Proposed Habitat Conservation Plan and Incidental Take Permit for the Indiana Bat (*Myotis sodalis*) for the Buckeye Wind Power Project Champaign County, Ohio

Final Environmental Impact Statement
DES# 12-25

Volume II (Appendices)

Prepared by

US Fish and Wildlife Service
Ohio Ecological Services Field Office
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In cooperation with

U.S. Army Corps of Engineers
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April 2013

Appendix A
OPSB Documents

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May 15, 2012

Ms. Barcy F. McNeal
Docketing Division
Power Siting Board
180 E. Broad Street
Columbus, OH 43215

Re: Ohio Power Siting Board - Case No. 12-0160-EL-BGN

Dear Ms. McNeal:

Accompanying this letter for filing are twenty-five (25) copies of an application by Champaign Wind LLC, a wholly owned subsidiary of EverPower Wind Holdings, Inc. for a Certificate to Construct a Wind-Powered Electric Generating Facility in Champaign County, Ohio. The original application was electronically filed.

In accordance with Rule 4906-5-03 of the Ohio Administrative Code, I would like to make the following declarations:

Name of the applicant:

Champaign Wind LLC
a subsidiary of EverPower Wind Holdings, Inc.
44 East 30th Street, 10th Floor
New York, New York 10016

Name and location of the proposed facility:

Buckeye Wind II project
Goshen, Rush, Salem, Union, Urbana and Wayne Townships,
Champaign County, Ohio

Name of the authorized representative:

M. Howard Petricoff
Vorys Sater Seymour and Pease LLP
52 East Gay Street
Columbus, Ohio 43215
614-464-5414
mhpetricoff@vorys.com

Notarized Statement:

See attached Affidavit of James Spencer
Chief Executive Officer, Champaign Wind LLC

Please note that in our January 6, 2012 pre-application notification letter to the Ohio Power Siting Board, we indicated that the facility is proposed to consist of up to 57 turbines with a maximum generating capacity of 171 megawatts. The application proposes to construct up to 56 turbines with a maximum generating capacity of 140 megawatts.

Sincerely,

M. Howard Petricoff

MHP/drd
Enclosures

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. 12-0160-EL-BGN**

CHIEF EXECUTIVE OFFICER'S AFFIDAVIT

STATE OF NEW YORK)
) SS:
COUNTY OF NEW YORK)

Now comes James Spencer, Chief Executive Officer of Champaign Wind LLC, a wholly-owned subsidiary of EverPower Wind Holdings, Inc., having been first duly sworn, declares and states as follows:

1. He is the highest ranking executive officer in charge of the Buckeye Wind II project in the Townships of Goshen, Rush, Salem, Union, Urbana and Wayne in Champaign County, Ohio.

2. He has reviewed the Application for a Certificate to Construct a Wind-Powered Electric Generating Facility in Champaign County, Ohio.

3. To the best of his knowledge, the information and statements contained in the Application are true and correct.

4. Save for the items for which a waiver has been requested, the Application is complete.

James Spencer
Chief Executive Officer
Champaign Wind LLC, a subsidiary of
EverPower Wind Holdings, Inc.

Sworn to before me and signed in my presence this 8th day of May, 2012.

LISA STUHR
NOTARY PUBLIC-STATE OF NEW YORK
No. 01ST6203840
Qualified in New York County
My Commission Expires April 13, 2013

Lisa Stuhr
Notary Public
My Commission Expires 4-13-13

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

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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-

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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

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[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.)

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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

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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

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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.)

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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

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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

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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 2 2 2010

Reneé J. Jenkins
Secretary

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3846-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B40
Location:	Urbana, OH
Latitude:	40-07-18.75N NAD 83
Longitude:	83-41-25.13W
Heights:	492 feet above ground level (AGL) 1640 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition on or before September 14, 2011. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and should be submitted in triplicate to the Manager, Airspace Regulations & ATC Procedures Group, Federal Aviation Administration, Airspace Regulations & ATC Procedures Group, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This extension becomes final on September 24, 2011 unless a petition is timely filed. If so, this extension will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3846-OE.

