# New Jersey Offshore Wind Solicitation #2

# **RESPONSES OF OCEAN WIND II, LLC TO CLARIFYING QUESTIONS SET 1**

# (February 1, 2021)

Please note that these responses and the materials submitted herewith contain confidential information. Under separate cover Ocean Wind II, LLC hereby requests confidential treatment of such material (as they are exempt from disclosure under the Open Public Records Act, N.J.S.A. 47:1A-1 et seq. and the Board's regulations at N.J.A.C. 14:1-12.1(b)) and submits a Statement of Christian Bjøl in support of such request.

## **Project Description**

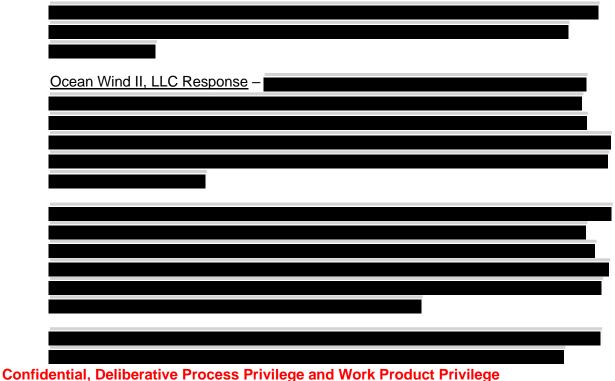
 Section 2.2.1: "While MPs are the design basis, applicant may elect to use a different foundation design" (Application p. 2-5, fn. 1). Please clarify how and the amount, if any, of guaranteed economic benefits will change if a different foundation design means that monopiles for the Project will not be produced at the EEW facility.

<u>Ocean Wind II, LLC Response</u> – Since the submission of its application on December 10, 2020, the Applicant has further matured discussions with EEW regarding the development of the Phase 2 facility,

As such, upon an

award of ORECs for the Project the Applicant is confident that it will source monopiles for the Project from the EEW Phase 2 facility. Therefore, the applicant does not expect any such change to the economic benefits or foundation type.

2. Section 2.2.1.1:



3.	Section 2.2.1.2:
	Ocean Wind II, LLC Response –

- 4. Section 2.2.1.3.11: "The Applicant is also considering using an LV system for the wind farm transmission where the export cable system will deliver LV power from WTG to POI. This system does not require an OCS and uses a higher number of cables to transport the wind farm power to shore" (Application p. 2-17).
  - a. Please provide the voltage of the LV system under consideration.

<u>Ocean Wind II, LLC Response</u> – The Applicant is not considering an LV system as it can confirm that the proposed installed capacity is too large and the distance from the OCS to the POI is too long to support any LV transmission system.

b. Will the LV system be AC or DC?

Ocean Wind II, LLC Response - N/A

c. What are the advantages and disadvantages of using such an LV system over the currently proposed system?

Ocean Wind II, LLC Response - N/A

Ocean Wind II, LLC Response –	
b.	
Ocean Wind II, LLC Response -	

6. Section 2.5.1.2.1: **EXAMPLE** is described as an alternative to pile drive installation for monopiles. Please compare the environmental impacts, including the extent and duration of suspended sediment, created by the two installation methods.

<u>Ocean Wind II, LLC Response</u> – The method does not create any suspended sediments. The soil released to the sea from the composition of the soil. Only soil particles with sizes of d<0.1mm (fines) may be dispersed into the environment.



7. Section 2.5.3 and Section 2.5.6: What are the target burial depths for the inter-array cables and the export cable?

<u>Ocean Wind II, LLC Response</u> – Targeted burial depths will be calculated based on industry best-practice recommendation (Cable Burial Risk Assessment from Carbon Trust) applied to the Project site specific survey data (such data to be collected during spring/summer 2021).

Based on Ørsted's knowledge of the site, expected burial depths are:



8. Section 2.5.1.1: "AFC fabrication and assembly are planned to be executed at one or more locations in New Jersey" (Application p. 2-31). Is assembly of AFC in New Jersey contingent on realization of the EEW Phase 2 facility?

<u>Ocean Wind II, LLC Response</u> – The NJ facility for the AFC manufacturing is not contingent on realization of the EEW monopile facility. AFC fabrication is completely independent and can run as a standalone manufacturing play.

9. Section 2.5.5.2:

Ocean Wind II, LLC Response -

10. Section 2.6.1.1:
Ocean Wind II, LLC Response –
11. Section 2.6.1.1:
Ocean Wind II, LLC Response –
12. Section 2.6.1.2:
Ocean Wind II, LLC Response –

#### **Energy Production Estimate**

3. Section 3 and Section 3.1.1:	
Ocean Wind II, LLC Response –	-
b.	
Ocean Wind II, LLC Response –	

14. Section 3.1.1: Please clarify whether the anticipated generation "during the lifetime of the asset" of **asset** is equivalent to the "amount of energy that will be generated over the term of the life of the turbines" per N.J.A.C. 14:8-6.5(a)(2)(vi).

<u>Ocean Wind II, LLC Response</u> –The Applicant confirms that the **Example 1** is equivalent to the "amount of energy that will be generated over the term of the life of the turbines."

15. Section 3.2.2.3: "The electrical service platforms (ESPs) will be custom built to fit the Project site and designed to withstand a 10,000-year storm event per US and international design standards" (Application, p. 3-14).

a. Are the design standards specific to ESPs or generic standards that originated with petroleum industry platforms?

Ocean Wind II, LLC Response – The OSS is designed according to ISO 19902 and DNVGL-ST-0145.

b. Do the design standards also account for earthquakes at the same or similar frequency of extreme events?

<u>Ocean Wind II, LLC Response</u> – The Applicant performs earthquake assessments according to ISO 19901-2.

- 16. Attachment 3.1: "A Capacity Factor considering the summer peak hours of 3-6 PM local standard time in the months of June through August was calculated for the project as defined by PJM [18]" (DNV GL, Energy Assessment Report, p. 22 of both Issues A and B). Reference 18 was "PJM Manual\_m21.pdf" which appears to be an Applicant filename for the "m21.pdf" file at the PJM website, which is "PJM Manual 21." LAI downloaded an "m21.pdf" file on 1/9/2021, which is Revision 14, August 1, 2019. Its "Appendix B: Calculating Capacity Values for Wind and Solar Capacity Resources" states in definition 9 that "Peak Hours" are those ending 3, 4, 5, and 6 PM Local Prevailing Time" (PJM Manual 21, rev. 14, p. 34).
  - a. Please clarify whether the value was based on a 3-hour period (3-6pm) or the PJM 4-hour period (2-6pm).

<u>Ocean Wind II, LLC Response</u> – The numbers for both cases have been updated to account for the PJM 4-hour period (2-6). The Applicant includes an updated Attachment 3.1 with these responses.

b. Please clarify whether the value was based on local "standard" time or the PJM local "prevailing" time.

<u>Ocean Wind II, LLC Response</u> –The Applicant confirms that the 33.4% value was based on prevailing time, assuming current local time, and in summer that there is a daylight-savings time.

c. If the value was not based on the PJM 4-hour period (2-6pm) and local prevailing time, please provide a revised summer peak hours capacity factor reflecting these parameters.

