed data, which provides for the release of real-time meteorological data to the National Weather Service office in Wilmington, Ohio. If an uncontrollable event should render this data temporarily unavailable, Applicant must exert reasonable effort to restore connectivity in a timely manner.

(52) Applicant, facility owner, and/or facility operator must comply with the following conditions regarding decommissioning:

(a) Provide the final decommissioning plan to Staff and the county engineer(s) for review and confirmation of compliance with this condition, at least 30 days prior to the preconstruction conference. The plan must:

(i) Indicate the intended future use of the land following reclamation.

(ii) Describe the following: engineering techniques and major equipment to be used in decommissioning and reclamation; a surface water drainage plan and any proposed impacts that would occur to surface and ground water resources and wetlands; and a plan for backfilling, soil stabilization, compacting, and grading.

(iii) Provide a detailed timetable for the accomplishment of each major step in the decommissioning plan, including the steps to be taken to comply with applicable air, water, and solid waste laws and regulations and any applicable health and safety standards in effect as of the date of submittal.

(b) Provide a revised decommissioning plan to Staff and the county engineer(s) every five years from the commencement of construction. The revised plan must reflect advancements in engineering techniques and reclamation equipment and standards. The revised plan shall be applied to each five-year decommissioning cost estimate. Prior to implementation, the decommissioning plan and any revisions shall be reviewed by Staff to confirm compliance with this condition.

(c) Complete, at its expense, decommissioning of the facility, or individual wind turbines, within 12 months after the end of the useful life of the facility or individual wind turbines. If no electricity is generated for a continuous period of 12 months, or if the Board deems the facility or turbine to be in a state of disrepair warranting decommissioning, the wind energy facility or individual wind turbines will be presumed to have reached the end of their useful life. The Board may extend the useful life period for the wind energy facility or individual turbines for good cause as shown by the facility owner and/or facility operator. The Board may also require decommissioning of individual wind turbines due to health, safety, wildlife impact, or other concerns that prevent the turbine from operating within the terms of the certificate.

(d) Decommissioning will include: the removal and transportation of the wind turbines off site; and the removal of buildings, cabling, electrical components, access roads, and any other associated facilities, unless otherwise mutually agreed upon by the facility owner and/or facility operator and the landowner. All physical material pertaining to the facility and associated equipment must be removed to a depth of at least 36 inches beneath the soil surface and transported off site. The disturbed area must be restored to the same physical condition that existed before

erection of the facility. Damaged field tile systems must be repaired to the satisfaction of the property owner.

(e) During decommissioning, all recyclable materials, salvaged and nonsalvaged, must be recycled to the furthest extent practicable. All other nonrecyclable waste materials must be disposed of in accordance with state and federal law.

(f) The facility owner and/or facility operator shall not remove any improvements made to the electrical infrastructure if doing so would disrupt the electric grid, unless otherwise approved by the applicable regional transmission organization and interconnection utility.

(g) Subject to confirmation of compliance with this condition by Staff, and seven days prior to the preconstruction conference, an independent, registered professional engineer, licensed to practice engineering in the state of Ohio, will be retained to estimate the total cost of decommissioning in current dollars, without regard to salvage value of the equipment. Said estimate must include: (1) an identification and analysis of the activities necessary to implement the most recent approved decommissioning plan including, but not limited to, physical construction and demolition costs assuming good industry practice and based on ODOT's *Procedure for Budget Estimating and RS Means* material and labor cost indices or any other publication or guidelines approved by Staff; (2) the cost to perform each of the activities; (3) an amount to cover contingency costs, not to exceed 10 percent of the above calculated reclamation cost. Said estimate will be converted to a per-turbine basis (the "Decommissioning Costs"), calculated as the total cost of decommissioning of all facilities as estimated by the professional engineer divided by the number of turbines in the most recent facility engineering drawings. This estimate must be

conducted every five years by the facility owner and/or facility operator.

