

**BEFORE
THE OHIO POWER SITING BOARD**

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

TESTIMONY OF

David P. Karpinski

**Vice President of Operations
Lake Erie Energy Development Corporation**

**on behalf of
Icebreaker Windpower Inc.**

September 6, 2018

1 **1. Please state your name.**

2 David P. Karpinski.

4 **2. Please state your business address.**

5 50 Public Square, Suite 200, Cleveland, Ohio 44113.

7 **3. Please summarize your educational background and professional experience.**

8 I earned a Bachelor of Science degree in Electrical Engineering from The Ohio State
9 University. I have 33 years' experience in several industries and various capacities in the
10 manufacturing sector. I began my career with The Goodyear Tire & Rubber Company
11 ("Goodyear") in Akron, Ohio, where I designed complex tire component process
12 equipment and automated tire handling manufacturing systems. I then worked in the
13 field overseeing the installation, testing, and commissioning of these systems in Texas
14 and Oklahoma.

15
16 Following my experience at Goodyear, I went to work for a consulting and software
17 development firm in Pittsburgh, Pennsylvania, that served manufacturing clients. I
18 served as the project manager for the firm's largest project at the time. I managed a team
19 of software engineers and business consultants that designed and implemented a
20 comprehensive shop floor automation system in the specialty steel industry. For another
21 client, the United States ("U.S.") Marine Corps ("USMC"), I devised cost allocation
22 methodology for the processes at two of the USMC's maintenance and re-manufacturing
23 facilities.

24
25 I then went on to head up the Information Technology department at a company that
26 manufactured plastic injection molding machinery, Van Dorn Demag, located in
27 Strongsville, Ohio. The company is now known as Sumitomo Demag. I implemented
28 several major software solutions, including a paperless shop floor drawings and
29 documentation system, a distributed field service management system, 3D engineering
30 modeling software, and an online store for replacement parts. I then moved into the
31 company's engineering department and became Vice President of Engineering

1 responsible for new product development as well as engineering order fulfillment. I co-
2 lead a multi-national team in the U.S., Germany, and India to develop the company's
3 latest machinery product line.
4

5 In 2015, I managed the offshore geotechnical investigation project for LEEDCo. I lead
6 the efforts to charter a vessel and contract with several companies to perform the
7 geotechnical testing in Lake Erie, 8 to 10 miles off the coast of Cleveland. I was
8 responsible for managing the mobilization of the vessel to prepare it for the field work. I
9 spent time on the vessel overseeing the soil testing and the collection of soil samples
10 from the lakebed. I coordinated the entire project from initial scoping to completion of
11 the final geotechnical report.
12

13 Throughout my career in the manufacturing sector, I was responsible for assembling and
14 managing teams of experts from within and external to my own organization to solve
15 complex problems and develop sophisticated systems. As a member of the executive
16 management team at Van Dorn Demag, I helped formulate and operationalize strategic
17 business plans.
18

19 Following these first 33 years of my career, I moved into the technology-based economic
20 development sector in the Greater Cleveland area as Vice President of NorTech. I devised
21 strategies and programs to assist mid-sized manufacturing companies in their pursuit of
22 innovations to sustain and grow their businesses. Following that initiative, I went on to
23 develop NorTech's strategy, and created and managed a program, to identify and develop
24 industry clusters in the advanced energy sector in Northeast Ohio, including offshore
25 wind, energy storage, waste to energy, and energy efficiency. I worked with start-ups in
26 these sectors as well as universities, established companies, government agencies, etc. I
27 provided advice to start-up firms pursuing investment funding.
28

29 Then, in 2013, I joined Lake Erie Energy Development Corporation ("LEEDCo") full
30 time as its Vice President of Operations where I am currently employed. During these
31 past five and a half years with LEEDCo, I have gained considerable experience in the

1 many facets of developing offshore wind energy, as outlined later in my testimony, and I
2 have developed considerable knowledge about the many aspects of the offshore wind
3 industry in Europe and the U.S.

4
5 Throughout my career I have entered many new industries many times – tire and rubber,
6 steel, injection molding, advanced energy, offshore wind - and assumed a wide variety of
7 functions in those industries. I have significant experience and have been successful
8 learning the technologies, business models, and strategies in various industries and
9 businesses. My full resume is attached to my testimony as Attachment DPK-1.

10
11 **4. Please explain the relationship between LEEDCo and Icebreaker Windpower, Inc.**

12 It is common in the wind industry, and other industries as well, to set up separate
13 companies for distinct projects. Icebreaker Windpower Inc. (“Icebreaker” or
14 “Applicant”) is the special purpose company for the Icebreaker project. LEEDCo and
15 Icebreaker entered into an asset purchase agreement whereby Icebreaker will acquire
16 certain assets related to the Icebreaker project from LEEDCo. LEEDCo and Icebreaker
17 are separate and distinct companies now and will remain so. Icebreaker is the company
18 that will complete the development of; secure financing from lenders and equity investors
19 for; award the contracts to furnish, construct, and install all of the equipment and
20 facilities required by; cause the commissioning of; and own and operate the Icebreaker
21 project. LEEDCo will remain as a going concern and continue to support the
22 advancement of Icebreaker and the offshore wind industry in Ohio.

23
24 **5. What are your duties at LEEDCo?**

25 I perform many functions as the Vice President of Operations and serve in a variety of
26 roles on a day-to-day basis. These include:

- 27 • Develop and operationalize business strategy across a wide variety of areas related to
28 the project as well as operations of LEEDCo.
- 29 • Together with our president and other members of the staff, select, monitor the
30 performance of, and coordinate the efforts of our various consultants, engineers, and
31 advisors.

- 1 • Evaluate progress toward project objectives in all aspects of the project, identify
- 2 problems and obstacles inhibiting progress, and take appropriate actions to solve
- 3 problems.
- 4 • Administer the U.S. Department of Energy (“USDOE”) grants, which are also known
- 5 as cooperative agreements.
- 6 • Author and review reports submitted to USDOE.
- 7 • Negotiate and administer agreements with our consulting, engineering, law firms, and
- 8 other service providers.
- 9 • Manage LEEDCo’s finances, budget, and accounting processes.
- 10 • Develop the financing plan for the project.
- 11 • Develop and manage the project schedule.
- 12 • Identify and engage with prospective off-takers.
- 13 • Negotiate power purchase agreements
- 14 • Oversee the grid interconnection process with PJM Interconnection LLC (“PJM”).
- 15 • Draft content for permit applications and review content drafted by others.
- 16 • Engage in investor relations and administration.
- 17 • Outreach to community including presentations and talks at local and national events
- 18 and conferences.

19

20 **6. Which of those duties are performed on behalf of Icebreaker?**

21 Until such time that the asset purchase agreement is closed and the asset transfer from

22 LEEDCo to Icebreaker is completed, LEEDCo is performing project development tasks

23 on behalf of Icebreaker. These tasks include securing state and federal permits,

24 managing the engineering efforts, pursuing project financing, securing grid

25 interconnection, pursuing power purchase agreements, and managing the project

26 schedule, plans and budgets.