Signature Control No: 627211-147732539 (EXT -WT)
Michael Blaich
Specialist

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3841-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B35
Location:	Urbana, OH
Latitude:	40-07-27.97N NAD 83
Longitude:	83-41-33.05W
Heights:	492 feet above ground level (AGL) 1640 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition on or before September 14, 2011. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and should be submitted in triplicate to the Manager, Airspace Regulations & ATC Procedures Group, Federal Aviation Administration, Airspace Regulations & ATC Procedures Group, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This extension becomes final on September 24, 2011 unless a petition is timely filed. If so, this extension will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3841-OE.

Signature Control No: 627206-147732537 (EXT -WT)
Michael Blaich
Specialist

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3807-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B1
Location:	Urbana, OH
Latitude:	40-10-46.51N NAD 83
Longitude:	83-40-34.68W
Heights:	492 feet above ground level (AGL) 1659 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition on or before September 14, 2011. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and should be submitted in triplicate to the Manager, Airspace Regulations & ATC Procedures Group, Federal Aviation Administration, Airspace Regulations & ATC Procedures Group, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This extension becomes final on September 24, 2011 unless a petition is timely filed. If so, this extension will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3807-OE.

Signature Control No: 627172-147732535 (EXT -WT)
Michael Blaich
Specialist

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3808-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B2
Location:	Urbana, OH
Latitude:	40-10-27.25N NAD 83
Longitude:	83-40-47.55W
Heights:	492 feet above ground level (AGL) 1640 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition on or before September 14, 2011. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and should be submitted in triplicate to the Manager, Airspace Regulations & ATC Procedures Group, Federal Aviation Administration, Airspace Regulations & ATC Procedures Group, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This extension becomes final on September 24, 2011 unless a petition is timely filed. If so, this extension will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3808-OE.

Signature Control No: 627173-147732541 (EXT -WT)
Michael Blaich
Specialist

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3809-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B3
Location:	Urbana, OH
Latitude:	40-10-03.03N NAD 83
Longitude:	83-40-47.65W
Heights:	492 feet above ground level (AGL) 1640 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition on or before September 14, 2011. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and should be submitted in triplicate to the Manager, Airspace Regulations & ATC Procedures Group, Federal Aviation Administration, Airspace Regulations & ATC Procedures Group, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This extension becomes final on September 24, 2011 unless a petition is timely filed. If so, this extension will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3809-OE.

Signature Control No: 627174-147732533 (EXT -WT)
Michael Blaich
Specialist

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3810-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B4
Location:	Urbana, OH
Latitude:	40-10-03.11N NAD 83
Longitude:	83-40-18.70W
Heights:	492 feet above ground level (AGL) 1648 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition on or before September 14, 2011. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and should be submitted in triplicate to the Manager, Airspace Regulations & ATC Procedures Group, Federal Aviation Administration, Airspace Regulations & ATC Procedures Group, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This extension becomes final on September 24, 2011 unless a petition is timely filed. If so, this extension will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3810-OE.

Signature Control No: 627175-147732530 (EXT -WT)
Michael Blaich
Specialist

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3811-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B5
Location:	Urbana, OH
Latitude:	40-09-51.56N NAD 83
Longitude:	83-40-38.41W
Heights:	492 feet above ground level (AGL) 1640 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition on or before September 14, 2011. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and should be submitted in triplicate to the Manager, Airspace Regulations & ATC Procedures Group, Federal Aviation Administration, Airspace Regulations & ATC Procedures Group, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This extension becomes final on September 24, 2011 unless a petition is timely filed. If so, this extension will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3811-OE.

