**BEFORE**

**THE OHIO POWER SITING BOARD**

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

**POST-HEARING BRIEF**

**SUBMITTED ON BEHALF OF THE STAFF OF**

**THE OHIO POWER SITING BOARD**

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INTRODUCTION 1

BACKGROUND AND PROCEDURAL HISTORY 2

DISCUSSION 5

A. The Board should determine the facility serves the Public Interest, Convenience, and Necessity as recommended in the Staff Report. 6

B. The Board should determine the facility will comply with Chapters 3704., 3734., and 6111 of the Revised Code and all rules and standards adopted under those chapters and under Sections 1501.33, 1501.34, and 4561.32 of the Revised Code as recommended in the Staff Report. 9

1. Air 10

2. Water 10

3. Solid Waste 11

4. Aviation 11

C. The Board should find that the nature of the probable environmental impact of the facility has been shown and that 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, as recommended in the Staff Report. 12

1. Setbacks 13

2. Blade Shear 15

3. Noise 18

a. Construction Noise 18

b. Operational Noise 19

4. Shadow Flicker 26

5. Turbine Safety Manuals 29

6. Ice Throw 30

7. Complaint Resolution Process 32

D. Staff’s response to parties’ specific suggestions and requests for modification of conditions recommended in the Staff Report. 33

1. Condition 5 34

2. Condition 6 34

3. Condition 8 34

4. Condition 10 35

5. Condition 11 35

6. Condition 15 36

7. Condition 17 36

8. Conditions 19 through 22 37

9. Condition 26 37

10. Condition 28 39

11. Conditions 31 through 34 39

12. Condition 35 40

13. Condition 40 41

14. Condition 43 41

15. Condition 47 41

16. Condition 49 42

17. Condition 51 43

18. Condition 52 44

19. Condition 53 44

20. Condition 55 45

21. Conditions 67 and 68 46

22. Condition 70 47

CONCLUSION 48

PROOF OF SERVICE 49

ATTACHMENT A

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# INTRODUCTION

Building a wind farm in a rural, agricultural setting will undoubtedly change the land­scape. While the proposed project will remove only a small amount of farm land from produc­tion, wind turbines do emit noise. “Quality of life” factors, such as aesthetic view and shadow flicker, present themselves while safety concerns, albeit mathematically small, such as ice throw and blade shear, are part of wind farming. That such factors or “impacts” accompany commer­cial wind farming does not make the activ­ity unlawful or even unreasonable. Quite to the con­trary, the Ohio General Assembly has declared wind development to be both lawful and important to promote a diversified state energy portfolio. Local opposition, while vocal and pas­sionate, contrasts with many farming families who welcome the economic development and tax and other benefits that this development brings to the area, including their ability to sup­plement lagging farm incomes. There are a finite number of sites in Ohio that can support a commercial-size wind farm. Elevation and good wind character­istics are key. The pro­posed project site in Champaign County has these characteristics and that is why it has been selected.

Project opponents seek to use this case to debate the policy merits of wind farming and to keep Champaign County a “wind farm free” zone. As the Ohio Power Siting Board (Board) deliberates this case, it must be mindful that this policy debate has already occurred and the General Assembly has already spoken. To sustain legal muster, the proposed Champaign Wind, LLC[[1]](#footnote-1) (Champaign Wind or applicant) project need not be impact-free or without risk. Improve­ments and maintenance to local roads will be required and made. Aesthetics and other impacts will be addressed and minimized where possi­ble. The passion of folks who oppose the project, while admir­able, must not be allowed to cloud the task before the Board. Its adjudicatory role is to identify expected impacts and adopt measures that reasonably address and mitigate those impacts to the project area and environment. As the Board is well aware, it issued a Certificate of Public Convenience and Necessity for Buckeye I wind farm located in close proximity to Champaign Wind’s facility. Because of Buckeye I’s turbines close proximity to those involved in Champaign Wind’s project, the Board here need only consider incremental impacts. The Board’s Staff (Staff) submits that the Applica­tion and the numerous conditions proposed by its Staff, to address and mitigate impacts, ade­quately account for this. Staff respectfully requests that the Board adopt Staff recom­mended conditions contained in the Staff Report and as amended in Attachment A.

# BACKGROUND AND PROCEDURAL HISTORY

On May 15, 2012, Champaign Wind filed this appli­cation to construct and operate a com­mercial wind farm in Champaign County, Ohio. Prior to filing the application, Champaign Wind engaged in certain public outreach activities, includ­ing filing a project descriptive pre-application letter on January 16, 2012 and holding a public informational meeting on January 24, 2012.

This case has been the subject of extended litiga­tion. Adjudicatory hearings commenced on November 8, 2012 and con­cluded on December 7, 2012. During 16 days of hearings, lit­erally several thousand pages of tran­scripts and docu­mentary evidence was offered and admitted. In all, testi­mony was taken from approximately 40 witnesses as the applicant, intervening parties (both supporting and opposing) and the Staff all received a full and fair opportunity to be heard on the merits.

The Board’s charge is to evaluate the Champaign Wind application against the statutory criteria set forth in R.C. 4906.10. While the record contains conflicting viewpoints, to be sure, the majority of these statutory criteria are largely uncontested. For example:

* R.C. 4906.10(A)(1) (Basis of Need) – This criterion is not applicable to a generation project such as the commercial wind farm major util­ity facility in this case.[[2]](#footnote-2)
* R.C. 4906.10(A)(8) (Water Conservation Practices) – This criterion has no application to this case.
* R.C. 4906.10(A)(7) (Agricultural Districts) – This criterion is largely uncon­tested. The record reflects that commercial wind farming is com­patible with the predominately agricultural proposed site. A rela­tively small percentage of active farm land is affected by the project.[[3]](#footnote-3) The pro­posed project, subject to Staff-recommended condi­tions, is supported by the Ohio Farm Bureau Federation many of whose members are partici­pating landowners in the project.
* R.C. 4906.10(A)(4) (Electric Grid) – No party has raised any substan­tive issues relative to connection of the proposed wind farm to the existing electric grid.[[4]](#footnote-4)
* R.C. 4906.10(A)(5) (Air, Water, Solid Waste and Aviation) – This cri­terion is largely uncontested save for several issues advanced by the city of Urbana regarding usage of its airport and, in particular, emergency Care Flight operations that are housed at Grimes Field. A “Determination of No Hazard” has been issued by the Federal Avia­tion Authority (FAA) for all 56 turbine locations in Champaign Wind, while the Applicant has also filed with and received clearances from the Ohio Department of Trans­portation Office of Aviation for all turbine locations as well.[[5]](#footnote-5) In addition to recom­mend­ing temporary lighting for all structures 200 feet or higher (until permanent lighting is installed), the Staff has also recom­mended that the Board order the Applicant to coordinate with Care Flight providers to allow for the quick shut down of any turbines nec­essary to allow for emer­gency life flight services in or around the wind farm.[[6]](#footnote-6)

The remaining statutory criteria that the Board must render findings upon, R.C. 4906.10(A)(2) (Nature of the Probable Environmental Impact), R.C. 4906.10(A)(3) (Mini­mum Adverse Environmental Impacts), and R.C. 4906.10(A)(7) (Public Interest, Convenience and Necessary) are contested and will be discussed at greater length throughout this brief.

The law requires the Board’s Staff to investigate an application for a major utility facility, such as this, to assess likely impacts and to recommend conditions to the Board to mitigate or minimize impacts to the project environment. Local roadways will be damaged and Staff condi­tions require that the applicant coordinate with local highway authorities to maintain and fix the roads. Ample Staff-recommended setbacks will help reduce impacts of turbine operational noise and safety risks associated with ice throw or blade shear. Annual shadow flicker hours will be minimized to levels below thresholds where human sensitivity is adversely impacted. The law does not, of course, require a finding that a major utility project be totally free of safety or other risks, or even minor annoyances to the public, as a precondition to Board approval. The Staff has proposed comprehensive recommendations for the Board’s studied consideration in order to address and reduce Project impacts to reason­ably acceptable levels. Staff submits that, if implemented, these conditions will allow this project to lawfully move forward under the requi­site statutory criteria. The Staff respectfully requests that any certificate issued by the Board be made subject to such conditions.**[[7]](#footnote-7)**

# DISCUSSION[[8]](#footnote-8)

The Staff Report discusses each R.C. 4906.10 criteria and speaks for itself. The Staff Report evidences its findings, and Staff will discuss and address only contested areas of that report, that include statutory criteria nos. 2, 3, 5, and 6 under R.C. 4906.10. The Staff Report provides all the discussion necessary on uncontested statutory criteria, nos. 1, 4, 7, and 8. For brevity also, Staff will limit its discussion to the contested conditions. In general, in response to conditions[[9]](#footnote-9) “contested” by the applicant, Staff accepts some of the applicant’s proposed modifica­tions to conditions recommended in the Staff Report.[[10]](#footnote-10) Staff also considered conditions and/or modifica­tions suggested by other parties during cross examination and proposes modifi­cations to the Staff Report resulting from some of them also . The entirety of modifications to Staff conditions that Staff concurs with are identified in Attachment A.

## A. The Board should determine the facility serves the Public Interest, Convenience, and Necessity as recommended in the Staff Report.[[11]](#footnote-11)

The facility serves the public interest, convenience, and necessity because it facilitates state policies favoring alternative, renewable forms of energy, including wind-energy.[[12]](#footnote-12) Champaign Wind is a “renewable energy resource.”[[13]](#footnote-13) The General Assembly requires that utili­ties provide an ever-increasing portion of their electrical supply from such resources.[[14]](#footnote-14) Champaign Wind proposes to construct a major utility facility to add approxi­mately 140 mega­watts (MW) of alternative energy generating capacity.[[15]](#footnote-15) By promoting important state energy policies, the Project serves Ohio’s public interest, convenience and necessity.