Ocean Wind II, LLC Response – Updated capacity factors:



## **Project Financing Plan**

17. Section 5.1.1: What are Ørsted's minimum qualifications for a future Ocean Wind 2 partner?

<u>Ocean Wind II, LLC Response</u> – Ørsted typically engages with investment partners to join as project co-sponsors during the development or construction phase as 50/50 partners for any given offshore wind project. Ørsted believes long-term partners deliver significant value to its assets and such long-term partnerships maintain a strong commitment to the local communities and their natural environments. Ørsted has historically sought partnerships with strong long-term investors,

18. Section 5.4: Please summarize the nature of any discussions Ocean Wind 2 has had with project financing participants that may represent a source of tax equity to support the capitalization of Ocean Wind 2, including the identification of potential project financing participants.

<u>Ocean Wind II, LLC Response</u> –To date, the Applicant has not engaged in discussions with any potential source of tax equity; however, the Applicant intends to pursue such sources as the project matures.

19. Section 5.4: Please summarize the amount of tax equity financing Ocean Wind 2 expects to raise as well as Ocean Wind 2's timing objectives.

<u>Ocean Wind II, LLC Response</u> – As the project is scheduled for a 2028 COD, the Applicant believes that it is premature to discuss an amount of tax equity financing at this date. However, the Applicant will use all reasonable efforts to maximize the amount of tax equity financing available for the Project and thereby reduce the final OREC amount and impact on ratepayers.

20. Section 5.4: Please clarify if and how construction bridge financing is contingent upon extension of the Renewable Tax Credit regime.

<u>Ocean Wind II, LLC Response</u> – The Applicant included a reference to construction bridge financing as an option that it may explore as a source of capital for the contemplated Project, but the Applicant does not contemplate exploring/pursuing this option at this time.

#### **Documentation of Financial Incentives**

21. Executive Summary: "Our preliminary estimate is that this could ultimately result in a reduction of the final OREC price for each of the Bids of \$4-6/MWh" (Application p. ES-4). What level (%) of ITC is this estimated reduction associated with?

Ocean Wind II, LLC Response -

22. Section 6.1.1.1: On December 27, 2020, H.R. 133 was signed into law. Among other provisions, the bill provides a 30% offshore wind Investment Tax Credit (ITC) for projects beginning construction by January 1, 2026 in coastal and navigable waters of the United States. Please confirm that Ocean Wind 2 commits to apply for this tax incentive.

Ocean Wind II, LLC Response – The Applicant recognizes the new tax equity opportunity available to the project as a result of H.R. 133 and believes there is a significant opportunity to improve the net cost to NJ ratepayers. However, as the tax credit regime and the conditions for which to monetize that tax benefit may continue to change throughout the project development process, rather than committing to apply for this specific tax incentive, the Applicant commits that it will use all reasonable efforts to apply for the *best* available tax credit opportunity for the project (exercising its business judgment) at the time that it is able to make such election/application. As of today this new offshore wind 30% ITC appears to be the best option. and the Applicant will ensure that the Project qualifies for this incentive, however the Applicant could contemplate a scenario where the 30% ITC was expanded to include the PTC. If, for example, that tax regime was more favorable to the Project and the New Jersey ratepayers, the Applicant assumes that the BPU and the New Jersey ratepayers would prefer that the Applicant apply for the PTC instead. As other changes to the tax laws could also occur, the Applicant is not committing to a specific incentive at the present time, but instead the Applicant commits to use reasonable efforts to maximize tax benefits available at the time of election and pass-through net savings to the New Jersey ratepayers.

- 23. Section 6.1.1.1: "The Applicant commits to working with the NJBPU on determining the best approach to passing on the net benefit (i.e., the gross benefit arising from such newly implemented tax incentive less all costs and negative impacts on the Project's economics that result from obtaining such tax incentive, including, but not limited to, consulting costs, accounting costs, insurance costs, legal costs, offsetting tax detriments from a change in depreciation expense, financial impacts from any required accelerated spending or other required changes to the CAPEX and DEVEX schedules of the Applicant) of such tax initiatives to New Jersey ratepayers."
  - a. Please confirm whether it is Ocean Wind 2's intention to pass through the full economic benefit of the ITC to New Jersey ratepayers.

<u>Ocean Wind II, LLC Response</u> – The Applicant confirms that it commits to pass through to New Jersey ratepayers the net benefits (as described above) of the tax credit ultimately selected by the Applicant. As noted above, the Applicant will use all reasonable efforts to apply for the best available tax credit opportunity for the project (exercising its business judgment) at the time that it is able to make such election/application (which would currently be the 30% ITC). However, as the tax credit regime and tax monetization conditions may change between now and the time of election, the Applicant believes that it is premature to declare that the current ITC will be the best choice. The Applicant also intends to take all reasonable actions to allow it to qualify today for the 30% ITC such that it can

apply for the ITC should this remain the most favorable option at the time of election/application.

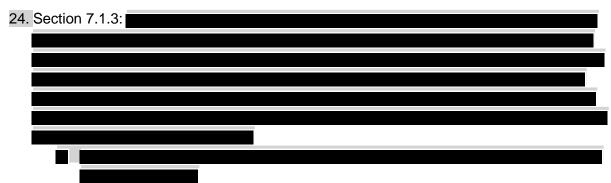
b. Please explain what Ocean Wind 2 has in mind regarding working with the NJBPU to determine the best approach to passing on the net benefit of the ITC to New Jersey ratepayers.

<u>Ocean Wind II, LLC Response</u> – The Applicant intends to provide a proforma calculation of the net benefit of the elected tax credit to the BPU and Rate Counsel for their review as early as possible, but

with the current assumptions for third-party tax monetization and the, discount rate from current bids submitted. As the determination of the net benefits has many variables, including, but not limited to: the corporate tax rate then in effect, the availability of third parties to acquire all or a portion of the available tax credits, the amount of base investment available for an ITC, the rate/cost charged by third parties, depreciation methodologies, etc., the Applicant is currently evaluating the matter and determining an appropriate calculation that accounts for the movement of all such variables to properly convey the net benefits to New Jersey ratepayers. The Applicant seeks to engage in a transparent process with the BPU and Rate Counsel with respect to the calculation of the net benefits and the effect on the OREC price in an effort to maximize the savings to NJ ratepayers.

c. How will Ocean Wind 2 calculate the net benefits of the ITC allocable to New Jersey ratepayers?

<u>Ocean Wind II, LLC Response</u> – As noted above, the Applicant is working to prepare a proforma calculation for the net benefits.



