BEFORE
THE OHIO POWER SITING BOARD

In the Matter of the Application of Icebreaker Windpower Inc., for a Certificate to Construct a Wind-Powered Electric Generation Facility in Cuyahoga County, Ohio.	))))	Case No: 16-1871-EL-BGN

INITIAL BRIEF OF ICEBREAKER WINDPOWER INC. IN SUPPORT OF THE REVISED JOINT STIPULATION AND RECOMMENDATION

Christine M.T. Pirik (0029759)
Terrence O' Donnell (0074213)
William V. Vorys (0093479)
Jonathan R. Secrest (0075445)
Sara H. Jodka (0076289)
Dickinson Wright PLLC
150 East Gay Street, Suite 2400
Columbus, Ohio 43215
Phone: (614) 591-5461
Email: cpirik@dickinsonwright.com
todonnell@dickinsonwright.com
wvorys@dickinsonwright.com
jsecrest@dickinsonwright.com
sjodka@dickinsonwright.com

Attorneys for Icebreaker Windpower Inc.

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I. INTRODUCTION

In this proceeding, Icebreaker Windpower Inc. ("Icebreaker" or "Applicant") seeks a certificate of public convenience and necessity ("Certificate") to construct a 6-turbine demonstration wind-powered electric generation facility in Lake Erie off the shore of Cleveland, in Cuyahoga County, Ohio ("Project") with a generating capacity of 20.7 megawatts ("MW").[1] Icebreaker, the Ohio Power Siting Board ("Board") Staff ("Staff"), the Business Network for Offshore Wind, Inc. ("Business Network"), the Sierra Club, the Indiana/Kentucky/Ohio Regional Council of Carpenters ("Carpenters' Council"), and the Ohio Environmental Council ("OEC") (jointly referred to herein as "Stipulating Parties") recommend the Board adopt the Revised Joint Stipulation filed on May 15, 2019 ("Revised Stipulation") and grant the Certificate subject to the conditions set forth in the Revised Stipulation.[2]

As proven on the record in this proceeding, the conditions in the Revised Stipulation ensure that all of the requirements for a certificate set forth in Ohio Revised Code ("R.C.") Section 4906.10 will be met, including that the Board can determine: the nature of the probable environmental impact; that the facility represents "the minimum adverse environmental impact, considering the available technology and the nature and economics of the various alternatives…;" and that the facility serves "the public interest, convenience, and necessity." In addition, the Revised Stipulation is the product of serious bargaining among all parties in this case, benefits the public interest, and does not violate any important regulatory principle or policy.

The sole opponents to the Project are two individuals who reside in a 15-floor, high-rise condominium on the shore of Lake Erie in Bratenahl, Ohio ("Residents").[3] The Residents are represented by the same firm that represents Murray Energy Corporation ("Murray Energy"), the largest privately-owned coal company in the United States ("U.S.").[4] In fact, Murray Energy paid

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[1] App. Ex. 1 at 2.

[2] . Jt. Ex. 2 at 3-12.

[3] W. Susan Dempsey and Robert M. Maloney.

[4] Counsel for the Residents filed a request on behalf of the Campaign for American Affordable and Reliable Energy, LLC ("CAARE") to be added to the service list in this docket. CAARE, a coal industry interest group, made previous unsuccessful attempts to intervene in proceedings before this Board in order to "preserve and protect the coal industry…, to challenge renewable portfolio standards and financial and tax incentives for alternative energy sources on both a state and federal level." *In re the Application of Paulding Wind Farm*, Case No. 15-2030-EL-BGA, et al., Entry (Apr. 6, 2016) at 5. Note that both Murray Energy and CAARE are well-known opponents of clean energy. *See e.g.,* Dave Anderson, *Murray Energy's War on Clean Energy in Ohio*, (Mar. 10, 2019), https://pv-magazine-usa.com/2018/03/10/murray-energys-war-on-clean-energy-in-ohio/

for all of the Residents' expenses in opposition to this proceeding, including the attorney fees and the expenses of the two expert witnesses called by the Residents.[5] The Residents state that they did not know or care who was funding their opposition to this matter and assumed that whoever it was shared their motives and goal of keeping Lake Erie pristine.[6] However, given that the primary benefactor for the Residents' in this case is Murray Energy a company that actively opposes any expansion of renewable energy resources, which contend with its goal of maintaining market share for the coal industry, it is highly unlikely that Murray Energy shares the same alleged, stated interest of the Residents and the protection of Lake Erie.

At the evidentiary hearing, the Residents and their expert witnesses only presented two issues in opposition to the Project. First, they argue the Board should not certify the Project because the economics of the Project do not support its construction and development. However, as explained further below, these economics are not proper issues for debate before the Board. Second, they contend that the Project will have a negative effect on migratory birds. To the contrary, the record reflects that this is a low risk Project and that the Signatory Parties have agreed to strong safeguards to ensure that any impacts will be negligible. Moreover, this argument is ironic given that it is a proven fact tall buildings of similar size to the 15-story, high rise building on the shore of Lake Erie where the Residents reside kill more birds than wind turbines.[7]

The record in this case supports adoption of the Revised Stipulation and the issuance of the Certificate to Icebreaker. It is notable that, to date, the Applicant has obtained the following permits on a state and federal level:

Description	**Agency**	**Date Obtained**
National Environmental Policy Act ("NEPA") Environmental Assessment ("EA") Finding of No Significant Impact ("FONSI")	U.S. Department of Energy ("DOE"), U.S. Army Corps of Engineers (USACE"), and U.S. Coast Guard ("USCG")	October 2, 2018[8]
Clean Water Act Section 404/Rivers and Harbors Act Section 10 Permit	USACE	March 13, 2019

[5] App. Exs. 42, 47, and 48; Tr. V at 1192-1197; Tr. VI at 1281, 1396-1397, 1487.

[6] Tr. V at 1195; Tr. VI at 1412, 1415.

[7] App. Ex. 30, Att. CEG-12; App. Ex. 1, Ex. J; Loss, S.R., T. Will, and P.P. Marra, 2013 Bird-building collisions in the United States: Estimates of annual mortality and species vulnerability; http://www.audubon.org/sites/default/files/documents/loss_et_al_bird-building_collisons_condor_2014.pdf

[8] https://www.energy.gov/nepa/ea-2045-lake-erie-energy-development-corporations-project-icebreaker-offshore-wind-advanced

Description	Agency	Date Obtained
Water Quality Certification Section 401	Ohio Environmental Protection Agency ("Ohio EPA")	July 26, 2018
Federal Navigation Project Section 408	USACE	September 8, 2017
Determination of No Hazard to Air Navigation	Federal Aviation Administration ("FAA")	February 22, 2017
Letter of Concurrence that Project does not Impact Water Levels and Ice Flows	U.S. State Department	June 30, 2017

II. SUMMARY OF THE PROCEEDING

The proceedings in this matter were conducted by the Board in accordance with the provisions in R.C. Chapter 4906 and Division 4906 of the Ohio Administrative Code ("O.A.C.").

On February 1, 2017, as supplemented on March 13, July 20, July 24, and August 18, 2017, March 22, 2018, and May 14, 2019, Icebreaker filed an application with the Board for a certificate of public convenience and necessity ("Application") to construct the proposed Project.

The Board held two local public hearings in this matter in Cleveland, Ohio on November 8, 2017, and July 19, 2018. At these local hearings, the vast majority of the witnesses supported the Project and urged the Board to approve the Application.

On September 4, 2018, Icebreaker, Business Network, the Sierra Club, the Carpenters' Council, and OEC filed a Joint Stipulation and Recommendation ("9/4 Stipulation"). The evidentiary hearing in this matter commenced on September 24, 2018. Following seven days of hearing, the Administrative Law Judge ("ALJ") set the briefing schedule. Several extensions of the briefing schedule were granted and the parties continued their discussions regarding a possible revised stipulation in this matter.

On May 15, 2019, Icebreaker, Staff, Business Network, the Sierra Club, the Carpenters' Council, and OEC filed the Revised Stipulation that supersedes and replaces the 9/4 Stipulation. The hearing was reconvened on August 20, 2019, and the hearing was "limited to the fifth amendment to the application [filed May 14, 2019], modifications made between the [9/4 Stipulation] and the [Revised] Stipulation, as well as any new, relevant information that developed since the proceeding adjourned on October 2, 2018…."[9] At the conclusion of the half-day hearing,

[9] Entry June 17, 2019.

as reinstated on September 12, 2019, the ALJ determined that the briefs and reply briefs would be due by October 11, 2019, and November 15, 2019, respectively.[10]

III. PROJECT DESCRIPTION

The Project will be located 8 to 10 miles off the shore of Lake Erie, in Cuyahoga County, Ohio. It will consist of 6 wind turbine generators, along with submerged electric collection cables, a temporary staging area at the Port of Cleveland ("Port"), an operations and maintenance ("O&M") Center, and a substation. The energy generated at the facility will deliver power to a single point of interconnection ("POI") on the existing Cleveland Public Power ("CPP") electric grid, Lake Road Substation.[11]

The Project will be constructed on the bed of Lake Erie, on leased submerged state land off the coast of the Cleveland, Ohio. The rights were obtained through a submerged land lease ("SLL") with the state of Ohio.[12] The Applicant leased 4.2 acres of open lakebed in Lake Erie for the turbine foundations; however, the footprint of each foundation will be less than 0.06 acres.[13] Most of the facility components will arrive at the Project site via barge; though, some may arrive by rail or truck.[14]

The facility will consist of 6 Mitsubishi Heavy Industries Vestas Offshore Wind – Vestas 3.45 MW offshore wind turbine generators for a total generating capacity of 20.7 MW. The turbines proposed for this Project include the Vestas V126-3.45 MW International Electrical Commission ("IEC") wind Classes IIA and IIB models.[15] The facility is expected to operate for approximately 8,200 hours per year and generate approximately 75,000 megawatt hours ("MWh") of electricity each year; enough to power approximately 7,000 homes.[16]

A Mono Bucket ("MB"), which combines the benefits of a gravity base, a monopile, and a suction bucket, will be utilized as the turbine foundation for the facility.[17] A heavy lift crane vessel

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[10] Tr. VIII at 1809; Entry Sept. 12, 2019.
[11] App. Ex. 1 at 2, 6, 19.
[12] *Id.* at 5.
[13] *Id.* at 127.
[14] *Id.* at 19.
[15] *Id.* at 6; App. Ex. 2 at 2. The Applicant notes that 7 potential wind turbines sites have been studied and are proposed in this Application; however, only 6 sites will ultimately be chosen for construction of the wind turbines (*See*, e.g., App. Ex. 1, Figure 04-1).
[16] App. 25 at 9.
[17] App. Ex. 1 at 7-8, Ex. D, E.

will be utilized to perform the lifting operations for the foundation and turbine installation processes. The Port will be the quayside staging area for the Project.[18]

There are two electric collection line cable components: the inter-array cables, which connect the wind turbines together; and the export cable, which transmits the electricity generated by all wind turbines to the shore. The length of each of the inter-array cables is approximately 0.48 miles. The export cable will be approximately 12.1 miles and will be brought ashore entirely under the Cleveland Harbor and the Cleveland Harbor breakwater through a duct installed using horizontal directional drilling ("HDD").[19]

The substation will be constructed on industrial land at the CPP property within the Lake Road Substation.[20] The substation will have a footprint of approximately 88 feet by 110 feet or 0.22 acres.[21] The O&M Center will be a leased space in an existing building at Great Lakes Towing.[22]

The purpose of the facility is to produce wind-powered electricity that will maximize energy production from the Project area wind resources in order to deliver clean, renewable electricity. The electricity generated will add fuel diversity to the electric supply mix and help reduce air pollution.[23]

IV. STANDARD OF REVIEW

A. CERTIFICATION CRITERIA

Pursuant to R.C. Section 4906.10, the Board shall not grant a certificate for the construction, operation, and maintenance of a wind-powered electric generation facility, such as the Project proposed by Icebreaker, unless it finds and determines all of the following:

1. The basis of the need for the facility if the facility is an electric transmission line or gas pipeline.[24]

2. The nature of the probable environmental impact.

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[18] *Id.* at 9-10.
[19] *Id.* at 16, 36-37.
[20] *Id.* at 17.
[21] *Id.* at 127.
[22] *Id.* 1 at 6.
[23] App. Ex. 25 at 9.
[24] Since this Project is a proposed electric generating facility, this criterion is not applicable to this Application.

3. 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.

4. That the facility is consistent with regional plans for expansion of the electric power grid of the electric systems serving this state and interconnected utility systems and that the facility will serve the interests of electric system economy and reliability.

5. That 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. In determining whether the facility will comply with all rules and standards adopted under section 4561.32 of the Revised Code, the board shall consult with the office of aviation of the division of multi-modal planning and programs of the department of transportation under section 4561.341 of the Revised Code.

6. That the facility will serve the public interest, convenience, and necessity.

7. In addition to the provisions contained in divisions (A)(1) to (6) of this section and rules adopted under those divisions, what its impact will be on the viability as agricultural land of any land in an existing agricultural district established under Chapter 929. of the Revised Code that is located within the site and alternative site of the proposed major utility facility. Rules adopted to evaluate impact under division (A)(7) of this section shall not require the compilation, creation, submission, or production of any information, document, or other data pertaining to land not located within the site and alternative site.

8. That the facility incorporates maximum feasible water conservation practices as determined by the board, considering available technology and the nature and economics of the various alternatives.

The evidentiary record in this matter supports a Board finding that the criteria under R.C. Section 4906.10 are satisfied.

B. STIPULATION CRITERIA

O.A.C. Rule 4906-2-24 authorizes parties to Board proceedings to enter into stipulations. Pursuant to O.A.C. Rule 4906-2-24(D), the terms of the stipulation are accorded substantial weight

by the Board. *See,* e.g., *In re the Application of Northwest Ohio Wind Energy, LLC*, Case No. 13-197-EL-BGN (Dec. 16, 2013): *In re the Application of Amer. Transm. Systems, Inc.*, Case No. 12-1727-EL-BSB (Mar. 11, 2013); *In re the Application of Rolling Hills Generating LLC*, Case No. 12-1669-EL-BGA (May 1, 2013); *In re the Application of AEP Transm. Co., Inc.*, Case No. 12-1361-EL-BSB (Sept. 13, 2013); *In re the Application of Hardin Wind LLC*, Case No. 13-1177-EL-BGN (Mar. 17, 2014); *In re the Application of Paulding Wind Farm IV LLC*, Case No. 18-91-EL-BGN (Feb. 21, 2019). In considering the reasonableness of a stipulation, the Board has used the following criteria:

1. Is the settlement a product of serious bargaining among capable, knowledgeable parties?

2. Does the settlement, as a package, benefit ratepayers and the public interest?

3. Does the settlement package violate any important regulatory principle or practice?

As set forth herein, the evidentiary record in this matter supports a Board finding that the criteria used by the Board to determine the reasonableness of a stipulation have been satisfied.