Signature Control No: 627176-147732527 (EXT -WT)
Michael Blaich
Specialist

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Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3812-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B6
Location:	Urbana, OH
Latitude:	40-09-40.86N NAD 83
Longitude:	83-40-29.92W
Heights:	492 feet above ground level (AGL) 1650 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition on or before September 14, 2011. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and should be submitted in triplicate to the Manager, Airspace Regulations & ATC Procedures Group, Federal Aviation Administration, Airspace Regulations & ATC Procedures Group, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This extension becomes final on September 24, 2011 unless a petition is timely filed. If so, this extension will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3812-OE.

Signature Control No: 627177-147732529 (EXT -WT)
Michael Blaich
Specialist

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Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3813-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B7
Location:	Urbana, OH
Latitude:	40-09-32.88N NAD 83
Longitude:	83-37-33.48W
Heights:	492 feet above ground level (AGL) 1806 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3813-OE.

Signature Control No: 627178-147732261 (EXT -WT)
Michael Blaich
Specialist

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Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3813-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B7
Location:	Urbana, OH
Latitude:	40-09-32.88N NAD 83
Longitude:	83-37-33.48W
Heights:	492 feet above ground level (AGL) 1806 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3813-OE.

Signature Control No: 627178-147732261 (EXT -WT)
Michael Blaich
Specialist

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Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
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Aeronautical Study No.
2009-WTE-3814-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B8
Location:	Urbana, OH
Latitude:	40-09-21.20N NAD 83
Longitude:	83-38-40.53W
Heights:	492 feet above ground level (AGL) 1804 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition on or before September 14, 2011. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and should be submitted in triplicate to the Manager, Airspace Regulations & ATC Procedures Group, Federal Aviation Administration, Airspace Regulations & ATC Procedures Group, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This extension becomes final on September 24, 2011 unless a petition is timely filed. If so, this extension will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3814-OE.

Signature Control No: 627179-147732528 (EXT -WT)
Michael Blaich
Specialist

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
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2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3815-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B9
Location:	Urbana, OH
Latitude:	40-09-09.13N NAD 83
Longitude:	83-40-16.92W
Heights:	492 feet above ground level (AGL) 1665 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition on or before September 14, 2011. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and should be submitted in triplicate to the Manager, Airspace Regulations & ATC Procedures Group, Federal Aviation Administration, Airspace Regulations & ATC Procedures Group, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This extension becomes final on September 24, 2011 unless a petition is timely filed. If so, this extension will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3815-OE.

Signature Control No: 627180-147732546 (EXT -WT)
Michael Blaich
Specialist

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3816-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B10
Location:	Urbana, OH
Latitude:	40-09-16.57N NAD 83
Longitude:	83-34-20.94W
Heights:	492 feet above ground level (AGL) 1631 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3816-OE.

Signature Control No: 627181-147732244 (EXT -WT)
Michael Blaich
Specialist

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3817-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B11
Location:	Urbana, OH
Latitude:	40-09-13.19N NAD 83
Longitude:	83-35-47.20W
Heights:	492 feet above ground level (AGL) 1714 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3817-OE.

Signature Control No: 627182-147732247 (EXT -WT)
Michael Blaich
Specialist

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3818-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B12
Location:	Urbana, OH
Latitude:	40-09-08.88N NAD 83
Longitude:	83-34-14.10W
Heights:	492 feet above ground level (AGL) 1624 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3818-OE.

Signature Control No: 627183-147732263 (EXT -WT)
Michael Blaich
Specialist

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3819-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B13
Location:	Urbana, OH
Latitude:	40-08-55.07N NAD 83
Longitude:	83-40-18.82W
Heights:	492 feet above ground level (AGL) 1659 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition on or before September 14, 2011. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and should be submitted in triplicate to the Manager, Airspace Regulations & ATC Procedures Group, Federal Aviation Administration, Airspace Regulations & ATC Procedures Group, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This extension becomes final on September 24, 2011 unless a petition is timely filed. If so, this extension will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3819-OE.

Signature Control No: 627184-147732532 (EXT -WT)
Michael Blaich
Specialist

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3820-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B14
Location:	Urbana, OH
Latitude:	40-09-01.06N NAD 83
Longitude:	83-34-07.09W
Heights:	492 feet above ground level (AGL) 1619 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3820-OE.