27

28 **7. Are you familiar with the Application that Icebreaker filed in this case?**

29 Yes. On February 1, 2017, Icebreaker filed its application for a certificate of

30 environmental compatibility and public need with the Ohio Power Siting Board

1 (“Board”). Since that time, there have been four supplements to the Application,¹ and six
2 responses to interrogatories from the Board’s Staff (“Staff”).² Together, I refer to these
3 documents as the “Application.”
4

5 **8. What is your role in this Application before the Ohio Power Siting Board?**

6 I participated in planning, strategy, and discussions regarding the approach to the
7 Application. I performed analyses and prepared financial reports/statements/budgets for
8 the Application. I drafted certain significant content in sections and subsections of the
9 Application including Project Description and Schedule, Electric Grid Interconnection,
10 and Economic Impact and Public Interaction. I collaborated with others within LEEDCo
11 and LEEDCo’s team of consultants, engineers, and advisors to review content, draft
12 content, address questions, and resolve problems.
13

14 **9. Do you have any corrections to the Application?**

15 Yes. In our review of page 85 of the narrative to the Application filed on February 1,
16 2017, it was discovered that there was an inconsistency in the statement that indicated
17 state and local laws require that licensed professional engineers review and approve the
18 structural elements of the turbines. However, my research indicates that only the
19 elements of the system that interact with the soil on the lake bottom require review and
20 approval by a licensed professional engineer. Since the turbine components do not
21 interact with soil, they are not subject to the professional engineer review. However, the
22 foundation does interact with the soil and, therefore, the structural elements of the
23 foundation would require review and approval by a licensed professional engineer.
24
25

¹ Supplement to the Application filed on March 13, 2017; Second Supplement to the Application filed on July 20, 2017; Erratum to the Second Supplement to the Application filed on July 24, 2017; Third Supplement to the Application filed on August 18, 2017; and Fourth Supplement to the Application filed on March 22, 2018.

² Response to First Set of Interrogatories filed on September 6, 2017; Response to Second Set of Interrogatories filed on October 2, 2017; Supplement to Response to Second Set of Interrogatories filed on October 13, 2017; Correction to Response to Second Set of Interrogatories filed on July 3, 2018; Response to Third Set of Interrogatories filed on November 7, 2017; Correction to Response to Third Set of Interrogatories filed on November 7, 2017; Response to Fourth Set of Interrogatories filed on January 29, 2018; Response to Fifth Set of Interrogatories filed on June 11, 2018; and Response to Sixth Set of Interrogatories filed on July 3, 2018.

10. Please state the purpose of your testimony.

The purpose of my testimony is to:

- Provide background information concerning the Application.
- Sponsor parts of the Application regarding the project overview, specifications, public interaction, schedule, interconnection, and financial, as well as some of the exhibits, including Application Exhibits A through I, K, L, N, P, S through U, X, Y, and BB.
- Introduce witnesses who will present direct testimony in support of the Application and the Joint Stipulation and Recommendation (“Stipulation”) that was filed in this case as on September 4, 2018, and is marked Joint Exhibit 1.
- Sponsor the Applicant Exhibits 1 through 24 listed in the Stipulation
- Summarize the differences between the conditions in the Stipulation and those in the Staff Report of Investigation that was filed on July 3, 2018 (“Staff Report”).

11. Is the Application (with the correction noted above) and Application Exhibits, as well as the Supplements to the Application and their Attachments, true and accurate to the best of your knowledge?

Yes, they are. The Application and Exhibits, and the Supplements and Attachments have been designated as Applicant Exhibits 1 through 6.

12. Are the responses to the interrogatories served on the Applicant by Staff true and accurate to the best of your knowledge?

Yes, they are. The responses to the interrogatories and the supplements and corrections thereto have been designated as Applicant Exhibits 7 through 15.

13. Did Icebreaker cause the Application and Exhibits to be served on various local government officials, libraries, and property owners?

Yes. The certificates of service were filed and have been designated as Applicant Exhibits 16, 18, 19, and 22.

1 **14. Did Icebreaker have notices of the November 3, 2016 Public Information Meeting,**
2 **the Application, and the hearings published in newspapers of general circulation in**
3 **Cuyahoga County?**

4 Yes. The notices were published and the proofs of publication were filed and have been
5 designated as Applicant Exhibits 17, 20, 21, 23, and 24.
6

7 **15. Will Icebreaker publish notice of the September 24, 2018 hearing in accordance**
8 **with the Board's August 1, 2018 entry?**

9 Yes. Icebreaker will file the proof of publication once it is received.
10

11 **16. Who are the additional witnesses supporting Icebreaker's Application and the**
12 **Stipulation in this proceeding?**

- 13 • Ben Brazell (Applicant Exhibit 26): Land Use/Community Development,
14 Communications and Navigation, Application Exhibits R, V, and W.
- 15 • Jane Rice (Applicant Exhibit 27): Economic Impact, Socioeconomic Report, and
16 Application Exhibit M.
- 17 • Pat Heaton (Applicant Exhibit 28): Cultural and Archaeological Resources, Historic
18 Properties, and Application Exhibit AA.
- 19 • Gordon Perkins (Applicant Exhibit 29): Visual Impact and Application Exhibit CC.
- 20 • Caleb Gordon (Applicant Exhibit 30): ecological impact to birds and bats,
21 Assessment of Nocturnal Bird Migration Activity from Weather Radar dated January
22 23, 2017 and the Risks to Birds and Bats dated November 29, 2016 ("2016 Risk
23 Assessment"), avian migration, and Application Exhibit J.
- 24 • Rhett Good (Applicant Exhibit 31): ecological impact to bats, Avian and Bat
25 Memorandum of Understanding ("MOU"), avian and bat protocols and reports, and
26 Summary of November 2016 Avian and Bat Risk Assessment 2018.
- 27 • Todd Mabee (Applicant Exhibit 32): avian and bat radar-based monitoring.
- 28 • Wallace Erickson (Applicant Exhibit 33): avian and bat radar, and songbird impacts
29 and other sources of mortality.
- 30 • Ed Verhamme (Applicant Exhibit 34): Aquatic and Fisheries MOU, aquatic and
31 fisheries protocols and reports, and Application Exhibits O, Q, and Z.

17. Please provide a summary and overview of the proposed facility.

The proposed facility is wind power generation facility consisting of 6 wind turbine generators, sited in Lake Erie, 8 to 10 miles off the coast of Cleveland, Ohio in Cuyahoga County. Mono Bucket foundations will be utilized as the turbine foundations for the facility. A Mono Bucket is a suction installed caisson steel structure designed to support offshore wind turbines. Inter-array cables, which connect the wind turbines together electrically, will be buried in the lake bottom. The export cable, which transmits the electricity generated by all wind turbines to the shore, will also be buried in the lake bottom. A new facility substation will be constructed on Cleveland Public Power (“CPP”) premises adjacent to the existing Lake Road Substation. The new facility substation will interconnect to the regional electric grid via an interconnection with the CPP transmission system.

18. What is the general purpose of the facility?

The general purpose of the facility is to produce wind-powered electricity that will maximize energy production from project area wind resources in order to deliver clean, renewable electricity to the Ohio bulk power transmission system to serve the needs of electric utilities and their customers. The electricity generated by the facility will add fuel diversity to the electric supply mix of the state and region, help reduce air pollution in an area that historically has been a non-attainment area for 2.5 micron particulate matter, lead, and ozone, reduce greenhouse gas emissions, and create local jobs and spur economic development.