(h) Applicant, facility owner and/or facility operator must post and maintain for decommissioning, at its election, funds, a surety bond, or similar financial assurance in an amount equal to the per-turbine decommissioning costs multiplied by the sum of the number of turbines constructed and under construction. The funds, surety bond, or financial assurance need not be posted separately for each turbine, as long as the total amount reflects the aggregate of the decommissioning costs for all turbines constructed or under construction. For purposes of this condition, a turbine is considered to be under construction at the commencement of excavation for the turbine foundation. The form of financial assurance or surety bond must be a financial instrument mutually agreed upon by the Board and Applicant, the facility owner, and/or the facility operator. The financial assurance must ensure the faithful performance of all requirements and reclamation conditions of the most recently filed and approved decommissioning and reclamation plan. At least 30 days prior to the preconstruction conference, Applicant, the facility owner, and/or the facility operator must provide an estimated timeline for the posting of decommissioning funds based on the construction schedule for each turbine. Prior to commencement of construction, Applicant, the facility owner, and/or the facility operator must provide a statement from the holder of the financial assurance demonstrating that adequate funds have been posted for the scheduled construction. Once the financial assurance is provided, Applicant, facility owner and/or facility operator must maintain such funds or assurance throughout the remainder of the applicable term and must adjust the amount of the assurance, if necessary, to offset any

increase or decrease in the decommissioning costs.

(i) The decommissioning funds, surety bond, or financial assurance shall be released by the holder of the funds, bond, or financial assurance when the facility owner and/or facility operator has demonstrated, and the Board concurs, that decommissioning has been satisfactorily completed, or upon written approval of the Board, in order to implement the decommissioning plan.

(53) Prior to the commencement of construction activities that require permits or authorizations by federal or state laws and regulations, Applicant must obtain and comply with such permits or authorizations. Applicant must provide copies of permits and authorizations, including all supporting documentation, to Staff within seven days of issuance or receipt by Applicant. Applicant must provide a schedule of construction activities and acquisition of corresponding permits for each activity at the preconstruction conference.

(54) At least seven days before the preconstruction conference, Applicant must submit to Staff, for review and confirmation of compliance with this condition, a copy of all NPDES permits including its approved SWPPP, approved SPCC procedures, and its erosion and sediment control plan. Any soil issues must be addressed through proper design and adherence to the Ohio EPA BMPs related to erosion and sedimentation control.

(55) Applicant must employ the following erosion and sedimentation control measures, construction methods, and BMPs when working near environmentally sensitive areas and/or when in close proximity to any watercourses, in accordance with the Ohio NPDES permit(s) and SWPPP obtained for the project:

(a) During construction of the facility, seed all disturbed soil, except within actively cultivated agricultural fields, within seven days of final grading with a seed mixture acceptable to the appropriate county cooperative extension service.

Denuded areas, including spoils piles, must be seeded and stabilized within seven days, if they will be undisturbed for more than 21 days. Reseeding must be done within seven days of emergence of seedlings as necessary until sufficient vegetation in all areas has been established.

(b) Inspect and repair all erosion control measures after each rainfall event of one-half of an inch or greater over a 24-hour period, and maintain controls until permanent vegetative cover has been established on disturbed areas.

(c) Delineate all watercourses, including wetlands, by fencing, flagging, or other prominent means.

(d) Avoid entry of construction equipment into watercourses, including wetlands, except at specific locations where construction has been approved.

(e) Prohibit storage, stockpiling, and/or disposal of equipment and materials in these sensitive areas.

(f) Locate structures outside of identified watercourses, including wetlands, except at specific locations where construction has been approved.

(g) Divert all storm water runoff away from fill slopes and other exposed surfaces to the greatest extent possible, and direct instead to appropriate catchment structures, sediment ponds, etc., using diversion berms, temporary ditches, check dams, or similar measures.

(56) Applicant must remove all temporary gravel and other construction staging area and access road materials after completion of construction activities, as weather permits, unless otherwise directed by the landowner. Impacted areas must be restored to preconstruction conditions in compliance

with the NPDES permit(s) obtained for the project and the approved SWPPP created for this project.

(57) Applicant shall not dispose of gravel or any other construction material during or following construction of the facility by spreading such material on agricultural land. All construction debris and all contaminated soil must be promptly removed and properly disposed of in accordance with Ohio EPA regulations.

(58) Applicant shall comply with fugitive dust rules by the use of water spray or other appropriate dust suppressant measures whenever necessary.