V. PROCEDURAL MOTIONS

O.A.C. Rule 4906-2-29(F) provides that:

> Any party that is adversely affected by a ruling issued under rule 4906-2-28 of the Administrative Code or any oral ruling issued during a public hearing or prehearing conference and that (1) elects not to take an interlocutory appeal from the ruling…may still raise the propriety of that ruling as an issue for the board's consideration by discussing the matter as a distinct issue in its initial brief….

As explained and supported further below, Icebreaker respectfully requests that the Board reconsider and reverse the following rulings by the ALJ, which denied the following motions filed by the Applicant: the Motion in Limine and Request to Limit Intervenor Participation to Relevant Issues filed on September 21, 2018; and the Motion to Exclude Testimony filed on July 26, 2019.

A. Icebreaker's Motion in Limine to strike portions of Richard E. Brown's testimony that are outside the scope of this proceeding and include material that goes beyond the scope of concerns raised by the Residents should be granted.

At the hearing in this matter, the ALJ denied Icebreaker's Motion in Limine, which requested that certain portions of Dr. Richard E. Brown's prefiled direct testimony filed on

September 14, 2018, be stricken from the record.[25] Dr. Brown submitted his testimony on behalf of the Residents, W. Susan Dempsey and Robert Maloney. The Residents' counsel and Murray Energy retained Dr. Brown to conduct an assessment on the economic viability of the Icebreaker Project and prepare a report ("Brown Report").[26] While the ALJ stated that the Board would give the objectionable testimony of Dr. Brown the appropriate weight it deserves, the Applicant continues to assert that permitting such irrelevant testimony into the record in this case is prejudicial to the Applicant.

Ohio law outlines 7 specific factors the Board considers when determining whether to grant a certificate for the construction, operation, and maintenance of an electric generation facility.[27] A vast majority of Dr. Brown's testimony addresses topics outside the scope of the 7 items under the Board's jurisdiction for electric generation facilities. In addition, the testimony discusses topics entirely inapplicable to Ohio's electric generation developers operating in a deregulated market, such as Icebreaker.

Dr. Brown's direct testimony is based, in large part, on the Brown Report, which addresses the following topics that are plainly irrelevant to this proceeding:

1. Icebreaker's Project costs and rate structure;
2. The "need" for the Project;
3. The Project's contributions to the PJM Interconnection, LLC's ("PJM") regional interconnection system; and
4. Other topics, such as applicable tax credits.

As a threshold matter, any discussion of the public "need" for Icebreaker or the Project's economic viability fails to recognize that neither Icebreaker nor CPP, to whom Icebreaker has sold a portion of its power, are regulated utilities subject to the jurisdiction of the state under R.C. Section 4905. However, even if Ohio law provided for the rate regulation of Icebreaker and CPP, the law would still require the issues presented in Dr. Brown's testimony to be addressed in an appropriate ratemaking proceeding before the Public Utilities Commission of Ohio ("PUCO") ("Ratemaking Case"), as opposed to a power siting certificate case before the Board ("Certificate Case"). Regardless of Dr. Brown's perspective on Icebreaker's sale of power to CPP or CPP's

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[25] Tr. I at 25.

[26] Res. Ex. 21, Att. RB-1.

[27] While there are 8 criteria set forth in the relevant statute, R.C. Section 4906.10, the first criterion, "the basis of the need for the facility" does not apply to this facility because this facility is neither an electric transmission line nor a gas pipeline.

purchase of such power, the issues raised by Brown are not relevant for purposes of this proceeding and will be of no use to the Board for purposes of deciding the outcome of this matter.

Under O.A.C. Rule 4906-2-09(B)(8)(b), the Board and ALJ may take such actions necessary to "prevent the presentation of irrelevant or cumulative evidence." The Ohio Rules of Evidence provide guidance on the meaning of "irrelevant or cumulative evidence." Specifically, Ohio R. Evid. 401 defines "relevant evidence" as "evidence having any tendency to make the existence of any fact that is of consequence to the determination of the action more probable or less probable than it would be without the evidence."

As stated previously, R.C. Section 4906.10 outlines the permissible grounds for Board decisions granting or denying a certificate. The Board may grant a certificate for the construction, operation, and maintenance of a wind-powered electric generation facility if it finds and determines all of criteria set forth in R.C. Section 4906.10, as outlined above. The vast majority of Dr. Brown's testimony addresses topics outside the scope of the items under the Board's jurisdiction. Therefore, for the reasons set forth below, the Board should strike the irrelevant portions of Dr. Brown's testimony as highlighted in the attachment to the Applicant's September 21, 2018 Motion in Limine and Request to Limit Intervenor Participation to Relevant Issues.

1. The economic viability of the Project and any related information is irrelevant in this proceeding.

In his testimony and in the Brown Report, Dr. Brown provides an analysis of a variety of issues related to the "economics" of the Project, including average wholesale power prices as compared to possible Icebreaker rates, Icebreaker O&M costs, the Project's tax liability, and the details of Icebreaker's Power Purchase Agreement ("PPA") with CPP.[28] Dr. Brown uses his own analysis to make broad, prejudicial, inaccurate conclusions about the Project as a whole, including, but not limited to, "the [f]acility is not economically viable without extensive subsidies,"[29] "the [f]acility will not generate nearly enough revenue to service its debt should the debt be financed through bonds or loans,"[30] and "the [f]acility will not produce economical renewable energy and that broader benefits will only occur if large-scale offshore wind development occurs."[31]

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[28] Res. Ex. 21 at 3 (¶ 5, 7, 8), 4, 5 (¶ 1, 4-6), 6 (¶ 1-9); *Id.*, Att. at 7 (¶ 1, 3), 8 (¶ 1-3), 10 (¶ 7), 11 (¶ 2), 12 (¶ 4), 13-14, 16 (¶ 3), 17 (¶ 4-5), 18-19, 24-27, 29 (¶ 4), 30 (¶ 2-3), 31 (¶ 2-3, 5, 8-9).

[29] *Id.*, Att. at 7 (¶ 1).

[30] *Id.*, Att. at 14 (¶ 4)

[31] *Id.*, Att. at 16 (¶ 3)

As previously explained s*upra*, all of this information falls outside the Board's jurisdiction. OPSB confirmed the same in testimony submitted by Jason Cross, Utilities Specialist for the PUCO. In his testimony, Mr. Cross states "[t]he exact cost of [Icebreaker's] power purchase agreement [with CCP] was not evaluated and is not pertinent to Staff's review."[32] In other words, in addition to being inaccurate, the above-described "economic" information is irrelevant, and wholly unrelated to the facts that are of consequence to the determination of this action.[33]

Dr. Brown's economic analysis also fails to recognize that the rates and terms associated with the sale and purchase of power by Icebreaker and CPP, respectively, are not regulated by the state. As such, information concerning Icebreaker's rates, pricing, costs, tax liability, and the terms of Icebreaker's PPA with CPP are irrelevant in this proceeding and completely outside the state's jurisdiction.

2. Information regarding the "need" for the facility is irrelevant to this proceeding.

Under R.C. Section 4906.10(A)(1), the Board may consider the basis of the need for the facility when deciding whether to grant or deny a Certificate only if "the facility is *an electric transmission line or gas pipeline*." (Emphasis added). Hence, Ohio law explicitly limits discussion of "need" to transmission line and gas pipeline cases.

Dr. Brown devotes a significant portion of his testimony and the Brown Report to addressing whether there is a "need" for the Project based on its contributions to baseload generation and its impact on the PJM regional interconnection system.[34] This information is entirely irrelevant to this proceeding. As the regional transmission operator, PJM is the entity that coordinates movement of wholesale electricity in Ohio. As acknowledged by Staff, Icebreaker has provided all of the necessary information to enable the Board to determine that the Project complies with R.C. Section 4906.10(A)(4) and is consistent with PJM's regional plans for the electric power grid.[35] Dr. Brown's attempt to expand this proceeding to include consideration of the baseload generation needs of the state is clearly inappropriate and beyond the scope of the Board's jurisdiction in this matter, and should, therefore, be stricken from the record.

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[32] Staff Ex. 10 at 2-3.

[33] Icebreaker notes that, at hearing, Brown plainly admitted that the cost of Icebreaker's output is not relevant to Staff's review of the Application. *See* Tr. VI at 1325. *See* Ohio R. Evid. 401.

[34] Res. Ex. 21 at 3 (¶ 6, 7), 4 (¶ 1-3), 6 (¶ 4, 7); Res. Ex. 21, Att. at 20-23, 28 (¶ 2-4), 31 (¶ 4, 7).

[35] Staff Ex. 1 at 34-36.

3. Information regarding the viability of future (large-scale) offshore wind projects is irrelevant to this proceeding.

Dr. Brown's testimony and the Brown Report contain broad conclusions regarding the high customer cost and detrimental impact of theoretical, future, large-scale offshore wind development.[36] Dr. Brown uses these conclusions to erroneously assert that "the Application should explain specifically how its construction and operation will help assess the potential success of future larger-scale offshore wind farms in Lake Erie and other Great Lakes."[37]

Similar to the information regarding "economics" and "need," any hypothetical discussion on the impact of future large-scale offshore wind projects is completely unrelated and irrelevant to this Certificate case. This case concerns Icebreaker's 6-turbine demonstration-scale Project and its Application for a Certificate. Analysis of the impact of possible future similarly constructed wind projects is highly prejudicial and irrelevant. Discussion of such unrelated issues would set a dangerous precedent for Board proceedings moving forward. Accordingly, the Board should exclude this testimony from the evidentiary record.

4. Portions of Dr. Brown's testimony should be stricken as other more appropriate forums exist for purposes of discussing the irrelevant information in his testimony.

As in all competitive markets, economic viability considerations such as pricing, possible tax incentives, and the overall "need" undoubtedly factor into any offtaker's decision regarding the sourcing of its electricity. Local policymakers on Cleveland's City Council addressed the "economic" and "need" considerations when choosing to purchase Icebreaker's output. Thus, Cleveland City Council's deliberations regarding the purchase of Icebreaker's output would have been the proper forum to address such issues.

5. The economic analysis produced by Brown and utilized by the Residents is a red herring, meant to further the independent interests of Murray Energy.

During discovery, Icebreaker obtained an engagement-for-services letter executed in September of 2017 by Dr. Brown's employer, Exponent, Inc., and the Residents' counsel, Benesch, Friedlander, Coplan, and Aronoff, LLP ("Benesch") ("Engagement Letter"). The letter

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[36] Res. Ex. 21 at 6 (¶ 6); Res. Ex. 21, Att. at 23 (¶ 3), 31 (¶ 6)

[37] *Id.* at 5 (¶ 4), 30 (¶ 1).

explains that Exponent is to provide "engineering consulting" services to Benesch in relation to the Icebreaker Project. The letter states, in pertinent part:

> It is our understanding that Exponent's retention on this project is with Benesch, Friedlander, Coplan, & Aronoff LLP, on behalf of Murray Energy Corporation (Murray Energy), and, as such, all charges (i.e. fees and expenses) incurred by Exponent on this project will be billed to your office but will be the responsibility of Murray Energy, independent of other parties/payees involved … for purposes of the Terms and Conditions of Agreements, "client" shall mean Murray Energy. [38]

The Engagement Letter and Dr. Brown's testimony confirm that Murray Energy is Benesch's true "client" in the case. The Engagement Letter and testimony also demonstrate that, as part of its engagement with Benesch, Murray Energy was to be responsible for all fees and expenses incurred by outside contractors, "independent of other parties/payees involved."[39] Thus, not only is Murray Energy directing Benesch's legal strategy as the "client," but it is also paying all expenses incurred by other parties.

Dr. Brown's testimony and the Brown Report represent nothing more than a tactic employed by Murray Energy to muddle up this hearing and divert the Board's attention away from the true purpose of this proceeding. Murray Energy's objective is to block wind projects and impede their development nationwide. Dr. Brown's testimony and the Brown Report support this goal through biased attacks on the entire wind industry, and one-sided defenses of incumbent electricity sources.

Accordingly, Icebreaker reiterates the arguments set forth in its September 21, 2018 Motion in Limine, and once again requests that the Board / ALJ strike the irrelevant portions of Brown's testimony and the Brown Report filed to date in this proceeding.

B. The testimony of Jeff Gosse should be excluded from this proceeding.

On July 26, 2019, the Applicant, the Business Network, and the Carpenters' Council (collectively "Joint Movants") filed a joint motion to exclude the testimony of Dr. Jeff Gosse, a witness testifying on behalf of the Residents, from this proceeding.[40] On August 9, 2019, the ALJ

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[38] App. Ex. 37 at 1.

[39] *Id.*

[40] Joint Movants became aware that Dr. Gosse would be testifying on behalf of the Residents through discovery and subsequently filed the motion to exclude. However, Dr. Gosse's testimony was not filed until August 13, 2019.

denied the Joint Movants' request. The Joint Movants respectfully request that the Board reverse the ALJ's for the reasons set forth below.

1. The Applicant is prejudiced by the inclusion of the testimony of Jeff Gosse, a former regulator involved in this proceeding.

Dr. Jeff Gosse was previously employed by the U.S. Fish and Wildlife Service ("USFWS") as a Regional Energy Coordinator. Dr. Gosse was involved in this proceeding as a result of his employment with USFWS. Dr. Gosse's substantial involvement included reviewing Applicant's radar protocols, reviewing results of the Applicant's radar studies, providing comments on the Applicant's pre-construction and post-construction monitoring plans, and entering into discussions with the Applicant regarding vessel-based radar ("VBR") and fixed platform radar studies. All of Dr. Gosse's involvement with this proceeding and the Applicant's Application was on behalf of USFWS.

Federal regulations prohibit Dr. Gosse from testifying in this proceeding without the permission of USFWS or the Department of the Interior ("Interior"). Even if federal regulations did not prohibit Dr. Gosse from testifying, he should be excluded on the basis that any testimony is unfairly prejudicial to the Applicant. Dr. Gosse was involved in this proceeding and the Applicant's Application as a regulator. The Board's rules specifically require consultation with USFWS and Dr. Gosse was the team lead for USFWS. He was privy to confidential information and internal USFWS discussions with the Applicant, the Ohio Department of Natural Resources ("ODNR"), and the Board. As such, any testimony he provides is unfairly prejudicial to the Applicant.