19. Please describe the power generation potential of the facility.

Each of the 6 turbines has a nameplate capacity rating of 3.45 megawatts (“MW”). The total nameplate capacity of the facility is 20.7 MW. The facility is expected to operate for approximately 8,200 hours annually and generate approximately 75,000 megawatt-hours (“MWh”) of electricity each year (enough to power approximately 7,000 homes).

1 **20. Were you involved in the preparation of the Stipulation in this case and are you**
2 **familiar with the 35 conditions in the Stipulation (“Stipulation Conditions”) agreed**
3 **to by Icebreaker, the Ohio Environmental Council, the Sierra Club, the**
4 **Indiana/Kentucky/Ohio Regional Council of Carpenters, and the Business Network**
5 **for Offshore Wind, Inc. (“Stipulating Parties”)?**

6 Yes.

7
8 **21. Have you read the Staff Report and the 34 conditions in the Staff Report (“Staff**
9 **Report Conditions”)?**

10 Yes.

11
12 **22. What is your opinion of the Staff Report?**

13 Icebreaker is pleased with the overall conclusion to issue a certificate. Icebreaker also
14 supports the vast majority of the conditions in the Staff Report. However, there are three
15 conditions that, in my opinion, make the project un-financeable and, therefore, are fatal
16 conditions. In the Stipulation, Icebreaker and the other Stipulating Parties adopted
17 alternative language for those three conditions that eliminate the concerns while ensuring
18 appropriate measures are in place to minimize adverse impact to birds, bats, fisheries, and
19 aquatic resources. There are several other conditions where Icebreaker and the other
20 Stipulating Parties adopted slight modifications to the Staff Conditions.

21
22 **23. Please point out those Stipulation Conditions that are the same as those in the Staff**
23 **Report Conditions.**

24 The Stipulating Parties adopted, verbatim, 23 of the 34 conditions in the Staff Report.
25 Specifically, those conditions are Staff Report Conditions 2 through 6, 8, 9, 11, 13
26 through 16, 21, 23, 25, and 27 through 34. In addition, the Stipulating Parties adopted,
27 verbatim, Staff Conditions 22(a), (b), (d), (e), and (f).

28
29 **24. Please summarize the differences between the Stipulation Conditions and the Staff**
30 **Report Conditions and the reasons for each difference.**

31 The differences can be summarized as follows:

- 1 • Condition 1: The additional phrase in the Stipulation, “as presented and modified by
- 2 this Stipulation,” provides for the provisions of the Stipulation.
- 3 • Condition 7: The additional phrase in the Stipulation, “unless the Board grants a
- 4 request for waiver or an extension of time,” reflects that the Board may grant an
- 5 extension or waiver.
- 6 • Condition 10: The revision to the first sentence in Stipulation Condition 10 to use the
- 7 phrase “to confirm compliance with this condition,” conforms this condition to the
- 8 process used in past Board cases. In addition, the last sentence of the Stipulation
- 9 clarifies details concerning the review and approval of the foundation design by a
- 10 registered professional engineer or engineering firm.
- 11 • Condition 12: The additional phrase in the Stipulation “except for reasonable
- 12 identification of the manufacturer, the operator of the wind farm, or the operator’s
- 13 designee,” conforms this condition to the Board’s rules.
- 14 • Conditions 17, 18, and 20: As with the first sentence in Stipulation Condition 10, the
- 15 revision in the Stipulation to use the phrase “to confirm compliance with this
- 16 condition,” conforms these conditions to the process used in past Board wind farm
- 17 cases.
- 18 • Condition 19: As explained in greater detail below and by Rhett Good (Applicant
- 19 Exhibit 31), the revision in the Stipulation is crucial for eliminating the concerns that
- 20 make the project un-financeable, while maintaining minimum adverse environmental
- 21 impact.
- 22 • Condition 22(c): As explained in greater detail below and by Todd Mabee (Applicant
- 23 Exhibit 32), the revision in the Stipulation is crucial for eliminating the concerns that
- 24 make the project un-financeable, while maintaining minimum adverse environmental
- 25 impact.
- 26 • Condition 22(g): As explained in greater detail below and by Todd Mabee (Applicant
- 27 Exhibit 32), the revision in the Stipulation provides for avoiding the time and expense
- 28 of additional studies if the Ohio Department of Natural Resources (“ODNR”), at its
- 29 sole discretion, finds an additional spring and fall study is not necessary.
- 30 • Condition 26: The revision in Stipulation provides that the Board may require
- 31 additional wildlife and aquatic surveys if construction is delayed beyond five years.

- Condition 24: As explained in greater detail below and by Rhett Good (Applicant Exhibit 31), the revision in the Stipulation is crucial for eliminating the concerns that make the project un-financeable, while maintaining minimum adverse environmental impact.

25. Please explain Stipulation Condition 35.

Stipulation Condition 35 provides for the Signatory Parties to participate in and provide advisory input throughout discussions with the identified agencies and Staff during efforts to finalize the programs and plans referenced in Conditions (17), (18), (19), (20), (22), and (24). The Signatory parties bring a perspective that is different than the Applicant and the agencies, which will help to ensure the best possible plans are devised. Icebreaker welcomes such input during this process as we have throughout the entire development process of the project. It is important to note that the Signatory Parties provide advisory input only. Stipulation Condition 35 does not detract from, or limit or override the authority of the agencies in any way.

26. Staff Report Condition 19 requires that, until the collision monitoring plan is determined sufficient by ODNR in consultation with Staff, Icebreaker's turbines must be "...feathered completely from dusk to dawn from March 1 through January 1." What is the impact of this provision on the ability to secure financing for the project?

This condition, as contained in the Staff Report, is a serious problem and, in my opinion, makes financing the project virtually impossible.

27. Why do you conclude that?

Staff Report Condition 19 means that, until the collision monitoring plan is determined sufficient by ODNR in consultation with Staff, the wind farm must be feathered completely and, therefore, will not be able to generate electricity for approximately one-half of the day for 10 months out of the year (40% of the time). The way the offshore wind business works is that the wind farm generates electricity which is then sold to the power off-takers. The revenue from this sale of the electricity is used to: a) make the

1 payments on the loan that was obtained to finance the cost of the construction; b) pay
2 back, with some return on investment, the equity investors; and c) cover the cost of the
3 operating and maintenance expenses. As written, if this condition were included in
4 Icebreaker's certificate, we could be prevented from earning approximately 40% of the
5 expected revenue that would be generated by the wind farm. This 40% reduction in
6 revenue would render it impossible to pay the three key obligations I just listed above.

7
8 **28. As written in Staff Report Condition 19, might the collision monitoring plan be**
9 **approved prior to construction?**

10 Theoretically, yes. I understand that, as drafted in Staff Condition 19, this drastic remedy
11 may or may not come to pass. But lenders and financiers analyze regulatory risk in terms
12 of maximum exposure. If there is even a chance that the project would be feathered
13 completely for half of the day for 10 months of the year, and that Icebreaker would,
14 therefore, default on the loan and commitments to the equity investors, the bank will not
15 lend and the investors will not invest project capital. We simply will not be able to
16 secure the financing to build the project and the certificate itself loses all value.