(59) Applicant shall comply with any drinking water source protection plan for any part of the facility that is located within drinking water source protection areas of the local villages and cities.

(60) Applicant shall provide a copy of any floodplain permit required for construction of this project, or a copy of correspondence with the floodplain administrator showing that no permit is required, to Staff within seven days of issuance or receipt by Applicant.

(61) Thirty days prior to commencement of construction, Applicant must notify, in writing, any owner of an airport located within 20 miles of the project boundary, whether public or private, whose operations, operating thresholds/minimums, landing/approach procedures and/or vectors are expected to be altered by the siting, operation, maintenance, or decommissioning of the facility.

(62) Applicant must meet all recommended and prescribed FAA and ODOT-OA requirements to construct an object that may affect navigable airspace. This includes submitting coordinates and heights for all towers exceeding 199 feet at ground level for ODOT-OA and FAA review prior to construction, and the nonpenetration of any FAA *Part 77* surfaces.

(63) All applicable structures, including construction equipment, must be lit in accordance with FAA circular 70/7460-1 K Change 2, *Obstruction Marking and Lighting*; or as otherwise

prescribed by the FAA. This includes all cranes and construction equipment. During construction, Applicant shall ensure that all structures that reach 200 feet in height, at ground level, are temporarily marked and lit until permanent lighting is installed.

(64) Applicant must provide the flight service stations within proximity with NOTAM. These notices must include the latitude and longitude coordinates for all structures, including cranes and construction equipment, that exceed 200 feet in height at ground level.

(65) Applicant must file all 7460-2 forms with the FAA at least 42 days prior to construction and with Staff for confirmation of compliance with this condition.

(66) Within 30 days of construction completion, Applicant must file the as-built transmission structure coordinates and heights (above ground level) with the ODOT-OA and the FAA.

(67) Applicant must submit to Staff, for review and confirmation that it complies with this condition, a medical needs service plan for construction, testing, and operation of this facility, in coordination with the local emergency medical helicopter, CareFlight. This plan must incorporate measures that assure immediate shut downs of any portion of the facility necessary to allow direct routes for emergency medical helicopter services within the vicinity of the facility.

(68) Applicant shall not construct Turbines 79 and 95 in accordance with Section VI(F)(2)(a) of this Opinion, Order, and Certificate.

(69) Champaign shall not locate surveillance cameras on or around the turbines for any reason other than operational needs. Should a justifiable operational need arise, Applicant must notify Staff prior to such installation and take measures to ensure no invasion of the privacy of neighboring properties.

(70) Applicant must provide all local fire and emergency service personnel with turbine layout maps, tower diagrams, schematics, turbine safety manuals, and an emergency 24-hour toll-free telephone number for Champaign.

(71) Applicant must placard each turbine tower with a 24-hour emergency telephone number for Champaign.

(72) Applicant shall be prohibited from locating a proposed turbine where: (1) the distance from the turbine to either of two towers owned by the Champaign Telephone Company located at 10955 Knoxville Road, Mechanicsburg, Ohio 43044 (LAT: 40-0-30.16 N; LONG: 83-35-14.39 W) and at 2733 Mutual Union Road, Cable, Ohio 43009 (LAT: 40-9-26.0 N; LONG: 83-37-52.0 W) is less than the total height of the turbine above ground level or (2) the turbine would be in the direct line of sight between the two towers.

Finally, the Commission notes that The Supreme Court of Ohio has recognized that the statutes governing these cases vest the Board with the authority to issue certificates upon such conditions as the Board considers appropriate; thus acknowledging that the construction of these projects necessitates a dynamic process that does not end with the issuance of a certificate. The Court has concluded that the Board has the authority to allow Staff to monitor compliance with the conditions the Board has set. *In re Application of Buckeye Wind, L.L.C. for a Certificate to Construct Wind-Powered Electric Generation Facilities in Champaign County, Ohio*, 131 Ohio St.3d 449, 2012-Ohio-878, 966 N.E.2d 869, ¶ 16-17, 30. Such monitoring includes the convening of preconstruction conferences and the submission of follow-up studies and plans by the applicant. As recognized by the Court in *Buckeye Wind*, if an applicant proposes to change any of the conditions approved in the certificate, the applicant is required to file an amendment. As discussed above in Section III, the Board would be required to hold a hearing in accordance with Section 4906.07, Revised Code, in the same manner as on an application, where an amendment application involves any material increase in any environmental impact or substantial change in the location of all or a portion of the facility. Particularly in light of these procedural safeguards, the Board reiterates its conclusion that the criteria established in accordance with Chapter 4906, Revised Code, are satisfied.