From 2009-2018, Dr. Gosse was employed by USFWS as a Regional Energy Coordinator for Region 3, which includes Ohio. In his official capacity with USFWS, Dr. Gosse conducted radar studies related to the Great Lakes.[41] Dr. Gosse had direct responsibility for managing USFWS's consultation and analysis of this Project pursuant to NEPA. Dr. Gosse, acting in his official capacity as an employee of USFWS, was also involved in reviewing initial radar studies

[41] Res. Ex. 24, Att. 1; *See* Gosse, et al., 2016 Great Lakes avian radar technical report: Lake Erie Shoreline: Erie County, Ohio and Erie County, Pennsylvania, Spring 2012. USFWS, Region 3; Gosse, et al.; 2018 Draft Great Lakes Radar Technical Report Lake Erie, Fall 2017. Department of Interior, USFWS, Region 3.

conducted by the Applicant.[42] Thus, Dr. Gosse was involved in this Project and this proceeding as a regulator and in his capacity as an employee of USFWS.

Dr. Gosse, on behalf of USFWS and ODNR, has had substantial involvement in the Applicant's Application, especially as it relates to bird and bat issues. For example, on August 17, 2016, the Applicant met with ODNR and USFWS representatives from Minnesota and Columbus to discuss bird and bat issues; on September 1, 2016, USFWS representatives from Columbus and Minnesota participated in a conference call regarding the Project; on October 20, 2016, USFWS/ODNR provided the Applicant with pre-construction and post-construction criteria and recommendations; on February 17, 2017, USFWS outlined its response to options for pre-construction and post-construction monitoring during a telephone conference; on February 28, 2017, USFWS/ODNR provided the Applicant with a response to options for pre-construction and post-construction monitoring; beginning in March 2017, USFWS worked with the Applicant regarding a request for information to three VBR providers; and, in April 2017, the Applicant began working with USFWS to engage Dr. Robb Diehl to assess VBR options. In his capacity as a USFWS regulator and consultant with ODNR, Dr. Gosse was a part of all of these interactions, as well as the Application currently before the Board. Also, in assessing technical radar aspects of Applicant's monitoring protocols, ODNR relied on the USFWS team for which Dr. Gosse served as team lead.[43]

2. Federal law supports the exclusion of Dr. Gosse's testimony.

Federal agencies are authorized by 5 U.S.C. § 301 to create regulations governing the conditions under which their employees may testify concerning their work.[44] These regulations are commonly referred to as *Touhy* regulations. "Touhy regulations have the force of law."[45] Interior's *Touhy* regulations provide:

> (a) This subpart describes how the Department of the Interior (including all its bureaus and offices) responds to requests or subpoenas for:
>
> (1) Testimony by employees in State, territorial or Tribal judicial, legislative or administrative proceedings concerning information

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[42] *See* Gosse Review of Plan. Review of Spring-Fall 2010 Avian and Bat Studies Report Lake Erie Wind Power Study (prepared by TetraTech, A. Svedlow et al.). USFWS Region 3 Radar Team.

[43] Tr. VII at 1622, ll. 7-24.

[44] *U.S. v. Soriano–Jarquin*, 492 F.3d 495, 504 (4th Cir.2007), citing *U.S. ex rel. Touhy v. Ragen*, 340 U.S. 462, 468, 71 S.Ct. 416, 95 L.Ed. 417 (1951).

[45] *Akal Sec., Inc. v. U.S. Immigration & Customs Enf't*, Case No. 09-cv-2277, *2010 WL 2731649*, *5 (S.D. Cal. July 9, 2010), citing *Swett v. Schenk,* 792 F.2d 1447, 1451 (9th Cir.1986).

acquired while performing official duties or because of an employee's official status;

(2) Testimony by employees in Federal court civil proceedings in which the United States is not a party concerning information acquired while performing official duties or because of an employee's official status;

(3) Testimony by employees in any judicial or administrative proceeding in which the United States, while not a party, has a direct and substantial interest;

(4) Official records or certification of such records for use in Federal, State, territorial or Tribal judicial, legislative or administrative proceedings.

(b) In this subpart, "employee" means a current or former Department employee, including a contract or special government employee.

(c) This subpart does not apply to:

(1) Congressional requests or subpoenas for testimony or records;

(2) Federal court civil proceedings in which the United States is a party;

(3) Federal administrative proceedings;

(4) Federal, State and Tribal criminal court proceedings;

(5) Employees who voluntarily testify, while on their own time or in approved leave status, as private citizens as to facts or events that are not related to the official business of the Department. The employee must state for the record that the testimony represents the employee's own views and is not necessarily the official position of the Department. See 5 CFR §§ 2635.702(b), 2635.807 (b).

(6) Testimony by employees as expert witnesses on subjects outside their official duties, except that they must obtain prior approval if required by § 2.90.[46]

These regulations apply to Dr. Gosse, as he falls under the definition of "employee." Interior's *Touhy* regulations also apply because Dr. Gosse's testimony is part of an "administrative

[46] 43 C.F.R. § 2.280.

proceeding in which the United States, while not a party, has a direct and substantial interest."[47] The Applicant is the recipient of a substantial grant from DOE. As such, the U.S. has a direct and substantial interest in this proceeding.

Interior's *Touhy* regulations provide an exception for private citizens who testify to facts or events that are not related to the official business of Interior. But any testimony Dr. Gosse provides in this proceeding is in fact related to the official business of Interior. USFWS issued the "U.S. Fish and Wildlife Service Land-Based Wind Energy Guidelines."[48] "The mission of the U.S. Fish and Wildlife (Service) is working with others to conserve, protect, and enhance fish, wildlife, plants and their habitats for the continuing benefit of the American people."[49] Dr. Gosse is not permitted to testify in this proceeding regarding the interaction between wind energy and wildlife as any such testimony is related to the official business of the Interior.

Not only is this proceeding related to the official business of Interior, but Dr. Gosse was involved in this proceeding in his official capacity as an employee of USFWS. Dr. Gosse reviewed the results of a 2010 radar study completed by Applicant.[50] As verified at the hearing in this matter, Dr. Gosse was also involved in the development of radar protocols for this Project as the lead for USFWS.[51]

While employees of the government are allowed to testify to information that they did not secure as a result of their government employment,"[52] Dr. Gosse obtained information related to bird migration over Lake Erie as a result of his government employment and, as such, is not permitted to testify regarding this information. Dr. Gosse is similarly not permitted to testify on aspects of this Project for which he was involved as an employee of Interior. Any argument that Dr. Gosse's testimony could be considered outside his official duties strains credibility because his official duties included analysis of this Project and the subjects on which he will testify. Even if such an argument was credible, Dr. Gosse is still required to obtain approval from Interior because the U.S. has a "direct and substantial" interest in this proceeding as a result of the $50 million in funding the Applicant received from DOE.

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47 *Id.*

48 https://www.fws.gov/ecological-services/es-library/pdfs/WEG_final.pdf, last visited July 19, 2019.

49 *Id*. at 1.

50 *See* Gosse Review of Plan. Review of Spring-Fall 2010 Avian and Bat Studies Report Lake Erie Wind Power Study (prepared by TetraTech, A. Svedlow et al.). USFWS Region 3 Radar Team.

51 Tr. VII at 1622.

52 *LaBatte v. U.S.*, 899 F.3d 1373, 1380 (Fed. Cir. 2018).

Federal regulations specifically provide "it is [Interior's] general policy not to allow its employees to testify…upon request or subpoena."[53] The regulations further state, "[n]o [Interior] employee may testify or produce records in any proceeding to which this subpart applies unless authorized by [Interior] under §§ 2.80 through 2.90."[54] The regulations set forth a process whereby a request may be made to Interior in writing to allow an employee to testify. Further, Interior's regulations set forth a specific authorization process for an employee wishing to testify as an expert on behalf of anyone other than the U.S. [55] The Residents similarly offered no evidence of such authorization. As such, his testimony should be excluded from this proceeding.

VI. ARGUMENTS IN SUPPORT OF ADOPTION OF THE REVISED STIPULATION AND APPROVAL OF CERTIFICATION

A. The Revised Stipulation and the record in this proceeding support a finding and determination by the Board that all of the criteria in R.C. Section 4906.10 have been met; therefore, the Revised Stipulation should be adopted and a Certificate should be issued to Icebreaker.

The Stipulating Parties have presented a robust and all-inclusive Revised Stipulation that is supported by the record in this proceeding. Of particular importance is Condition 1 in the Revised Stipulation, which requires that the Applicant:

> install the facility, utilize equipment and construction practices, and implement mitigation as described in the application and as modified and/or clarified in supplemental filings, replies to data requests, and recommendations in the Staff Report, as presented and modified by this [Revised] Stipulation.[56]

As detailed herein, this condition in the Revised Stipulation is all inclusive of the commitments and conditions by which Icebreaker must monitor, construct, and operate the facility. Thus, the Revised Stipulation and the record provide strong support for a finding by the Board that all of the requisite criteria set forth in R.C. Section 4906.10 have been met and that Icebreaker should be issued a Certificate.

1. The record in this proceeding supports the finding and determination by the Board that the basis of need criterion in R.C. Section 4906.10(A)(1) does not apply to this Application.

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[53] 43 C.F.R. § 2.281.
[54] *Id*.
[55] *Id*. at § 2.290.
[56] Jt. Ex. 2 at 3.

Pursuant to R.C. 4906.10(A)(1), prior to granting a certificate, the Board must determine the basis of the need for the facility *if the facility is an electric transmission line or gas pipeline*. However, the facility proposed in this matter is an electric generation facility.[57] Therefore, "the basis of need" as specified under R.C. Section 4906.10(A)(1) is not applicable to the facility proposed in this case."[58]

2. The Revised Stipulation and the record in this proceeding enable the Board to determine the nature of the probable environmental impact and, therefore, complies with R.C. Section 4906.10(A)(2).

Initially, the Applicant notes that, while this Project is unique in that it will be located in water, as opposed to on land (which all wind projects in Ohio have been to date) the part of the facility that is above the water is the same as any land-based project. However, with regard to environmental impacts above the water, as demonstrated in detail on the record and explained herein, because the Project is over 8 miles from the shore and there are no resident wildlife at the Project site, this Project has less impact than if it were on land. As verified below, with regard to the unique underwater portion of the Project, the record reflects that ample studies have been completed to date, which confirm that minimal amounts of fisheries, aquatic, or cultural resources have been found in the Project area.

The record in this proceeding provides more than sufficient information and documentation to enable the Board to determine the nature of the probable environmental impact of the facility, including the socioeconomic, ecological, and public interest impacts.

a. *Socioeconomic impacts*

In determining the appropriate site for this offshore facility, numerous factors were taken into consideration, including any impacts the facility might have and the necessity for the facility to operate in a viable manner. The Project was sited far enough off shore to avoid: any concentration of waterbirds, other bird species, and bats; airport flight traffic and commercial shipping lanes; commercial and sport fishing efforts; lakebed factors; areas generally used by recreational boaters; sensitive wildlife habitats; interference with NEXRAD weather radar or military radar; and any reefs, shoals, dumping grounds, the sub-lake salt mine, shipwrecks, water intakes, and sewer outfall.[59] Important siting criteria also included: water depth; distance to

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[57] App. Ex. 1 at 2.
[58] Staff Ex. 1 at 13.
[59] App. Ex. 1 at 25-26, 29-30.

onshore interconnection locations; wind resources; land transportation; harbor navigation; ferry routes; restricted areas; industries and utilities; net energy production; turbine net capacity factor; wake losses effects of icing; geology; the ODNR Wind Turbine Placement Favorability Analysis;[60] the PJM Feasibility Study;[61] and existing SLLs.[62] Based on the Applicant's analysis of these and other factors set forth in the Application, it was determined that the Project should be located 8 to 10 miles offshore, as the location brings fewer limiting factors and less ecological sensitivity.[63]

In addition, the Applicant sited the facility 8 to 10 miles off the shoreline, in part, to minimize the visual impacts onshore. It is undisputed on the record that, given the amount of existing development along the lake shore, views of Lake Erie are fragmentary or non-existent beyond the first road south of the lake shore. Clear skies occur in Cleveland 18% of the time or 66 days per year; the remainder of the year there are either clouds or precipitation. Visibility of the Project 8 to 10 miles off the shore, under cloudy skies and precipitation - especially given the white colored sky and lack of strong shadows - will be substantially reduced.[64] View of the facility will be largely restricted to the water front and open water areas. In residential areas in the cities and villages along the shoreline, impacts will be minimal as visibility of the facility will be fully or substantially screened from inland areas by densely situated homes and vegetation along the shoreline; 94.1% of the land will be screened from view of the Project.[65] It is also important to note that the Project includes measures to mitigate viewshed impacts, including the use of light gray paint and non-reflective finishes on the turbines, and the minimum lighting allowed by the FAA and USCG will be used with downshielding of navigational lights to reduce the visibility of the turbines.[66]

The Icebreaker Project is the first freshwater offshore wind project in Lake Erie, as well as North America. The installed costs compiled by the DOE National Renewable Energy Laboratory ("NREL") indicates that the capital costs for the Icebreaker facility, which include the costs for development, design and planning, equipment, and construction, are in line with the recent industry

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[60] *Id.* at 26; ODNR Office of Coastal Management, 2009 Wind Turbine Placement Favorability Analysis. https://coastal.ohiodnr.gov/Portals/coastal/pdfs/atlas/lake_erie/Factor-Lakebed_Substrates.pdf

[61] App. Ex. 1, Ex. G.

[62] *Id.* at 26, 29-30.

[63] *Id.* at 26-27, Exs. G, H.

[64] *Id.* at 138, Ex. CC.

[65] *Id.* at 142, Ex. CC; App. Ex. 29 at 5.