17
18 **29. Is that the only challenge with this Staff Report Condition 19 as drafted?**

19 No. This challenge is exacerbated by the fact that, as drafted, it appears the regulator has
20 an indefinite and unlimited amount of time in which to approve the collision monitoring
21 plan, and no articulated criteria by which to evaluate the plan. Indeed, in theory, the
22 regulator might never determine that the collision monitoring plan is sufficient. Lenders
23 and investors will view the trigger for this condition (a future regulatory approval) as
24 uncertain, and they will view the consequence for failing to achieve the approval (a 40%
25 hit to revenues) as fatal.

26
27 In addition, as you will see in the testimony of our bird and bat experts, the severe
28 restrictions on the operation of the turbines as result of Staff Report Condition 19 are not
29 warranted to sufficiently minimize adverse impact to birds and bats. There are thousands
30 of offshore wind turbines around the world and I am unaware of any offshore wind farm
31 in the world with a condition like Staff Report Condition 19. In fact, the first offshore

1 wind farm in the U.S., Block Island Wind Farm, is located off the coast of Rhode Island
2 and is situated approximately 3 miles from an area that I understand is a highly sensitive
3 habitat that includes many protected species, and the Block Island Wind Farm does not
4 have any requirement to completely feather the blades at all, for any period of time..
5

6 **30. Does the statutory standard used by the Board for approving projects take into**
7 **account economics such as you describe?**

8 Yes. According to my understanding of 4906.10(A)(3) of the Ohio Revised Code, in
9 order to issue a certificate, the Board has to determine “that the facility represents the
10 minimum adverse environmental impact, considering the state of available technology
11 and the nature and economics of the various alternatives, and other pertinent
12 considerations.” In my opinion, Staff Report Condition 19 fails to sufficiently consider
13 the economics. Staff Report Condition 19 creates an economic condition that is simply
14 not feasible.
15

16 **31. Does the Stipulation recommend a revision to Staff Report Condition 19?**

17 Yes. I understand the desire for a collision monitoring plan and Icebreaker has
18 committed from day one to installing a state of the art collision monitoring solution that
19 will provide collision data. The revision, Stipulation Condition 19, recognizes that we
20 will design our plan considering the state of available technology and we will submit that
21 plan to the regulator for review to ensure compliance with the certificate. The Stipulation
22 also contemplates that, if the project is up and running, and the regulator has concerns
23 about the plan, the turbines can be feathered completely at times of significant risk to bird
24 and bat populations.
25

26 Under Stipulation Condition 19, if the ODNR and Staff find that the collision monitoring
27 plan is not sufficient and the turbines begin operations, the ODNR and Staff may require
28 turbines be feathered completely during times of elevated collision risk as opposed to the
29 entire period from March 1 thru January 1 between sunset and sunrise. The testimony of
30 our bird and experts will address and define the times and conditions that present elevated
31 risk.

1 Based on historical data, these periods of elevated risk are infrequent and would result in
2 a more reasonable, much shorter period requiring the turbines to be feathered completely.
3 As a result, the obstacle to obtaining financing that I addressed earlier is eliminated,
4 enabling the project to be built. The public interest is served because the benefits that I
5 outline later in my testimony will be achieved only if the project is built.
6

7 **32. Under the stipulation, who would determine the sufficiency of the collision**
8 **monitoring plan?**

9 Staff and ODNR.
10

11 **33. Do you think Stipulation Condition 19 will act to protect wildlife such that the**
12 **project represents minimum adverse environmental impact, considering the state of**
13 **available technology, the nature and economics of alternatives, and other pertinent**
14 **considerations?**

15 Yes. As explained by our experts in their testimony, the rationale behind Stipulation
16 Condition 19 relies on accepted and proven scientific assessments of the periods of
17 elevated risk. By targeting the curtailment, or feathering, at these periods, the economic
18 considerations are addressed and minimum adverse impact is achieved. I believe that
19 Stipulation Condition 19 properly balances all elements of the standard.
20

21 **34. Do you have any concerns with Staff Report Condition 22(c)?**

22 Yes. Staff Condition 22(c) requires that the radar monitoring program produce viable
23 data 80% or greater of survey time including during times of heavy precipitation and,
24 although not stated explicitly, during times of high seas. I have two serious concerns.
25 First, radar cannot produce viable data during heavy precipitation. We obviously have no
26 control over precipitation. But according to the condition, we must achieve the 80%
27 requirement even though conditions which are out of our control, i.e., heavy
28 precipitation, may render that impossible.
29

30 Second, the radar system will be deployed on a floating barge anchored at the project site
31 in Lake Erie ("Lake"). It is common knowledge that the height and frequency of the

1 waves in the Lake vary over time, influenced by many factors. The characteristics of a
2 given vessel (i.e., boat or barge) determine under what conditions the vessel can be safely
3 on the Lake. Safety is of utmost importance. There is a point at which the waves become
4 too significant to allow a vessel to safely remain on the Lake. Under those conditions,
5 the vessel must come off the Lake to safe harbor. Obviously, if this occurs during the
6 time of the radar monitoring program and the barge has to come off the Lake, the radar
7 will not be producing viable data once it leaves the project site. We obviously have no
8 control over the waves (or sea state). But, according to Staff Report Condition 22(c), we
9 must achieve the 80% requirement even though conditions which are out of our control,
10 i.e., high seas, may render that impossible.

11
12 We must consider both precipitation and high sea events. It could happen that neither
13 condition exceeds 20% of the survey time. But both events in combination could exceed
14 20%. In which case, again, it would be impossible to meet the 80% requirement.

15
16 To summarize, my concern is that conditions totally outside of our control may make it
17 impossible to achieve the 80% requirement as proposed in Staff Report Condition 22(c).

18
19 **35. How high would the seas need to be, or what are the typical wind speeds that cause**
20 **a high seas event such that the vessel would need to be taken into port?**

21 We are talking about a large barge – approximately 165 feet long and 43 feet wide.
22 Based on my understanding and experience, the barge would have to come off the water
23 when the waves reach 6 feet or higher.

24
25 **36. How often does the project site typically experience “high seas” in a given year? Is**
26 **there any data available on this?**

27 We have wave height data that was collected from a buoy at the project site between
28 April and early November from 2015 thru 2017 and data from National Oceanic and
29 Atmospheric Administration – Great Lakes Environmental Research Laboratory. Based
30 on that data, the waves are 6 feet or higher approximately 8% of the time. However, this
31 8% does not include the time the barge is not at the project site during transport to and

1 from the project site and the time the barge may be in port pending the decision to re-
2 deploy the barge back to the project site. So, 8% is conservative and the actual time the
3 barge will not be stationed at the project site will be greater than 8%.

4
5 **37. Does taking the vessel to port carry a cost? Who bears this cost?**

6 A tug boat will be used to tow the barge from the port to the project site and from the
7 project site to the port. The towing services incur fees for each trip. Icebreaker would be
8 responsible to pay those towing fees for all of the towing trips needed.

9
10 **38. Who would make the decision about whether a high seas event is occurring?**

11 The barge operator, the company from which Icebreaker would charter the barge, would
12 be responsible for making the decision about when it is no longer safe to allow the barge
13 to remain at the project site during high seas conditions. Typically, the barge can remain
14 on the Lake in waves up to 6 feet. However, it is important to understand that this is not
15 a black and white, purely objective decision. The barge operator exercises judgment
16 based on its experience operating vessels on the Lake. The barge operator will weigh
17 many factors when determining if current and forecasted sea state conditions warrant
18 towing the barge to port for safety reasons. The barge operator will also make the
19 decision that conditions are safe to tow the barge back out to the project site.