Signature Control No: 627185-147732245 (EXT -WT)
Michael Blaich
Specialist

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3821-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B15
Location:	Urbana, OH
Latitude:	40-09-00.07N NAD 83
Longitude:	83-34-41.24W
Heights:	492 feet above ground level (AGL) 1654 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3821-OE.

Signature Control No: 627186-147732246 (EXT -WT)
Michael Blaich
Specialist

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3822-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B16
Location:	Urbana, OH
Latitude:	40-08-54.74N NAD 83
Longitude:	83-35-41.30W
Heights:	492 feet above ground level (AGL) 1724 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3822-OE.

Signature Control No: 627187-147732255 (EXT -WT)
Michael Blaich
Specialist

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3823-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B17
Location:	Urbana, OH
Latitude:	40-08-24.11N NAD 83
Longitude:	83-40-15.88W
Heights:	492 feet above ground level (AGL) 1655 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition on or before September 14, 2011. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and should be submitted in triplicate to the Manager, Airspace Regulations & ATC Procedures Group, Federal Aviation Administration, Airspace Regulations & ATC Procedures Group, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This extension becomes final on September 24, 2011 unless a petition is timely filed. If so, this extension will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3823-OE.

Signature Control No: 627188-147732544 (EXT -WT)
Michael Blaich
Specialist

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3824-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B18
Location:	Urbana, OH
Latitude:	40-08-27.89N NAD 83
Longitude:	83-35-41.37W
Heights:	492 feet above ground level (AGL) 1718 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3824-OE.

Signature Control No: 627189-147732250 (EXT -WT)
Michael Blaich
Specialist

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Southwest Regional Office
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2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3826-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B20
Location:	Urbana, OH
Latitude:	40-08-11.64N NAD 83
Longitude:	83-36-23.09W
Heights:	492 feet above ground level (AGL) 1730 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3826-OE.

Signature Control No: 627191-147732262 (EXT -WT)
Michael Blaich
Specialist

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3827-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B21
Location:	Urbana, OH
Latitude:	40-08-08.26N NAD 83
Longitude:	83-35-43.38W
Heights:	492 feet above ground level (AGL) 1708 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3827-OE.

Signature Control No: 627192-147732249 (EXT -WT)
Michael Blaich
Specialist

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Southwest Regional Office
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Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3828-OE

Issued Date: 08/15/2011

Michael Speerschneider
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44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B22
Location:	Urbana, OH
Latitude:	40-08-08.16N NAD 83
Longitude:	83-34-42.40W
Heights:	492 feet above ground level (AGL) 1667 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3828-OE.

Signature Control No: 627193-147732258 (EXT -WT)
Michael Blaich
Specialist

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Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3829-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B23
Location:	Urbana, OH
Latitude:	40-08-02.09N NAD 83
Longitude:	83-36-13.81W
Heights:	492 feet above ground level (AGL) 1717 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3829-OE.

Signature Control No: 627194-147732260 (EXT -WT)
Michael Blaich
Specialist

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3831-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B25
Location:	Urbana, OH
Latitude:	40-07-55.58N NAD 83
Longitude:	83-36-37.98W
Heights:	492 feet above ground level (AGL) 1731 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3831-OE.

Signature Control No: 627196-147732254 (EXT -WT)
Michael Blaich
Specialist

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Southwest Regional Office
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2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3833-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B27
Location:	Urbana, OH
Latitude:	40-07-43.20N NAD 83
Longitude:	83-41-20.94W
Heights:	492 feet above ground level (AGL) 1640 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition on or before September 14, 2011. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and should be submitted in triplicate to the Manager, Airspace Regulations & ATC Procedures Group, Federal Aviation Administration, Airspace Regulations & ATC Procedures Group, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This extension becomes final on September 24, 2011 unless a petition is timely filed. If so, this extension will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3833-OE.