[66] *Id.*, Exs. AA at 109, CC at 84.

trends.[67] In addition, the O&M costs for the Project, which include labor, vessels, equipment, scheduled and unscheduled maintenance, land-based support, and Project administration, are consistent with the range of costs compiled by NREL.[68]

The Project is expected to produce a positive economic impact on the communities in the local municipalities surrounding the Project area.[69] Construction of the Project is expected to produce $41.2 million in employment earnings and the value of economic output associated with the Project is estimated to be $85.5 million. Each year the facility is operational it is expected to generate approximately $1.6 million in earnings and $6.7 million in total economic output. Between workers' additional household income and industries' increased production, the impacts associated with the facility are likely to be experienced throughout many different sectors of the statewide economy.[70]

Local employment benefits during construction of the facility are expected to support demand for 496 onsite, supply chain, and construction trades, including equipment operators, tug boat crew, barge crew, laborers, and electricians, as well as turbine assemblers, and specialized excavators. In addition, the Project is expected to support a total of 28 positions during each year of its operation. It is also undisputed on the record that the increased wealth from jobs and spending will have a ripple effect on the local economy and create the need for additional jobs in the area, as the wages of the locally-based workers support households and local businesses. The Project is also expected to result in approximately $67,971 in annual lease payments.[71]

In addition, the facility will have a significant positive impact on the local tax base, including for the City of Cleveland and the Cleveland Municipal School District. The Payments in Lieu of Taxes ("PILOT") will be between $6,000 and $9,000 per MW of nameplate capacity per year, resulting in a positive economic benefit. Local tax revenues will increase from between $124,200 and $186,300 annually. Moreover, the proposed facility will make few, if any, demands on local government services.[72]

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67 *Id.* at 42, *2014-2015 Offshore Wind Technologies Market Report* (NREL 2015a)
68 *Id.* at 43.
69 App. Ex. 27 at 5.
70 *Id.* at 46; App. Ex. 27 at 5.
71 *Id.* at 45, Ex. M; App. Ex. 27 at 5.
72 *Id.* at 46, 130, Ex. M.

Further, the record reflects that no significant features of historical or cultural significance were found along the cable route or at the turbine sites.[73] Due to the shallow penetration depths of the turbine foundations and the inter-array and export cable burial depth, the impact of the Project's construction on prehistoric archaeological sites will be negligible. Also, no historic structures, such as shipwrecks, or potentially significant artifacts are present within the survey areas.[74] To ensure minimum adverse impact to historical or cultural sites, Revised Stipulation Condition 11 requires the Applicant, prior to construction, to finalize coordination with DOE in consultation with the Ohio Historical Preservation Office for completion of Section 106 of the National Historic Preservation Act of 1966, as amended. This condition provides that, if the "coordination results in any mitigation efforts in order to ensure minimal effects on cultural resources, those results shall be submitted to Staff for review to ensure compliance with this condition."[75]

b. *Ecological impacts*

The Project will not have any impact on public or private water supplies. In addition, the distance from the export cable and foundations to the intakes for the sources of drinking water is long, and the general Lake Erie flow direction from the facility is away from the intakes. Thus, there is no anticipated contamination to Source Water Protection Areas. Moreover, Icebreaker has obtained the Clean Water Act Section 404 permit and Rivers and Harbors Act Section 10 permit from the USACE and the Section 401 Water Quality Certification from the Ohio EPA. In addition, activities performed at the facility substation will not alter existing grading, draining, or flood risks and there will be no change in existing flood risks at the O&M Center.[76]

The Applicant has an Inadvertant Return Contingency Plan ("Contingency Plan").[77] This frac-out Contingency Plan will be used to avoid, minimize, and remediate potential environmental impacts resulting from an inadvertent return of drilling fluids during HDD operations, which will be used during construction of the transmission cable to cross the Cleveland Harbor.[78] The installation for the export cable will be on a barge using a bury-while-lay technique. Any sediments that are disturbed by the burial process will subsequently settle back into the lakebed,

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[73] *Id.* at 33, 93, 136, Ex. BB.
[74] *Id.* at 135-136, Exs. AA and BB.
[75] Jt. Ex. 2 at 4.
[76] App. Ex. 1 at 78-79.
[77] *Id.* at 17, Ex. Y.
[78] *Id.* at 114-115, Ex. Y.

providing most of the back-fill. The drilling mud used for the installation of the export cable is approved by the National Sanitary Foundation for drinking water applications such as water wells; thus, any discharge will have no effect on drinking water quality from the lake. While there may be a limited number of macroinvertebrates displaced or destroyed during the construction of the buried transmission export cable, any disturbances to the sediment will have little to no impact on the ecological resources of Lake Erie.[79]

The Icebreaker foundation design will be able to withstand Lake Erie ice loadings. Lake Erie has the potential to produce two types of ice loadings on the turbine foundations: surface ice that can grow to be several feet thick that, when driven by wind and current, can cause loads on the foundation; and ice pressure ridges and keels that are formed as the ice moves during winter. The foundations will be equipped with a downward icebreaking cone to reduce the ice loads on the turbines and eliminate ice-induced vibrations. The facility's Design Load Cases performed for ice loads are consistent with the IEC 61400-3 Design requirements for offshore wind turbines.[80]

The record reflects that numerous studies were conducted to analyze and determine the probable impact of the facility on wildlife in the area, including avian, bat, and aquatic life. The Applicant does not anticipate any impact on plant or animal life resulting from construction of the facility substation or the O&M Center. In addition, the MB foundation minimizes environmental impacts, and foundation construction will have no impacts on aquatic vegetation because there is no rooted vegetation in the Project area.[81]

With regard to the location of the wind turbines for the facility, the record reflects that: it is rare and infrequent that any state or federal threatened or endangered species ("T&E"), or species of special concern is present in the area; the lack of nesting/roosting and foraging areas will result in minimal impact on avian, bat, and T&E species; and impacts to aquatic resources will be minor.[82] The need for wildlife related permits is based on risk. In its March 12, 2018 letter to ODNR on the Project ("2018 USFWS Letter"),[83] USFWS concurred in DOE's assessment that the Project is not likely to adversely affect T&E species protected under the Endangered Species Act ("ESA") and the Bald & Golden Eagle Protection Act ("BGEPA"); thus, a permit is not needed.[84]

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[79] *Id.* at 17, 113.
[80] *Id.* at 81-82, Exs. T and U.
[81] *Id.* at 113.
[82] *Id.* at 31, 90; App. Ex. 31 at 4.
[83] App. Ex. 6, Att. 6 (also cited as App. Ex. 31, Att. REG-3 and Res. Ex. 6).
[84] App. Ex. 31 at 20.

The Western EcoSystems Technology, Inc. ("WEST") 2016 Icebreaker Wind: Summary of Risks to Birds and Bats ("2016 Risk Assessment") concluded that this 6-turbine pilot scale Project poses low risk of adverse impacts to birds and bats.[85] The 2016 Risk Assessment reviewed and summarized baseline data, technical literature on bird and bat use within and in the vicinity of the Project area, and relied upon the extensive experience of WEST scientists.[86] Dr. Caleb Gordon testified there was an above average level of scientific data associated with the Project and considered for the 2016 Risk Assessment, as compared with other risk assessments he has performed.[87] The 2016 Risk Assessment determined that, given the location and small scale of the Project, coupled with site-specific and other studies documenting the level of use in the area by birds and bats, the Project risk is low.[88] Wildlife species that are typically found at a terrestrial wind project, i.e., mammals, reptiles, amphibians, nesting birds, and roosting bats, are not found at the Project site. The only groups of species that could be exposed to the turbines are flying birds and bats, and waterbirds that could be present on the surface of the lake (i.e., ducks, geese, and gulls).[89]

Moreover, the collision risk level for nocturnal migrating birds[90] at the Project is low, as: these birds are primarily terrestrial and activity in the Project area will be limited to migratory transit; and these birds tend to favor flying over land. As supported on the record, the Project site is a "cold spot" as far as migratory activity is concerned.[91] Even in the worst-case scenario, which considers a very broad and conservative set of assumptions, the bird and bat fatality levels at the Project would not generate population-level impacts on any species. Dr. Gordon explains that most birds and bats are terrestrial animals; therefore, the occurrence of landbirds and bats will be limited to migratory transit, greatly reducing the exposure to the Project compared to land-based wind projects.[92]

WEST expert Wally Erickson, who has worked on over 100 wind projects, confirmed that the fatality rates used in the 2016 Risk Assessment for predicting impacts at the Project are

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85 App. Ex. 1, Ex. J; App. Ex. 31 at 6.
86 *Id.*, Ex. J.
87 Tr. III at 495, l. 24, and 496, l..2.
88 App. Ex. 31 at 6.
89 App. Ex. 1 at 98, Ex. J.
90 The Applicant notes that, throughout the record in this proceeding, the term nocturnal migrating birds has been phrased in several ways, including: nocturnally migrating songbirds; migrating passerines; and nocturnal migratory birds; and nocturnal migrants.
91 Tr. III at 510, ll. 12-14.
92 App. Ex. 30 at 4-5, 7; App. Ex. 1 at 120, Ex. J (also cited as Res. Ex. 9).

conservative because they include resident passerine species and wintering passerines, which do not occur at the Icebreaker Project.[93] Likewise, Dr. Gordon, who has performed over 100 risk assessments for wind energy projects states that the conclusions made in the 2016 Risk Assessment are made with a high degree of scientific certainty, noting that the low abundance and diversity of birds and bats in the Project area support the conclusion of low risk. As shown in the 2016 Risk Assessment, the "most likely scenario is that the project will result in total fatality rates of 21-42 birds and 21-83 bats per year, and will not adversely affect any species protected by the [ESA]."

While nocturnal migrating passerines will pass over the Project site during spring and fall migration, the 2016 Risk Assessment and other studies show that the numbers of nocturnal migrants will be much lower over the Project site than over land, and much lower over the central basin where the Project is located than over the eastern basin of Lake Erie. The fatality rates of nocturnally migrating passerines are known to be low compared to other sources of bird mortality, on the order of 3 to 4 birds per MW per year in the Great Lakes region.[94] The location of the Project contributes to the conclusion that "…bird fatality rates for this project are vanishingly small."[95] In fact, of the over 100 risk assessments completed by Dr. Gordon, the risks associated with the Project are the lowest.[96]

The 2016 Risk Assessment confirms that nocturnal migrating bird density recorded over the central Lake Erie basin, which is where the Project will be located, was less than half of the density recorded over land during both spring and fall migration. Peer reviewed publications by professional ornithologists also found lower numbers of migrating birds over the Great Lakes compared to land.[97] As stated, the location of the Project is a "cold spot" for migrants compared with other areas of Lake Erie. Thus, substantially fewer birds will be exposed to the offshore turbines, when compared to typical land-based wind projects.[98] In addition, it is notable that, in the 2018 USFWS Letter to ODNR, USFWS acknowledged that the Project is a "relatively small-scale demonstration project consisting of six turbines and as such *has limited direct risk to*

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[93] App. Ex. 33 at 10; Tr. III at 507-508.
[94] App. Ex. 1 at Ex. J.
[95] Tr. III at 503, ll. 14-21.
[96] Tr. III at 493-494 and 503, ll. 14-21.
[97] App. Ex. 1, Ex. J; App. Ex. 30, CEG-7; Diehl, et al., 2003, Radar Observations of Bird Migration Over the Great Lakes ("Diehl Report 2003"). https://www.researchgate.net/publication/279926105_Radar_observations_of_bird_migration_over_the_Great_Lakes
[98] App. Ex. 1 at 98-99, Ex. J.

migratory birds and bats." (Emphasis added).[99] Moreover, post-construction monitoring reports from 42 land-based wind projects in the Great Lakes region further support the conclusion that the Project is low risk."[100]

Studies revealed that bat activity is roughly 10 times greater on land than offshore during the spring and summer/fall study periods.[101] For example, the number of recorded bat calls per detector night for Spring 2010 was 4.95 for onshore and .353 for offshore. For Fall 2010, the number of calls per detector night was 51.1 for onshore and 5.28 for offshore. Accordingly, bat fatality rates at the Project are likely to range from 1-30 bats/MW/year, which is consistent with bat fatality rates at 55 land-based wind energy projects in the Great Lakes region.[102] Due to the lower level of exposure to bats at the turbine sites, especially compared to land-based wind projects, there is no reason to believe the proposed turbines will pose a greater risk than land-based wind projects.[103] In addition, WEST's Final Bat Activity Monitoring Report dated February 15, 2018 ("Bat Acoustic Survey"), which reflected that the bat species recorded, and the timing of bat activity was consistent with the prior studies and no T&E species were recorded. The lack of empirical relationships between pre-construction bat activity and post-construction bat mortality rates also precludes precise predictions of bat mortality rates.[104] The 2016 Risk Assessment assessed risk to bats from the Project based on available data, and provided that bat fatality rates would be within the broad range of mortality recorded at onshore wind-energy facilities, and there was a low potential for collision risk of species protected under the ESA. The results of this study are consistent with the conclusions of the 2016 Risk Assessment.[105] The baseline studies indicated a low level of bat acoustic activity in the Project area, which is consistent with the observation that bats are primarily terrestrial animals. In addition, it is anticipated that bats will use the Project site during migratory transits. However, as stated above, bat fatality rates at the Project are likely to range from 1-30 bats/MW/year.[106]

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[99] App. Ex. 6, Att. 6 (also cited as App. Ex. 31, Att. REG-3 and Res. Ex. 6).
[100] Tr. III at 507-508.
[101] This may be an overestimate of offshore bat activity at the Project site, since the study was conducted 3 miles from shore, rather than 8 to 10 where the Project is located. App. Ex. 1 at 106. Ex. J at 13-14.
[102] *Id.*, Ex. J; App. Ex. 6, Att. 4. App. 4.
[103] *Id.* at 106.
[104] App. Ex. 6, Att. 4, App. A.
[105] *Id.*; App. Ex. 1, Ex. J.
[106] App. Ex. 6, Att. 4, App. A.

There is minimal potential for the Project to result in displacements effects for birds and bats, as there is minimal to negligible utilization of the Project area for anything other than transit. Likewise, the potential for adverse effects on wildlife from behavioral avoidance is negligible. The nacelles will be equipped with flashing red aviation obstruction lighting, which has been shown to not attract migrating birds; thus, minimizing the attraction of nocturnal migrating birds to the Project site.[107]

The 2016 Risk Assessment considered an ODNR study[108] in its review of the effects of the Project on waterfowl and other waterbirds because it provided site-specific data and enabled a direct comparison of bird abundance and diversity between the Project site and the other parts of Lake Erie during the migration and winter seasons, when waterbird and waterfowl abundance is expected to be highest. An extensive aerial survey conducted by ODNR between 2009 and 2011 revealed that there are only 6 species of diurnal waterbirds and waterfowl that utilize the general vicinity of the Project in low abundance on a regular basis.[109] These findings were confirmed by the WEST Aerial Waterfowl and Waterbird Survey Report ("Aerial Waterfowl Report"). Several species of gulls were the only birds shown to utilize the Project site in densities greater than one bird observed per survey. Due to their high degree of aerial maneuverability, gulls have a low level of susceptibility to collisions. In fact, the current practice in avian risk modeling for offshore wind facilities in Europe is to assign very high collision avoidance probabilities to gulls, which means the general level of risk for gulls is low.[110]

Studies, including a multi-year study by ODNR, reflect that waterbird abundance drops rapidly at distances of 2 miles and 5 to 7 miles from the Lake Erie shoreline, and was negligible or minimal at distances between 8 and 10 miles from shore. Due to the minimal to negligible utilization of the Project area by waterbirds, exposure of these species to the proposed turbines is minimal.[111] In addition, the objective of WEST's Aerial Waterfowl Report was to assess waterfowl and waterbird species, numbers, distribution, and avian use within a survey area

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[107] App. Ex. 1 at 118.