Champaign Wind serves the public interest, convenience, and necessity also because of the economic benefits it provides the local community.[[16]](#footnote-16) The facility’s leased land is used primar­ily for agriculture and the facility is compatible with this use.[[17]](#footnote-17) The wind turbines impose a small footprint on the land - less than 1% of the total leased pro­ject will be used to permanently host facility components.[[18]](#footnote-18) In exchange for this small imposition, the wind turbines provide “a significant source of revenue.”[[19]](#footnote-19) Local landown­ers participating in the project will enjoy lease payments estimated, in the aggre­gate at, approximately $975,000 annually and they can expect those revenues for decades.[[20]](#footnote-20)

Those revenues benefit not only the individual landowner but also the entire com­munity by preserving agricultural land use and culture.[[21]](#footnote-21) In Ohio, the conversion of agri­cultural land to industrial development and urban sprawl constitutes the major threat to prime farm land.[[22]](#footnote-22) “Dense housing, commercial strip malls and industrial development are not compatible with continued agricultural use.”[[23]](#footnote-23) Anticipated lease payments enable farmers to continue farm­ing, and to supplement their farming incomes while preserving the community’s agrarian flavor.[[24]](#footnote-24)

Champaign Wind will provide further economic benefits to the local community through increases in construction spending, wages, purchasing, and local tax revenues.[[25]](#footnote-25) The facility’s construction and operation accompanied by the resulting economic activity will create hundreds of jobs and pump millions of dollars into the local economy.[[26]](#footnote-26) It also will significantly increase local tax revenues by an estimated $1,045,800 annu­ally.[[27]](#footnote-27) Such revenues will benefit local schools, Champaign County and affected town­ships.[[28]](#footnote-28) Accordingly, Champaign Wind serves the public interest, convenience, and neces­sity by benefiting the local community.

Additionally, the applicant offers protection against damage to public roads resulting from the construction and operation of the wind-farm.[[29]](#footnote-29) The appli­cant will provide insurance against claims in the millions of dollars.[[30]](#footnote-30) The applicant will maintain an insurance policy insur­ing, at a minimum, against claims of one million dollars per occurrence and up to two million dollars in the aggregate. Additionally, applicant will maintain an Umbrella Coverage insuring, at a minimum, against claims of $10 million per occurrence and $10 million in the aggregate.[[31]](#footnote-31) The applicant will also establish a road bond, or simi­lar surety, through the County Engineer’s office to provide adequate funds to repair any damage to public roads.[[32]](#footnote-32)

Finally, the applicant has engaged the public throughout this process as described in the Staff Report.[[33]](#footnote-33) It hosted local informational meetings and it hosted annual displays at the Champaign County Fair.[[34]](#footnote-34) The applicant also conducted a public meeting in Janu­ary, 2012 in North Lewisburg.[[35]](#footnote-35) The applicant maintains an informational website and maintains an office in Bellefontaine, Ohio.[[36]](#footnote-36) The public has been informed of this pro­ject.

During what has been a very “public” process, abundant evidence has been adduced show­ing the facility serves the public interest, con­ven­ience, and necessity; nonetheless, oppo­nents question the expected economic benefits, express concerns about the unknown with a future that includes the facility, mount attacks on wind-farms generally, and desire to promote urban sprawl. To some, change creates concern because it undermines the comfortable illusion that the past is a predictor of the future. If certainty in the future was the gauge for deci­sions, very little progress would occur and wisely the General Assembly has not established such a stifling standard for the Board. Staff has identified solid reasons that show the proposed project will promote the public interest, conven­ience, and necessity, as evidenced by significant local public support.

For these reasons, Staff recommends the Board find the facility serves the public interest, convenience, and necessity.

## B. The Board should determine the facility will comply with Chapters 3704., 3734., and 6111 of the Revised Code and all rules and standards adopted under those chapters and under Sections [1501.33](http://codes.ohio.gov/orc/1501.33), [1501.34](http://codes.ohio.gov/orc/1501.34), and [4561.32](http://codes.ohio.gov/orc/4561.32) of the Revised Code as recommended in the Staff Report.[[37]](#footnote-37)

The facility will comply with the statutes and regulations specified in R.C. 4906.10(A)(5).[[38]](#footnote-38) The Board should so find.

### 1. Air

The facility will not produce air pollution; that is one of its many advantages.[[39]](#footnote-39) Air qual­ity permits are not required for construction and operation of the proposed facil­ity.[[40]](#footnote-40) Staff believes that construction and operation of the facility, as described by the applicant, would sat­isfy fugitive dust rules adopted pursuant to R.C. Chapter 3704, and otherwise be in compliance with air emission regulations.[[41]](#footnote-41) The record reveals no dispute on this point.

### 2. Water

Neither construction nor operation of the proposed facility requires the use of signifi­cant amounts of water, so requirements under R.C. 1501.33 and 1501.34 are not applicable to this project. As indicated previously, the applicant has designed the project to avoid wetlands and to minimize disturbance to streams and streambeds.[[42]](#footnote-42) The applicant has indicated that it will imple­ment a Storm Water Pollution Protection Plan (SWPPP), a requirement of its storm water per­mit, and will obtain a Clean Water Action Section 404 Permit and/or 401 permit from the U.S. Army Corps of Engineers and Ohio EPA, respectively, if required.[[43]](#footnote-43) And, Staff Report condition 62 requires the applicant to obtain all required permits and authorizations prior to construc­tion and comply with such permits.[[44]](#footnote-44) Staff believes that construc­tion of this facility, sub­ject to the recom­mended conditions that appear in the Staff Report, as modified herein, would comply with the requirements of R.C. Chapter 6111, and the rules adopted pursu­ant to that chapter. Staff believes this is not disputed.

### 3. Solid Waste

Staff also believes that the applicant’s solid waste disposal plans will comply with solid waste disposal requirements of R.C. Chapter 3734 and the rules adopted pursuant to those chap­ters. Staff believes this also is not disputed.

### 4. Aviation

As part of Staff’s investigation, Staff contacted the Ohio Department of Transporta­tion’s Office of Aviation and coordinated the review of the facility’s potential impacts on public air­ports in accordance with R.C. 4561.32.[[45]](#footnote-45) The investigation reveals Champaign Wind’s compli­ance with the rules and standards adopted under R.C. 4561.32. The Federal Aviation Admin­istration (FAA) issued a No Hazard determination for all the turbine locations and, as Staff observed: “Given the preliminary FAA determinations of no hazard to air navigation, neither construction nor operation of the facility is expected to create any adverse impacts on ... airports or the existing travel network.”[[46]](#footnote-46) Additionally, the Ohio Department of Transportation, Office of Aviation issued notices of clearance for all turbines associated with this matter.[[47]](#footnote-47) Staff recom­mends conditions 67 through 70, discussed in subsection D to ameliorate potential impacts resulting from the turbines and their construction.[[48]](#footnote-48) With these conditions, Staff recommends the Board find R.C. 4906.10(A)(5) satis­fied.

## C. The Board should find that the nature of the probable environ­mental impact of the facility has been shown and that 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, as recommended in the Staff Report.[[49]](#footnote-49)

The proposed facility has minimal environmental impacts. It will produce electric­ity with­out polluting the air and without using, much less polluting, water.[[50]](#footnote-50) The facility will gener­ate solid waste in amounts so small that the waste will be disposed in dumpsters emptied by a private contractor.[[51]](#footnote-51) When operational, this facility prom­ises a negligible environmental impact.

Nevertheless, Staff conducted a comprehensive review scrutinizing 21 areas includ­ing: socioeconomic impacts; ecological impacts; and impacts on public services, facilities, and safety to identify the nature of the facility’s environ­mental impacts.[[52]](#footnote-52) Staff considered: demographics, land use, cultural and archaeological resources, aesthetics, economics, surface waters, threatened and endangered species, veg­etation, setbacks, roads and bridges, public and private water sup­plies, pipeline protec­tion, blade shear, high winds, ice throw, construction noise, operational noise, shadow flicker, communications, and decommis­sioning.[[53]](#footnote-53) Staff also recommended condi­tions to reasonably minimize impacts and risks.[[54]](#footnote-54) Staff believes that its recommended condi­tions will sufficiently mitigate any such impacts and allow the Board to find overall minimal adverse environmental impact.[[55]](#footnote-55) In fact, the Staff Report provides the Board with a sound, objective, evi­dentiary basis for determin­ing the existence of all R.C. 4906.10 criteria, and, the Staff submits, supports Board issu­ance of a certificate conditioned as Staff has recommended.[[56]](#footnote-56)

As throughout this brief, Staff will not repeat the Staff Report and, accordingly, will limit this discussion to what Staff believes are the most contro­versial issues associated with the criteria in R.C. 4906.10(A)(2) and (3).

### 1. Setbacks

R.C. 4906.20(B)(2) sets forth minimum setbacks for “economically significant wind farms.” The Board’s rules incorporate these minimum setback requirements in Rule 4906-17-08(C)(l)(c) and apply these minimum setbacks to all wind projects under its jurisdiction. That rule provides, in part, that:

(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.

Champaign Wind states that proposed turbines are sited with setbacks from residen­tial structures and property lines consistent with Rule 4906-17-08(C)(l)(c).[[57]](#footnote-57) In the present case, the requirements of that rule translate to a required setback of at least 541 feet from nonparticipating property lines, and 919 feet from residential structures.[[58]](#footnote-58) Staff submits that the evidence of rec­ord demonstrates that these setbacks are, in general, sufficient to ensure that any impacts are adequately minimized. The applicant’s witness Poore testified that these setbacks were con­sistent with typical industry practice, and that all turbine locations for this project fell within those limits.[[59]](#footnote-59)

Staff found, however, that three of the proposed turbine sites, nos. 79, 95 and 129 did not meet the mini­mum setback requirements of Rule 4906-17-08(C)(l)(c). Staff witness Conway testified that Staff had learned of new construction that would result in a residence being within the recommended setback for pro­posed Turbine 79.[[60]](#footnote-60) He recommended that that the applicant relocate and/or resize Turbine 79 to conform to Staff’s recommended conditions.[[61]](#footnote-61) Staff witness Rostofer testified that Staff learned at the local public hearing that Turbine 95 did not satisfy the statutory property line setback requirement, as the landowner had decided not to become a par­ticipating leaseholder.[[62]](#footnote-62) Finally, the Staff Report indicated that Turbine 129 was proposed to be located 613 feet to the southeast of a residential structure, but that this residence had been aban­doned, was no longer habitable, and was scheduled for demolition.[[63]](#footnote-63)

Moreover, Staff concluded that evidence indicated that greater setbacks should be required, and recommended conditions that exceed the Board’s rules. Specifically, Staff recom­mended that the applicant ensure a minimum setback distance from gas pipelines of at least 1.1 times the total height of the turbine structure as measured from its tower’s base (excluding the subsurface foundation) to the tip of its highest blade.[[64]](#footnote-64) The Board has not previously recom­mended such a setback. In addition, Staff’s recommended set­back with respect to heavily trav­elled roads exceeds the Board’s setback requirements due to risks posed by ice throw.[[65]](#footnote-65) Staff also found that certain of the proposed turbine models had specific safety standards for ice throw and blade shear that require setbacks that exceed the Board’s setback rule for occupied struc­tures. Consequently, Staff deter­mined that turbines with dimensions similar to the proposed GE models would need to be located a distance of approximately 302 meters (991 feet) from any occupied structure or heavily travelled road.[[66]](#footnote-66)