Signature Control No: 627198-147732531 (EXT -WT)
Michael Blaich
Specialist

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3834-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B28
Location:	Urbana, OH
Latitude:	40-07-44.20N NAD 83
Longitude:	83-37-35.30W
Heights:	492 feet above ground level (AGL) 1766 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition on or before September 14, 2011. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and should be submitted in triplicate to the Manager, Airspace Regulations & ATC Procedures Group, Federal Aviation Administration, Airspace Regulations & ATC Procedures Group, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This extension becomes final on September 24, 2011 unless a petition is timely filed. If so, this extension will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3834-OE.

Signature Control No: 627199-147732538 (EXT -WT)
Michael Blaich
Specialist

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3837-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B31
Location:	Urbana, OH
Latitude:	40-07-35.11N NAD 83
Longitude:	83-41-09.13W
Heights:	492 feet above ground level (AGL) 1640 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition on or before September 14, 2011. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and should be submitted in triplicate to the Manager, Airspace Regulations & ATC Procedures Group, Federal Aviation Administration, Airspace Regulations & ATC Procedures Group, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This extension becomes final on September 24, 2011 unless a petition is timely filed. If so, this extension will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3837-OE.

Signature Control No: 627202-147732542 (EXT -WT)
Michael Blaich
Specialist

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3837-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B31
Location:	Urbana, OH
Latitude:	40-07-35.11N NAD 83
Longitude:	83-41-09.13W
Heights:	492 feet above ground level (AGL) 1640 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition on or before September 14, 2011. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and should be submitted in triplicate to the Manager, Airspace Regulations & ATC Procedures Group, Federal Aviation Administration, Airspace Regulations & ATC Procedures Group, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This extension becomes final on September 24, 2011 unless a petition is timely filed. If so, this extension will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3837-OE.

Signature Control No: 627202-147732542 (EXT -WT)
Michael Blaich
Specialist

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3837-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B31
Location:	Urbana, OH
Latitude:	40-07-35.11N NAD 83
Longitude:	83-41-09.13W
Heights:	492 feet above ground level (AGL) 1640 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition on or before September 14, 2011. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and should be submitted in triplicate to the Manager, Airspace Regulations & ATC Procedures Group, Federal Aviation Administration, Airspace Regulations & ATC Procedures Group, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This extension becomes final on September 24, 2011 unless a petition is timely filed. If so, this extension will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3837-OE.

Signature Control No: 627202-147732542 (EXT -WT)
Michael Blaich
Specialist

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3838-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B32
Location:	Urbana, OH
Latitude:	40-07-34.14N NAD 83
Longitude:	83-39-06.37W
Heights:	492 feet above ground level (AGL) 1769 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition on or before September 14, 2011. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and should be submitted in triplicate to the Manager, Airspace Regulations & ATC Procedures Group, Federal Aviation Administration, Airspace Regulations & ATC Procedures Group, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This extension becomes final on September 24, 2011 unless a petition is timely filed. If so, this extension will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3838-OE.

Signature Control No: 627203-147732534 (EXT -WT)
Michael Blaich
Specialist

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3839-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B33
Location:	Urbana, OH
Latitude:	40-07-34.91N NAD 83
Longitude:	83-37-34.27W
Heights:	492 feet above ground level (AGL) 1746 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition on or before September 14, 2011. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and should be submitted in triplicate to the Manager, Airspace Regulations & ATC Procedures Group, Federal Aviation Administration, Airspace Regulations & ATC Procedures Group, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This extension becomes final on September 24, 2011 unless a petition is timely filed. If so, this extension will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3839-OE.

Signature Control No: 627204-147732540 (EXT -WT)
Michael Blaich
Specialist

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3842-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B36
Location:	Urbana, OH
Latitude:	40-07-25.13N NAD 83
Longitude:	83-40-58.30W
Heights:	492 feet above ground level (AGL) 1640 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition on or before September 14, 2011. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and should be submitted in triplicate to the Manager, Airspace Regulations & ATC Procedures Group, Federal Aviation Administration, Airspace Regulations & ATC Procedures Group, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This extension becomes final on September 24, 2011 unless a petition is timely filed. If so, this extension will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3842-OE.