[108] App. Ex. 30, Att. CEG-4, Norris, J. and K. Lott. 2011. Investigating Annual Variability in Pelagic Bird Distributions and Abundance in Ohio's Boundaries of Lake Erie. Final report for funding award #NA10NOS4190182 from the National Oceanic and Atmospheric Administration ("NOAA"), U.S. Department of Commerce ("DOC"), through the Ohio Coastal Management Program, ODNR, Office of Coastal Management ("Norris and Lott 2011").

[109] App. Ex. 30 at 7.

[110] App. Ex. 6, Att. 4; App. Ex. 30 at 8; App. Ex. 1 at 98, Ex. J; Norris and Lott 2011.

[111] App. Ex. 1 at 99-101; App. Ex. 30 at 6; App. Ex. 30, Att. CEG-4, Norris and Lott 2011.

surrounding the proposed Icebreaker turbine locations to further analyze the impact of the Project. The species documented were similar, and most bird species were distributed close to shore, with relative abundance declining in areas only a few kilometers offshore. The densities of waterfowl and waterbirds at the Project were also less than other reported estimates from the Great Lakes.[112]

In addition, WEST provided the March 20, 2018 Risk Assessment Summary ("2018 Risk Summary"), which supports the determination that the Project will be low risk. Coupled with the Revised Stipulation, the 2018 Risk Summary supports a finding that the Project will have minimum adverse environmental impact on wildlife resources.[113] The 2018 Risk Summary summarized the studies on bird and bat use within or in the Project area, as well as other information relevant to the assessment of risk, including: the 2017 NEXRAD Analysis, which is a site-specific analysis of NEXRAD radar data completed by WEST dated January 2017 ("NEXRAD Analysis");[114] WEST's 2017 Bird and Bat Monitoring Annual Report dated February 22, 2018 ("2017 Annual Report");[115] and WEST's Draft Bird and Bat Conservation Strategy ("BBCS").[116] In addition, the TetraTech bat acoustic and avian surveys support the conclusions of WEST.[117]

The NEXRAD Analysis concluded that the Project area had consistently lower densities of nocturnal migrating bird passage compared to shoreline or terrestrial sites within the region.[118] The NEXRAD Analysis echoed the results of a 2003 study by Dr. Diehl that included the Project site and confirmed the Project site is a "cold spot" in Lake Erie in terms of bird migration.[119] Dr. Gordon affirmed that NEXRAD is a useful tool for studying nocturnal migrant activity at a given wind project site, if the site is located within an appropriate distance from the NEXRAD station so that the NEXRAD radar beam from that station detects data from within the elevation band where most nocturnal migrants fly, and the radar beam's view is unobstructed. Dr. Gordon

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112 App. Ex. 6, Att. 4; Norris and Lott 2011.
113 App. Ex. 6, Att. 2; App. Ex. 31 at 7.
114 App. Ex. 1, Att. J.
115 App. Ex. 6, Att. 4.
116 App. Ex. 31, Att. REG-2. The Applicant notes that, the draft BBCS attached to Mr. Good's testimony is the Applicant's initial proposed draft of the "avian and bat impact mitigation plan" referred to in the Revised Stipulation Condition 18. Under the terms of the Revised Stipulation Condition 18 the plan will not be termed the BBCS.
117 App. Ex. 1 at 33.
118 App. Ex. 31 at 6; App. Ex. 1, Att. J (also cited as Res. Ex. 8).
119 Tr. III at 518, ll. 7-23; Diehl Report 2003.

confirmed that the location of the weather station in Cleveland where the NEXRAD radar was located for the NEXRAD Analysis was the optimal range for such a study of the Project site.[120]

Past marine radar studies and NEXRAD radar have provided information regarding the patterns of nocturnal bird migration. These studies have confirmed that most of the migrating songbirds fly at high altitudes, above the typical turbine heights.[121] USFWS acknowledges, "[f]or most of their flight, songbirds and other nocturnal migrants are above the reach of wind turbines, but they may pass through the altitudinal range of wind turbines during ascents and descents and may also fly closer to the ground during inclement weather.[122] The studies have also shown that nocturnal migration occurs over a very broad front and that weather and wind conditions influence timing and altitude of migration. Broad-front migration refers to the "spatial and temporal pattern of nocturnal bird migration…[where the migration is] more distributed in a broad, spatially-dispersed cloud, rather than channelized lines."[123] Mr. Erickson states that the large number of fatality studies at existing wind projects, coupled with what is known about nocturnal migration, as well as an understanding of the negligible impacts of wind energy on bird populations has lessened the overall concerns regarding nocturnal migrant mortality at wind energy projects.[124]

Further support for the determination of impacts from the Project can be found in the 2017 Annual Report, which presents: the results of the bat acoustic monitoring conducted in 2017; the aerial waterfowl survey results through 2017; the ongoing research into collision monitoring technologies in preparation for the selection of the best and most practical technology available at the time the selection must be made; and the results of the evaluation of VBR.[125]

In addition, eagles and raptors tend to be concentrated along the immediate shoreline, well removed from the Project area; thus, they are not anticipated to be found near the Project, and exposure to the turbines is anticipated to be low.[126] The Project is located in the widest portion of the central Basin of Lake Erie, and is one of the least likely places for migrating raptors to pass through, according to Dr. Gordon.[127] Given the location, raptors are not likely to encounter the Project site. The Project is located in open water with the closest shoreline 8 miles away. Raptors

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[120] App. Ex. 30 at 8-9, Att. CEG-6.
[121] App. Ex. 32 at 12, Att. WE-2.
[122] App. Ex. 36, USFWS Land-Based Wind Energy Guidelines at 30; (Able, 1970; Richardson, 2000).
[123] Tr. III at 504-505.
[124] App. Ex. 32 at 12, Att. WE-2.
[125] App. Ex. 31 at 7; App. Ex. 6, Att. 4.
[126] App. Ex. 1 at 99-101; App. Ex. 30 at 6; App. Ex. 30, Att. CEG-4, Norris and Lott 2011.
[127] App. Ex. 30 at 6.

have not been observed at the Project site and it is well-known that raptors migrate at pinch points to minimize time spent flying over open water. As such, raptors are not likely to encounter the Project and the collision risk for raptors is low. [128]

Experts agree that additional pre-construction radar collection would not change the conclusion of low risk for the Project on birds and bats, as past surveys in the U.S. have not shown a positive link between the number of targets recorded with pre-construction, site-specific radar, and post-construction mortality rates.[129] USFWS stated, "[w]hile an active area of research, the use of radar for determining passage rates, flight heights, and flight directions of nocturnal migrating animals has yet to be shown as a good indicator of collision risk."[130] The primary objective of radar monitoring for the Project as set forth in the Avian and Bat Memorandum of Understanding ("Avian and Bat MOU") is to characterize nocturnal migration pre- and post-construction and assess if nocturnal migrants avoid or are attracted to wind turbines.[131] Thus, as reflected and supported in the Revised Stipulation, collection of pre-construction radar will establish a baseline of bird and bat migration rates that will be used to help determine whether birds and bats are attracted to or displaced from the Project and inform the potential for collision.[132]

The 2016 Aquatic Ecological Resource Characterization and Impact Assessment ("Aquatic Assessment"),[133] as further confirmed by the results of the preconstruction aquatic sampling, reflects that the Project presents minimal risk to the aquatic ecosystem.[134] The Aquatic Assessment reflects that the area selected for the turbines is in a Dead Zone where there is minimal fish activity due to hypoxic conditions that are reached in the late summer. In addition, the area is well away from any fish spawning reefs or key habitat. Thus, there will be low exposure of fish and macroinvertebrates from the turbine sites and the impacts to aquatic resources will be minor and limited to the localized destruction or displacement of macroinvertebrates and temporary, localized displacement of fish only during construction.[135] Icebreaker has already met its 2 full years of pre-

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[128] App. Ex. 1 at 98, Ex. J.
[129] App. Ex. 31 at 8.
[130] App. Ex. 36, USFWS Land-Based Wind Energy Guidelines at 30.
[131] App. Ex. 3, Avian and Bat MOU, Ex. A; App. Ex. 32 at 5.
[132] Jt. Ex. 2 at 8, Condition 21.
[133] App. Ex. 1 at Ex. O (Ex. O was superseded and replaced by App. Ex. 3, Aquatic MOU, Ex. A); App. Ex. 2 at Att. 3.
[134] App. Ex. 1 at 120, Ex. O (Ex. O was superseded and replaced by App. Ex. 3, Aquatic MOU, Ex. A); App. Ex. 2 at Att. 3; App. Ex. 6, Att. 3.
[135] App. Ex. 1 at 33, 101, 122, Ex. O (Ex. O was superseded and replaced by App. Ex. 3, Aquatic MOU, Ex. A); App. Ex. 2 at Att. 3.

construction monitoring under the Fisheries and Aquatic Resources Memorandum of Understanding ("Aquatic MOU").[136] The studies to date have shown that the Project area is not a unique habitat area.[137]

In addition, the Applicant, in coordination with ODNR, conducted site-specific assessments of underwater ambient sound levels. Based on the preconstruction surveys, the facility is not expected to result in significant impact to the fish community. The turbines are located several miles from all identified fish spawning areas, and other organisms, including zooplankton, phytoplankton, and benthic microinvertebrates are not sensitive to noise levels. Therefore, any noise generated from operation of the turbines is not expected to have an impact to noise sensitive areas. However, the Applicant has committed to working with ODNR and time activities to avoid sensitive fish spawning periods, and will monitor underwater noise levels both during and post construction to validate site specific estimates of anticipated noise levels.[138]

The Project is utilizing a circular MB foundation that minimizes potential impacts to currents and sediment scour in the lake. The circular shape of the foundation and tower minimizes eddy formation and allows the currents to easily travel past the turbine with minimal disruption and disturbance.[139]

Impacts from electromagnetic fields ("EMF") are not anticipated for this facility. The estimated EMF intensity at the lakebed floor is very low, less than 1/10th of the intensity of the background magnetic field (the earth's magnetic field), because the cable will be buried at depths in excess of 1 meter. The record reflects that EMF produced by energized cables diminishes to less than background levels about 1 meter away from the cable. Because cable burial prevents EMF emissions from being present at the lakebed floor, it is not anticipated that there will be any impacts to aquatic communities due to EMF.[140]

c. *Public services, facilities, and safety*

The Project area is located 8 to 10 miles offshore. Therefore, the turbine locations comply with the setbacks from residences, property lines, public rights-of-way, electric transmission lines,

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136 App. Ex. 3, Aquatic MOU, Ex. A; App. Ex. 34 at 6-7.
137 App. Ex. 34 at 6-7.
138 App. Ex. 1 at 74-76, Ex. O (Ex. O was superseded and replaced by App. Ex. 3, Aquatic MOU, Ex. A).
139 App. Ex. 1 at 110, Ex. O (Ex. O was superseded and replaced by App. Ex. 3, Aquatic MOU, Ex. A); App. Ex. 2 at Att. 3.
140 App. Ex. 1 at 121, Ex. Z; App. Ex. 2 at Att. 3.

gas pipelines, gas distribution lines, hazardous liquids pipelines, and public roads.[141] In addition, the facility will have no shadow flicker impacts on residential or other sensitive structures, as they will be located well off the shore of Lake Erie.[142]

Any impacts to roads and bridges will be extremely low for the Project, as any materials carried on trailers will be well within the allowable wheel loading requirements set by the Ohio Department of Transportation ("ODOT"). It is anticipated that the majority of the large components, including turbine and foundation components, will arrive via ship; although some may arrive by rail, depending on the point of manufacture. Regardless of the amount of road and bridge traffic, however, the Applicant has committed to repair any damage to roads and bridges caused by the construction or decommissioning activity, and will enter into road use agreements with the county and the affected municipalities.[143] Conditions 27 and 28 of the Revised Stipulation require the Applicant, prior to commencement of construction: to obtain any required transportation permits from the appropriate authority, including from the county, ODOT, local law enforcement, and health and safety officials; and enter into a road use agreement with the appropriate authorities. Coordination efforts must be detailed in the Applicant's final transportation management plan that will be reviewed by Staff to ensure compliance.[144] These two conditions ensure any adverse impact to the transportation infrastructure due to the Project construction or decommissioning will be kept to a minimum and closely monitored.

International standards for wind turbines are developed by the IEC. The turbine proposed for the facility is designed to meet the standards for the IEC- 61400 series, and is certified for Class IIA winds. The turbines are certified by the totality of the following detailed conditions: turbulence intensity; average annual wind speed; average inclined flow; wind speed distribution; wind profile; turbulence model; hub height; extreme wind speeds; extreme gust speeds; extreme directional change; and extreme wind shear.[145] The Applicant performed a wind classification analysis, including an extreme wind analysis. Based on the results, it was determined that the wind regime was suitable for the Class IIA turbine, Vestas V126-3.45 chosen for this Project.[146]

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[141] App. Ex. 1 at 127-128.
[142] *Id.* at 87.
[143] *Id.* 1 at 48.
[144] Jt. Ex. 2 at 9-10.
[145] App. Ex. 1 at 84, Ex. C.
[146] *Id.* at 84.