20
21 **39. If the Applicant undertook the radar study and incurred the costs to complete the**
22 **study, but failed to meet the 80% standard as laid out in Staff Report Condition**
23 **22(c), what would be the result?**

24 A complete preconstruction radar study, as contemplated in Staff Report Condition 22,
25 consists of two separate radar survey periods: 1) April to mid-June; and 2) August to
26 mid-November. Both survey periods must be completed prior to construction. If we
27 complete the two survey periods and do not achieve the 80% requirement then we would
28 not have fulfilled Staff Report Condition 22 and could not go on to construction.
29 Presumably, we would have to repeat these surveys in future survey periods until we are
30 able to achieve the 80% requirement. As I described in my earlier testimony, two key
31 factors that are totally outside of our control, precipitation and high seas, may make it

1 impossible to achieve the 80% requirement in any given survey period. Staff Report
2 Condition 22(c) would require us to continue to attempt surveys until the 80%
3 requirement is achieved.
4

5 **40. Does that risk of failing to meet the 80% standard as proposed by Staff Report**
6 **Condition 22(c)—with no accommodation for heavy precipitation or high seas—**
7 **impact financing? If yes, how?**

8 Yes. The risk of non-compliance due to factors outside of Icebreaker's control,
9 precipitation and high seas, creates a situation where we would have to continue to
10 perform surveys, and incur significant expenses for each survey, until we were able to
11 meet the 80% requirement. Lenders and financiers would have no reasonable assurance
12 Icebreaker would meet the requirement and they would identify the risk of escalating
13 expenses (with no cap) due to the potential of the need to repeat multiple surveys. This
14 uncertainty creates too much risk to justify continued investment to fund the development
15 activities, which is a fatal blow to the project.
16

17 **41. Why is the revision in Stipulation Condition 22(c) more reasonable and in the public**
18 **interest?**

19 Stipulation Condition 22(c), like Staff Report Condition 22(c), requires that viable data
20 must be produced at least 80% of survey time. However, Stipulation Condition 22(c)
21 makes allowances for heavy precipitation or high sea events, thereby eliminating those
22 factors that are totally outside Icebreaker's control as obstacles to meeting the 80%
23 requirement. That eliminates the fatal uncertainties caused by Staff Report Condition
24 22(c), as described earlier in my testimony, and provides the necessary level of certainty
25 for lenders and investors to justify placing capital in the development of the project.
26

27 The overall objective of the preconstruction radar study is to produce data that can
28 answer certain questions about migratory birds and bats in the project area. According to
29 bird and bat experts I have talked to, it is not necessary to have produced viable data for
30 80% of the survey time in order to properly address those questions. The testimony of
31 our avian and bat radar experts will address this point in detail. Stipulation Condition

1 22(c) is a more reasonable approach since it allows for providing the desired data without
2 the excessive uncertainties that are inherent in Staff Report Condition 22(c).

3
4 Stipulation Condition 22(c), by providing the necessary level of certainty for investors,
5 while enabling the acquisition of the required data, does serve the public interest by
6 removing obstacles that could have prevented the project from being built. The public
7 benefits that I outline later in my testimony will be achieved only if the project is built.

8
9 **42. Unlike the Staff Report Condition 22(g), the Stipulating Parties in Stipulation**
10 **Condition 22(g) provide that, if the Applicant demonstrates to the ODNR that a**
11 **second post-construction spring and/or fall collection is unlikely to result in the**
12 **collection of additional data to inform the question of avoidance/attraction effects,**
13 **the ODNR may, in its sole discretion, waive the additional post-construction data**
14 **collection. How do you interpret this provision in the Stipulation?**

15 The language of Stipulation Condition 22(g) allows for the opportunity to be cost
16 effective and prudent by avoiding the time and expense of a second post-construction pair
17 of surveys (spring and fall) if, and only if, ODNR is convinced that the collection of that
18 additional data is unlikely to inform the question of avoidance/attraction effects. The key
19 provision here is that ODNR has the sole discretion to waive the second post-construction
20 pair of surveys (spring and fall). ODNR, and ODNR alone, makes that determination.
21 So, if ODNR would find that a second round of post-construction surveys was not
22 necessary, would not make sense and would not be a responsible use of funds, then we
23 would not perform the unnecessary studies. The waiver option provided for in
24 Stipulation Condition 22(g) allows for avoiding such waste if so warranted, as
25 determined at the sole discretion of ODNR.

26
27 **43. Do you think this provision requires ODNR to take any action or requires ODNR to**
28 **wave the additional post-construction radar study?**

29 I see nothing in the provision that in any way could force ODNR to waive the additional
30 study. The decision is solely up to ODNR.

31

1 **44. Staff Report Condition 24 contemplates that Staff and ODNR can “prescribe”**
2 **adaptive management to the Applicant if they determine that the project results in**
3 **“significant adverse impact to wild animals.” What is the impact of this provision**
4 **on financing?**

5 Staff Report Condition 24, in my opinion, makes the project un-financeable. The
6 provision whereby Staff and ODNR can “prescribe adaptive management measures” is
7 unbounded. This condition grants seemingly unlimited authority to Staff and ODNR to
8 order Icebreaker to comply with any measure they specify, without limits, at their sole
9 discretion, with no requirement to justify the measures or explain the rationale, and with
10 no due process. The practical implications that make this such a serious issue are that
11 Staff and ODNR could order Icebreaker to shut down the turbines for any period of time,
12 or worst yet, they could order us to shut down the turbines completely, even permanently.
13 There are no limits to the measures the regulator might “prescribe.”

14
15 The ramifications make this project totally un-financeable. Lenders and investors will
16 view this as an unmanageable risk and would never finance the project under Staff Report
17 Condition 24. Imagine going to investors and lenders to secure funds to construct this
18 project. We ask them to invest their equity and lend their capital to fund construction.
19 They ask us what the risks of the project are. We explain that under Staff Report
20 Condition 24, agencies of the state of Ohio, could at, their sole discretion, at any time,
21 order the turbines to cease operating or order the turbines to be decommissioned. Again,
22 lenders and investors will always analyze their maximum exposure.

23
24 In addition, as you will see in the testimony of our bird and bat experts, the ability for
25 Staff and ODNR to “prescribe” adaptive management measures is not warranted to
26 sufficiently minimize adverse impact to birds and bats.

27
28 **45. Do you have any additional concerns with Staff Report Condition 24?**

29 Yes. Staff Condition 24 makes the project impossible to finance. If it cannot be
30 financed, it will not be built. All of the public benefits that I outline later in my testimony
31 will not be realized. All because of an unreasonable and unwarranted condition.

1 I have additional concerns. The trigger in Staff Report Condition 24 is “significant
2 adverse impact to wild animals.” “Wild animals” is extremely broad and the wildlife that
3 would be included in the definition of “wild animals” is not defined. Nor is “significant
4 adverse impact.” This creates additional uncertainty surrounding the scope of the rule.
5 The testimony of our bird and bat experts will address this concern and Stipulation
6 Condition 24 in more detail.