### 2. Blade Shear

The applicant states that blade shear occurs when a rotor blade drops or is thrown from the nacelle. It offers that, although these occurrences could be dangerous, they are extremely rare, and it was pointed out that no member of the public has ever been injured as a result of blade shear.[[67]](#footnote-67)

According to the applicant, evidence suggests that the most common cause of blade fail­ure is human error in interfacing with control systems. Champaign Wind asserts that the chance of such a failure has been reduced by a manufacturer reduc­tion of human adjustments that can occur in the field.[[68]](#footnote-68)

In support of its current application, Champaign Wind 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 applicant, 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 manufacturer’s threshold. Moreover, Champaign Wind asserts that the turbines under consideration for the proposed facility will shut down if significant vibra­tions or rotor blade stress is sensed by the monitoring systems. Champaign Wind argues that all of these technological improvements reduce the risk of catastrophic tower collapse or blade shear.[[69]](#footnote-69) Staff notes that the applicant has incorporated a wind turbine layout with a mini­mum setback distance of approximately 1,000 feet to residences, and a property line setback of 541 feet, fur­ther minimizing the potential for blade shear impacts.[[70]](#footnote-70)

Union Neighbors United (UNU) witness Palmer testified in opposition to the applicant’s proposed setbacks on the basis that his “deterministic safety analysis” leads him to conclude that “[i]f an accident can harm someone, the public deserves to be protected.”[[71]](#footnote-71) However, despite his conclusion that “peo­ple protected in a vehicle will be at risk of serious injury or death at dis­tances of at least 1000 feet (305 meters) and if unprotected by a vehicle, as for exam­ple mowing a lawn out of doors, or working on the fence line of a rural property, will be at risk of serious injury or death at distances of at least 1640 feet (500 meters),” he failed to identify a single instance where any member of the general public has ever been injured by an instance of blade shear.[[72]](#footnote-72) His recommended setback of 1640 feet is not supported and unnecessary.”[[73]](#footnote-73)

In context, UNU argues for an extreme “1 in 10 million” standard, claiming that anything less cre­ates an unacceptable danger – not a risk – to person and property.[[74]](#footnote-74) Mr. Palmer, however, testified that he performed no calculation of the risk that anyone might be struck either by ice or by a piece of a falling blade.[[75]](#footnote-75) Nowhere does the law require that all danger or risk be elimi­nated, but, rather, only that impacts be identified and reasonably mini­mized. Certainly aware of the potential risks, the General Assembly did not deem it appropriate to define the “envelope of safety” for which Mr. Palmer and UNU argue.[[76]](#footnote-76) Rather, it left that determination to the Power Siting Board.

### 3. Noise

#### a. Construction Noise

Champaign Wind recognizes that construction noise will impact the surrounding resi­dences and businesses in the project area. The impact to individual residences and businesses will be tempo­rary in nature.[[77]](#footnote-77)

The applicant provided estimates of sound levels associated with operation of construc­tion equipment. Noise levels during construction will be considerably higher than dur­ing opera­tion of the proposed facility, and are expected to be in the range of 56 to 63 A-weighted decibels (dBA) at nearby homes over a period of several weeks.[[78]](#footnote-78)

Staff found that any adverse impacts of construction noise would be minimal because con­struction activities are temporary and intermittent, construction activities would primarily occur away from most residential structures, and most construction activities would be limited to nor­mal daytime working hours. To ensure that such impacts are limited to daytime hours, Staff has recom­mended condition 35, which provides that:

(35) General construction activities shall be limited to the hours of 7:00 a.m. to 7:00 p.m., or until dusk when sunset occurs after 7:00 p.m. Impact pile driving operations and blasting if required, shall be limited to the hours between 10:00 a.m. to 5:00 p.m., Monday through Friday. Construction activities that do not involve noise increases above ambient levels at sensitive receptors are permitted outside of daylight hours when necessary. The Applicant shall notify property owners or affected tenants within the meaning of Rule 4906-5-08(C)(3), O.A.C., of upcoming construction activities includ­ing potential for nighttime construction activities.[[79]](#footnote-79)

Significantly, none of the intervenors raise any issues with regard to construction noise. Consequently, Staff recommends that the Board find that noise associated with the construction of the proposed facility has been determined and that impacts to the public will be tempered under condition 35.

#### b. Operational Noise

The applicant’s witness Hessler conducted a field study to determine existing environ­mental sound levels within the project area. This was necessary, he testified, because the pro­ject’s impact is necessarily related to how much its sound level will exceed the back­ground level.[[80]](#footnote-80) Based on his study, Mr. Hessler found that average ambient noise levels (LEQ) across the project area ranged from 41 to 52 dBA during the day and from 35 to 45 dBA at night. The data provided by the applicant equates to an average project area daytime LEQ of 45 dBA and an aver­age project area nighttime LEQ of 39 dBA.[[81]](#footnote-81)

UNU witness James conducted his own study. The two consultants performed differ­ent studies, using very different methodologies, purporting to rely on different standards. The appli­cant’s witness Hessler testified that, at the present time, no ANSI (American National Standards Institute) or ISO (International Organization for Standardization) standard exists for this specific type of field study.[[82]](#footnote-82) Throughout his cross-examination, Mr. Hessler indi­cated that there were a number of adjustments that he made, and that he had to employ a number of addi­tional tech­niques and analyses to adapt his study to wind turbine noise.[[83]](#footnote-83)

Staff determined that Hessler’s noise assessment was reasonable based on appli­cant’s use of: (1) the turbine with the higher sound power level of the 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; and (3) a background noise level obtained over a long period of time at lower wintertime sound levels.[[84]](#footnote-84) Staff believes that the applicant’s determination of the ambi­ent noise level in the project area was reasonable and recommends that the Board so find.

One of the issues in this case is the appropriate level at which to limit facility-related noise at non-participating residences. The applicant’s design limit was based on what it termed “OPSB precedent on other approved wind projects in the State,” and its design criteria as:

a Facility-related noise limitation at non-participating resi­dences of 5 dBA over the nighttime average LEQ background level unless the validly measured ambient LEQ at the location of the complaint plus 5 dBA is greater. Since the measured average nighttime LEQ sound in the Project Area was 39 dBA, a threshold of 44 dBA will be implemented for the proposed facility.[[85]](#footnote-85)

A significant difference in opinion is whether the appropriate ambient sound level should be the LEQ or the L90 level. Mr. Hessler testified that LEQ is the average, a meas­urement that “averages the sounds that you find during a specific time period.”[[86]](#footnote-86) L90 “is the sound level that happens in the momentary lulls between anything happening at all, the very quietest . . . It’s the true, literally the background.”[[87]](#footnote-87) Regardless of which sound measurement is used as the baseline ambient measure, all of the various experts agree on the level of permissible increase in noise that they would find to be acceptable. Mr. James, for example, stated on cross-examination, in part, that his “recommendation . . . was very similar to Mr. Hessler, . . . that we follow the stand­ard rule of not increasing that more than 5 [dBA].”[[88]](#footnote-88)

UNU witness James testified that L90 is the appropriate measure to use for the characteriza­tion of background ambient sound levels.[[89]](#footnote-89) Applicant’s witness Hessler agreed:

Q. (Mr. Van Kley) In how many other projects that you have worked on for wind developers have you used the L90 as the background level instead of the LEQ?

A. (Mr. Hessler) In all of them.

Q. So this is the first project in which you’ve used the LEQ as the background sound level?

A. That’s correct.

Q. Isn’t it true that the LEQ is the poorest formula for meas­ur­ing sound in quiet areas?

A. Well, it’s the average level. It’s the actual average level that happened over every ten-minute measure­ment period. However, no, it’s not the -- it’s not nor­mally used to quan­tify the background for this kind of an application. I’m only using it to follow the de facto State standard.

Q. And you would agree with me, wouldn’t you, that the LEQ is the poorest metric for measuring background -- for measuring sounds in quiet areas?

A. No, I wouldn’t say it’s -- well, you could measure the Lmax, that would be the absolute poorest, but no, the LEQ is not normally used. I don’t normally use it.[[90]](#footnote-90)

It is difficult to apply the L90 level as a firm regulatory limit, however, because each pro­ject site is unique and different and should be evaluated on its own merits. Staff noted in its Staff Report that Ohio law does not provide standards for per­missible noise impacts asso­ciated with wind turbine projects.[[91]](#footnote-91) Further, the Board has considered, and rejected, the adoption of specific wind farm noise standards in its rules. While numerous inter­ested parties urged the Board to adopt various standards for operational noise levels, relying on various opinions including those offered by Messrs. Hessler and James, the Board has found that it, and its Staff, should:

evaluate the noise levels in association with each application on a case-by-case basis in light of the composition of the area sur­rounding the proposed facility and will impose conditions on the noise emissions during construction and operation of the wind-energy facility as the Board determines to be appro­priate. Such conditions are enforceable pursuant to Section 4906.98, Revised Code. Accordingly, we find it unnecessary to impose noise stand­ards as proposed by [Mr. James] or to adopt operational noise standards and measurement protocols as proposed by UNU.[[92]](#footnote-92)

In this case, noting a policy paper issued by the New York State Department of Environ­mental Conservation that espoused a similar conclusion, Staff observed that “[a] threshold of 5 dBA over average nighttime ambient noise levels (LEQ) has been applied in recent stipulated cases that resulted in Board issuance of certificates in Ohio.”[[93]](#footnote-93) While Staff submits that prior Board decisions are instructive and not necessarily dispositive, the facts in this case are adequate, in light of Staff’s recom­mended conditions, to support adoption of the appli­cant’s design criteria.