Signature Control No: 627207-147732543 (EXT -WT)
Michael Blaich
Specialist

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3843-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B37
Location:	Urbana, OH
Latitude:	40-07-25.11N NAD 83
Longitude:	83-39-36.77W
Heights:	492 feet above ground level (AGL)
	1720 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition on or before September 14, 2011. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and should be submitted in triplicate to the Manager, Airspace Regulations & ATC Procedures Group, Federal Aviation Administration, Airspace Regulations & ATC Procedures Group, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This extension becomes final on September 24, 2011 unless a petition is timely filed. If so, this extension will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3843-OE.

Signature Control No: 627208-147732536 (EXT -WT)
Michael Blaich
Specialist

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3845-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B39
Location:	Urbana, OH
Latitude:	40-07-23.25N NAD 83
Longitude:	83-39-07.68W
Heights:	492 feet above ground level (AGL) 1764 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition on or before September 14, 2011. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and should be submitted in triplicate to the Manager, Airspace Regulations & ATC Procedures Group, Federal Aviation Administration, Airspace Regulations & ATC Procedures Group, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This extension becomes final on September 24, 2011 unless a petition is timely filed. If so, this extension will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3845-OE.

Signature Control No: 627210-147732545 (EXT -WT)
Michael Blaich
Specialist

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3845-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B39
Location:	Urbana, OH
Latitude:	40-07-23.25N NAD 83
Longitude:	83-39-07.68W
Heights:	492 feet above ground level (AGL) 1764 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition on or before September 14, 2011. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and should be submitted in triplicate to the Manager, Airspace Regulations & ATC Procedures Group, Federal Aviation Administration, Airspace Regulations & ATC Procedures Group, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This extension becomes final on September 24, 2011 unless a petition is timely filed. If so, this extension will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3845-OE.

Signature Control No: 627210-147732545 (EXT -WT)
Michael Blaich
Specialist

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Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3847-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B41
Location:	Urbana, OH
Latitude:	40-07-18.67N NAD 83
Longitude:	83-39-33.27W
Heights:	492 feet above ground level (AGL) 1717 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition on or before September 14, 2011. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and should be submitted in triplicate to the Manager, Airspace Regulations & ATC Procedures Group, Federal Aviation Administration, Airspace Regulations & ATC Procedures Group, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This extension becomes final on September 24, 2011 unless a petition is timely filed. If so, this extension will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3847-OE.

Signature Control No: 627212-147732549 (EXT -WT)
Michael Blaich
Specialist

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3847-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B41
Location:	Urbana, OH
Latitude:	40-07-18.67N NAD 83
Longitude:	83-39-33.27W
Heights:	492 feet above ground level (AGL) 1717 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition on or before September 14, 2011. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and should be submitted in triplicate to the Manager, Airspace Regulations & ATC Procedures Group, Federal Aviation Administration, Airspace Regulations & ATC Procedures Group, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This extension becomes final on September 24, 2011 unless a petition is timely filed. If so, this extension will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3847-OE.

Signature Control No: 627212-147732549 (EXT -WT)
Michael Blaich
Specialist

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3848-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B42
Location:	Urbana, OH
Latitude:	40-07-12.76N NAD 83
Longitude:	83-41-49.73W
Heights:	492 feet above ground level (AGL) 1640 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition on or before September 14, 2011. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and should be submitted in triplicate to the Manager, Airspace Regulations & ATC Procedures Group, Federal Aviation Administration, Airspace Regulations & ATC Procedures Group, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This extension becomes final on September 24, 2011 unless a petition is timely filed. If so, this extension will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3848-OE.