7
8 **46. Does this Staff Report Condition 24 appear to go beyond the scope of the Board**
9 **rule?**

10 Earlier in my testimony I explained that my understanding of the Board rule is that,
11 according to 4906.10(A)(3) of the Ohio Revised Code, in order to issue a certificate, the
12 Board has to determine “that the facility represents the minimum adverse environmental
13 impact, considering the state of available technology and the nature and economics of the
14 various alternatives, and other pertinent considerations.” In my opinion, Staff Report
15 Condition 24 fails to account for the economic considerations required in the law by
16 asserting requirements that make the project un-financeable. Staff Report Condition 24
17 creates an economic condition that is simply not feasible.

18
19 **47. What sort of impact on financing would you expect from such a broad application**
20 **of Staff Report Condition to all “wild animals,” not being defined? Why?**

21 Lacking any definition of “wild animals,” the scope could include any living organism.
22 Icebreaker’s experts have studied the risk to birds, bats, fisheries, and aquatic resources
23 extensively. The Application establishes and substantiates that the risk to these species is
24 very low. The testimony of our bird and bat experts will address and support that
25 conclusion in detail. The diligence completed to assess the risk of impact to birds, bats,
26 fisheries, and aquatic resources is customary and accepted by lenders and investors.
27 Lenders and investors will see the risk to these species as low and would be willing to
28 take on that risk.

29
30 Lacking an adequate definition of “wild animals,” insects, for example, could be
31 considered “wild animals” under this provision. This creates tremendous uncertainty

1 because there is no boundary on the scope of what ODNR and Staff may consider when
2 assessing impact. For example, if the turbines had a negative impact on mosquitos,
3 ODNR and Staff, could, per the language of Staff Report Condition 24, order adaptive
4 management that could include shutting the turbines down. This uncertainty, due to an
5 undefined and unlimited effect on the operations of the wind farm and associated loss of
6 revenue, based on impact to an undefined set of organisms, creates excessive risk that
7 makes financing too risky for lenders and investors.
8

9 **48. What sort of impact on financing would you expect from an undefined term such as**
10 **“significant adverse impact” in Staff Report Condition 24?**

11 It comes to the uncertainty issue again. Uncertainty creates risk. The greater the
12 uncertainty, the greater the risk. Lenders and investors strive to minimize risk and must
13 find the risk level is acceptable before they will invest or loan funds. So, any factor that
14 increases risk creates an obstacle to securing financing. In Staff Report Condition 24,
15 “significant adverse impact” is not defined. Further, it is at the sole discretion of Staff
16 and the ODNR, in consultation with the U.S. Fish and Wildlife Service (“USFWS”), to
17 determine “significant adverse impact.” Without any definition for “significant adverse
18 impact,” ODNR and Staff, could, per the language of Staff Report Condition 24, order
19 adaptive management that could include shutting the turbines down. This uncertainty,
20 due to an undefined and unlimited effect on the operations of the wind farm and
21 associated loss of revenue, creates excessive risk that makes financing too risky for
22 lenders and investors.
23

24 **49. Does the Stipulation recommend a revision to Condition 24?**

25 Yes. Stipulation Condition 24 addresses the problematic uncertainties in Staff Report
26 Condition 24 and results in a condition that reasonably mitigates the risks that made
27 financing the project impossible. Stipulation Condition 24 eliminates the unlimited and
28 unilateral authority of ODNR and Staff to “prescribe” adaptive management and replaces
29 that provision with a requirement for Icebreaker to develop and submit a mitigation or
30 adaptive management strategy to Staff and the ODNR.
31

1 This provision in Stipulation Condition 24 is typical in prior Board certificates approved
2 for wind farms and is consistent with Rule 4906-4-09(D)(6) of the Ohio Administrative
3 Code (“O.A.C.”) and the Board’s finding adopting this rule in 2017. During the
4 discussions that lead to the Board’s adoption of this language, Staff had proposed the
5 language “...result in significant adverse impact to wildlife, then mitigation measures may
6 be prescribed to the applicant.” But the Board rejected this language. Instead, the Board
7 adopted language proposed by the Mid-Atlantic Renewable Energy Coalition that is now
8 contained in Rule 4906-4-09(D)(6), O.A.C. It states “...result in significant adverse
9 impact to federal or state listed and protected species, the applicant will develop a
10 mitigation plan or adaptive management strategy.”³

11
12 Stipulation Condition 24 therefore goes further than existing rule and requires that, if the
13 significant adverse impact persists following the execution of the adaptive management
14 strategy, the Applicant along with Staff and the ODNR will jointly develop a revised
15 mitigation or adaptive management strategy.

16
17 Stipulation Condition 24 also eliminates the uncertainty of the undefined “wild animals”
18 and includes a definition: “species covered under the Avian and Bat MOU and the
19 Fisheries and Aquatic Resources MOU (other than state or federally listed endangered or
20 threatened species, which are exclusively addressed in Stipulation Condition 21).”

21
22 Stipulation Condition 24 also eliminates the uncertainty of the undefined “significant
23 adverse impact” and defines that as follows: “biologically significant impact on the
24 population level of any species or the occurrence of a large mortality event as defined in
25 the impact mitigation plan.”

26
27

³ Board Rules, Case No. 16-1109-GE-BRO, Order (May 4, 2017), page 75 paragraph 63(a), and Att. A, page 21.

1 **50. Stipulation Condition 24 states that, upon a determination of significant impact by**
2 **Staff and ODNR, the Applicant shall develop and submit a mitigation or adaptive**
3 **management strategy. How do you envision that process working?**

4 The starting point for the process is the Avian and Bat Impact Mitigation Plan and the
5 Fisheries and Aquatic Resources Mitigation plan, as required by Staff Report Conditions
6 18 and 20, respectively (together I will refer to these in my testimony as the “Mitigation
7 Plans”). When finalized, the Mitigation Plans will set forth mitigation and adaptive
8 management measures to address any unforeseen actual adverse impacts that may occur
9 during operation of the wind farm. Stipulation Condition 24 comes into play if
10 conditions unforeseen and not contemplated in the Mitigation Plans arise.

11
12 I would also note that Icebreaker refers to the Avian and Bat Impact Mitigation Plan as
13 the Bird and Bat Conservation Strategy (“BBCS”) and that Icebreaker has already
14 committed to a BBCS and has completed the initial draft, which has been provided to
15 ODNR for review.

16
17 If Staff and ODNR find that there is significant adverse impact under the definition of
18 Stipulation Condition 24, that is not already addressed in the Mitigation Plans pursuant to
19 Stipulation Conditions 18 and 20, then Icebreaker will convene a team which would
20 include appropriate members of the following disciplines: the biological and technical
21 experts with experience on the wind farm (based on the affected species, e.g., birds, bats,
22 fisheries, aquatic resources); engineers and technicians responsible for maintaining and
23 operating the wind farm and the monitoring technology installed on the wind farm;
24 management staff; and other experts and advisors as needed.

25
26 Icebreaker will review and discuss the impacts with ODNR and Staff and ensure that the
27 impacts are fully understood. The team will then collaborate to develop a new mitigation
28 or adaptive management strategy that addresses the observed impacts. Icebreaker will
29 submit the strategy to ODNR and Staff in accordance with Stipulation Condition 24.
30 Then Icebreaker will execute the strategy intended to mitigate the adverse impact.

1 Monitoring will continue and the results of the monitoring will be used to assess the
2 effectiveness of the mitigation or adaptive management strategy.

3
4 **51. Is it possible that even after adaptive management, significant adverse impacts**
5 **could persist?**

6 Yes. It is possible that significant adverse impacts could persist following the execution
7 of the mitigation or adaptive management strategy.