Due to the location of the turbines 8 to 10 miles offshore in Lake Erie, any impact to the public from blade shear would be confined to people boating on the lake. The Applicant will post signs on the turbine platforms or on the turbines, warning the public of the risk of blade shear in the vicinity of the turbines.[147]

Although the risk of blade throw is minimal, the Applicant will have the following site-specific procedures in place in the event of an incident: emergency shutdown procedures; post-event site security measures; immediate notification of state and federal officials; and implementation of manufacturer specific safety precautions. In addition, the Applicant will conduct annual training for operating staff and local first responders on the procedures in the event of a blade throw incident.[148]

The engineering standards of the wind turbines proposed for this Project are of the highest level and meet all applicable federal, state, and local standards. State of the art braking systems, pitch controls, sensors, and speed controls on wind turbines greatly reduce the risk of blade throw. The turbine for this Project will be equipped with fully independent braking systems that allows the rotor to be brought to a halt under unforeseeable conditions. The turbines will automatically shut down at wind speeds over the manufacturer's threshold. Even in the unlikely event the braking system fails, people will not be in the vicinity of the turbines during high winds, as wave and boating conditions would be unsafe.[149]

The turbines proposed for this Project will utilize appropriate ice detection equipment that will monitor the temperature and conditions on the detection unit and, if ice starts to form on the unit, the turbine will shut down. Vibration monitors will also shut the turbine down when vibrations exceed a pre-set level. Given the Project's location on the lake, there is minimal risk of ice throw because the number of boats on the water when conditions are favorable for ice formation would be minimal.[150]

Construction of the foundations and turbines will primarily take place at the turbine site, 8 to 10 miles offshore. Consequently, there are no anticipated noise impacts to the nearest onshore property for either construction or operation of the facility. Construction of the inter-array and export cable will be installed underwater and will not produce noise that will impact onshore

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[147] *Id.* at 85.
[148] *Id.* at 86.
[149] *Id.* at 85.
[150] *Id.* at 87.

properties. Construction of the substation will occur on the CPP property, which is adjacent to and within a heavily urbanized and industrial area that is regularly exposed to elevated ambient sound. The substation will be located in close proximity to U.S. I-90. The nearest sensitive receptor to the facility substation is Kirtland Park and I-90 lies between the facility substation and Kirtland Park. Thus, it is not anticipated that the facility substation will result in any adverse sound impacts during operation.[151] The MB foundation installation method eliminates the need for pile driving and dredging; thus, eliminating noise and soil disturbance. [152]

The Applicant will employ Occupational Health and Safety Administration measures to ensure worker safety during construction and operation. Construction contractors will follow safety procedures and best practices for offshore wind construction, as specified in Fred.Olsen Ocean's Construction Phase Health, Safety, and Environmental Plan.[153]

Exposure risk to the public is anticipated to be minimal, as there will be buoys marking a site exclusion zone during construction, and guard vessels. Vessels involved in the construction phase will be properly marked, lighted, and outfitted with sound signals in accordance with navigational rules. Notice to mariners and/or radio navigational warnings, as well as notices on Icebreaker's website, will be broadcast prior to construction.[154]

Turbines will be fitted with safety lighting to satisfy FAA and USCG standards. In coordination with the USCG, a Navigational Risk Assessment ("NRA") was conducted to assure all navigational hazards are appropriately addressed. The NRA analyzed the vessel routes and traffic during the construction phase of the Project and concluded that construction will not adversely affect navigational safety in the Project area. The NRA reports that the establishment of safety zones and/or exclusion areas around the turbine sites and cable route during construction will mitigate any risks associated with the area. Vessel traffic increase in the area as a result of construction of the Project was deemed negligible in the NRA. The NRA also found that, during operation of the facility, due to the small number of turbines, the linear array, large amount of spaces between the turbines, and the 65-foot rotor clearance above the water surface, risk of collisions due to the turbine structures could be easily avoided.[155]

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[151] *Id.* at 69-73.
[152] *Id.* at 8.
[153] *Id.* at 66, Ex. P.
[154] *Id.* at 66.
[155] *Id.* at 67, Ex. R.

Due to the location of the turbines, exposure of the general public to fire-related risk/hazard is expected to essentially be nonexistent. The Applicant is consulting with local first responders for the purpose of responding to emergency incidents. The Applicant will conduct annual training and instruct operating staff, as well as local first responders on the procedures to be implemented in the event of an incident. In addition, the Applicant will equip fire and emergency responders with proper equipment to enable them to respond to emergency situations.[156]

The turbine and electrical equipment will be installed and tested according to the National Fire Protection Association standards. There will also be a built-in fire suppressions system. Any occurrences at a turbine would be sensed by the System Control and Data Acquisition system and reported to the facility control center. Under these conditions, the turbines would automatically shut down.[157]

The Applicant has committed to implement measures to restrict public access. Notice will be given to the NOAA and the USCG regarding navigation topics such as construction dates, design information, and as-built drawings so that navigation charts can be updated. In addition, during construction, a 1,640-foot safety avoidance zone will be requested around the installation vessels and a 328-foot safety zone around each turbine and substation. Security will be maintained by a 24-hour presence of the site safety craft. In addition, the substation site will be corded off and manned by a dedicated security company.[158]

The turbine manufacturer's safety manual addresses safety measures specific to operations and maintenance employees, such as first aid, protection against falls, and personal protective equipment. Condition 26 of the Revised Stipulation requires that the Applicant comply with the turbine manufacturer's most current safety manual; thus, confirming that all necessary and appropriate measures will be taken to minimize any adverse impact in the event of a safety concern.[159] In addition, the Applicant will maintain, throughout the term of the SLL, at its sole cost, a policy of Comprehensive General Liability insurance against claims for bodily injury, personal injury, wrongful death, and property damage arising from operation of the facility.[160]

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[156] *Id.* at 67, 69.
[157] *Id.* at 67.
[158] *Id.* at 68- 69.
[159] *Id.* at 68, Ex. S; App. Ex. 2, Att. 8.
[160] *Id.* at 47, Ex. A.

Due to the distance between the facility's turbines and any transmitter/receiver site, the facility is not anticipated to affect television and radio reception. In addition, facility-related impacts on VHF communications, which is the most frequently used radio for commercial and recreational boating vessels, is not anticipated.[161] There are no microwave path's in the vicinity of the Project; thus, degradation of microwave telecommunications is not anticipated.[162] However, to ensure any potential impacts that may occur in the future are minimized, Condition 29 of the Revised Stipulation requires the Applicant to mitigate any observed impacts of the Project to communications systems, including maritime VHF radio.[163]

The U.S. Department of Defense ("DOD") has in place a procedure for a developer of renewable energy to request that DOD conduct a review of compatibility with military air defense radar systems. The DOD Siting Clearinghouse Review was triggered by Icebreaker's filing of its FAA Notice of Alteration or Obstruction forms 7460-1. The DOD's preliminary review indicated that the proposal did not return any likely impact to military airspace. The National Telecommunications and Information Administration ("NTIA") of DOC was also notified. NTIA provided the plans for the facility to the Interdepartment Radio Advisory Committee ("IRAC"), which includes DOD, Department of Education, Department of Justice, and the FAA. If the facility has the potential to interfere with military radar systems, this conflict will be identified during the IRAC review. The response from the NTIA found that, in order to ensure that the detection of lake effect snow was not degraded, a mitigation strategy where the Applicant would share near-real time wind meteorological tower data would be implemented. The Applicant is committed to working with DOC toward this mitigation.[164]

The Applicant has committed to maintaining a decommissioning plan and to posting and maintaining financial assurance. The SLL requires the Applicant to deposit to the state of Ohio a removal deposit prior to initiating construction. Under the SLL, a removal deposit is required for each turbine and each removal deposit must be in an amount sufficient to cover the surface and subsurface restoration costs and the estimated removal costs of the respective types of improvements. The SLL provides that the state may, at any time, review each of the removal deposits to ascertain their adequacy and may require any adjustments to the amount of the removal

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[161] *Id.* at 88.
[162] *Id.* at 90, Ex. W.
[163] Jt. Ex. 2 at 10.
[164] App. Ex. 1 at 89, Ex. V.

deposits.[165] Condition 30 of the Revised Stipulation sets forth requirements the Applicant must adhere to with regard to the decommissioning of the Project to ensure that decommissioning of the facility will be accomplished appropriately and have the minimum adverse impact. In part, the decommissioning requirements set forth in Condition 30 require the Applicant to:

1. Provide the final decommissioning plan to Staff at least 30 days before the preconstruction conference, which shall include the lands intended future use; the engineering and equipment to be used; and a timetable including steps to be taken to comply with applicable air, water, solid waste, and health and safety laws and regulations.

2. File a revised decommissioning plan every 5 years that reflects advancements in engineering techniques.

3. At the Applicant's expense, complete decommissioning within 12 months after the end of the useful life of the facility or individual turbines. If no electricity is generated for a continuous period of 12 months, or if the Board deems the facility or a turbine to be in a state of disrepair, it will be presumed to have reached the end of its useful life. The Board may also require decommissioning of individual wind turbines due to health, safety, wildlife impact, or other concerns.

4. An independent, registered professional engineer, licensed to practice engineering in Ohio, must be retained by the Applicant to estimate the total cost of decommissioning. This estimate is to be conducted every 5 years.

5. Post and maintain for decommissioning a performance bond in an amount equal to the per-turbine decommissioning costs multiplied by the sum of the number of turbines constructed. The Applicant shall maintain such funds throughout the remainder of the term and shall adjust the amount of the assurance, if necessary, to offset any increase or decrease in the decommissioning costs.[166]

As reflected in the totality of Condition 30 in the Revised Stipulation, the entire decommissioning process - from confirmation that the decommissioning plan meets the standards of the condition, to the cost estimate and acquisition of the performance bond, all the way through the act of decommissioning and reclamation - is monitored and enforced by the Board and its Staff. Condition 30 is consistent with the Board's current rules regarding decommissioning[167] and ensures that the decommissioning process will cause minimum impact.

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[165] *Id.* at 50, Ex. A.
[166] Jt. Ex. 2 at 10-12.
[167] O.A.C. Rule 4906-4-09(I).

Condition 9 of the Revised Stipulation requires the Applicant to obtain and comply with the permits and authorizations required by federal and state laws and regulations.[168] The Applicant has committed to obtain the requisite permits and authorizations[169] and, to date, it has obtained the following approvals and/or permits:

1. NEPA: FONSI, by DOE, USACE, USCG.[170]
2. Clean Water Act Section 404/Rivers and Harbors Act Section 10 Permit, USACE.
3. Section 401 Water Quality Certification, by Ohio EPA.
4. Section 14 of the Rivers and Harbors Act os 1899, 33 U.S.C. 408 (Section 408), by USACE.
5. Section 307 Coastal Zone Management Act Consistency Determination, by ODNR.
6. Determination of No Hazard to Air Navigation, by FAA.

The record supports a finding by the Board that the Revised Stipulation complies with R.C. Section 4906.10(A)(2) and warrants a determination that the probable environment impacts of the facility have been ascertained.

3. The Revised Stipulation and record in this proceeding support the finding and determination by the Board that the facility represents the minimum adverse environmental impact, considering the state of available technology and the nature and economics of various alternatives in compliance with R.C. Section 4906.10(A)(3).

As discussed herein, the Applicant has committed to a number of measures through its Application and the Revised Stipulation in order to ensure the Project has the minimum adverse environmental impact. The commitments noted above include, but are not limited to: extensive wildlife monitoring and mitigation measures (further described in detail below); transportation management; communications and radio paths; cultural and historical preservation; safety measures; decommissioning; and the requisite permitting.

The Application and the Revised Stipulation, among other important measures, provide for the following safeguards for wildlife:[171]

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[168] Jt. Ex. 2 at 4.
[169] App. Ex. 1 at 55.
[170] https://www.energy.gov/nepa/ea-2045-lake-erie-energy-development-corporations-project-icebreaker-offshore-wind-advanced
[171] Jt. Ex. 2 at 5-9.

1. The Avian and Bat Impact Mitigation Plan ("Avian and Bat IMP") must include a Collision Monitoring Plan and adaptive management strategies, and remains in place through the life of the Project (Condition 18).

2. The collision detection technology must be installed and fully functioning at the time the turbines commence operation and shall continue to function in accordance with the Collision Monitoring Plan (Condition 18).

3. The Applicant must comply with all terms of the Avian and Bat MOU and the Aquatic MOU, as well as the Avian and Bat Monitoring Plan and the Aquatic Monitoring Plan, which are attached to the MOUs, and any other protocols or documents resulting from the MOUs, and shall file the annual and final reports in the docket (Conditions 15 and 24).

4. Prior to commencement of construction, the required avian and bat, and fisheries and aquatic plans prepared under the Revised Stipulation, including the Collision Monitoring Plan, must be reviewed and accepted through written communications from ODNR prior to construction (Conditions 15, 17, 18, 19, 20, 23).

5. Prior to commencement of construction, the pre-construction radar study and the bat activity study must be completed (Condition 21).

6. If construction is delayed beyond 5 years, certain wildlife surveys may need to be updated (Condition 25).

The Revised Stipulation provides a well-balanced approach to ensuring that the facility represents the minimal adverse impact to the environment, while also taking into consideration the need for certainty with regard to the construction and operation of the Project, the need to finance the Project, and a reasonable and effective approach to maintaining the safeguards. Therefore, as set forth in the Application and affirmed by the Stipulating Parties through the Revised Stipulation, the record supports a finding of compliance with R.C. Section 4906.10(A)(3).

a. Avian and Bat

Initially, it should be emphasized that it is not typical in a proceeding before the Board to have an MOU for monitoring birds and bats submitted with an application. In fact, past wind energy projects certificated by the Board have not been required to submit a post-construction monitoring protocol or BBCS until *after receipt of the certificate* but *before the facility commences operation*.[172] However, Icebreaker, wishing to proactively begin coordination with ODNR and USFWS on adaptive management and mitigation measures, and develop a post-construction plan

[172] *See In re Application of Paulding Wind Farm IV, LLC*, Case No. 18-91-EL-BGN, Order (Feb. 21, 2019).

to confirm no significant impacts to birds and bats, provided a draft BBCS to ODNR and Staff prior to commencement of the hearings in this matter.[173] Notably, the Stipulating Parties have agreed that, *at least 120 days before commencement of construction*, the Applicant will submit an Avian and Bat IMP to ODNR and Staff.[174]

The Avian and Bat MOU agreed to by the Applicant and ODNR addresses pre-, during-, and post-construction monitoring studies and analyses of the Project's impact on birds and bats. Attached to the Avian and Bat MOU is the Avian and Bat Monitoring Plan, the purpose of which is to "assess, in a scientifically rigorous manner, any impacts that Project construction and operation may have on avian and bat resources…."[175] The Revised Stipulation provides that the Avian and Bat Monitoring Plan is a living document that is meant to be adaptable to ensure the Project takes advantage of advancing technologies for detecting collisions, and to ensure the protocol can be modified if needed. Any modifications must be approved in writing by ODNR and filed in the docket.[176]

The Revised Stipulation provides numerous protections for avian and bat species that ensure minimum adverse impact. In addition to the requirement in Condition 15 that the Avian and Bat MOU and Monitoring Plan be finalized prior to construction of the Project, in accordance with Condition 18, the Applicant must submit an Avian and Bat IMP to ODNR. It is then ODNR's responsibility to ensure that the implementation of the Avian and Bat IMP will be effective in avoiding significant impacts to avian and bat species and, if so, to confirm compliance with Condition 18. Additionally, the Avian and Bat IMP will incorporate the most current survey results, the post-construction Avian and Bat Monitoring Plan, and will include a Collision Monitoring Plan. The Collision Monitoring Plan will include a description of the collision monitoring technology selected by the Applicant, in consultation with ODNR and Staff, as well as the results of lab and field testing of the collision detection technology that will demonstrate the technology's effectiveness and accuracy. Pursuant to Condition 18, the collision monitoring technology will be installed and fully functioning when the turbines commence operation.[177]

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[173] App. Ex. 31 at 19.