#### **Project Revenue Plan & Strategy**

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# **Economic Development Plan**

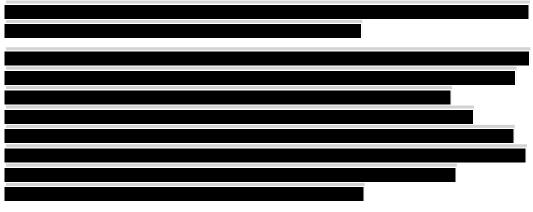
25. Section 8: The Application refers to an exclusive relationship with EEW in five places:

- i. "This [Paulsboro monopile facility expansion] opportunity is exclusive to the Ocean Wind 2 project and is made possible by Ørsted's market-leading position and supplier relationships" (p. 8-1).
- ii. "The Applicant is delighted to be partnering exclusively with EEW American Offshore Structures to finance a Phase 2 foundation manufacturing facility ..." (p. 8.6).
- iii. "A Letter of Support from EEW details this exclusive partnership in Attachment 8.1 ..." (p. 8-7). However, the EEW Letter of Support to BPU President Fiordaliso states that "Our clear mission is to supply monopiles from New Jersey to the 25GW of announced projects along the East Coast" (Attachment 8.1, p. 2), which implies non-Ørsted as well as Ørsted projects.
- iv. "Ørsted and EEW have worked exclusively to develop and agree on an incremental funding package that unlocks the necessary capital to realize this full Phase 2 facility" (p. 8-8).

- v. "Ørsted has worked on an exclusive basis with its partner EEW to establish a flexible schedule for realization of the facility, enabling EEW to supply non-Ørsted projects in advance of the Ocean Wind 2 production run scheduled for 2027" (p. 8-11).
  - a. Please clarify what, if anything, about the EEW Phase 2 facility expansion is "exclusive" to the Ocean Wind 2 project, given that the EEW Letter of Support to BPU President Fiordaliso states that "Our clear mission is to supply monopiles from New Jersey to the 25GW of announced projects along the East Coast" (Attachment 8.1, p. 2) and that EEW would be able to "supply non-Ørsted projects in advance of the Ocean Wind 2 production run."

<u>Ocean Wind II, LLC Response</u> - For purposes of the application currently submitted in New Jersey's second offshore wind solicitation, EEW and the Applicant's affiliate, Orsted Wind Power North America, LLC, have partnered on an exclusive basis to put in place a capital funding plan, as well as a joint project development plan, that will facilitate the expansion of the Paulsboro facility to enable full monopile manufacturing. This expansion is defined as Phase 2.

The parties' commitment for Phase 2 (i) builds upon the long-standing relationship between Ørsted and EEW pursuant to which EEW has supplied over 900 MPs to numerous Ørsted projects in recent years; and (ii) leverages the learnings and synergies accrued through the Phase 1 facility development at Paulsboro. The Phase 2 expansion is an expression of the mutual confidence and trust between EEW and Ørsted



To ensure this facility is sustainable, competitive and can become selfsupporting, EEW is free to supply monopiles from this facility to other third-party developers or other Ørsted affiliated projects, both prior to and after delivering monopiles to the Applicant for its proposed project.





Ørsted is keen to see the Paulsboro facility thrive and the **mathematic** agreement is structured such that EEW may market the supply of monopiles to third-party developers. Additional supply contracts will secure the volume necessary to ensure this facility can compete on the global stage and become a long-term self-sustaining business that can and will be a source of good paying jobs for the communities of southern New Jersey for the foreseeable future.

b. Please confirm Ørsted's current commitments, both binding and contingent, to support financing of the EEW Phase 2 foundation manufacturing facility (per citations ii and iv) and clarify the sense in which the financing arrangement is exclusive.

<u>Ocean Wind II, LLC Response</u> – Ørsted is committed to support the financing of the EEW Phase 2 foundation manufacturing facility, contingent on an award of ORECs to the Applicant for the contemplated project in the current solicitation per the terms of the

c. Please confirm that EEW will be free to supply monopiles produced by the Phase 2 facility, both before and after, the scheduled 2027 production run for Ocean Wind 2 (per citations iii and v).

<u>Ocean Wind II, LLC Response</u> – Subject to the Phase 2 being realized through an award of ORECs to the Applicant in the current solicitation, EEW has full flexibility to secure supply contracts with other developers; provided that such supply contracts do not conflict with the facility's capacity that has been reserved for monopile production for the Applicant's proposed project,

Ocean Wind II, LLC Response –

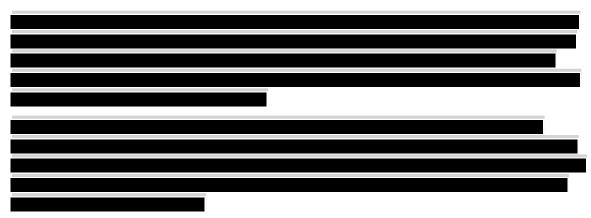
e.
Ocean Wind II, LLC Response –
f. Is Ørsted's role in financing the Phase 2 facility expansion contingent on an award in this solicitation? Please also explain any other conditions or contingencies for EEW's Phase 2 facility development.
Ocean Wind II, LLC Response – The Applicant receiving an award in this solicitation is a condition precedent for Ørsted's role in financing the Phase 2 facility expansion.
g.
Ocean Wind II, LLC Response –
h.
Ocean Wind II. LLC Response –

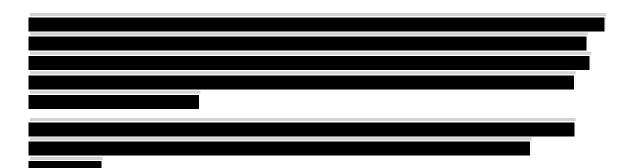
26. Section 8.2.1:
Ocean Wind II, LLC Response –
Ocean Wind II, LLC Response –
27. Section 8.2.1:
Ocean Wind II, LLC Response –
Confidential, Deliberative Process Privilege and Work Product Privilege

28. Section 8.2.1.2:		
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	28. Section 8.2.1.2	_
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29. Section 8.2.2: Please explain why the GE nacelle facility at the NJWP would be a "unique opportunity for New Jersey" (Application, p. 8-9), given that other OSW developers can also partner with GE or other suppliers of WTGs.

<u>Ocean Wind II, LLC Response</u> – The localization of the supply chain, and specifically the construction of new manufacturing facilities, comes with an additional capital cost that, in the context of a low volume industry such as offshore wind, typically far exceeds any cost benefit associated to localization. Manufacturers cannot absorb these additional costs, so they are transferred to developers who must incorporate these cost adders into their bids.