Signature Control No: 627213-147732552 (EXT -WT)
Michael Blaich
Specialist

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3850-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B44
Location:	Urbana, OH
Latitude:	40-07-11.05N NAD 83
Longitude:	83-39-09.40W
Heights:	492 feet above ground level (AGL) 1743 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition on or before September 14, 2011. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and should be submitted in triplicate to the Manager, Airspace Regulations & ATC Procedures Group, Federal Aviation Administration, Airspace Regulations & ATC Procedures Group, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This extension becomes final on September 24, 2011 unless a petition is timely filed. If so, this extension will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3853-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B47
Location:	Urbana, OH
Latitude:	40-06-52.90N NAD 83
Longitude:	83-37-20.65W
Heights:	492 feet above ground level (AGL) 1710 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3853-OE.

Signature Control No: 627218-147732257 (EXT -WT)
Michael Blaich
Specialist

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3850-OE.

Signature Control No: 627215-147732566 (EXT -WT)
Michael Blaich
Specialist

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3855-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B49
Location:	Urbana, OH
Latitude:	40-05-32.66N NAD 83
Longitude:	83-39-03.81W
Heights:	492 feet above ground level (AGL) 1676 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition on or before September 14, 2011. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and should be submitted in triplicate to the Manager, Airspace Regulations & ATC Procedures Group, Federal Aviation Administration, Airspace Regulations & ATC Procedures Group, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This extension becomes final on September 24, 2011 unless a petition is timely filed. If so, this extension will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3855-OE.

Signature Control No: 627220-147732570 (EXT -WT)
Michael Blaich
Specialist

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3857-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B51
Location:	Urbana, OH
Latitude:	40-05-22.50N NAD 83
Longitude:	83-35-00.55W
Heights:	492 feet above ground level (AGL) 1640 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3857-OE.

Signature Control No: 627222-147732256 (EXT -WT)
Michael Blaich
Specialist

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3858-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B52
Location:	Urbana, OH
Latitude:	40-05-09.46N NAD 83
Longitude:	83-38-55.77W
Heights:	492 feet above ground level (AGL) 1664 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition on or before September 14, 2011. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and should be submitted in triplicate to the Manager, Airspace Regulations & ATC Procedures Group, Federal Aviation Administration, Airspace Regulations & ATC Procedures Group, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This extension becomes final on September 24, 2011 unless a petition is timely filed. If so, this extension will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3858-OE.

Signature Control No: 627223-147732571 (EXT -WT)
Michael Blaich
Specialist

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3859-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B53
Location:	Urbana, OH
Latitude:	40-05-12.92N NAD 83
Longitude:	83-34-57.95W
Heights:	492 feet above ground level (AGL) 1640 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3859-OE.

Signature Control No: 627224-147732253 (EXT -WT)
Michael Blaich
Specialist

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3860-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B54
Location:	Urbana, OH
Latitude:	40-05-04.65N NAD 83
Longitude:	83-36-13.50W
Heights:	492 feet above ground level (AGL) 1771 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3860-OE.

Signature Control No: 627225-147732248 (EXT -WT)
Michael Blaich
Specialist

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3861-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B55
Location:	Urbana, OH
Latitude:	40-05-00.18N NAD 83
Longitude:	83-38-49.03W
Heights:	492 feet above ground level (AGL) 1660 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition on or before September 14, 2011. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and should be submitted in triplicate to the Manager, Airspace Regulations & ATC Procedures Group, Federal Aviation Administration, Airspace Regulations & ATC Procedures Group, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This extension becomes final on September 24, 2011 unless a petition is timely filed. If so, this extension will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3861-OE.

Signature Control No: 627226-147732573 (EXT -WT)
Michael Blaich
Specialist

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Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3862-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B56
Location:	Urbana, OH
Latitude:	40-05-03.53N NAD 83
Longitude:	83-34-35.81W
Heights:	492 feet above ground level (AGL) 1640 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3862-OE.

Signature Control No: 627227-147732251 (EXT -WT)
Michael Blaich
Specialist

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3862-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B56
Location:	Urbana, OH
Latitude:	40-05-03.53N NAD 83
Longitude:	83-34-35.81W
Heights:	492 feet above ground level (AGL) 1640 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3862-OE.