FINDINGS OF FACT AND CONCLUSIONS OF LAW:

(1) Champaign is a corporation and a person under Section 4906.01(A), Revised Code.

(2) The proposed wind-powered electric generation facility is a major utility facility under Section 4906.01(B)(1), Revised Code.

(3) On January 6, 2012, Champaign filed notice of the present case and notice that a public informational meeting would be held

on January 24, 2012, at Triad High School, 8099 Brush Lake Road, North Lewisburg, Ohio 43060.

(4) On May 15, 2012, Champaign filed its application for a certificate to site a wind-powered electric generation facility in Champaign County, Ohio.

(5) On July 13, 2012, the Board notified Champaign that its application had been found to be complete pursuant to Rule 4906-1, et seq., O.A.C.

(6) On July 20, 2012, Champaign filed a certificate of service of its accepted and complete application, in accordance with Rule 4906-5-06, O.A.C.

(7) By entry issued August 2, 2012, the ALJ granted Champaign's request for waiver of: the one-year notice period required by Section 4906.06(A)(6), Revised Code; the requirement that Applicant provide certain cross-sectional views and locations of borings, pursuant to Rule 4906-17-05(A)(4), O.A.C.; and the requirement that Applicant submit a map of the proposed electric power generating site showing the grade elevations where modified during construction pursuant to Rule 4906-17-05(B)(2)(h), O.A.C.

(8) On October 10, 2012, Staff filed its report of investigation of the proposed facility.

(9) The ALJ granted motions to intervene filed by UNU, the Farm Federation, the County/Townships, Urbana, and Pioneer.

(10) A local public hearing was held on October 25, 2012, at Triad High School, North Lewisburg, Ohio.

(11) Champaign filed its proofs of publication of the hearing notice on September 13, 2012, and November 6, 2012.

(12) On November 8, 2012, the adjudicatory hearing commenced and it concluded on November 28, 2012. Rebuttal testimony was taken on December 6, 2012.

(13) The ALJs' rulings shall be affirmed, in part, and denied, in part, as set forth in Section V of this Opinion, Order, and Certificate.

(14) Adequate data on the proposed facility has been provided to make the applicable determinations required by Chapter 4906, Revised Code, and the record evidence in this matter provides sufficient factual data to enable the Board to make an informed decision.

(15) Champaign's application filed on May 15, 2012, complies with the requirements of Chapter 4906-13, O.A.C.

(16) The record establishes that the basis of need, under Section 4906.10(A)(1), Revised Code, is not applicable.

(17) The record establishes that the nature of the probable environmental impact of the facility has been determined and it complies with the requirements in Section 4906.10(A)(2), Revised Code, subject to the conditions set forth in this Opinion, Order, and Certificate.

(18) The record establishes that the proposed facility represents the minimum adverse environmental impact, considering the state of available technology and the nature and economics of the various alternatives, and other pertinent considerations under Section 4906.10(A)(3), Revised Code, subject to the conditions set forth in this Opinion, Order, and Certificate.

(19) The record establishes that the facility is consistent with regional plans for expansion of the electric power grid and will serve the interests of electrical system economy and reliability, under Section 4906.10(A)(4), Revised Code, subject to the conditions set forth in this Opinion, Order, and Certificate.

(20) The record establishes, as required by Section 4906.10(A)(5), Revised Code, that the facility will comply with Chapters 3704, 3734, and 6111, Revised Code, and Sections 1501.33 and 1501.34, Revised Code, and all rules and standards adopted pursuant thereto and under Section 4561.32, Revised Code.

(21) The record establishes that the facility will serve the public interest, convenience, and necessity, as required under Section 4906.10(A)(6), Revised Code, subject to the conditions set forth in this Opinion, Order, and Certificate.