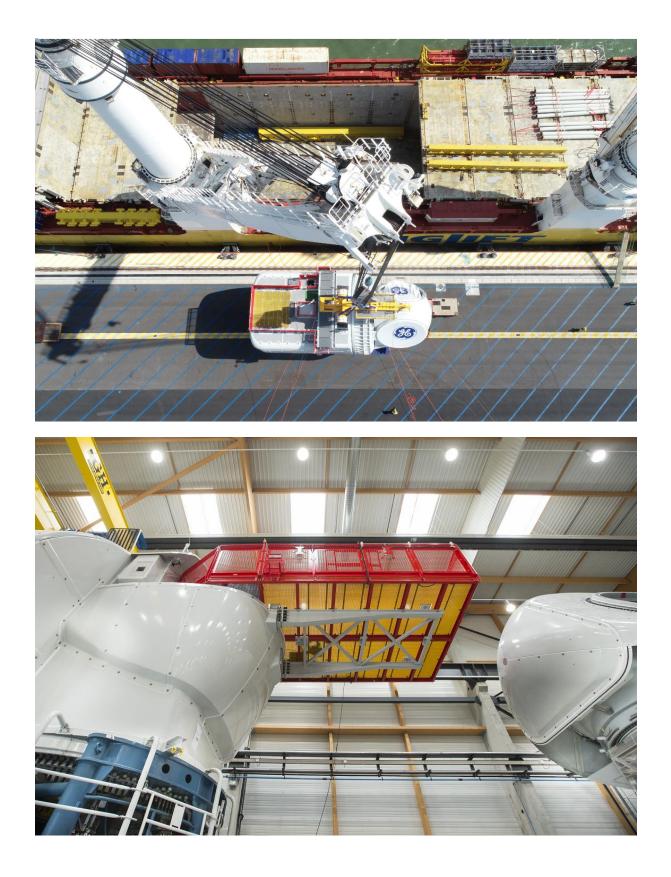


Furthermore, prior industry experience from the onshore wind industry shows that the establishment a nacelle assembly facility will immediately encourage the development of facilities for the production of other supply chain parts in close proximity to the nacelle facility...so called manufacturing clustering effect. Such development of facilities for internal nacelle components (electrical components, controllers, molded parts, structural parts, hydraulic systems, etc.) is expected as many of the required components are significant in size, and geographic proximity facilitates logistics. Of the three main turbine component manufacturing opportunities...nacelles, blades, and towers...nacelles has the most inherent ability to lure other manufacturers to the area because of the nature of "assembly" which entails literally putting together hundreds or thousands of parts and/or subsystems into a nacelle. GE has confirmed its intention to encourage its suppliers to regionalize around the location of its nacelle assembly location. In fact, Ørsted North America's CEO, David Hardy, during his time at Danish wind turbine manufacturer Vestas, witnessed the establishment of an onshore nacelle assembly factory in Brighton, Colorado in 2010 and the associated influx of component suppliers to the area. Vestas is a global leader in onshore wind, however, remains unproven offshore. The nacelle facility in Brighton and other initiatives were part of making Colorado a clean energy hub. See e.g. this New York Times piece for reference

https://green.blogs.nytimes.com/2009/05/05/vestas-makes-colorado-a-clean-energy-hub/

The Applicant therefore believes this is a unique and amazing opportunity for New Jersey to not only bring a beacon of American industry, GE, to the State with a state-ofthe art facility, but also to attract the associated anticipated supply chain developments that will likely follow. As one of the two only legitimate offshore wind turbine OEMs (Siemens Gamesa being the other one) and as the only American OEM in the space, Ørsted believes establishing supply chain components with GE is a tremendous opportunity for NJ. Not all OEM components are created equal and will have long-lasting global demand.

Please see below some images of GE's nacelle assembly plant in Saint Nazaire, France in supplement to the one supplied in the Application. These pictures are for illustrative purposes only, as the NJ plant might differ in its final configuration.





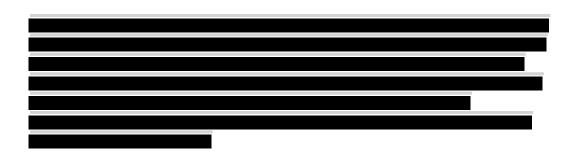


30. Section 8.3: Notes to Tables 8-4, 8-5, 8-6, and 8-8 provide the Applicant's (or supplier's) lower estimates of direct job FTEs relative to those used in IMPLAN, apparently based on using the IMPLAN sector change method. Please explain why the analysis did not make use of the model's capabilities to reflect only indirect and induced multiplier effects by using the analysis-by-parts (aka bill-of-goods) method for direct expenditures, labor compensation, and job FTEs.

<u>Ocean Wind II, LLC Response</u> – The applicant conducted the analysis pursuant to the requirements of N.J.A.C. 14:8-6.5(a)(11)(ix) whereby the regulations require the applicant to conduct a detailed input-output analysis of the impact of the project on income, employment, wages, indirect business taxes, and output in the State with particular emphasis on in-State manufacturing employment.

31. Section 8.3.1: If Ocean Wind 2 receives an award in this solicitation,

	Ocean Wind II, LLC Response –
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b. Please summarize Ørsted's understanding of how EEW's annual production limits would affect the availability of monopiles to support other east coast projects?

<u>Ocean Wind II, LLC Response</u> – As noted in the answer to Question 28 above, the number of monopiles manufactured annually at the Phase 2 facility will depend on their size and complexity. However, Ørsted anticipates that approximately 100 monopiles can be produced annually from the Phase 2 facility, with an estimated lower and upper limit of 80 and 125, respectively. With today's knowledge of future turbine sizes (~14MW) that translates to approximately 1,400MW annually.

Ocean Wind II, LLC Response -	-		_

32. Section 8.3.1: Table 8.4 note 1 cites 497 foundation manufacturing FTEs versus 446 FTEs as the "expected" estimate (Table 8.12). The EY IMPLAN analysis direct "annual employment" value is also 446 (Attachment 1, Table 2, of Attachment 8.2). Please clarify whether the lower estimate should be relied upon.

<u>Ocean Wind II, LLC Response</u> – Table 4-3 in Attachment 8-2 details the total number of permanent workers once the Phase 2 facility is in operation as 446 manufacturing jobs and 51 white collar roles (the total number of anticipated jobs are 497).

The note to Table 8-4 is accurate in that EEW anticipates that the total number of jobs created will be 497 based on current plans. However, a conservative approach has been taken whereby only the manufacturing jobs are incorporated into our commitments outlined in table 8.12 and the EY report. This conservatism ensures that the Applicant does not unintentionally mislead or present an overly optimistic economic benefit package to the BPU if, ultimately, fewer jobs are created by EEW and ensures that the Applicant can confidently stand behind its respective economic benefit commitments.

33. Section 8.7.1:

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a. Has Ocean Wind 2 estimated the low mileage and frequent short journeys around the Port of Newark/Elizabeth that supports the benefit of delivering improvements in air quality in and around Newark? If yes, please provide a high-level estimate of the Phase 1, Phase 2, and Phase 3 (testing at scale) underlying the pilot program.

<u>Ocean Wind II, LLC Response</u> – Yes, the North Jersey Port Community Electrification Projects includes *The Anticipated Environmental Benefits* table in Section 4.0 on page 11 of Gabel Associates report in Attachment 8-5. The Applicant has estimated low mileage and frequent short journeys around the Port of Newark/Elizabeth. The anticipated emission reduction analysis includes an estimated duty cycle of all trucks that would be at the depot, including the number of days trucks will run and the associated daily mileage. The emission reduction analysis is over the life of the truck estimated at 15 years.

The analysis assumes the depot at full capacity - accommodating approximately 200 trucks, of which 50 are expected to be Class 8 drayage trucks supported by the financial contribution of the Applicant. Below, as requested, we include estimated related air emission reductions for Phase 1, Phase 2 and Phase 3 in Table 1, Table 2 and Table 3 respectively for the anticipated 15-year life of the trucks. For this analysis, we have made the assumption that 50 Class 4-6 non-Ørsted supported trucks will be operating at the depot per each of the three phases for a total of 150 at the end of the third and final phase. The analysis for each of the phases below assumes the avoided emissions benefits delivered over a 15-year period, the projected life of the truck.