Regardless of whether the L90 or LEQ level is ultimately determined to be the most appropri­ate, applicant witness Hessler testified that a project design goal of 44 dBA is appropri­ate for a wind project in a rural area.[[94]](#footnote-94) He stated that, in his profes­sional experience and opin­ion, “the likelihood of complaints is quite small whenever the average project sound level is below 45 dBA, *regardless* of the actual background sound level.”[[95]](#footnote-95)

Mr. Hessler further testified that modeling indicated that a number of non-participat­ing residences would, however, experience levels above 45 dBA unless the affected turbines were operated in low noise mode.[[96]](#footnote-96) As a result, Staff has recommended that no turbine be operated at a noise level that exceeds 44 dBA during nighttime operation.[[97]](#footnote-97)

In addition to modeling the turbines proposed in this application, Mr. Hessler also mod­eled the cumulative impact of these same turbines and those approved in the *Buckeye I* project. He concluded that there would be no additional impact, and that no additional restrictions would have to be placed on the approved Buckeye I turbines to maintain the design goal.[[98]](#footnote-98)

Although the applicant also employed an evaluation threshold of 50 dBA as a design goal for operational noise levels at non-participating *property boundaries*, as opposed to occupied *structures*, [[99]](#footnote-99) the Board has not previously required such limits. Nor has the Staff evaluated, nor does it recommend, any such limit in this case.

The parties presented evidence on the potential health impacts of the proposed facil­ity. The record demonstrates that wind turbine noise can be annoying depending on the distance from the turbine and other background noise. In contrast to the *Buckeye I* case, however, UNU offers what it will no doubt characterize as sufficient “hard scientific evidence” to support a conclusion that wind turbines are a di­rect cause of health impacts to humans, suffi­cient to justify setbacks from residences greater than proposed. UNU witness Dr. Punch testified that high-level infra­sound pro­duced by wind turbines “causes health problems.”[[100]](#footnote-100)

But as applicant witness Dr. Mundt clearly explained in rebuttal, the studies relied on by Dr. Punch “are not epidemiological studies, and therefore cannot provide reliable evidence for determining causation.”[[101]](#footnote-101) Dr. Mundt concluded that none of these studies can individually or collectively provide sufficiently strong evidence to validly inform a con­clusion that industrial wind turbines cause serious harm to human health.”[[102]](#footnote-102) Staff sub­mits that a thorough analysis of Dr. Mundt, the only epidemiological expert to testify in this case, demonstrates that there contin­ues to be a lack of scientific evidence on potential health impacts associated with utility-scale wind projects.

Based on the information presented, noise below 45 dBA is not likely to result in health impacts, is unlikely to result in significant annoyance, and is not likely to result in a significant number of noise complaints. Furthermore, two of the recommended conditions in the Staff Report address the noise related concerns raised by UNU. First, Staff rec­ommends that any certificate granted to the applicant require it to operate the facility does not result in noise levels at the exterior of any currently existing non-participating sensitive receptor that exceed the pro­ject area ambient nighttime LEQ (39 dBA) plus five dBA.[[103]](#footnote-103) Further, Staff rec­om­mends that the applicant be required to develop a complaint resolution process that shall include procedures for responding to complaints about excessive noise.[[104]](#footnote-104)

Mr. Hessler has recommended a modification to Staff Report condition 49. That condi­tion pro­vides that:

(49) The facility shall be operated so that the facility noise contri­bution does not result in noise levels at the exterior of any currently existing non-participating sensitive receptor that exceed the project area ambient nighttime LEQ (39 dBA) plus five dBA. During day­time operation only (7:00 a.m. to 10:00 p.m.), the facility may operate at the greater of: (a) the project area ambient nighttime LEQ (39 dBA) plus five dBA; or, (b) the validly measured ambient LEQ plus five dBA at the location of the sensitive receptor. After com­mencement of commercial operation, the Appli­cant shall conduct further review of the impact and possible mitigation of all project-related noise complaints through its complaint resolution process.[[105]](#footnote-105)

Mr. Hessler testified that “it is impractical for any wind project to maintain a sound level below a given threshold all of the time under all conditions.” He indicated that naturally unsteady and uncontrollable wind and weather conditions would necessarily result in what he termed “short-term excursions” that exceed the 44 dBA limit.[[106]](#footnote-106)

While Staff is concerned about the characterization implied by the “short-term excursion” phrase­ol­ogy, it acknowledges that it did not intend that the noise limitation apply 100% of the time. It is Staff’s expectation that occa­sional, short term, deviations above the recommended noise level limitations are to be expected and tolerated under different wind and weather condi­tions that will necessarily vary from time to time. The reasonableness of the magnitude and duration of any such short term deviation would be impossible to pre-determine, and it is Staff’s expectation that this evaluation should be conducted as part of the complaint resolution pro­cess.[[107]](#footnote-107)

Staff believes that the applicant’s operational noise study fairly represents the exist­ing noise levels in the community and that the noise modeling conducted by the applicant was rea­sonable. With Staff’s recommended conditions in place, Staff recommends that the Board find that the reasonably anticipated operational noise levels have been determined and are reasonable.

### 4. Shadow Flicker

Champaign Wind submitted, as part of its Application at Exhibit P, a shadow flicker analy­sis conducted by its consultant, edr Environmental Services, LLC (edr). Shadow flicker from wind turbines occurs when rotating wind turbine blades move between the sun and the observer, having the effect of rapidly increasing and decreasing the light intensity to the observer. Shadow flicker becomes more and more diffused as the distance between the turbine and an observer increases, and is essentially undetectable beyond 1,000 feet. Using a computer model, with data on turbine coordinates, turbine specifications, shadow receptor coordinates, wind speed and direction frequency distribution, monthly sun­shine probabilities, and height contours, edr determined the theoretical number of hours per year of shadow flicker expected at each receptor.[[108]](#footnote-108) edr’s analysis was based on use of the GE 2.5-103 turbine model as its dimen­sions would result in the greatest amount of shadow flicker, pre­dicting a “worst case” scenario, among the models under consideration.

The application indicates that there currently is no state or national standards for accepta­ble frequency or duration of shadow flicker from wind turbines. Champaign Wind used 30 hours per year as a shadow flicker threshold. Based on the results of the initial shadow flicker analysis, Champaign Wind’s consultant determined that, of the 880 structures within 1,100 meters of a proposed turbine, shadow flicker is expected to approach 30 hours per year at 11 residential structures.[[109]](#footnote-109) When the analysis was refined to account for the effects of obstacles that could ameliorate or minimize the effects of shadow flicker, only eight (8) residential struc­tures are expected to experience 30 hours or greater exposure to shadow flicker from the pro­posed tur­bines.[[110]](#footnote-110)

The applicant also analyzed the cumulative impact of shadow flicker considering both this project and the previously approved Buckeye Wind I project. When combined, edr’s analy­sis showed that 16 non-participating residences would be expected to experience shadow flicker exposure in excess of the 30-hour threshold. When the analysis was refined to account for the effects of obstacles that could ameliorate or minimize the effects of shadow flicker, no more than twelve (and possibly fewer) residential structures would experience 30 hours or greater exposure to shadow flicker from the proposed tur­bines.[[111]](#footnote-111)

The applicant’s witness Poore testified in support of the shadow flicker study performed on behalf of the Company.[[112]](#footnote-112) He testified that it was his opinion that the shadow flicker study was performed using methods and models typical to, and assumptions that were consistent with or more conservative than, the best practices in the wind industry.[[113]](#footnote-113) Mr. Poore further testi­fied that he found the result of that study to be reasonable and plausible.[[114]](#footnote-114)

Staff witness Strom authored the section on shadow flicker in the Staff Report, and filed direct testimony in support of that portion of the report.[[115]](#footnote-115) The Staff Report notes that Ohio stat­ute does not provide standards for frequency or duration of shadow flicker from wind turbine projects, but that a maximum exposure to shadow flicker of 30 hours per year has been suggested or adopted in a number of jurisdictions. Staff considers a threshold of 30 hours of shadow flicker per year to be a reasonable limitation.[[116]](#footnote-116)

Despite the applicant’s model analysis and potential mitigation efforts, Staff is aware that actual shadow flicker levels may be different when the wind farm is in opera­tion. Therefore, Staff recommends that the following condition (#50) become part of any certificate issued for the proposed facility:

(50) The facility shall be operated so that the facility shadow flicker con­tribution does not result in shadow flicker levels that exceed 30 hours per year for any non-participating sensi­tive receptor. The Applicant shall complete a shadow flicker analysis for all inhabited nonparticipating sensitive receptors that have already been mod­eled to be in excess of 30 hours per year of shadow flicker. The analysis shall show how modeled shadow flicker impacts have been reduced to 30 or fewer hours per year for each such receptor. The analysis shall be provided to Staff at least 30 days prior to the precon­struction conference, for review and confirmation that it com­plies with this condition. This analysis may incorporate shadow flicker reductions for trees, vegetation, buildings, obstruc­tions, turbine line of sight, operational hours, wind direction, sun­shine probabilities, and other mitigation con­firmed by Staff to be in compliance with this condition. After commencement of com­mercial operation, the Applicant shall conduct further review of the impact and possible mitigation of all project-related shadow flicker complaints through its complaint resolution process.[[117]](#footnote-117)

The applicant’s witness Poore testified on cross-examination that he found the Staff’s condi­tion to be reasonable.[[118]](#footnote-118) No expert testimony regarding shadow flicker was presented by any other party. The Staff respectfully submits that the Board should find that Staff’s recom­mendation that approved turbines should be subject to mitigation after construction if shadow flicker at any non-participating receptor exceeds 30 hours per year, is appropriate and should be adopted. The Staff respectfully submits that the Board should find that, with Staffs 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 R.C. 4906.10(A)(6).

### 5. Turbine Safety Manuals

Although Champaign Wind has not yet chosen a turbine model for the proposed facility, it has stated that it will install Repower MM92 (2.05 MW), REpower MM100 (1.815 MW), Nordex N100 (2.5 MW), Gamesa G97 (2.0 MW), GE 1.6-100 (1.6 MW), or GE 2.5-103 (2.5 MW). Included in the application is a copy of the safety manual for each of the turbines (excepting the GE 2.5-103 turbine model), 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.

It is important to recognize what the safety manuals are. As applicant witness Shears testi­fied, safety manuals are “not a statutory document . . . . This is a safety doc­ument that [manufacturers] have developed and would inform the management plan, the operational man­agement plan, and all the safety management component of that plan . . . .[C]learly it would be given significant weight in that safety plan that [applicant] would put together.”[[119]](#footnote-119)

Staff has reviewed the safety manuals and Staff witness Conway testi­fied that Staff sup­ports a condition requiring the applicant to “comply with the turbine manufac­turer’s safety man­ual.”[[120]](#footnote-120) Furthermore, Staff recommends that the applicant maintain a copy of the manual onsite for the model of turbine selected for the project.[[121]](#footnote-121)

The Staff respectfully requests that the Board adopt its recommenda­tion.