(22) The record establishes that the facility will not adversely impact the viability of any land in an existing agricultural district, under Section 4906.10(A)(7), Revised Code.

(23) Based on the record, the Board shall issue a Certificate of Environmental Compatibility for the construction, operation, and maintenance of the proposed wind-powered electric generation facility in Champaign County, Ohio, subject to the conditions set forth in this Opinion, Order, and Certificate.

ORDER:

It is, therefore,

ORDERED, That UNU's, Urbana's, and the County/Townships' requests to reverse the rulings of the ALJs are denied, in part, and granted, in part, as set forth in Section V of this Opinion, Order, and Certificate. It is, further,

ORDERED, That UNU's motion to reopen the hearing record is denied, as set forth in Section V of this Opinion, Order, and Certificate. It is, further,

ORDERED, That the motion for protective order filed by Gamesa be granted. It is, further,

ORDERED, That the Board's docketing division maintain, under seal, the redacted copy of the Gamesa General Characteristics Manual for the G97 turbine model, which was filed under seal in this docket on November 13, 2012, for a period of 18 months, ending on November 28, 2014. It is, further,

ORDERED, That Champaign's application to construct electricity generating wind turbines and electrical substations in Champaign County, Ohio, be approved and a certificate be issued to Champaign, subject to the conditions set forth in this Opinion, Order, and Certificate. It is, further,

ORDERED, That the certificate contain the conditions set forth in the Conclusions and Conditions Section of this Opinion, Order, and Certificate. It is, further,

ORDERED, That a copy of this Opinion, Order, and Certificate be served upon each party of record and any other interested persons of record.

THE OHIO POWER SITING BOARD

Todd A. Snitchler, Chairman
Public Utilities Commission of Ohio

David Goodman, Board Member
and Director of the Ohio
Development Services Agency

James Zehringer, Board Member
and Director of the Ohio
Department of Natural Resources

Theodore Wymyslo, Board Member
and Director of the
Ohio Department of Health

for Scott Nally
Scott Nally, Board Member
and Director of the Ohio
Environmental Protection Agency

for David Daniels
David Daniels, Board Member
and Director of the Ohio
Department of Agriculture

Jeffrey J. Lechak, Board Member
and Public Member

MWC/JJT/sc

Entered in the Journal
MAY 28 2013

Barcy F. McNeal
Secretary

4903.10 Application for rehearing.

After any order has been made by the public utilities commission, any party who has entered an appearance in person or by counsel in the proceeding may apply for a rehearing in respect to any matters determined in the proceeding. Such application shall be filed within thirty days after the entry of the order upon the journal of the commission. Notwithstanding the preceding paragraph, in any uncontested proceeding or, by leave of the commission first had in any other proceeding, any affected person, firm, or corporation may make an application for a rehearing within thirty days after the entry of any final order upon the journal of the commission. Leave to file an application for rehearing shall not be granted to any person, firm, or corporation who did not enter an appearance in the proceeding unless the commission first finds:

(A) The applicant's failure to enter an appearance prior to the entry upon the journal of the commission of the order complained of was due to just cause; and,

(B) The interests of the applicant were not adequately considered in the proceeding. Every applicant for rehearing or for leave to file an application for rehearing shall give due notice of the filing of such application to all parties who have entered an appearance in the proceeding in the manner and form prescribed by the commission. Such application shall be in writing and shall set forth specifically the ground or grounds on which the applicant considers the order to be unreasonable or unlawful. No party shall in any court urge or rely on any ground for reversal, vacation, or modification not so set forth in the application. Where such application for rehearing has been filed before the effective date of the order as to which a rehearing is sought, the effective date of such order, unless otherwise ordered by the commission, shall be postponed or stayed pending disposition of the matter by the commission or by operation of law. In all other cases the making of such an application shall not excuse any person from complying with the order, or operate to stay or postpone the enforcement thereof, without a special order of the commission. Where such application for rehearing has been filed, the commission may grant and hold such rehearing on the matter specified in such application, if in its judgment sufficient reason therefor is made to appear. Notice of such rehearing shall be given by regular mail to all parties who have entered an appearance in the proceeding. If the commission does not grant or deny such application for rehearing within thirty days from the date of filing thereof, it is denied by operation of law. If the commission grants such rehearing, it shall specify in the notice of such granting the purpose for which it is granted. The commission shall also specify the scope of the additional evidence, if any, that will be taken, but it shall not upon such rehearing take any evidence that, with reasonable diligence, could have been offered upon the original hearing. If, after such rehearing, the commission is of the opinion that the original order or any part thereof is in any respect unjust or unwarranted, or should be changed, the commission may abrogate or modify the same; otherwise such order shall be affirmed. An order made after such rehearing, abrogating or modifying the original order, shall have the same effect as an original order, but shall not affect any right or the enforcement of any right arising from or by virtue of the original order prior to the receipt of notice by the affected party of the filing of the application for rehearing. No cause of action arising out of any order of the commission, other than in support of the order, shall accrue in any court to any person, firm, or corporation unless such person, firm, or corporation has made a proper application to the commission for a rehearing.