	Phase 1 - 10 Class 8			Phase 1 - 50 Class 4-6		
	Emissions Avoided (tons)	Nominal Damages Avoided (\$)	NPV Damages Avoided (\$)	Emissions Avoided (tons)	Nominal Damages Avoided (\$)	NPV Damages Avoided (\$)
CO2	15,275	1,021,722	588,936	76,376	5,108,612	2,944,681
Nox	18.26	392,630	227,294	91.29	1,963,149	1,136,468
PM 2.5	0.24	244,967	141,507	1.18	1,224,836	707,534
Total		1,659,320	957,737		8,296,598	4,788,683

#### Table 1 Phase 1 vehicle avoided emissions (15 year cumulative)

	Pha Emissions Avoided (tons)	ase 2 - 15 Cla Nominal Damages Avoided (\$)	ss 8 NPV Damages Avoided (\$)	Pha Emissions Avoided (tons)	se 2 - 50 Clas Nominal Damages Avoided (\$)	s 4-6 NPV Damages Avoided (\$)
CO2	22,913	1,597,628	861,243	76,376	5,325,428	2,870,810
Nox	27.39	611,611	330,839	91.29	2,038,703	1,102,797
PM 2.5	0.35	382,239	206,311	1.18	1,274,130	687,702
Total		2,591,478	1,398,393		8,638,261	4,661,309

# Table 2 Phase 2 vehicle avoided emissions (15 year cumulative)

#### Table 3 Phase 3 vehicle avoided emissions (15 year cumulative)

	Phase 3 - 25 Class 8			Phase 3 - 50 Class 4-6		
	Emissions Avoided (tons)	Nominal Damages Avoided (\$)	NPV Damages Avoided (\$)	Emiss Avoi (tor	ided Damages	NPV Damages Avoided (\$)
CO2	38,188	2,774,396	1,398,516	76,37	6 5,548,793	2,797,033
Nox	45.64	1,058,661	535,123	91.29	2,117,322	1,070,246
PM 2.5	0.59	662,772	334,265	1.18	1,325,544	668,529
Total		4,495,830	2,267,904		8,991,659	4,535,807

b. Please summarize other pilot programs oriented around Class 8 and Class 9 heavy duty trucks that Zeem has been involved in elsewhere in North America.

<u>Ocean Wind II, LLC Response</u> – Zeem Solutions, Inc. has to date not been involved in pilot projects utilizing Class 8 and 9 heavy duty trucks. However, Zeem has been involved in pilot projects involving Class 4-6 trucks that travel approximately 100-150 miles a day. The leap to go from Class 4-6 trucks, traveling 100-150 miles a day to Class 8 trucks that travel 100-150 miles a day is achievable. Comparable batteries would be utilized on larger truck bodies and Zeem is confident it can make this transition.

c. Ocean Wind 2 references financial support to offer vehicles at price parity with traditional fossil fueled vehicles. Is price parity pegged to diesel fuel? If no, does price parity also include LNG and/or CNG?

<u>Ocean Wind II, LLC Response</u> – Price parity is pegged to diesel fuel vehicles. It does not include LNG and/or CNG.

d. What is the time frame associated with achieving price parity through powering electric drayage trucks around the port of Newark/Elizabeth? Is achievement of price parity predicated on scaling up the 25 trucks associated with the Phase 3 testing at scale?

<u>Ocean Wind II, LLC Response</u> – There are many factors that must be considered in providing estimates of Class 8 drayage trucks achieving price parity with equivalent diesel vehicles. Cost differentials are primarily driven by battery costs. As one example of complexity of predicting price parity for the Class 8 drayage vehicles, within this category of trucks, there are numerous duty cycles depending on exactly where and how a particular truck operates. It will be possible to optimize drayage trucks that have predictable known duty cycles with batteries of an appropriate capacity. For this, and many other reasons, the Applicant cannot provide a specific time frame for price parity of Class 8 drayage trucks. However, understanding that the industry is on a declining cost curve, the project has been designed to be developed in several phases to mitigate risk, take advantage of learning, and to realize expected cost efficiencies anticipated to occur over time.

e. You indicate that the three phases referenced in Table 8.11 should be considered "provisional." Please explain more fully the basis to accelerate or delay the program based on the \$11 million cap.

<u>Ocean Wind II, LLC Response</u> – As detailed in the response to question 33(d) above, the design of the three phases outlined in Table 8.11 adopts a deliberate "walk before you run" mentality to mitigate risk and take advantage of learning as the project progresses to maximize value for NJ ratepayers.

The project budget set at 11 mUSD is phased over four years and is based on current 2021 vehicle pricing. The phased funding is designed to increase flexibility and will allow the project to respond to cost declines or leverage additional federal and/or state incentives that may materialize. In this improved cost outlook scenario, it may be possible to support an increased number of trucks sooner which is why we state the schedule is provisional.

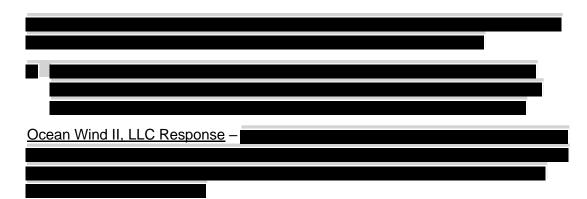
Conversely, any immature or new technology has an inherent risk that may impact the project schedule or introduce additional cost. If challenges are encountered delivering the project as proposed, the Applicant would engage further with the Board or other nominated public body to modify the project such that the best value can be realized for New Jersey from the remaining project funds.

34. Section 8.7.1: Will the establishment of a new truck depot configured with vehicle-to-grid capability allow for third party use of the depot during the pilot development phase? If no, why not?

<u>Ocean Wind II, LLC Response</u> – The depot is expected to accommodate approximately 200 vehicles and is a commercial facility that will not be available for public access. Zeem Solutions, Inc., as owner and operator of the depot and as owner of the trucks, will

lease the trucks to third party operators. Under the lease agreement, the lessees have the benefit of the use of a truck that is fully charged and in good working order each day (charging and service to be performed at the depot). Any benefits that accrue from vehicle to grid capability are captured by Zeem Solutions, Inc. as the depot owner.

35. Section 8.7.1: "
Ocean Wind II, LLC Response –
b.
Ocean Wind II, LLC Response –
36. Section 8.7.1:
Ocean Wind II, LLC Response –



37. Attachment 8.1: The EEW letter of support in Attachment 8.1 is identical to the letter of support in Attachment 2.3. Was another document intended to be presented in either section's attachment? If so, please provide.

<u>Ocean Wind II, LLC Response</u> – No, there is only one letter of support from EEW. For convenience, the Applicant provided a copy of the EEW letter of support in Attachment 2.3 and Attachment 8.1 rather than cross-referencing.

38. Attachment 8.2: The EY IMPLAN report states that "Employment is reported as the total number of full- and part-time jobs (headcount)" (Attachment 1, p. 2 of Attachment 8.2). Table 2 of that EY report shows 446 "average annual employment" over 20 years of operations. Please clarify whether the EY report uses 446 FTEs or whether the same 446 direct FTEs value in Attachment 8.2, Table 12 was not in FTE units.