### 6. Ice Throw

Ice throw can occur when accumulated ice on the wind turbine blades falls or is thrown from the blade. According to the applicant, ice can build up on the rotor blades, slowing the rotational speed, and potentially creating an imbalance in the weights of the blades. Champaign Wind explains that such imbalances can be sensed by the turbine’s computer controls and would typically result in the turbine being shut down until the ice melts.[[122]](#footnote-122)

The applicant 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, Champaign Wind asserts that there have been no reported injuries caused by ice throw.[[123]](#footnote-123) The applicant’s witnesses Speerschneider[[124]](#footnote-124) and Shears[[125]](#footnote-125) testified that, in their professional experience, they were unaware of any instance where a member of the general public has been injured as a result of ice throw.

However small, Staff is aware that a risk of harm exists from ice shedding. As a result, Staff witness Conway recommended a number of common sense safety measures to minimize the impacts that ice throw could cause. Specifically, Staff recommends that public access be restricted with appro­priately-placed warning signs, that workers be warned of potential hazards of ice conditions, that ice detection software and alarms that trigger an automatic shutdown be installed. Significantly, Staff recommends that a setback distance of 150% of the sum of the hub height and rotor diameter of the selected turbine be main­tained from structures and arterial roads. This lat­ter requirement would require that the applicant relocate and/or resize proposed turbines 87 and 91.[[126]](#footnote-126) Significantly, UNU witness Palmer testified that his work supported Staff’s recom­mended setback.[[127]](#footnote-127) Although Mr. Palmer recommended that this setback be applied to all roads, Staff witness Conway explained that a lesser setback distance from non-arterial roads of only 110% of the sum of the hub height and rotor diameter is reasonable given the expected level of traffic.[[128]](#footnote-128)

### 7. Complaint Resolution Process

As evidenced by the active participation by residents and their elected officials, there will no doubt be complaints that arise should this project be approved. Staff made a number of rec­ommendations relating to complaint resolution. Its overall recommenda­tion is presented as con­dition (5), providing that the applicant shall have in place a com­plaint resolution procedure to address potential public grievances resulting from project construction and operation.[[129]](#footnote-129) Staff recommends that any certificate issued to the applicant include a condition that would require Champaign Wind to submit to Staff, for review and acceptance, a completed complaint resolu­tion procedure at least 30 days prior to the preconstruction conference, that would cover com­plaints on issues such as noise, shadow flicker, etc., and would require notification to Staff of any complaint submitted.[[130]](#footnote-130)

Champaign Wind witness Speerschneider testified that he supports the creation of a com­plaint resolution process for the proposed facility, but expressed a desire that Staff proposed condition (5) be clarified to avoid any confusion over the applicant’s obliga­tion to resolve unfounded complaints.[[131]](#footnote-131) Specifically, Mr. Speerschneider suggested that the condition be reworded to require that the applicant “make a good faith effort,” rather than “work,” to mitigate or resolve issues. Staff submits that its condition is sufficiently clear and that it expects that the applicant *will* mitigate or resolve all issues only where the complaint is well-grounded. Staff further recommended that the applicant have a complaint resolution process for facility noise issues.[[132]](#footnote-132) UNU witness Punch indicated on cross-examination that the type of complaint resolu­tion process rec­ommended by the Staff would be reasonable and appropriate, in his expert opin­ion, to resolve noise complaint issues.[[133]](#footnote-133)

Staff also recommended that the applicant have a complaint resolution process through which complaints related to shadow flicker from the facility can be resolved.[[134]](#footnote-134) Staff witness Strom testified that this was not intended to require a separate process for shadow flicker, but only that such complaints must be contemplated by any proposed process.[[135]](#footnote-135) A plan for com­plaint resolution is also recommended should site-specific condi­tions warrant blasting.[[136]](#footnote-136)

## D. Staff’s response to parties’ specific suggestions and requests for modification of conditions recommended in the Staff Report.

The evidence supports a Board determination that the R.C. 4906.10 criteria exist and that the certificate should be issued with conditions. Staff recommends the Board issue the certificate with 67 conditions[[137]](#footnote-137) intended to reasonably minimize the expected impacts of the project.[[138]](#footnote-138) Based upon the record, Staff has agreed to amend or modify some conditions as indicated on Attachment A. That freedom, of course, ends when the Board issues a certificate; “Only the Board has the authority to modify or change any part of a certificate, including conditions.”[[139]](#footnote-139) The following is Staff’s response to requests to modify Staff Report conditions. If Staff does not respond directly, it is not proposing a change and does not believe an explanation beyond the Staff Report is needed.

### 1. Condition 5

Condition 5 as proposed in the Staff Report requires the applicant to develop a com­plaint resolution procedure that requires that procedure provide the applicant to “work to mitigate or resolve any issues” submitted.[[140]](#footnote-140) The applicant wishes to change that requirement from “work to resolve” to “use best efforts to resolve.”[[141]](#footnote-141) Staff believes that applicant has not shown a signifi­cant difference in clarity or meaning between the two expressions and, for that reason, the Board should not adopt its request.

### 2. Condition 6

Staff believes the modifications applicant proposed are reasonable and Staff sup­ports Board adoption.[[142]](#footnote-142)

### 3. Condition 8

Staff Report condition 8 requires the applicant to submit as-built specifi­cations for the entire facility within 60 days after beginning commercial oper­ation and it allows the applicant to seek an extension for good cause.[[143]](#footnote-143) The applicant seeks to extend the stated period from 60 to 90 days. Staff believes the applicant has not shown this change is war­ranted. If the 60-day deadline presents a problem, the applicant can seek an extension under the Staff proposed condi­tion. The Board, and to Staff, have an interest in timely information and the applicant seeks delay for no apparent reason. The Board should not adopt the request.

### 4. Condition 10

Staff believes the modifications applicant has proposed are reasonable and Staff sup­ports Board adoption.[[144]](#footnote-144)

### 5. Condition 11

Condition 11 as proposed in the Staff Report limits the turbine models the appli­cant can choose to those listed in the application.[[145]](#footnote-145) The applicant removed a model from consideration subsequent to filing the application, and that model (VESTAS), as well as any model not listed in the application, would be ineligible for consideration or selection under this condition. Under the Staff Report condition, the applicant must seek an amendment of its certificate if it selects a different turbine model for a change in technology than those listed in the application or the VESTAS model.

The applicant has not supported its proposed modification and the Board should reject it.

### 6. Condition 15

Staff Report condition 15 requires the applicant to conduct a Phase I cultural resources survey and submit an amendment, modification, or mitigation plan to the Board if the survey dis­closes a find of cultural or archaeological significance, or a site that could be eligible for inclu­sion in the National Registry of Historic Places.[[146]](#footnote-146) The applicant acknowledges the survey work is appropriate but seeks to do only that which is “neces­sary” and it seeks the option to pro­vide mitigation to the Board Staff in place of an amendment or modification to the Board.[[147]](#footnote-147) It does not present a rationale for the change.[[148]](#footnote-148) Staff believes the Board should deter­mine the appro­priate action the applicant should undertake if the requi­site find or site is discov­ered. Additionally, Staff believes the matter should be brought to the Board despite anyone’s belief in whether it is “necessary.” The applicant’s proposal should be rejected.

### 7. Condition 17

Staff Report condition 17 requires the applicant to develop a historic preservation mitiga­tion plan in consultation with Staff and OHPO, detailing procedures for promoting the continued meaningfulness of the survey area’s rural history.[[149]](#footnote-149) It is a response to the potential effect of the turbines on the perception of the traditional rural landscape enjoyed in the area. Staff found avoiding or minimizing such impacts was not practical in most cases and recommends the appli­cant develop a mitigation plan promoting the continued meaningfulness of the area’s rural his­tory.[[150]](#footnote-150) The applicant proposes eliminating the specif­ics for the plan providing for the Board’s direction[[151]](#footnote-151) while also specifically proposing that the plan may not inhibit the applicant’s opera­tions and activities.[[152]](#footnote-152) The applicant does not support its request. Staff believes the Board should direct the applicant to provide a mitiga­tion plan and adopt the Staff Report condition 17.

### 8. Conditions 19 through 22

Staff believes the modifications that applicant has proposed are reasonable and Staff sup­ports Board adoption.[[153]](#footnote-153)

### 9. Condition 26

A survey of the proposed facility resulted in the capture of an Indiana bat, a state and feder­ally listed endangered species.[[154]](#footnote-154) Consequently, there is a possibility that con­struction, opera­tion and decommissioning of the facility may result in an incidental take of Indiana bats.[[155]](#footnote-155) Buckeye Wind LLC, a sibling subsidiary of the applicant, has applied for an Incidental Take Permit from the USFWS covering this facility and the *Buckeye* I wind-farm project. As part of that Incidental Take Permit application, Buckeye Wind LLC was required to develop a Habitat Conservation Plan (HCP), which is a comprehen­sive plan for ecological preservation that con­siders a species habitat and includes measures to minimize impacts and ensure long-term con­servation of the species.[[156]](#footnote-156) USFWS issued a draft Environmental Impact Statement (EIS) and Buckeye Wind LLC issued a draft HCP as described above, which were open for public com­ment.[[157]](#footnote-157) Follow­ing USFWS’ review of the comments, a final EIS and HCP will be issued with the Inci­dental Take Permit, if approved.[[158]](#footnote-158) For the Champaign Wind facility under consideration here, the Staff has recommended that the Board issue a certificate with a condition that requires compliance with the final HCP and USFWS’ Incidental Take Permit, including the Avian and Bat Protection Plan (ABPP) found in the USFWS’ draft EIS, EIS No. 20120211 .[[159]](#footnote-159) Jennifer Norris, the ODNR Wind Energy Biologist, testified that the purpose of this condition is “to pro­vide a framework on how the applicant has or plans to avoid, minimize, and mitigate the poten­tial impacts the facility may have on non-federally listed birds and bats (which could include state-listed species).”[[160]](#footnote-160) While condition 26 requires compliance with the ABPP found in the draft EIS, Ms. Norris testified that, if the ABPP is amended or modified as part of the final EIS issued by the USFWS with the Incidental Take Permit, ODNR and Staff would require com­pli­ance with the final, approved ABPP.[[161]](#footnote-161) Staff believes condition 26 can be clarified and recom­mends the changes shown in Attachment A.