[174] Jt. Ex. 2 at 6, Condition 18. The Applicant notes that the Stipulating Parties have agreed that, rather than a BBCS, the plan will be titled the Avian and Bat IMP.

[175] App. Ex. 3, Avian and Bat MOU, Ex. A; App. Ex. 6 at 3; App. Ex. 31 at 10. Note, the Aerial and Waterfowl Surveys section on pages 9 and 10 of Ex. A, the Avian and Bat Monitoring Plan, was replaced and superseded by App. Ex. 5, the Aerial and Waterfowl & Waterbird Study Plan dated August 8, 2017.

[176] App. Ex. 31 at 18; Jt. Ex. 2 at 5, Condition 15.

[177] Jt. Ex. 2 at 6.

Importantly, pursuant to the Avian and Bat MOU and the Avian and Bat Monitoring Plan, the Applicant has committed to include specific language regarding: the process for responding to significant mortality events within the Avian and Bat IMP; and the ability for Staff to require feathering, either partially or completely if, once operational, the collision monitoring technology is not working as set forth in the Collision Monitoring Plan.[178] Thus, the additional commitment of adhering to the Avian and Bat MOU and associated plans, and the additional protections provided through the Revised Stipulation requirements, will ensure the Project complies with the minimum adverse environmental impact under the statute.[179]

While the Applicant has committed to undertaking extensive monitoring and employing technology that will detect the actual impacts on avian and bat species, as detailed previously, the record reflects that the Project poses low risk to birds and bats, as it is only a 6-turbine Project and the turbines are located in an area where existing studies indicate relatively low use by wildlife in general.[180] In fact, the location of the Project was originally closer to the shoreline of Lake Erie, but it was moved to its current location based upon ODNR's Wind Turbine Placement Favorability Analysis that assigns a lower risk category to the current Project site.[181]

As noted previously, in addition to the 2016 Risk Assessment analysis, the Applicant has already completed extensive pre-construction monitoring with regard to waterbird and waterfowl surveys and bat acoustic surveys.[182] Moreover, as documented in the Revised Stipulation and the Avian and Bat Monitoring Plan, the Applicant is committed to rigorous additional pre-construction bird and bat monitoring that will include bat acoustic surveys and radar surveys.[183] Such monitoring results will provide relevant information that will inform the monitoring that will take place post construction.

The Revised Stipulation also appropriately acknowledges the unique nature of the Icebreaker Project and its location 8 to 10 miles off the shore in Lake Erie. Given this uniqueness, as reflected in Conditions 21 and 22, the Stipulating Parties have agreed to implement a robust

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[178] App. Ex. 57.

[179] App. Ex. 31 at 9-10; Jt. Ex. 2 at 5-9; Conditions 15, 18, 21, and 23.

[180] As explained previously, the future studies required by the Revised Stipulation are important and valuable for establishing baseline data for analysis, etc. However, those studies are not required to determine risk, which was thoroughly studied and reported on the record in this proceeding.

[181] Tr. I at 171, ll. 14-22; App. Ex. 1, Ex. H, ODNR Office of Coastal Management, 2009 Wind Turbine Placement Favorability Analysis..

[182] App. Ex. 6, Att. 4.

[183] Jt. Ex. 2 at 6-8.

radar monitoring program that requires radar surveys for one spring, one summer, and one fall bird and bat migratory season prior to construction.[184]

In addition to other important requirements, the radar monitoring program must be able to produce viable data 75% or greater of the hours of the survey time – with the 75% calculation including all potential scenarios, including force majeure events (i.e., heavy precipitation and high seas). The Applicant is required to submit monitoring reports to ODNR and Staff to demonstrate how the 75% criteria is met and, if the condition is met, ODNR will confirm compliance with the condition in writing. Prior to construction, Icebreaker must demonstrate that the requirements of the radar monitoring program can be met - ODNR and Staff will review the information and, only if the agencies agree that the requirements were indeed met, can construction on the Project commence.[185]

The record in this case also supports the use of either a vessel (VBR) or a stable platform for the pre-construction monitoring protocol. A report provided by Dr. Robb Diehl dated December 2017 ("Diehl Report") analyzed the viability of pre-construction radar from a vessel.[186] The radar system intended for use in this Project and recommended in the Diehl Report, the Accipiter® NM1-24D Avian Radar system, is a fully-automated system that would collect, store, and transmit data to an off-site location.[187] The radar deployed will track directional movement and altitude of individual 10-gram[188] and larger vertebrates. This radar system may be used either on a vessel or a stable platform. Having used radar to study nocturnal migration for over 20 years, Mr. Todd Mabee confirmed that Accipiter is an excellent choice for this radar study, as their radar allows tracking of migrants in 3D and has a narrow beam that helps minimize issues such as sea clutter. The record reflects that, if VBR is used and high seas require the vessel to go to port temporarily, data can be collected from the NEXRAD station in Cleveland, which collects regional weather radar data, including within the Project area. [189]

Mr. Erickson confirmed that the 75% criteria for usable data and the extended sampling period found in Condition 21 of the Revised Stipulation "will result in a large and more than

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[184] App. Ex. 31 at 16; Jt. Ex. 2 at 7-8.
[185] Jt. Ex. 2 at 7-8.
[186] App. Ex. 6, Att. 5.
[187] App. Ex. 32 at 6, 8.
[188] Res. Ex. 14, USFWS Dec. 21, 2017 letter to Dr. Robert Diehl at 2 (Recommending the ability to detect and track 10-gram sized and larger vertebrates.)
[189] App. Ex. 32 at 6, 8.

sufficient dataset for which to characterize migration and target passage rates."[190] The additional use of NEXRAD data, as provided in Condition 21 of the Revised Stipulation, "to evaluate the migration intensity on nights of force majeure events will provide a reasonable assessment of whether the missing radar data is an unusual night that could bias the overall results." This is consistent with the recommendations of Dr. Diehl.[191] Regardless, migration rates on nights of heavy precipitation are generally low so it is not anticipated that major migration events will coincide with time periods when radar is not producing viable data.[192] The NEXRAD data will be used to qualify the intensity of migratory activity during these periods.

Once the facility is operational, the Revised Stipulation further has a catch-all provision to ensure the Project results in the minimum environmental impact through Condition 23, which requires the Applicant to immediately report a significant mortality event to ODNR. A significant mortality event is defined as "21 or more detected collisions at the facility within a 24-hour period based on a facility-wide detection probability of 59%."[193] Mr. Erickson affirmed that the threshold of 21 or more detected collisions at the facility within a 24-hour period, based on a facility-wide detection probability of 59%, "is very low and conservative number for defining a significant mortality event when considering mortality events at tall structures or mortality sources and the fact that it includes both birds and bats."[194]

Condition 23 further provides that, if a significant mortality event occurs, Icebreaker is required to modify its operation activities that could adversely affect the identified animals to minimize impact as described in the Avian and Bat IMP within 24 hours and follow the process for significant mortality events in the Avian and Bat IMP. In order to further minimize any potential impact, if a significant mortality event reoccurs, ODNR may require Icebreaker to submit a revised adaptive management strategy for the Avian and Bat IMP.[195]

In addition, in recognition of this Project as "the first of its kind in Lake Erie," the Applicant and ODNR have agreed to a provision in the Collision Monitoring Plan that would minimize any impact if, once operation commences, the collision monitoring technology is not working as set forth in the plan. The provision provides that "ODNR and Staff may require turbines be feathered,

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[190] App. Ex. 59 at 2.
[191] App. Ex. 37 at. 9.
[192] App. Ex. 59 at 2; Tr. IV at 894-896.
[193] Jt. Ex. 2 at 9.
[194] App. Ex. 59 at 3.
[195] Jt. Ex. 2 at 9.

either partially or completely, until the technology has been demonstrated to work as set forth in the collision monitoring plan."[196]

The Applicant is committed to verifying the effectiveness of the chosen collision monitoring technology prior to commencement of construction in accordance with Condition 18 of the Revised Stipulation.[197] The Applicant has reviewed several collision detection technologies, including: the MUSE system developed by DHI; ECN's WTBird system; Pacific Northwest National Laboratory's ThermalTracker and Virtual Bird/Bat Net; and EMPEKO's B-finder system. The record reflects that advances in the use of camera technology has shown that it has advanced to the point where high definition cameras and advanced machine learning can be used to reliably detect and identify bird and bat flights and collisions. In addition, high definition cameras have been successfully used to study the behavioral responses of birds and bats to wind turbines and to document collisions.[198]

WEST and Icebreaker were recently awarded a competitive grant from DOE to improve the WTBird system. While the system has been successfully deployed at offshore wind projects to detect large birds, the grant will be utilized to modify and validate the system for detection of small bird and bat collisions. The WTBird camera system would also be improved and validated for detection of small bird and bat collisions, and would be paired with acoustic detectors to obtain additional information on species occurrence.[199]

The Applicant will select the best and most appropriate collision detection technology closer to the start of construction so that the Project will be able to take advantage of any developmental and technical improvements that may occur between now and the start of construction. Once the collision monitoring technology is selected, in accordance with the Revised Stipulation, the Applicant must demonstrate to ODNR through lab and field tests that it is effective in detecting collisions prior to the commencement of construction.[200]

As stated previously, USFWS concurred in DOE's assessment that the Project is not likely to adversely affect T&E species protected under the ESA and the BGEPA; thus, a permit is not warranted. Regardless, Revised Stipulation Condition 20 provides that, if post-construction

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[196] App. Ex. 57.
[197] Jt. Ex. 2 at 6.
[198] App. Ex. 31 at 16-17; (Horn et al. 2008, Cryan et al 2014).
[199] App. Ex. 31 at 17; *See* https://www.energy.gov/eere/articles/energy-department-awards-68-million-wind-energy-research-projects
[200] Jt. Ex. 2 at 6, Condition 18.

monitoring reveals a potential occurrence at the Project involving T&E species, adaptive management measures will be part of the Avian and Bat IMP. This provision further ensures that any potential adverse impacts to T&E species during operation of the Project are minimized.[201] As noted, federally-listed T&E species are not likely to encounter the Project site. However, if any such species are encountered during construction, operation, or monitoring, Applicant commits, pursuant to Revised Stipulation Condition 20, to contacting Staff, ODNR, and USFWS and modifying operations that pose a risk to the identified species within 24 hours.[202]

Finally, the Applicant notes that the mere relocation of the Project further offshore, within an area designated by ODNR as having limited environmental limiting factors, has minimized the risk to birds and bats.[203] In addition, to minimize the risk to birds and bats, the Applicant has committed to: follow the lighting recommendations of the USFWS 2012 land-based wind energy guidance;[204] minimize the number of lights on the turbines to one flashing red light; lights used on the work platforms on the base of the turbines will not attract birds and will be in compliance with USCG requirements; and the lights at the facility substation will be down-shielded, equipped with motion sensors, or turned off when not in use.[205]

b. Fisheries and aquatic

The Aquatic MOU, agreed to by the Applicant and ODNR, addresses pre-, during-, and post-construction monitoring studies and analyses for the Project's impact on fisheries and other aquatic resources. Attached to the Aquatic MOU is the Lake Erie Monitoring Plan for the Offshore Wind Project: Icebreaker Wind dated January 25, 2017, that was developed in consultation with ODNR and USFWS – on pre-, during-, and post-construction monitoring studies and analyses for the impact of the Project on fisheries and other aquatic resource ("Aquatic Monitoring Plan").[206] The Aquatic MOU "documents the specific actions that Icebreaker will take to meet the requirements of ODNR's Aquatic Sampling Protocol…" and lays out specifically how monitoring will be conducted, reviewed, and reported.[207]

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[201] App. Ex. 31 at 20.
[202] Jt. Ex. 2 at 7.
[203] App. Ex. 31 at 20.
[204] App. Ex. 36.
[205] App. Ex. 1 at 122-123.
[206] *Id.* at 33; App. Ex. 3, Aquatic MOU, Ex. A.
[207] App. Ex. 34 at 5-6, referencing Aquatic Sampling Protocols for Offshore Wind Development for the Purpose of Securing Submerged Land Leases, ODNR, July 2013.

Icebreaker has already met its 2 full years of pre-construction monitoring under the Aquatic MOU.[208] In addition, the Applicant is committed to rigorous during-construction and post-construction monitoring that will be compared to the pre-construction studies for fish behavior and noise. The details of the post-construction aquatic monitoring plan have been determined in cooperation with the ODNR and USFWS. The focus will be on the fish community/lower tropic level impacts, physical habitat impacts, and fish behavioral impacts.[209]

The Aquatic Monitoring Plan sets forth specific sampling methods and data that will be generated annually, while the Aquatic MOU describes the annual reporting and review process.[210] The Revised Stipulation provides various protections for fisheries and aquatic resources that ensure minimum adverse impact. In addition to the requirement in Condition 17 that a fisheries and aquatic resources construction monitoring plan be finalized prior to construction of the Project, in accordance with Condition 19, the Applicant must submit an Aquatic IMP to ODNR. ODNR will then review the plan to ensure that implementation of the plan will be effective in avoiding significant impacts to fisheries and aquatic resources. Additionally, the Aquatic IMP will incorporate the most current survey results, the post-construction Aquatic Monitoring Plan, and "all measures that have been adopted to avoid and minimize potential adverse impacts to fisheries and aquatic resources."[211]

Based on the evidence of record in this proceeding as summarized and documented herein, the Board has more than ample evidence to support its finding that the facility represents the minimum adverse environmental impact, considering the state of available technology and the nature and economics in compliance with R.C. Section 4906.10(A)(3).

4. The Revised Stipulation and record in this proceeding support the finding and determination by the Board that the facility is consistent with regional plans for expansion of the electric power grid in compliance with R.C. Section 4906.10(A)(4).