4906.01 Power siting definitions.

As used in Chapter 4906. of the Revised Code:

(A) "Person" means an individual, corporation, business trust, association, estate, trust, or partnership or any officer, board, commission, department, division, or bureau of the state or a political subdivision of the state, or any other entity.

(B)

(1) "Major utility facility" means:

(a) Electric generating plant and associated facilities designed for, or capable of, operation at a capacity of fifty megawatts or more;

(b) An electric transmission line and associated facilities of a design capacity of one hundred twenty-five kilovolts or more;

(c) A gas pipeline that is greater than five hundred feet in length, and its associated facilities, is more than nine inches in outside diameter and is designed for transporting gas at a maximum allowable operating pressure in excess of one hundred twenty-five pounds per square inch.

(2) "Major utility facility" does not include any of the following:

(a) Gas transmission lines over which an agency of the United States has exclusive jurisdiction ;

(b) Any solid waste facilities as defined in section 6123.01 of the Revised Code ;

(c) Electric distributing lines and associated facilities as defined by the power siting board;

(d) Any manufacturing facility that creates byproducts that may be used in the generation of electricity as defined by the power siting board;

(e) Gathering lines, gas gathering pipelines, and processing plant gas stub pipelines as those terms are defined in section 4905.90 of the Revised Code and associated facilities;

(f) Any gas processing plant as defined in section 4905.90 of the Revised Code;

(g) Natural gas liquids finished product pipelines;

(h) Pipelines from a gas processing plant as defined in section 4905.90 of the Revised Code to a natural gas liquids fractionation plant, including a raw natural gas liquids pipeline, or to an interstate or intrastate gas pipeline;

(i) Any natural gas liquids fractionation plant;

(j) A production operation as defined in section 1509.01 of the Revised Code, including all pipelines upstream of any gathering lines;

(k) Any compressor stations used by the following:

(i) A gathering line, a gas gathering pipeline, a processing plant gas stub pipeline, or a gas processing plant as those terms are defined in section 4905.90 of the Revised Code;

(ii) A natural gas liquids finished product pipeline, a natural gas liquids fractionation plant, or any pipeline upstream of a natural gas liquids fractionation plant; or

(iii) A production operation as defined in section 1509.01 of the Revised Code.

(C) "Commence to construct" means any clearing of land, excavation, or other action that would adversely affect the natural environment of the site or route of a major utility facility, but does not include surveying changes needed for temporary use of sites or routes for nonutility purposes, or uses in securing geological data, including necessary borings to ascertain foundation conditions.

(D) "Certificate" means a certificate of environmental compatibility and public need issued by the power siting board under section 4906.10 of the Revised Code or a construction certificate issued by the board under rules adopted under division (E) or (F) of section 4906.03 of the Revised Code.

(E) "Gas" means natural gas, flammable gas, or gas that is toxic or corrosive.

(F) "Natural gas liquids finished product pipeline" means a pipeline that carries finished product natural gas liquids to the inlet of an interstate or intrastate finished product natural gas liquid transmission pipeline, rail loading facility, or other petrochemical or refinery facility.

(G) "Natural gas liquids fractionation plant" means a facility that takes a feed of raw natural gas liquids and produces finished product natural gas liquids.