### 10. Condition 28

ODNR has developed standardized protocols to assess risks to state protected spe­cies in its *On-Shore Bird and Bat Pre- and Post-Construction Monitoring Protocol for Commercial Wind Energy Facilities in Ohio*, which include monitoring requirements to determine impacts to protected species. The Staff has recommended a condition that requires the applicant to comply with these protocols, which includes a requirement to conduct daily monitoring of a sample set of turbines to determine whether significant morality to bats or birds has occurred.[[162]](#footnote-162) Ms. Norris testified that ODNR’s standardized protocols call for daily sampling and that it is ODNR’s rec­ommendation that all wind facilities conduct daily sampling.[[163]](#footnote-163) Ms. Norris also testified that another wind facility, the Blue Creek Wind Project, is subject to this same daily monitoring requirement.[[164]](#footnote-164) While the applicant has suggested revisions to condition 28, Staff does not agree that these revisions are necessary and recommends that the Board issue a Certificate with condi­tion 28 as it appears in the Staff Report of Investigation.[[165]](#footnote-165)

### 11. Conditions 31 through 34

Staff believes the modifications applicant proposes are reasonable and Staff sup­ports Board adoption.[[166]](#footnote-166)

### 12. Condition 35

Staff Report condition 35 is expected to ameliorate the potential noise impact of the pro­ject.[[167]](#footnote-167) Signifi­cant, noticeable noise is expected from project construction.[[168]](#footnote-168) Construction and delivery equip­ment such as dozers, excavators, pumps, cranes, and trucks produce significant noise, as does the pile driving and dynamiteactivities that may be necessary.[[169]](#footnote-169) Such activities will, however, be limited to daytime working hours.”[[170]](#footnote-170) Condi­tion 35 does nothing more than impose this limitation.[[171]](#footnote-171) It limits general construction activities to daylight hours essentially. It further limits blasting to between 10 a.m. to 5 p.m. Finally, it gives everyone a break once-a-week by limiting the forego­ing activities to weekdays, Monday through Friday.[[172]](#footnote-172) Staff submits that these restrictions are reasonable. The applicant suggests allowing nighttime construction to build nacelle towers and rotors at night.[[173]](#footnote-173) Staff Report condition 35 allows construction activi­ties after 7:00 p.m. provided there is no increase in noise levels at sensitive receptors. Staff rec­ommends the Board include this condition in any certificate.

### 13. Condition 40

Staff Report condition 40 requires the applicant provide notice of blasting opera­tions to residents and owners of structures within 1,000 feet of the blasting site. Urbana asserted the fire department should be notified also. Staff agrees and recommends that change.

### 14. Condition 43

Urbana witness Ms. North testified that the turbines need postal addresses in order to help the 911 call center track the location of emergencies. She also stated that these addresses should be provided to the 911 call center. Staff agrees and recommends such a change.

### 15. Condition 47

Staff Report condition 47 requires minimum statutory setbacks “from any natural gas pipe­line in the ground at the time of commencement of construction.”[[174]](#footnote-174) In essence, Staff simply recom­mends that the Board apply its minimum setback standard, O.A.C. 4906-1-08 (C) (1) (c), to natu­ral gas pipelines.[[175]](#footnote-175) Like all setbacks, the minimum setback for natural gas pipelines in condition 47 promotes safety and, while the applicant has not discovered a natural gas pipeline in the project area, that failure does not diminish the significant risks pre­sented by undiscovered ones if they exist. Although the applicant seeks to limit the set­back standard only to natural gas transmission lines, no party objects to applying the minimum setback standard to all natural gas pipelines. Because the applicant has not explained how the risk of explosion, physical injury, and property damage exists only with natural gas transmission lines,[[176]](#footnote-176) the Board should adopt condition 47 as Staff has proposed it.[[177]](#footnote-177)

### 16. Condition 49

Staff Report condition 49 proposes limits on noise levels from operation of the facil­ity, providing a limitation for daytime (7 A.M. to 10 P.M.) and a more restrictive nighttime limita­tion (10 P.M. to 7 A.M.). Staff’s recommended operational noise level limitations are based on a threshold of nighttime LEQ plus 5 dBA, which has been applied in recent wind farm certificates in Ohio.[[178]](#footnote-178) The applicant seeks to clarify that the recom­mended noise level limitations should be viewed as limitations that would be achieved over a long period of time, but which from time to time could be exceeded for short durations.[[179]](#footnote-179) Staff agrees with the applicant’s characterization of the intent of this type of operational noise limitation. The applicant seeks to restrict the day­time limitation to only residences, ignoring schools, churches and other “sensitive receptors” that could be located within range of noise produced by the facility. And, applicant proposes to apply its daytime limitation also at night.[[180]](#footnote-180) Many locations such as residences, schools and churches, are classified as “sensitive receptors.”[[181]](#footnote-181) Staff believes that, in general, “sensitive receptors” should not be subjected to greater noise levels than non-participating resi­dences. However, Staff recognizes that there are likely to be times when such sensitive receptors are not occupied and higher noise levels would not be offensive. Moreover, Staff believes a separate, and more restrictive, nighttime noise limita­tion is appropriate. As shown by the applicant’s study of the project area, ambient nighttime noise levels are lower than those during the day.[[182]](#footnote-182) Moreover, the applicant’s model results show that the more restrictive noise limitation is achievable, even at wind speeds above the critical wind speed of 6 m/s.[[183]](#footnote-183) The applicant’s own witness asserted that a more appropriate meas­ure of ambient noise level is L90, which is a significantly lower noise level than LEQ. Although it may be reasonable to allow higher noise levels during the temporary L90 lulls during windy daytime operation, it is not reasonable to allow this during nighttime oper­ation, when the community is typically quieter and its residents are typically sleeping, espe­cially when given the fact that the higher noise levels have not been shown to be neces­sary to success­fully operate the facility.[[184]](#footnote-184) Accordingly, Staff believes the certificate should include condi­tion 49 as proposed in the Staff Report, with the appropriate allow­ance for short term noise level exceedences and for unoccupied sensitive receptor loca­tions, as discussed above.

### 17. Condition 51

As stated under cross-examination,[[185]](#footnote-185) Staff envisioned condition 51, the noise and shadow flicker complaint resolution procedure, as being part of the overall complaint resolution process (original condition 5). As such, the procedure developed pursuant to condition 51 should be subject to Staff review and confirmation that it complies with the requirements of this condition, prior to the pre-construction conference.

### 18. Condition 52

Paragraph 52 provides for any microwave path or system impact assessment account for all known microwave paths or systems existing at the time of the assessment. The applicant asserted limiting the assessment to paths or systems existing on the date of its application, which would preclude consideration of new paths or systems installed between the date of application and the date of construction.[[186]](#footnote-186) Pioneer Rural Electric Coop­erative strongly endorsed Staff Report condition 52 because of the difficulties cre­ated by the applicant’s proposal. As Mr. Musick explained, exempting a microwave path or system installed in the intervening time cre­ated in the applicant’s proposal would inhibit Pioneer, and others, from expanding and the encountering risk of creating new microwave paths or systems that could be rendered inoperable by the facility.[[187]](#footnote-187)

Pioneer asserted that the applicant is in agreement with Pioneer and now accepts Staff Report condition 52.

### 19. Condition 53

Pioneer also asserted that the applicant agrees with Pioneer’s proposal for changes to Staff Report condition 53.[[188]](#footnote-188) Staff also agrees with the modifications proposed by Pioneer to condi­tion 53.[[189]](#footnote-189)

### 20. Condition 55

No one disputes the importance of a facility decommissioning requirement, includ­ing finan­cial assurances for decommissioning, as a certificate condition.[[190]](#footnote-190) Although the applicant recommends substituting two conditions from the Buckeye I cer­tificate, it does not identify the changes it proposes to Staff Report condition 55 beyond the financial assurances provision in subpart (g).[[191]](#footnote-191) Staff disagrees with the applicant’s suggested changes. The Board’s decommission­ingrequirement, including financial assurances, has evolved since Buckeye I and Staff’s recommendation reflects, Staff believes, the Board’s most recent decisional thinking[[192]](#footnote-192) and should be adopted here.

As all the provisions of Staff Report condition 55, the financial assurances require­ment is straightforward, providing one method applicable at all times requiring the applicant post financial assurances in an amount equal to the estimated cost of decom­missioning.[[193]](#footnote-193) It provides the certainty associated with an estimate based in explicit publi­cations and guidelines while allowing flexibility when appropriate with Staff approval.[[194]](#footnote-194) It reasonably minimizes the expected impacts of the project and it should be included in any certificate.[[195]](#footnote-195)

The applicant presented an alternative that reduces financial assurances, eliminates the estimates’ flexibility, and changes the method for determining the appropriate finan­cial assur­ances in the first year to a fixed $5,000 per turbine because “EverPower’s [the applicant’s parent] position that no bond would be needed ... and $5,000 is acceptable.”[[196]](#footnote-196) Not surprisingly, no other party endorsed the applicant’s proposal. It also pro­poses reducing financial assurances by the estimated salvage value of the equipment. While that may benefit the applicant, it endan­gers the necessary financial assurances. Relying on estimated scrap values to determine financial assur­ances is highly speculative and “tantamount to playing the futures market.”[[197]](#footnote-197) Scrap value is not a stable basis for financial assurances. Without reason, the applicant also unreasonably proposes elimi­nating any flexibility to employ publications and guidelines deemed more appro­priate for developing an estimate than those named in the certificate during the decades this facility may operate. Finally, it proposes to use a stated amount in the first year for no better reason than its parent, EverPower, would accept it.[[198]](#footnote-198) Staff recommends that the Board reject applicant’s pro­posal and adopt the Staff’s recommended condition.

### 21. Conditions 67 and 68

Conditions 67 and 68 promote safety in air travel by merely requiring infor­mation be pro­vided in a timely manner to the flying public and the Board. Condition 67 merely requires that the applicant provide airports, such as Grimes Field and other flight service stations, with notices to airmen (NOTAMs) that alert pilots to the existence and location of very tall structures, those exceeding 200 feet, by providing the longitude and latitude coordinates as sug­gested to Staff by an employee of the FAA.[[199]](#footnote-199) Condition 68 requires only that the applicant pro­vide the Board with information required by the FAA at a time when the Board and its Staff can effectively use it. The applicant’s objections to conditions 67 and 68 are unreasona­ble and limit important Board oversight and should be rejected in favor of Staff-recommended conditions 67 and 68.