8
9 **52. Under Stipulation Condition 24, what would happen in that case?**

10 If ODNR and Staff find that significant adverse impacts persist, then Icebreaker will meet
11 with Staff and the ODNR and proceed to jointly develop a revised mitigation or adaptive
12 management strategy. Icebreaker will convene a team as described above to work
13 together with ODNR and Staff. Within 30 days of an agreement between Icebreaker,
14 Staff, and ODNR, we will submit the revised mitigation and adaptive management
15 strategy to Staff and the ODNR.

16
17 **53. What is the difference between the first adaptive management plan and this second**
18 **plan (if required) under Stipulation Condition 24?**

19 In the first round, the new mitigation or adaptive management strategy is developed by
20 Icebreaker, with the team of technical, biology, commercial, and management resources
21 that studied, developed, designed, built, and operate the wind farm. In the second round,
22 the ODNR and Staff are now integral to developing the revised strategy. Then
23 Icebreaker, in collaboration with ODNR and Staff, will work together to address the gaps
24 in the first strategy and devise a new strategy to mitigate the impacts.

25
26 **54. What if the Applicant and Staff cannot agree upon a revised mitigation plan?**

27 If, after good faith efforts by all parties, we cannot agree upon a revised mitigation or
28 adaptive management strategy, then Staff could initiate an enforcement action under
29 Board rules. Those rules define a due process to address such matters.

30

55. Why is the language in Stipulation Condition 24 more reasonable and in the public interest?

Stipulation Condition 24 resolves the three significant uncertainties in Staff Report Condition 24 that render the project un-financeable. Going back the Ohio Revised Code, the Board has to determine “if 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.” Staff Report Condition 24 did not adequately consider economics whereas Stipulation Condition 24 does consider economics by resolving the significant uncertainties that make the project un-financeable, while including provisions to ensure minimum adverse risk to birds, bats, fisheries, and aquatic resources. Stipulation Condition 24 achieves a proper balance of all of the elements of the standard. Stipulation Condition 24 serves the public interest by removing obstacles that could have prevented the project from being built. The public benefits that I outline later in my testimony will be achieved only if the project is built.

Stipulation Condition 24 is also very reasonable in that it is consistent with: 1) provisions typical in prior the certificates approved by the Board for wind farms; b) Rule 4906-4-09(D)(6), O.A.C.; and c) the Board’s finding adopting language proposed by MAREC in 2017.

56. Does the Application, as acknowledged in the Stipulation, enable the Board to determine that the basis of need for the facility is not applicable?

In accordance with Stipulation Condition 2, prior to constructing a transmission line associated with this generating facility, we will complete a separate filing with the Board to address the proposed electric transmission line. Because 4906.10(A)(1) of the Ohio Revised Code only applies to an electric transmission line nor a gas pipeline, the basis of need is not applicable to the generating facility.

1 **57. Does the Application, as agreed to through the Stipulation, enable the Board to**
2 **determine the nature of the probable environmental impact of the facility?**

3 Yes. The Application extensively addresses all the necessary subject matter areas,
4 including the socioeconomic impacts, ecological impacts, and public services, facilities,
5 and safety. The Application includes detailed assessments of the probable impacts that
6 the facility will have in 22 different topics across all three categories. The Stipulation
7 augments the assessments contained in the Application. Each of those topics are
8 adequately addressed in the Application and the Stipulation, and supported by the
9 witnesses in this case.

10
11 **58. Does the Application, as agreed to through the Stipulation, enable the Board to**
12 **determine that the facility represents the minimum adverse environmental impact,**
13 **considering the state of available technology and the nature and economics of the**
14 **various alternatives, and other pertinent considerations?**

15 Yes. First, the Application thoroughly describes the site selection process and the factors
16 considered when selecting the final site. The Application outlines how the current site
17 minimizes adverse environmental impacts as compared to other sites evaluated. Next, the
18 Application includes thorough risk assessments for avian and bat species and fisheries
19 and aquatic resources. The conclusions of the risk assessments are that the facility poses
20 minimal risk to birds, bats, fisheries, and aquatic resources. Finally, the Application
21 identifies many impact minimizing measures inherent in the design of the project, as well
22 as measures Icebreaker commits to undertake throughout the construction and operations
23 of the facility. All of these factors are addressed extensively in the Application, including
24 the site selection process, risk assessments concluding minimal risk, and impact
25 minimizing measures.

1 **59. Does the Application, as agreed to through the Stipulation, enable the Board to**
2 **determine that the facility is consistent with regional plans for expansion of the**
3 **electric power grid of the electric systems serving this state and interconnected**
4 **utility systems that the facility will serve the interests of electric system economy**
5 **and reliability?**

6 Yes. The Application includes the studies that PJM performed to analyze the electric
7 power grid, with the facility interconnected to the grid, for compliance with the North
8 American Electric Reliability Corporation and PJM reliability criteria. PJM concluded
9 that no reliability violations would occur during single and multiple contingencies and
10 that no violations were found in the short circuit analysis. The Application describes that
11 the facility would provide additional electrical generation to the regional transmission
12 system. The PJM conclusions demonstrate that the facility is consistent with regional
13 plans for expansion of the electric power grid serving this state and interconnected utility
14 systems, and that the facility will serve the interests of electric system's economy and
15 reliability.

16
17 **60. Does the Application, as agreed to through the Stipulation, enable the Board to**
18 **determine that the facility will comply with the requirements established by the**
19 **state of Ohio for air pollution control; solid and hazardous waste, water pollution**
20 **control; permitting for a major increase in withdrawal of waters; and aeronautical**
21 **requirements?**

22 Yes. The Application addresses air, water, solid waste, and aviation topics. The
23 Application includes assessments demonstrating compliance with the state of Ohio
24 requirements in all 4 topics.

25
26 **61. Does the Application, as agreed to through the Stipulation, enable the Board to**
27 **determine that the facility will serve the public interest, convenience, and necessity?**

28 Yes. The Application addresses the many aspects of public interest, convenience, and
29 necessity including economic impact, Icebreaker's history of extensive public
30 engagement over many years, plans for road and transportation system utilization,
31 liability insurance, decommissioning, health and safety, land use and community

1 development. Each of those topics are adequately addressed in the Application and
2 Stipulation, and supported by the witnesses in this case. In addition, the facility will
3 generate electricity that will contribute to satisfying Ohio's renewable energy standard.
4

5 **62. Does the Application, as agreed to through the Stipulation, enable the Board to**
6 **determine that the facility's impact on the viability as agricultural land of any land**
7 **is not applicable?** Yes. The Application indicates that the facility will not impact any
8 agricultural districts or agricultural land.
9

10 **63. Does the Application, as agreed to through the Stipulation, enable the Board to**
11 **determine that the facility incorporates maximum feasible water conservation**
12 **practices, considering available technology and the nature and economics of the**
13 **various alternatives?**

14 Yes. The Application establishes that the facility is a wind-powered electricity
15 generation facility. Water is not utilized in the process for wind-powered electricity
16 generation. Since water is not used in the generation process, the only water usage is
17 potable water for using the operation and maintenance facilities. The minimal water
18 usage does not warrant specific conservation practices.
19

20 **64. Please provide the background concerning the discussions leading to the Stipulation.**

21 Several meetings were held in July and August to discuss the Staff Report Conditions and
22 proposed Stipulation Conditions. Counsel for Icebreaker, Business Network for Offshore
23 Wind, Sierra Club; Indiana/Kentucky/Ohio Regional Council of Carpenters, Ohio
24 Environmental Council, W. Susan Dempsey and Robert M. Maloney, and the Staff of the
25 Ohio Power Siting Board were all invited to the meetings.
26

27 **65. Do you believe that the settlement was the product of serious bargaining among**
28 **capable, knowledgeable parties?**

29 Yes. Counsel for all of the parties present during the settlement negotiations, as well as
30 representatives of the parties involved in the deliberations leading to the Stipulation have

1 participated in other Board proceedings, and/or have been involved in other regulatory
2 proceedings, and/or are knowledgeable about the issues addressed in the Stipulation.