(H) "Raw natural gas" means hydrocarbons that are produced in a gaseous state from gas wells and that generally include methane, ethane, propane, butanes, pentanes, hexanes, heptanes, octanes, nonanes, and decanes, plus other naturally occurring impurities like water, carbon dioxide, hydrogen sulfide, nitrogen, oxygen, and helium.

(I) "Raw natural gas liquids" means naturally occurring hydrocarbons contained in raw natural gas that are extracted in a gas processing plant and liquefied and generally include mixtures of ethane, propane, butanes, and natural gasoline.

(J) "Finished product natural gas liquids" means an individual finished product produced by a natural gas liquids fractionation plant as a liquid that meets the specifications for commercial

products as defined by the gas processors association. Those products include ethane, propane, iso-butane, normal butane, and natural gasoline.

4906.03 Powers and duties of power siting board.

The power siting board shall:

(A) Require such information from persons subject to its jurisdiction as it considers necessary to assist in the conduct of hearings and any investigations or studies it may undertake;

(B) Conduct any studies or investigations that it considers necessary or appropriate to carry out its responsibilities under this chapter;

(C) Adopt rules establishing criteria for evaluating the effects on environmental values of proposed and alternative sites, and projected needs for electric power, and such other rules as are necessary and convenient to implement this chapter, including rules governing application fees, supplemental application fees, and other reasonable fees to be paid by persons subject to the board's jurisdiction. The board shall make an annual accounting of its collection and use of these fees and shall issue an annual report of its accounting, in the form and manner prescribed by its rules, not later than the last day of June of the year following the calendar year to which the report applies.

(D) Approve , disapprove, or modify and approve applications for certificates;

(E) Notwithstanding sections 4906.06 to 4906.14 of the Revised Code, the board may adopt rules to provide for an accelerated review of an application for a construction certificate for construction of a major utility facility related to a coal research and development project as defined in section 1555.01 of the Revised Code, or to a coal development project as defined in section 1551.30 of the Revised Code, submitted to the Ohio coal development office for review under division (B)(7) of section 1551.33 of the Revised Code. Applications for construction certificates for construction of major utility facilities for Ohio coal research and development shall be filed with the board on the same day as the proposed facility or project is submitted to the Ohio coal development office for review.

The board shall render a decision on an application for a construction certificate within ninety days after receipt of the application and all of the data and information it may require from the applicant. In rendering a decision on an application for a construction certificate, the board shall only consider the criteria and make the findings and determinations set forth in divisions (A)(2), (3), (5), and (7) and division (B) of section 4906.10 of the Revised Code.

(F) Notwithstanding sections 4906.06 to 4906.14 of the Revised Code, the board shall adopt rules to provide for an accelerated review of an application for a construction certificate for any of the following:

(1) An electric transmission line that is:

(a) Not more than two miles in length;

(b) Primarily needed to attract or meet the requirements of a specific customer or specific customers;

(c) Necessary to maintain reliable electric service as a result of the retirement or shutdown of an electric generating facility located within the state; or

(d) A rebuilding of an existing transmission line.

(2) An electric generating facility that uses waste heat or natural gas and is primarily within the current boundary of an existing industrial or electric generating facility;

(3) A gas pipeline that is not more than five miles in length or is primarily needed to meet the requirements of a specific customer or specific customers.

The board shall adopt rules that provide for the automatic certification to any entity described in this division when an application by any such entity is not suspended by the board, an administrative law judge, or the chairperson or executive director of the board for good cause shown, within ninety days of submission of the application. If an application is suspended, the board shall approve, disapprove, or modify and approve the application not later than ninety days after the date of the suspension.

4906.07 Public hearing on application.

(A) Upon the receipt of an application complying with section 4906.06 of the Revised Code, the power siting board shall promptly fix a date for a public hearing thereon, not less than sixty nor more than ninety days after such receipt, and shall conclude the proceeding as expeditiously as practicable.

(B) On an application for an amendment of a certificate, the board shall hold a hearing in the same manner as a hearing is held on an application for a certificate if the proposed change in the facility would result in any material increase in any environmental impact of the facility or a substantial change in the location of all or a portion of such facility other than as provided in the alternates set forth in the application.