### 22. Condition 70

Recognizing that the area’s emergency helicopter service, CareFlight, may need to fly around, over, and through the project responding to emergencies, Staff correctly concluded that safety demands adoption of condition 70, a requirement that the applicant develop a plan with CareFlight to promote safe emergency response operations during critical times.[[200]](#footnote-200) The benefits of such plan­ning are obvious and, in fact, the applicant and emergency responders recognize the importance of such prior emergency planning.[[201]](#footnote-201) The planning should include shut­ting-down nearby turbines, if necessary, for safety rea­sons where indicated.[[202]](#footnote-202) Condition 70 promotes safety for emergency responses and should be included in any certificate.

# CONCLUSION

Based upon the foregoing, the Staff respectfully requests that the Board adopt the Staff’s conditions, as amended, in any certificate issued by the Board.

Respectfully submitted,

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**On behalf of the Staff of  
The Ohio Power Siting Board**

# PROOF OF SERVICE

I hereby certify that a true copy of the foregoing Post-Hearing Brief, sub­mitted on behalf of the Staff of the Ohio Power Siting Board,was served via elec­tronic mail, upon the follow­ing par­ties of record, this \_\_\_ day of January, 2013.

/s/ Stephen A. Reilly

**Stephen A. Reilly**

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**ATTACHMENT A**

1. The applicant is a wholly-owned subsidiary of Everpower Wind Holdings, Inc., a New York-based developer. [↑](#footnote-ref-1)
2. *In re Champaign Wind*, Case No. 12-160-EL-BGN (Staff Report of Investigation at 6) (October 10, 2012) (hereinafter “Staff Report”). [↑](#footnote-ref-2)
3. *Id*. at 49. [↑](#footnote-ref-3)
4. *Id*. at 40-42. [↑](#footnote-ref-4)
5. Staff Report at 44-45. [↑](#footnote-ref-5)
6. *Id*. [↑](#footnote-ref-6)
7. Staff Report at 51-64. On the record, Staff witnesses agreed to modify or, in some cases, elimi­nate some of the conditions. These will be discussed at greater length later in this brief. [↑](#footnote-ref-7)
8. References to conditions by number employ the Staff Report condition number. All the conditions are shown in Attachment A including conditions still proposed to delete. If the Staff Report condition number changes because of deletions, the condition will continue to be referenced by its Staff Report con­dition number. [↑](#footnote-ref-8)
9. *In re Champaign Wind*, Case No. 12-160-EL-BGN (Direct Testimony of Michael Speerschneider on behalf of Champaign Wind (Co. Ex. 5) at 11-12) (October 29, 2012) (hereinafter “Speerschneider Dir. Test.). [↑](#footnote-ref-9)
10. *In re Champaign Wind*, Case No. 12-160-EL-BGN (Direct Testimony of Donald Rostofer (Staff Ex. 2) at 7) (November 5, 2012) (hereinafter “Rostofer Dir. Test.”); Tr. VIII at 2030. [↑](#footnote-ref-10)
11. R.C 4906.10(A)(6). [↑](#footnote-ref-11)
12. R.C. 4928.02; Staff Report at 46-49; *In re Champaign Wind*, Case No. 12-160-EL-BGN (Direct Testimony of Stuart Siegfried (Staff Ex. 6) at 3) (November 5, 2012) (hereinafter “Siegfried Dir. Test.”). [↑](#footnote-ref-12)
13. R.C. 4928.35(A)(1). [↑](#footnote-ref-13)
14. R.C. 4928.64, 4928.65. [↑](#footnote-ref-14)
15. Staff Report at 6. [↑](#footnote-ref-15)
16. Siegfried Dir. Test. at 3. [↑](#footnote-ref-16)
17. Staff Report at 47. [↑](#footnote-ref-17)
18. *Id*.; *In re Champaign Wind*, Case No. 12-160-EL-BGN (Direct Testimony of Dale Arnold on behalf of the Ohio Farm Bureau Federation at 1) (November 5, 2012) (hereinafter “Arnold Dir. Test.”). [↑](#footnote-ref-18)
19. Arnold Dir. Test. at 3. [↑](#footnote-ref-19)
20. Staff Report at 47; Co. Ex. 1 at Vol. II, Ex. G at 14. [↑](#footnote-ref-20)
21. Arnold Dir. Test. at 3-4. [↑](#footnote-ref-21)
22. *Id*. at 3. [↑](#footnote-ref-22)
23. *Id*. at 4. [↑](#footnote-ref-23)
24. *Id*. [↑](#footnote-ref-24)
25. Staff Report at 22. [↑](#footnote-ref-25)
26. *Id*. [↑](#footnote-ref-26)
27. *Id*. at 48. [↑](#footnote-ref-27)
28. Staff Report at 48. [↑](#footnote-ref-28)
29. *Id*. at 46-47; Siegfried Dir. Test. at \_\_\_. [↑](#footnote-ref-29)
30. Staff Report at 46-47. [↑](#footnote-ref-30)
31. *Id*. [↑](#footnote-ref-31)
32. *Id*. [↑](#footnote-ref-32)
33. *Id*. at 46. [↑](#footnote-ref-33)
34. *Id*. [↑](#footnote-ref-34)
35. *Id*. [↑](#footnote-ref-35)
36. *Id*. [↑](#footnote-ref-36)
37. R.C. 4906.10(A)(5). [↑](#footnote-ref-37)
38. Staff Report at 43-45. [↑](#footnote-ref-38)
39. Staff Report at 43. [↑](#footnote-ref-39)
40. *Id*. [↑](#footnote-ref-40)
41. *Id*. [↑](#footnote-ref-41)
42. Tr. VI at 1623-1624. [↑](#footnote-ref-42)
43. *Id*. [↑](#footnote-ref-43)
44. Staff Report, Condition 62. [↑](#footnote-ref-44)
45. Staff Report at 44. [↑](#footnote-ref-45)
46. *Id*. [↑](#footnote-ref-46)
47. *Id*. [↑](#footnote-ref-47)
48. Staff Report at 44-45. [↑](#footnote-ref-48)
49. R.C. 4906.10(A)(2), (3). [↑](#footnote-ref-49)
50. Staff Report at 43, 50. [↑](#footnote-ref-50)
51. *Id*. at 44. [↑](#footnote-ref-51)
52. *Id*. [↑](#footnote-ref-52)
53. *Id*. at 28-37. [↑](#footnote-ref-53)
54. Rostofer Dir. Test. at 4. [↑](#footnote-ref-54)
55. Staff Report at 38-39. [↑](#footnote-ref-55)
56. *Id*. at 28-39. [↑](#footnote-ref-56)
57. *In re Champaign Wind*, Case No. 12-160-EL-BGN (Application for Certificate of Compatibility and Public Need at 71) (May 15, 2012) (hereinafter “Application”). [↑](#footnote-ref-57)
58. Staff Report at 28. Staff respectfully notes that, although that Staff Report was not offered as an exhibit at the evidentiary hearing, it is nonetheless a part of the record in these proceedings. R.C. 4906.07(C) provides that the Staff Report “shall become part of the record” of a public hearing with respect to any certificate application filed pursuant to R.C. 4906.06. [↑](#footnote-ref-58)
59. *In re Champaign Wind*, Case No. 12-160-EL-BGN (Direct Testimony or Robert Poore on behalf of Champaign Wind at 4) (October 29, 2012) (hereinafter “Poore Dir. Test.”). [↑](#footnote-ref-59)
60. *In re Champaign Wind*, Case No. 12-160-EL-BGN (Direct Testimony of Andrew Conway on behalf of the Staff of the Ohio Power Siting Board at 5) (November 5, 2012). [↑](#footnote-ref-60)
61. *Id*. [↑](#footnote-ref-61)
62. Tr. VIII at 2031. [↑](#footnote-ref-62)
63. Staff Report at 28. [↑](#footnote-ref-63)
64. *Id*. at 30; Tr. X at 2560. [↑](#footnote-ref-64)
65. Tr. X at 2489, 2492. [↑](#footnote-ref-65)
66. Staff Report at 31; Tr. at 2560. [↑](#footnote-ref-66)
67. Application at 82. [↑](#footnote-ref-67)
68. *Id.* at 83. [↑](#footnote-ref-68)
69. *Id*. at 82. [↑](#footnote-ref-69)
70. Staff Report at 31. [↑](#footnote-ref-70)
71. *In re Champaign Wind*, Case No. 12-160-EL-BGN (Direct Testimony of William Palmer on behalf of Union Neighbors United at 19) (November 5, 2012) (hereinafter “Palmer Dir. Test.”). [↑](#footnote-ref-71)
72. Palmer Dir. Test. at 15. [↑](#footnote-ref-72)
73. *Id*. at 24. [↑](#footnote-ref-73)
74. *In re Champaign Wind*, Case No. 12-160-EL-BGN (Direct Testimony of Jerry Punch on behalf of Union Neighbors United at 29) (November 5, 2012) (hereinafter “Punch Dir. Test.”). [↑](#footnote-ref-74)
75. Tr. VI at 1472. [↑](#footnote-ref-75)
76. *Id*. at 1439. [↑](#footnote-ref-76)
77. Application at 70-72. [↑](#footnote-ref-77)
78. *Id*. at 71. [↑](#footnote-ref-78)
79. Staff Report at 57. [↑](#footnote-ref-79)
80. *In re Champaign Wind*, Case No. 12-160-EL-BGN (Amended Direct Testimony of David Hessler on behalf of Champaign Wind at 13) (October 31, 2012) (hereinafter “Hessler Amended Dir. Test.”). [↑](#footnote-ref-80)
81. Staff Report at 32. [↑](#footnote-ref-81)
82. *Id*. [↑](#footnote-ref-82)
83. Tr. IV at 746-765. [↑](#footnote-ref-83)
84. *Id*. at 32-33. [↑](#footnote-ref-84)
85. Application at 72-73. [↑](#footnote-ref-85)
86. Tr. IV at 793. [↑](#footnote-ref-86)
87. Tr. IV at 786. [↑](#footnote-ref-87)
88. Tr. V at 1130. [↑](#footnote-ref-88)