The record reflects that the facility will interconnect with the CPP transmission system via a tap to the CPP Lake Road 138 kV Substation, which connects to the American Transmission Systems, Inc. ("ATSI") system. The PJM initial Feasibility Study, System Impact Study, and Facilities Study all included the analysis of the CPP 138 kV system. As of May 2015, PJM,

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[208] App. Ex. 3, Aquatic MOU, Ex. A; App. Ex. 34 at 6-7.
[209] App. Ex. 1 at 123, Ex. O (Ex. O was superseded and replaced by App. Ex. 3, Aquatic MOU, Ex. A).
[210] App. Ex. 34 at 7.
[211] Jt. Ex. 2 at 5-6.

together with CPP and ATSI completed all of the reliability studies to complete the PJM queue-based interconnection process. The PJM Feasibility Study evaluated compliance with reliability criteria for summer peak conditions in 2017 and analyzed the injection of the generating capacity from the Project into to CPP Lake Road Substation and into the ATSI area. Through this study, PJM, found no potential local or network problems with the Lake Road Substation and, similarly, no violations with regard to deliverability were identified.[212]

The System Impact Study evaluated compliance with applicable reliability planning criteria for summer peak conditions in 2017. The System Impact Study found no potential problems with the Lake Road Substation, the system reinforcements, deliverability, or the light load analysis. The System Impact Study also analyzed the Midcontinent Independent System Operator ("MISO") impacts and not violations were identified.[213]

The PJM Facilities Study assessed the potential MISO impacts and no impacts were found. Therefore, PJM determined that a full Facilities Study was not required, and issued a revised System Impact Study (2015). After the 2015 System Impact Study was issued, the facility was approved for interconnection.[214]

The record and Conditions 2, 3, and 4 of the Revised Stipulation support a determination that the facility is consistent with regional plans for the electric power grid and that the facility will serve the interests of electric system economy and reliability. Specifically, Condition 3 requires that, prior to construction, Applicant have a signed Interconnection Service Agreement with PJM that "includes construction, operation, and maintenance of system upgrades necessary to integrate the proposed generation facility reliably and safely into the regional transmission system." Further, Condition 4 requires that the facility will inject no more than 18 MW into the ATSI transmission grid at any time.[215]

5. The Revised Stipulation and record in this proceeding support the finding and determination by the Board that the facility complies with the air and water pollution control, withdrawal of waters of the state, solid and hazardous wastes, and air navigation requirements under R.C. Section 4906.10(A)(5).

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[212] App. Ex. 1 at 39-40, Ex. L.
[213] *Id.* at 40, Ex. L.
[214] *Id.*
[215] Jt. Ex. 2 at 3.

Wind turbines generate electricity without combusting fuel or releasing pollutants into the atmosphere; therefore, air pollution permits are not required for the facility.[216] However, since the fugitive dust requirements of R.C. Chapter 3704 may be applicable to the onshore work for the Project, Condition 33 of the Revised Stipulation requires the Applicant to comply with the rules by use of water spray or other appropriate dust suppressant measures wherever necessary.[217]

Operation of the facility will not require the use of water for cooling or any other activities, and will not involve the discharge of water or waste into streams or water bodies.[218] It is not anticipated that the facility will generate any sources of pollutants to Lake Erie. However, in order to make sure no discharges of any fluids (oil, hydraulic, cooling etc.) occur, the turbines are designed with 3 levels of containment: the gearbox is a sealed system with multiple sensors that monitor fluid performance and containment; the nacelle has fluid containment reservoirs designed to capture any leaks from a failure; the bottom tower has a reservoir to contain any fluids originating from the nacelle. In the extremely rare incident of failure of all 3 containment systems, any fluid that may leak into the environment is inherently biodegradable.[219]

While construction of the facility may generate some solid waste, all waste and recyclable materials generated on the installation vessels at the offshore locations will be transported back to the Port and disposed of at a licensed solid waste disposal facility. The building that will be used for the O&M Center currently has existing water, effluent, and sewage lines in place. The water and sewage from the construction vessels will be emptied and disposed of at the Port.[220]

The Applicant's construction activities, such as installation of MB foundations and the plow-based installation of the electric transmission cable, are designed to minimize the disturbance of sediments.[221] It is undisputed on the record that there is a low potential for toxicity in the Project area and, as a result, aquatic receptors will not likely be impacted by disturbed sediment during the construction activities within the Project area.[222] Suspended sediment levels from the plow-based installation of the cable are localized and are expected to settle back on the lake bottom shortly after construction is completed. The jack-up legs that secure the position of the heavy lift

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[216] App. Ex. 1 at 7, 54.
[217] *Id.* at 54; Jt. Ex. 2 at 12.
[218] *Id.* at 7, 60.
[219] *Id.* at 60-61.
[220] *Id.* at 15, 61-63.
[221] *Id.* at 57.
[222] App. Ex. 2, Att. 6.

crane vessel, which is used to install the foundations, towers, nacelles, and blades, will have a minor, localized, and short-term temporary impact on the lakebed. The MB foundation requires no site clearing, dredging, or drilling. Water and sediment removed during the MB installation will be pumped from the inside of the bucket back into the lake and will settle back to the lakebed; thus, there will be little sediment disturbance and impacts to the Lake Erie surface waters.[223]

The facility is located 8 to 10 miles off the shore of Lake Erie; thus, there are no airports or landing strips within 5 miles of the facility. There are airports, helipads, and landing strips within 5 miles of the exiting CPP Substation, which is where the facility substation will be located. However, the facility substation will not be any taller than the existing CPP Substation facilities; therefore, the facility has no greater impact on the aviation facilities.[224] The FAA conducted aeronautical studies of the wind turbine sites and provided the Applicant with determination of no hazard to air navigation.[225] Further, Conditions 31 and 32 of the Revised Stipulation ensure compliance with navigational requirements by requiring the Applicant to: meet all recommended and prescribed FAA and ODOT Office of Aviation requirements to construct an object that may affect navigable airspace; and light all applicable structures including cranes and construction equipment in accordance with the FAA requirements.[226]

6. The Revised Stipulation and record in this proceeding support the finding and determination by the Board that the facility will serve the public interest, convenience, and necessity in compliance with R.C. Section 4906.10(A)(6).

It is noteworthy that the Applicant has participated in well over 400 meetings and presentations about the facility since 2006, engaging local stakeholders and the local community to educate and share information. In 2013, the Applicant facilitated 15,000 face-to-face contacts across Northeast Ohio to gage public opinion and willingness to buy electricity from an offshore wind project. 92% of those contacted expressed a favorable opinion of the Project and 65% stated a willingness to pay more for the electricity generated from the Project.[227] In addition, 6 lakefront communities have passed resolutions supporting the Project, including the Village of Bratenahl, where the Residents live.[228]

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[223] App. Ex. 1 at 57-60.
[224] *Id.* at 64.
[225] App. Ex. 2, Att. 7.
[226] Jt. Ex. 2 at 21.
[227] App. Ex. 1 at 29.
[228] *Id.* at 47.

The development of the proposed facility is compatible with the Connecting Cleveland 2020 Citywide Plan adopted by the City of Cleveland Planning Commission. In terms of economic development, the facility will offer the opportunity for the use of local goods and services, including labor, equipment, and maintenance. The facility also aligns with the policy and strategy goal of the plan to make Cleveland a national leader in the development and application of renewable energy and sustainable technologies.[229]

Since 2009, the Project developers have had the support of local jurisdictions demonstrated through the leadership presence of Cuyahoga, Lake, Lorain, and Ashtabula counties, as well as the City of Cleveland on its board.[230] As evidenced on the record, the proposed facility would have a positive effect on local tax base, including local schools and other taxing units that service the area.

The Board of Directors of the Port adopted a resolution concluding that the submerged lands requested by Icebreaker in its SLL is in accordance with the permissible land use under the waterfront plan of the Port. This Project also creates the potential for the Port to be redeveloped to handle product delivery, staging, assembly, and vessel loading.[231]

The Applicant has submitted a complaint resolution plan to ensure that any complaints about the facility construction or operation are adequately investigated and resolved. A hotline and website will be set up to receive and formally document all complaints.[232] Moreover, the Revised Stipulation Conditions 13 and 14 underscore the Applicant's commitments to provide notice of construction and the complaint process, and documentation on any complaints received on the Project. Specifically, the Applicant is required to provide notice to Staff, affected property owners and tenants, public officials, emergency responders, and libraries regarding the complaint resolution process and the start of construction. The Applicant is also required to file in this docket quarterly reports summarizing any complaint received and the actions taken to resolve the complaint.[233]

The Applicant has further committed to serve the public interest by ensuring that no commercial signage or advertisements will be located on the turbines, towers, or related

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[229] *Id.* at 128.
[230] *Id.* at 132.
[231] *Id.* at 132, 143.
[232] *Id.* at 47, Ex. N.
[233] Jt. Ex. 2 at 5.

infrastructure pursuant to Condition 12 of the Revised Stipulation. Should vandalism occur, Condition 12 further requires the Applicant to remove or abate the damage to preserve the aesthetics of the Project.[234]

The conditions in the Revised Stipulation, coupled with the numerous commitments by the Applicant in the Application, support a finding by the Board that the facility will serve the public interest, convenience, and necessity in compliance with R.C. Section 4906.10(A)(6).

7. The record in this proceeding supports the finding and determination by the Board that the Project is not on agricultural land and is not in an agricultural district; therefore, the criterion under R.C. Section 4906.10(A)(7) is not applicable to this Project.

The Icebreaker Project will not impact any agricultural districts or agricultural land. There will be no impacts to field operations, irrigation, or field drainage systems as a result of the construction, operation, and maintenance of this Project. As stated by Staff, the impact of the proposed facility on the viability of existing agricultural land in an agricultural district has been determined, and, therefore, complies with the requirements specified in R.C. 4906.10(A)(7)."[235]

8. The Revised Stipulation and record in this proceeding support the finding and determination by the Board that the facility incorporates the maximum feasible water conservation practices under R.C. Section 4906.10(A)(8).

The O&M Center will use water at a rate comparable to a typical small business. No other facility component will use measurable quantities of water.[236] As stated by Staff, "water consumption associated with the proposed electric generation equipment does not warrant specific conservation efforts."[237] Therefore, the facility complies with R.C. Section 4906.10(A)(8).

B. The Revised Stipulation satisfies the first-part of the test for evaluation of contested settlements and is the product of serious bargaining among capable knowledgeable parties.

Numerous meetings to discuss settlement in this matter were held both prior to the initial hearing in September and October 2018, and subsequent to the conclusion of the initial hearings, until the filing of the Revised Stipulation in May 2019. All parties were invited to the negotiation meetings and were provided copies of the draft settlement offers that were being present for

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[234] *Id.*
[235] App. Ex. 1 at 158; Staff Ex. 1 at 43.
[236] *Id.* at 62.
[237] Staff Ex. 1 at 44.

discussion. The parties were each represented by knowledgeable counsel who have many years of experience in settlement negotiations and have participated in other Board proceedings, and/or have been involved in other regulatory proceedings, and/ or are knowledgeable about the issues addressed in the Revised Stipulation.[238] In addition, the Stipulating Parties represent a broad range of interests: including, environmental interests and advocacy through OEC; business interests through the Business Network; trade union interests through the Carpenters' Council, and the overall interest of the state of Ohio and the public through the Staff. Therefore, the first-prong of the test considered by the Board to determine the reasonableness of the Revised Stipulation has been satisfied.

C. The Revised Stipulation satisfies the second-part of the test for evaluation of contested settlements and as a package benefits ratepayers and the public interest.

The record evidence in this proceeding, together with the provisions of the Revised Stipulation, enables the Project to move forward and be built and operated so that the facility: represents the minimum adverse environmental impact, considering the state of available technology and the nature and economics of the various alternatives; serves the public interest; will generate positive economic impacts for the region; and will provide information about the actual impacts of the Project.[239]

The facility will contribute to satisfying the demand by the general public, large corporations, businesses, universities, hospitals, etc., in Ohio for locally-generated, renewable energy. The facility will supplement energy produced by fossil fuels and reduce the harm effects of such fuel. Offshore wind energy will also help achieve a diversified portfolio of electric generation in Ohio. The positive economic benefits include: beneficial impacts to the local economy; over 500 new jobs and over $85.5 million of economic input; and tax revenues to Cuyahoga County of up to $186,300 annually. [240]

These factors, along with the detailed information set forth in the Application and the Revised Stipulation, as reflected in herein, provides a package that benefits the public interest. Therefore, the second-prong of the test utilized by the Board in its consideration of a stipulation has been met.

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[238] App. Ex. 58 at 9.
[239] *Id.*
[240] App. Ex. 25 at 30.

D. The Revised Stipulation satisfies the third-part of the test for evaluation of contested settlements and does not violate any important regulatory principle of practices.

The Board has jurisdiction under R.C. Chapter 4906 to review the record in this case and determine if the record, as a whole, supports a finding that the Revised Stipulation meets the requisite criteria in R.C. Section 4906.10. The record reflects that the Applicant has complied with every requirement, both statutory and regulatory, that is necessary in proceedings requesting a certificate to site a generation facility in Ohio. It is further well documented that all of the important regulatory principles and practices – both substantive and procedural - have been met and, in some situations, exceeded. No regulatory principle will be violated by virtue of the Board acknowledging the expansive record that supports adoption of the Revised Stipulation submitted by the Stipulating Parties. Therefore, the third and final test supporting the Board's adoption of the Revised Stipulation has been met.

VII. CONCLUSION

As thoroughly set forth herein, all of the criteria in R.C. Section 4906.10 have been addressed by the Stipulating Parties in the Revised Stipulation. In addition, all 3 prongs of the test utilized by the Board in its consideration of a stipulation have been met. Therefore, for the foregoing reasons, the Board should adopt the Revised Stipulation without modification and issue a Certificate to Icebreaker.

Respectfully submitted,

/s/ *Christine M.T. Pirik*

Christine M.T. Pirik
Terrence O'Donnell
William Vorys
Jonathan R. Secrest
Sara H. Jodka
DICKINSON WRIGHT PLLC
150 E. Gay St., 24th Floor
Columbus, Ohio 43215
Telephone: (614) 591-5461

Attorneys for Icebreaker Windpower, Inc.

CERTIFICATE OF SERVICE

The Ohio Power Siting Board's e-filing system will electronically serve notice of the filing of this document on the parties referenced in the service list of the docket card who have electronically subscribed to this case. In addition, the undersigned certifies that a copy of the foregoing document is also being served upon the persons listed below via electronic mail this 11th day of October, 2019.

/s/ Christine M.T. Pirik
Christine M.T. Pirik (0029759)

Counsel:

john.jones@ohioattorneygeneral.gov
thomas.lindgren@ohioattorneygeneral.gov
mleppla@theoec.org
tdougherty@theoec.org
ctavenor@theoec.org
jstock@beneschlaw.com
ocollier@beneschlaw.com
mjsettineri@vorys.com
glpetrucci@vorys.com
paul@ptblaw.com

Administrative Law Judges:

megan.addison@puco.ohio.gov
nicholas.walstra@puco.ohio.gov

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