(C) The chairperson of the power siting board shall cause each application filed with the board to be investigated and shall, not less than fifteen days prior to the date any application is set for hearing submit a written report to the board and to the applicant. A copy of such report shall be made available to any person upon request. Such report shall set forth the nature of the investigation, and shall contain recommended findings with regard to division (A) of section 4906.10 of the Revised Code and shall become part of the record and served upon all parties to the proceeding.

4906.12 Procedures of public utilities commission to be followed.

Sections 4903.02 to 4903.16 and 4903.20 to 4903.23 of the Revised Code shall apply to any proceeding or order of the power siting board under Chapter 4906. of the Revised Code, in the same manner as if the board were the public utilities commission under such sections.

4906-5-10 Amendments of accepted, complete certificate applications and of certificates.

(A) The applicant shall submit to the board any applications for amendment to a pending accepted, complete application in accordance with rule 4906-5-03 of the Administrative Code.

(1) Each application for amendment shall specifically identify the portion of the pending accepted, complete application which has been amended.

(2) The applicant shall serve a copy of the application for amendment upon all persons previously entitled to receive a copy of the application, and shall supply the board with proof of such service, pursuant to rules 4906-5-06 and 4906-5-07 of the Administrative Code.

(3) The applicant shall place a copy of such application for amendment or notice of its availability in all libraries consistent with of rule 4906-5-06 of the Administrative Code, and shall supply the board with proof of such action.

(4) Upon review, the board or the administrative law judge may require such additional action as is determined necessary to inform the general public of the proposed amendment, including, but not limited to:

(a) Ordering the applicant to issue public notice pursuant to rule 4906-5-08 of the Administrative Code.

(b) Postponing public hearings on the pending, accepted, complete application and/or application for amendment up to ninety days after receipt of said application for amendment.

(5) The board staff shall review the application for amendment pursuant to paragraph (D) of rule 4906-5-05 of the Administrative Code.

(6) Unless otherwise ordered by the board or administrative law judge, modifications to a proposed route that are introduced into the record by the applicant during review of the accepted, complete application and during the hearing process shall not be considered amendments if such modifications are within the two thousand foot study corridor and do not impact additional landowners by requiring easements for construction, operation, or maintenance or create further impacts within the planned right-of-way of the proposed facility.

Unless otherwise ordered by the board or administrative law judge, modifications to the footprint of an electric power generating facility that are introduced into the record by the applicant during

review of the accepted, complete application and during the hearing process shall not be considered amendments if such modifications do not create further impacts for each property owner or within the planned site, or within the right-of-way of the proposed facility.

(B) Applications for amendments to certificates shall be submitted in the same manner as if they were applications for a certificate, unless such amendment falls under a letter of notification or construction notice pursuant to the appendices to rule 4906-1-01 of the Administrative Code.

(1) The board staff shall review applications for amendments to certificates pursuant to rule 4906-5-05 of the Administrative Code and make appropriate recommendations to the board and the administrative law judge.

(a) If the board, its executive director, or the administrative law judge determines that the proposed change in the certified facility would result in any significant adverse environmental impact of the certified facility or a substantial change in the location of all or a portion of such certified facility other than as provided in the alternates set forth in the application, then a hearing shall be held in the same manner as a hearing is held on a certificate application.

(b) If the board, its executive director, or the administrative law judge determines that a hearing is not required, as defined in paragraph (B)(1)(a) of this rule, the applicant shall be directed to take such steps as are necessary to notify all parties of that determination.

(2) The applicant shall:

(a) Serve a copy of the application for amendment to a certificate upon:

(i) The persons entitled to service pursuant to rule 4906-5-06 of the Administrative Code.

(ii) All parties to the original certificate application proceedings.

(b) File with the board proof of service and, if required, proof of notice pursuant to rules 4906-5-06 to 4906-5-08 of the Administrative Code.

(C) Unless otherwise ordered by the board, its executive director, or administrative law judge, the filing, notifications, informational requirements and processing timelines for a letter of notification or construction notice application for an amendment to a certificate issued for a transmission facility shall be determined by referring to the appropriate appendix to rule 4906-1-01 of the Administrative Code. Such application shall use the letter of notification or construction notice docketing code. In such application, the applicant shall reference the case docket in which the certificate was granted.