3
4 **66. Do you believe the settlement, as a package, benefits the public interest?**

5 The Stipulation enables the project to move forward and for the facility to be constructed
6 and to operate, in such a way that the facility represents minimum adverse environmental
7 impact, considering the state of available technology and the nature and economics of the
8 various alternatives, and other pertinent considerations. It is the construction and
9 operation of the facility that provides many benefits to the public interest.

10
11 Demand for locally-generated, renewable energy continues to increase in Ohio. More
12 and more of the general public, large corporations (e.g., Amazon, Google, General
13 Motors, Facebook), small businesses, universities, hospitals, etc., are seeking to fulfill
14 their energy needs with renewable energy. The facility will contribute to satisfying that
15 demand.

16
17 The facility, by supplementing energy produced by fossil fuels, serves the public interest
18 by reducing the harmful environmental health impacts of fossil fuel power. The
19 renewable energy generated by the facility will contribute to satisfying the state of Ohio's
20 renewable energy standards. Offshore wind energy will also help to achieve a diversified
21 portfolio of electricity generation sources in Ohio. Achieving a balanced portfolio is
22 becoming even more challenging in light of recent announcements regarding pending
23 closure of Ohio's nuclear power facilities and certain aging coal units, underscoring the
24 need for other generation sources.

25
26 Construction and operation of the facility will also generate positive economic impacts in
27 the region. The proposed facility will have a beneficial impact on the local economy.
28 Construction, and operations and maintenance activities are projected to create over 500
29 new jobs and over \$85.5 million of economic output. Operations of the facility will also
30 produce tax revenues to Cuyahoga County up to \$186,300 annually. The facility will

1 make few, if any, demands on local government services. Therefore, these tax revenues
2 will be net positive gains and represent an important economic benefit to the local area.

3
4 The facility, once constructed and operating, will also provide real world information
5 about the actual, measured impacts. This information is not available currently and can
6 only be generated by constructing and operating the facility.

7
8 All of these public benefits are achieved, while ensuring minimum adverse environmental
9 impact. The protection of the environment obviously serves the public interest.

10
11 **67. To your knowledge, does the settlement package violate any important regulatory**
12 **principle or practice?**

13 No.

14
15 **68. Why do you believe the Stipulation should be accepted?**

16 The Stipulation strikes an appropriate balance that provides a path forward for the facility
17 to be constructed and to operate while ensuring that the facility represents minimum
18 adverse impact, considering the state of available technology and the nature and
19 economics of the various alternatives, and other pertinent considerations.

20
21 **69. Does this conclude your testimony?**

22 Yes.

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 6th day of September, 2018.

/s/ Christine M.T. Pirik

Christine M.T. Pirik (0029759)

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Icebreaker Windpower, Inc.
Case No. 16-1871-EL-BGN
Testimony
September 6, 2018

Attachment DPK-1

CV/Resume

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EXPERIENCE

LEEDCO, Cleveland, OH 2013 – Present

Vice President

Serve as Project Manager for Project Icebreaker. Manage the project schedule, budget, and performance. Guide the strategic direction of and manage activities for various aspects of the project. Negotiate and administer commercial agreements with all of the subcontractors, stakeholders, and investors. Administer the contract with the US Dept. of Energy. Responsible for grid interconnection process.

Manage the budget and financial performance of the organization. Setup and implemented an accounting system to comply with federal procurement regulations. Setup key operational functions of the organization including payroll, time keeping, employee benefits, and 401k plan.

NORTECH, Cleveland, OH 2007 – 2013

Vice President

Developed a strategy to build an advanced energy practice / focus area. Collaborated with key local partners, designed the program, wrote the business plan, secured funding, hired staff and implemented the program. Developed a novel approach and methodology for cluster acceleration – NorTech InSevenSM. Completed full roadmapping process for several advanced energy sectors including energy storage, fuel cells, biomass, waste-to-energy, energy efficiency and smart grid. Provided strategic advisory services to technology companies in the various clusters. Facilitated networking and collaboration opportunities for cluster companies. Advocated at the state and federal levels for policies supportive of advanced energy cluster members.

Developed a key relationship with a strategic partner organization, MAGNET. Led the development of a new initiative, in collaboration with MAGNET: the Innovation Accelerator. The Innovation Accelerator served small to medium-sized manufacturing companies in the Northeast Ohio by providing innovation coaching, networking and collaboration opportunities and educational workshops.

VAN DORN DEMAG, Strongsville, OH 1996 – 2007

Director of Engineering

2002 – 2007

Managed the R&D function and application engineering function – a team of approximately 50 engineers and technicians. Developed and launched a global control system platform, in collaboration with the R&D head of the German parent company. Together with R&D head, developed a universal new product machine design for global deployment, manufactured regionally. Implemented an exchange program to integrate

the engineering team in Germany with the team in the US. Directed the implementation of SAP in the engineering department.

Manager Information Technology

1996 – 2002

Responsible for all aspects of the company's IT systems. Developed efficient systems to deploy workstation hardware and software. Upgraded the communications infrastructure. Developed a Customer Relationship Management system that improved field service performance and customer satisfaction. Directed the evaluation and selection of a solid modeling and product lifecycle management solutions. Managed the implementation of those solutions and the cultural as well as technical aspects of converting from a 2D environment to a 3D environment. Developed and implemented an electronic shop drawing system that eliminated paper drawings and improved accuracy.

ASE EDGE, Pittsburgh, PA

1990 – 1996

Project Manager

Managed a large scale manufacturing execution system development and implementation project for a specialty steel strip manufacturer. Interfaced with the client to manage scope, schedule and budget. Managed a team of 7 software developers.

Conducted a comprehensive analysis of a defense client's cost accounting systems. Coordinated efforts for client teams for the east coast and west coast to harmonize conceptual design and implementation.

THE GOODYEAR TIRE & RUBBER CO., Akron, OH

1984 – 1990

Project Engineer

Designed control system for state-of-the-art tire material handling system for the Lawton, OK plant. Managed the bid process to solicit proposals from system integrators. Managed the contract of the system integrator. Served as field engineer during installation and commissioning.

Served as field electrical engineer for the Tyler, TX plant expansion and conversion. Supervised electrical contractors and managed the installation plans and schedules. Lead the commissioning of several major process systems. Supervised the various contractors and vendor engineers and technicians.

EDUCATION

B.S. Electrical Engineering

Ohio State University

1984

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Case No(s). 16-1871-EL-BGN

Summary: Testimony of David P. Karpinski electronically filed by Christine M.T. Pirik on behalf of Icebreaker Windpower Inc.