89. *In re Champaign Wind*, Case No. 12-160-EL-BGN (Direct Testimony of Richard James on behalf of Union Neighbors United at 12) (November 6, 2012). [↑](#footnote-ref-89)
90. Tr. IV at 794. [↑](#footnote-ref-90)
91. Staff Report at 32. [↑](#footnote-ref-91)
92. *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 40) (October 28, 2008). [↑](#footnote-ref-92)
93. Staff Report at 32. [↑](#footnote-ref-93)
94. Hessler Amended Dir. Test. at 5. [↑](#footnote-ref-94)
95. *Id*. (emphasis added.) [↑](#footnote-ref-95)
96. *Id*. [↑](#footnote-ref-96)
97. Staff Report at 58. [↑](#footnote-ref-97)
98. Hessler Amended Dir. Test. at 7. [↑](#footnote-ref-98)
99. *Id*. [↑](#footnote-ref-99)
100. Punch Dir. Test. at 8. [↑](#footnote-ref-100)
101. *In re Champaign Wind*, Case No. 12-160-EL-BGN (Rebuttal Testimony of Kenneth Mundt on behalf of Champaign Wind at 18) (December 3, 2012). [↑](#footnote-ref-101)
102. *Id*. at 32. [↑](#footnote-ref-102)
103. Staff Report at 59. [↑](#footnote-ref-103)
104. Staff Report at 59. [↑](#footnote-ref-104)
105. *Id*. [↑](#footnote-ref-105)
106. *Id*. at 8. [↑](#footnote-ref-106)
107. For purposes of completeness, Staff notes that Mr. Hessler did testify on cross-examination that “if that level is in compliance 95 percent of the time or more, to my mind the project is meeting the requirement or it’s certainly the intent of the requirement.” Tr. IV at 871. This viewpoint is consistent with Staff’s expectations. [↑](#footnote-ref-107)
108. Application at 84-89, App. Ex. P. [↑](#footnote-ref-108)
109. Application at 85. [↑](#footnote-ref-109)
110. *Id*. at 87. [↑](#footnote-ref-110)
111. *Id*. at 88-89. [↑](#footnote-ref-111)
112. Poore Dir. Test. [↑](#footnote-ref-112)
113. Poore Dir. Test. at 10. [↑](#footnote-ref-113)
114. *Id*. [↑](#footnote-ref-114)
115. *In re Champaign Wind*, Case No. 12-160-EL-BGN (Direct Testimony of Raymond Strom on behalf of the Staff of the Ohio Power Siting Board) (November 5, 2012). [↑](#footnote-ref-115)
116. Staff Report at 33. [↑](#footnote-ref-116)
117. Staff Report at 59. [↑](#footnote-ref-117)
118. Tr. III at 641. [↑](#footnote-ref-118)
119. Tr. IV at 910. [↑](#footnote-ref-119)
120. Tr. X at 2496. [↑](#footnote-ref-120)
121. Staff Report at 58. [↑](#footnote-ref-121)
122. Application at 82. [↑](#footnote-ref-122)
123. Application at 81. [↑](#footnote-ref-123)
124. Speerschneider Dir. Test. at 10. [↑](#footnote-ref-124)
125. *In re Champaign Wind*, Case No. 12-160-EL-BGN (Direct Testimony of Christopher Shears on behalf of Champaign Wind at 3) (October 29, 2012). [↑](#footnote-ref-125)
126. Staff Report at 32. [↑](#footnote-ref-126)
127. Punch Dir. Test. at 32. [↑](#footnote-ref-127)
128. Tr. X at 2492. [↑](#footnote-ref-128)
129. Staff Report at 51. [↑](#footnote-ref-129)
130. *Id*. [↑](#footnote-ref-130)
131. Speerschneider Dir. Test. at 12. [↑](#footnote-ref-131)
132. Staff Report at 33; see also Conditions (49) and (51). [↑](#footnote-ref-132)
133. Tr. VII at 1760. [↑](#footnote-ref-133)
134. Staff Report at 34; see also Conditions (50) and (51). [↑](#footnote-ref-134)
135. Tr. XI at 2749. [↑](#footnote-ref-135)
136. Staff Report at 58. [↑](#footnote-ref-136)
137. See fn 1 regarding number references to conditions. [↑](#footnote-ref-137)
138. Rostofer Dir. Test. at 4. [↑](#footnote-ref-138)
139. Rostofer Dir. Test. at 4. [↑](#footnote-ref-139)
140. Staff Report at 51. [↑](#footnote-ref-140)
141. Speerschneider Dir. Test. at 12. [↑](#footnote-ref-141)
142. Rostofer Dir. Test. at 7; Speerschneider Dir. Test. at 13. [↑](#footnote-ref-142)
143. Staff Report at 52. [↑](#footnote-ref-143)
144. Rostofer Dir. Test. at 7; Speerschneider Dir. Test. at 13-14. [↑](#footnote-ref-144)
145. Staff Report at 52. [↑](#footnote-ref-145)
146. Staff Report at 52-53. [↑](#footnote-ref-146)
147. Tr. I at 25. [↑](#footnote-ref-147)
148. Speerschneider Dir. Test. at 14-15. [↑](#footnote-ref-148)
149. Staff Report at 53. [↑](#footnote-ref-149)
150. Staff Report at 21. [↑](#footnote-ref-150)
151. Speerschneider Dir. Test. at 15. [↑](#footnote-ref-151)
152. *Id*. [↑](#footnote-ref-152)
153. Rostofer Dir. Test. at 7; Speerschneider Dir. Test. at 13-14. [↑](#footnote-ref-153)
154. Staff Report at 26. [↑](#footnote-ref-154)
155. *Id.* [↑](#footnote-ref-155)
156. Staff Report at 26*.* [↑](#footnote-ref-156)
157. *Id.* [↑](#footnote-ref-157)
158. *Id.* [↑](#footnote-ref-158)
159. *Id*. Condition No. 26; Tr. VIII at 2025-2027. The ABPP is an appendix to the HCP. Tr. VIII at 2026. [↑](#footnote-ref-159)
160. *In re Champaign Wind*, Case No. 12-160-EL-BGN (Direct Testimony of Jennifer Norris on behalf of the Staff of the Ohio Power Siting Board at 1, 3-4) (November 5, 2012) (hereinafter “Norris Dir. Test.”); Tr. VIII at 2025-2027. The Incidental Take Permit covers one species. The ABPP protects nonfederal trust species, which includes state trust species. Tr. VIII at 2026. [↑](#footnote-ref-160)
161. Tr. VIII at 2026-2027. [↑](#footnote-ref-161)
162. Staff Report at 55, Condition 28. [↑](#footnote-ref-162)
163. Norris Dir. Test. at 1-2; Tr. VIII at 2023. [↑](#footnote-ref-163)
164. *Id*. [↑](#footnote-ref-164)
165. Speerschneider Dir. Test. at 18-20; Norris Dir. Test. at 4-5. [↑](#footnote-ref-165)
166. Rostofer Dir. Test. at 7; Speerschneider Dir. Test. at 20-23. [↑](#footnote-ref-166)
167. Staff Report at 32, 57. [↑](#footnote-ref-167)
168. *Id*. at 32. [↑](#footnote-ref-168)
169. *Id*. [↑](#footnote-ref-169)
170. *Id*. [↑](#footnote-ref-170)
171. *Id*. at 57. [↑](#footnote-ref-171)
172. *Id*. [↑](#footnote-ref-172)
173. Speerschneider Dir. Test. at 24; Tr. II at 391. [↑](#footnote-ref-173)
174. Staff Report at 58. [↑](#footnote-ref-174)
175. *Id*. at 30, 58. [↑](#footnote-ref-175)
176. Speerschneider Dir. Test. at 24-25. [↑](#footnote-ref-176)
177. *Id*. [↑](#footnote-ref-177)
178. Staff Report at 32-33. [↑](#footnote-ref-178)
179. Hessler Amended Dir. Test. at 8. [↑](#footnote-ref-179)
180. Speerschneider Dir. Test. at 25. [↑](#footnote-ref-180)
181. Tr. II at 398. [↑](#footnote-ref-181)
182. Staff Report at 32. [↑](#footnote-ref-182)
183. Tr. XI at 2826. [↑](#footnote-ref-183)
184. *Id*. at 2825-2827, 2830-2831. [↑](#footnote-ref-184)
185. *Id*. at 2749. [↑](#footnote-ref-185)
186. *In re Champaign Wind*, Case No. 12-160-EL-BGN (Direct Testimony of Thomas Musick on behalf of Pioneer Rural Electric Cooperative at 5) (November 5, 2012) (hereinafter “Musick Dir. Test.”). [↑](#footnote-ref-186)
187. *Id*. [↑](#footnote-ref-187)
188. *Id*. at 7. [↑](#footnote-ref-188)
189. *Id*., Exhibit A. [↑](#footnote-ref-189)
190. See e.g., Staff Report at 36, 60-61; *In re Champaign Wind*, Case No. 12-160-EL-BGN (Direct Testimony of Jonathan Knauth on behalf of Champaign Wind at 3-4) (November 5, 2012) (hereinafter “Knauth Dir. Test.”);Speerschneider Dir. Test. at 31-34. [↑](#footnote-ref-190)
191. Speerschneider Dir. Test. at 28-31. [↑](#footnote-ref-191)
192. *Compare*, Staff Report at 60-62 with *In the Matter of the Application of Black Fork Wind Energy, L.L.C. for a Certificate to Site a Wind-Powered Electric Generating Facility In Crawford and Richland Counties, Ohio*, (hereinafter: *In re Blackfork)* Case No. 10-2865-EL-BGN (Opinion and Order at 74) (January 23, 2012); *In re Blackfork*, Case No. 10-2865-EL-BGN (Stipulation and Recommendation at 14-16) (September 28, 2011); Staff Report, Condition 55. [↑](#footnote-ref-192)
193. Staff Report at 61-62, Condition 55(g). [↑](#footnote-ref-193)
194. *Id*. [↑](#footnote-ref-194)
195. Rostofer Dir. Test. at 4. [↑](#footnote-ref-195)
196. Tr. II at 407. [↑](#footnote-ref-196)
197. Knauth Dir. Test. at 3. [↑](#footnote-ref-197)
198. Tr. II at 407. [↑](#footnote-ref-198)
199. Tr. VIII at 2055. [↑](#footnote-ref-199)
200. Staff Report at 64; Tr. VIII 2057. [↑](#footnote-ref-200)
201. *In re Champaign Wind*, Case No. 12-160-EL-BGN (Direct Testimony of Mark Keller on behalf of the City of Urbana, Ohio at 3) (November 6, 2012) ; Tr. II at 412). [↑](#footnote-ref-201)
202. Tr. VIII at 2059. [↑](#footnote-ref-202)