Signature Control No: 627227-147732251 (EXT -WT)
Michael Blaich
Specialist

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2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3865-OE

Issued Date: 08/15/2011

Michael Speerschneider
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44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B59
Location:	Urbana, OH
Latitude:	40-04-45.07N NAD 83
Longitude:	83-39-03.10W
Heights:	492 feet above ground level (AGL) 1646 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition on or before September 14, 2011. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and should be submitted in triplicate to the Manager, Airspace Regulations & ATC Procedures Group, Federal Aviation Administration, Airspace Regulations & ATC Procedures Group, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This extension becomes final on September 24, 2011 unless a petition is timely filed. If so, this extension will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3865-OE.

Signature Control No: 627230-147732574 (EXT -WT)
Michael Blaich
Specialist

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3870-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B64
Location:	Urbana, OH
Latitude:	40-04-16.42N NAD 83
Longitude:	83-35-33.04W
Heights:	492 feet above ground level (AGL) 1640 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3870-OE.

Signature Control No: 627235-147732259 (EXT -WT)
Michael Blaich
Specialist

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Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3871-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B65
Location:	Urbana, OH
Latitude:	40-04-08.47N NAD 83
Longitude:	83-35-27.80W
Heights:	492 feet above ground level (AGL) 1640 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3871-OE.

Signature Control No: 627236-147732252 (EXT -WT)
Michael Blaich
Specialist

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3872-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B66
Location:	Urbana, OH
Latitude:	40-03-44.51N NAD 83
Longitude:	83-43-00.01W
Heights:	492 feet above ground level (AGL) 1635 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition on or before September 14, 2011. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and should be submitted in triplicate to the Manager, Airspace Regulations & ATC Procedures Group, Federal Aviation Administration, Airspace Regulations & ATC Procedures Group, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This extension becomes final on September 24, 2011 unless a petition is timely filed. If so, this extension will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3872-OE.

Signature Control No: 627237-147732575 (EXT -WT)
Michael Blaich
Specialist

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Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3873-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B67
Location:	Urbana, OH
Latitude:	40-03-32.15N NAD 83
Longitude:	83-36-19.60W
Heights:	492 feet above ground level (AGL) 1614 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3873-OE.

Signature Control No: 627238-147732285 (EXT -WT)
Michael Blaich
Specialist

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3874-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B68
Location:	Urbana, OH
Latitude:	40-03-09.78N NAD 83
Longitude:	83-42-48.84W
Heights:	492 feet above ground level (AGL) 1618 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition on or before September 14, 2011. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and should be submitted in triplicate to the Manager, Airspace Regulations & ATC Procedures Group, Federal Aviation Administration, Airspace Regulations & ATC Procedures Group, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This extension becomes final on September 24, 2011 unless a petition is timely filed. If so, this extension will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3874-OE.

Signature Control No: 627239-147732582 (EXT -WT)
Michael Blaich
Specialist

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3875-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B69
Location:	Urbana, OH
Latitude:	40-03-15.75N NAD 83
Longitude:	83-37-18.39W
Heights:	492 feet above ground level (AGL) 1607 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3875-OE.

Signature Control No: 627240-147732289 (EXT -WT)
Michael Blaich
Specialist

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76137

Aeronautical Study No.
2009-WTE-3876-OE

Issued Date: 08/15/2011

Michael Speerschneider
Buckeye Wind, LLC
44 East 30th Street
10th Floor
New York, NY 10016

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine B70
Location:	Urbana, OH
Latitude:	40-03-07.89N NAD 83
Longitude:	83-38-03.04W
Heights:	492 feet above ground level (AGL) 1574 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 02/15/2013 unless otherwise extended, revised, or terminated by this office.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-7081. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-WTE-3876-OE.

Signature Control No: 627241-147732291 (EXT -WT)
Michael Blaich
Specialist