<u>Ocean Wind II, LLC Response</u> – At the direction of EEW, the EY report assumes a fulltime position equates to 2,080 hours per year and has assumed 446 fulltime positions. EEW has assumed that this is the long-term average number of jobs and can fluctuate, with a reduced workforce for slower periods of production, and additional increased overtime hours when production is at full capacity. This is based on EEW's employment profile from Germany, and the New Jersey factory is anticipated to be a replica of that facility.

The BPU Solicitation Guidance Document advises that job totals expressed as full-time equivalent positions should assume 1,820 hours per year. We recognize the inconsistency however in the interests of simplicity we have used EEW's jobs estimates on a one-to-one basis in the commitments presented in Section 8 as this is considered conservative.

There is no Table 12 in Attachment 8-2 however if the BPU is referencing Table 8.12 in Section 8, the job estimates presented in Table 8.12 can be considered as full-time equivalent positions however it should be noted that these job creation values may underrepresent potential employment based on the EEW's assumption that a fulltime position equates to 2,080 hours per year.

 Attachment 8.2: Regarding EEW Phase 1 facility "ground-breaking in January 2021" (Attachment 8.2, p. 5): Please provide the date that ground-breaking has occurred or is expected to take place.

<u>Ocean Wind II, LLC Response</u> – Site access for the Phase 1 facility is now obtained and construction mobilization commenced on January 20, 2021.

- 40. Attachment 8.2: Please clarify that the "total economic impact arising from the Paulsboro facility" (Attachment 8.2, p. 18), summarized in Table 4-1 includes or excludes Phase 1 activities:
  - a. Phase 1 facility construction and equipment
  - b. Phase 1 monopile finishing operations.

<u>Ocean Wind II, LLC Response</u> – Table 4-1 of Attachment 8-2 estimates the economic impacts arising over 20 years as a result of the combined Phase 1 and Phase 2 facilities. As such it includes economic impacts arising from both (a) Phase 1 facility construction and equipment: and (b) Phase 1 monopile finishing operations.

For the avoidance of doubt, the information contained within the EY report (attachment 1 of Attachment 8-2) is provided for illustrative purposes only. Only the incremental economic benefits associated to the Projects capital funding for the Phase 2 facility and Projects MP production run are considered in the economic benefits presented in Section 8 and Section 16 of the bid submission.

41. Attachment 8.2:

Ocean Wind II, LLC Response –	
42. Attachment 8.2:	
Ocean Wind II, LLC Response –	
43. Attachment 8.2:	

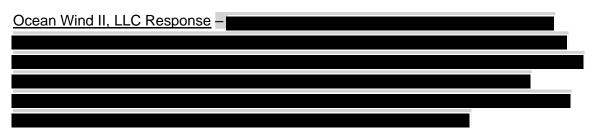
Ocean Wind II, LLC Response –
44. Attachment 8.2:
Ocean Wind II, LLC Response
45. Attachment 8.2:

Ocean Wind II, LLC Response –
46. Attachment 8.2:
Ocean Wind II, LLC Response –
47. Attachment 8.2:
Ocean Wind II, LLC Response –
48. Attachment 8.2:
Ocean Wind II, LLC Response –
49. Attachment 8.3: "



## **Environmental Protection Plan and Emissions Impacts**

50. Section 9.2.1: How will the COP for Ocean Wind 2 account for cumulative environmental impacts associated with the development of Ocean Wind 1 and 2?



51. Attachment 9.1, Section 3.1.2: "Cable landfall would be by open cut or trenchless methods (bore or horizontal directional drilling (HDD))" (Attachment 9.1 p. 64). Please characterize the land use and local environment at the proposed onshore landing point for each of the five proposed interconnection points. Identify the locations where HDD is expected to be used.'

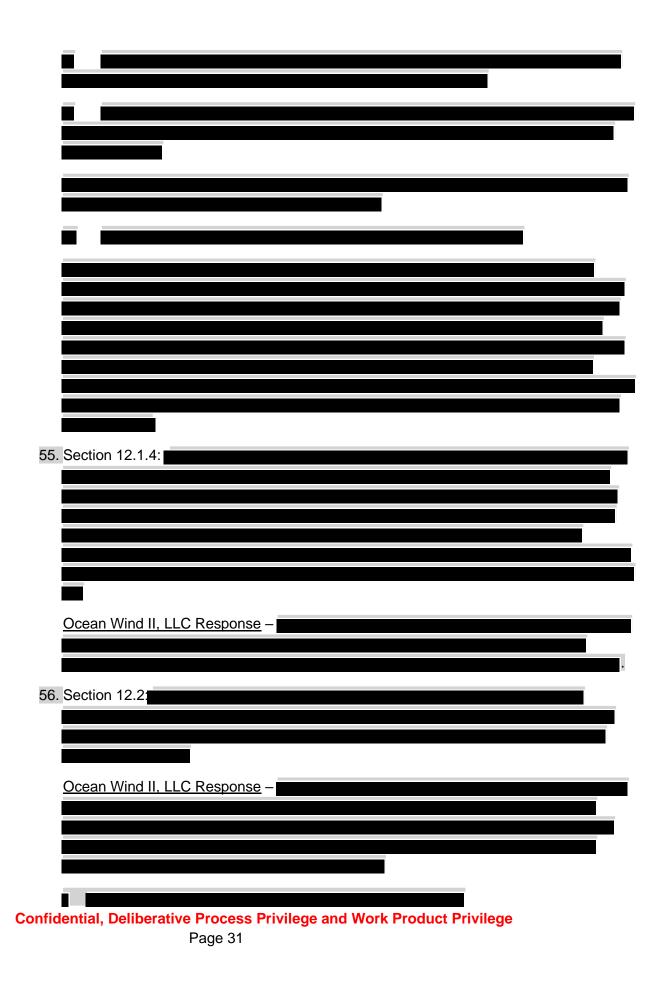
Ocean Wind II, LLC Response –

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# Project Timeline

52. Section 11.4:
Ocean Wind II, LLC Response –
53. Section 11.4:
Ocean Wind II, LLC Response –
Interconnection Plan
Interconnection Plan
Interconnection Plan 54. Section 12.1.2:
54. Section 12.1.2:
54. Section 12.1.2:





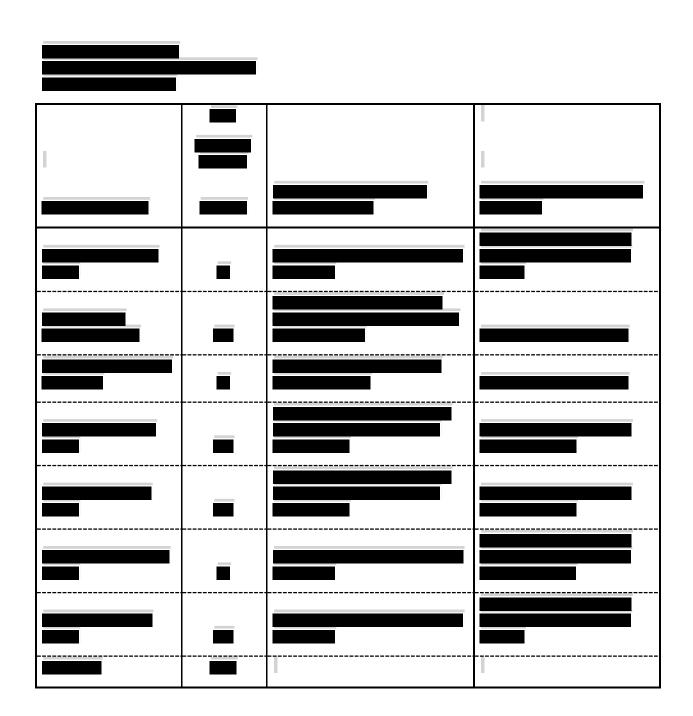
57. Section 12.2.1:
Ocean Wind II, LLC Response –
59 Section 12.2.2.
58. Section 12.2.2:
Ocean Wind II, LLC Response –
59. Section 12.2.3:
Ocean Wind II, LLC Response –

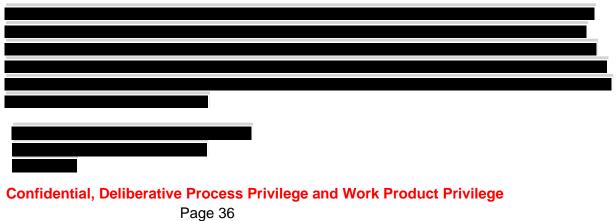
Confidential, Deliberative Process Privilege and Work Product Privilege Page 32

Ocean Wind II, LLC Response –
60. Section 12.2.4:
Ocean Wind II, LLC Response –
61. Section 12.2.5:
Ocean Wind II, LLC Response –

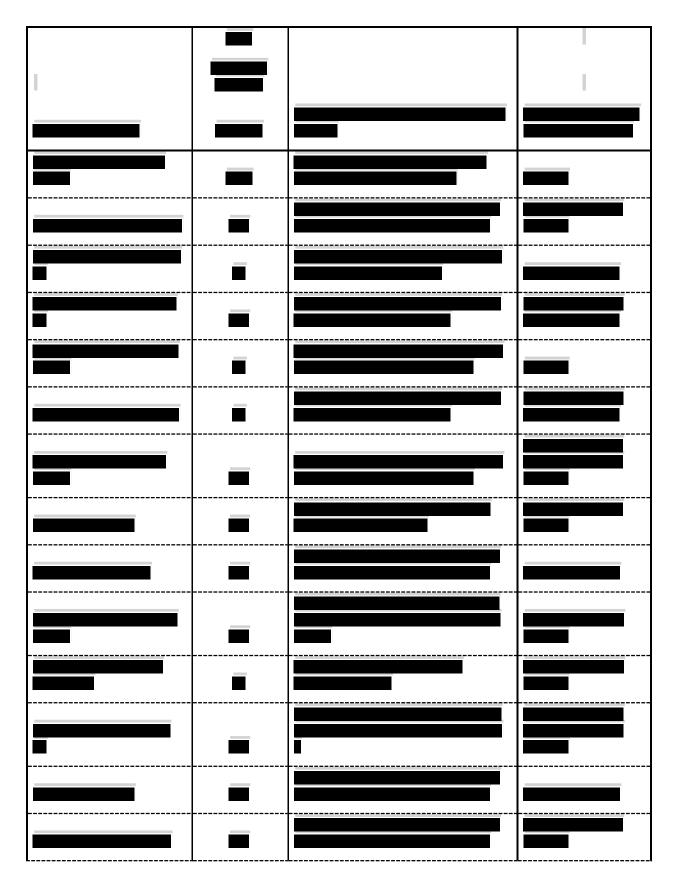
62. Section 12.5.3:
Ocean Wind II, LLC Response –
62 Section 12.6.2: "The Applicant is evaluating the feasibility of notantial cable landfall
63. Section 12.6.3: "The Applicant is evaluating the feasibility of potential cable landfall locations in parallel with the evaluation of <b>sector sector</b> (Application p. 12-17).
Ocean Wind II, LLC Response – Please see response to Question 51 above.
64. Section 12.7:

a.	
	Ocean Wind II, LLC Response –
h	Please provide a numerical example illustrating the calculation.
	Ocean Wind II, LLC Response –
c.	
	Ocean Wind II, LLC Response –
65. Attach	nment 12.2:
	Ocean Wind II, LLC Response -

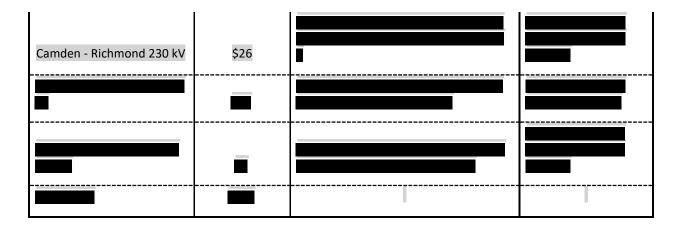




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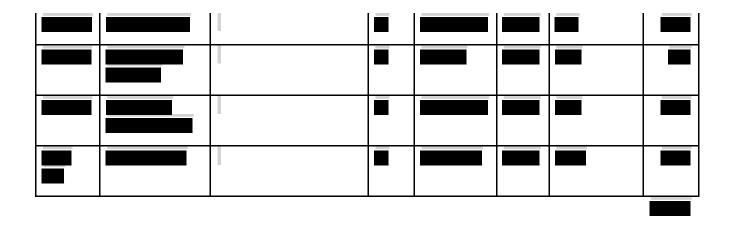
Confidential, Deliberative Process Privilege and Work Product Privilege Page 37







Confidential, Deliberative Process Privilege and Work Product Privilege





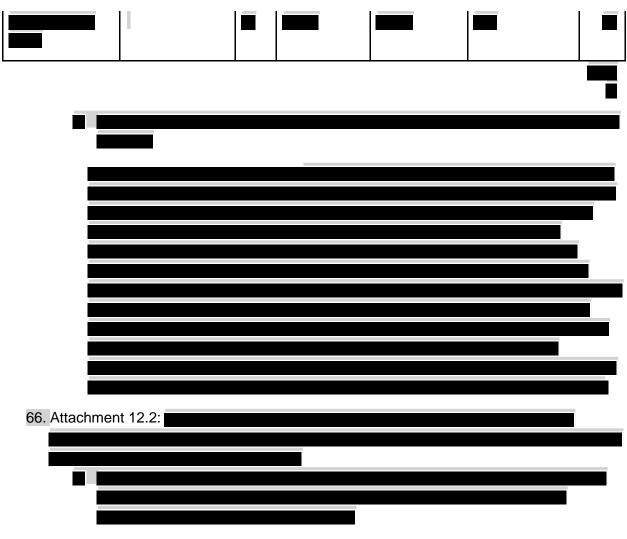
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<u>Ocean Wind II, LLC Response</u> – Please refer to the response to Question 65 (a) above.)

b. Please provide the % contribution of the other queued projects to the overloaded facilities.

<u>Ocean Wind II, LLC Response</u> – Please refer to the response to Question 65 (b) above.

# **Permitting Plan**

67. Attachment 13.1: Does the permit matrix include permits and regulatory requirements for all proposed activities at port facilities? If yes, please clarify which requirements specifically apply to port activities. If no, please identify the additional permits and regulatory requirements that apply to port activities.

<u>Ocean Wind II, LLC Response</u> – No, as the Applicant is not the party responsible for obtaining the necessary permits or regulatory approvals for the activities contemplated at the port facilities, such information is not included in the permit matrix. The Applicant is working with various parties in connection with the contemplated port activities and such parties are responsible for obtaining such permits/approvals. The relevant parties have not indicated any concerns to the Applicant in connection with obtaining such permits/approvals for the contemplated port activities.

# **O&M** Plan

68. 5	Section 14.1.3:
	Ocean Wind II, LLC Response –

b. What, if any, measures will be taken to make other built infrastructure, including the foundations, wind turbine generators, and cables, climate resilient?

<u>Ocean Wind II, LLC Response</u> – Information on the climate resiliency of the foundations, wind turbine generators, and cables is available in Section 3.2.2 "Suitability of proposed technical equipment" of the application narrative.

The Onshore Substation (OnSS) will be designed and constructed according to all applicable standards. The areas for the OnSS will go through a thorough design risk assessment, that will take environmental and climate change issues into considerations, and appropriate mitigations will be applied, to safeguard the OnSS from a design, construction and operational point of view.

Finally, none of proposed POIs are in the coastal zone and are not overly exposed to hurricanes.

69. Section 14.3.3: Please describe "the types and levels of insurance that are appropriate for the Project and consistent with industry practice" (Application p. 14-8).

<u>Ocean Wind II, LLC Response</u> – Ørsted, and thus the Applicant, will procure and manage all insurance-related activities for its offshore projects throughout the project lifecycle. The first phase of such lifecycle represents development activities beginning with coverage pursuant to the Project Construction All Risks policy which will be followed by coverage pursuant to an Operational All Risks policy once the Project is considered

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fully operational. The Applicant will be responsible for all insurances coverages and will, if necessary, procure specific insurances that any future JV partner may reasonably require e.g. Delay in Start-Up or Business Interruption revenue protection. All insurances that Ørsted purchases will be specific to the Ocean Wind 2 project and will incorporate all local, state and federal insurance requirements such as Jones Act requirements and statutory Workers Comp requirements. The Applicant intends to work with a specialised insurance broker to procure all necessary and prudent insurance policies.

# **Cost-Benefit Analysis**

70. Attachment 16.2: The READ ME worksheet lists "Report Attachments", "Summary of tables in benefits report" as a worksheet within the Excel file. No worksheet with that name was found. Please provide the information in the referenced sheet or clarify where it may be found in the Application.

<u>Ocean Wind II, LLC Response</u> – "Report Attachments" was inadvertently included on the READ ME tab and should have been removed. This tab provided tables which were utilized in the Benefits Report prepared by the Applicant's consultant, Gabel Associates.

71. Attachment 16.4: The IMPLAN Inputs file only includes the variable "Modeled Local Spend." Please clarify whether the direct labor FTEs and labor expenditure data in the Application form Bill-of-Goods sheets of the Excel file for each bid were also used as IMPLAN inputs, or only the in-state expenditures shown in Attachment 16.4.

<u>Ocean Wind II, LLC Response</u> – The Direct FTEs and Labor Expenditure data in the Application form Bill-of-Goods sheets of the Excel file for each bid are the results of our IMPLAN modeling and were not used as inputs. The in-state expenditures shown in attachment 16.4 were used as inputs to the IMPLAN analysis.

### **Application Form**

72. "Economic Impacts" and "Bills-of-Goods" worksheets: **Constant and Second Second**, the direct labor FTEs and labor expenditure values for Decommissioning are over 3.2 times more in the "Economic Impacts" worksheet than the sum of those variables in the "Bill-of-Goods" worksheet. Please clarify and correct those values.

<u>Ocean Wind II, LLC Response</u> – The Applicant has reviewed **Constant of Second Second** 



# Applicant Commitment Form

73.
Ocean Wind II, LLC Response –
74.
Ocean Wind II, LLC Response –

### STATE OF NEW JERSEY

### BOARD OF PUBLIC UTILITIES

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IN THE MATTER OF THE APPLICATION OF OCEAN WIND II LLC FOR APPROVAL AS A QUALIFIED OFFSHORE WIND PROJECT, PURSUANT TO N.J.S.A. 48:3-87.1 and N.J.A.C. 14:8-6.1, et seq.

STATEMENT OF

, of full age, states:

1. I am the MidAtlantic Project Development Director for Ørsted North America Inc., the sole member of Ocean Wind II, LLC ("Ocean Wind II"), and I am authorized to make this Statement on behalf of Ocean Wind II.

2. On this date, February 1, 2021, Ocean Wind II has, as instructed by BPU Staff on January 19, 2021 uploaded its responses (the "Responses") to Clarifying Questions Set 1, New Jersey Offshore Wind Solicitation #2.

3. Ocean Wind II has submitted a Confidential Copy (unredacted) and a Public Copy (redacted) of such Responses.

4. All of the information redacted by Ocean Wind II in the Public Copy was redacted because the portions redacted are Trade Secrets of Ocean Wind II.

5. The Responses are somewhat voluminous. The material redacted consists of, *inter alia*, very specific project development information; manufacturing processes; proprietary technology to Ocean Wind II; Trade Secret transactions with suppliers to Ocean Wind II; bid strategy of Ocean Wind II; and similar information relative to Ocean Wind II's affiliates and subsidiaries.

6. The Responses are too voluminous to detail in this Statement all of the Trade Secret information which was redacted.

**PUBLIC COPY** 

7. Specifically, the information redacted consists of formulae, practices, processes, designs, instruments, patterns, commercial methods, or compilations of information not generally known or reasonably ascertainable by others by virtue of which Ocean Wind II obtains an economic advantage over its competitors. This is valuable commercial information that provides Ocean Wind II with an advantage over its competitors who do not have that information, and is not generally available.

8. These Trade Secrets are exempt from disclosure under the Open Public Records Act, N.J.S.A. 47:1A-1 et seq. and the Board's regulations at N.J.A.C. 14:1-12.1(b).

9. The information redacted from the Public Copy shall remain confidential until Ocean Wind II agrees otherwise.



Dated: February 1, 2021



**Attachment to Question 9** 



# **Ocean Wind Project (OCW02)**

# Preliminary Development Agreement 2

Foundation Supply

# PRELIMINARY DEVELOPMENT AGREEMENT

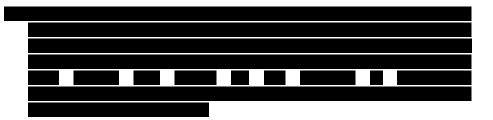
This Preliminary Development Agreement (the "**PDA 2**") is made on the 26 January 2021 (the "**Effective Date**").

### BETWEEN:

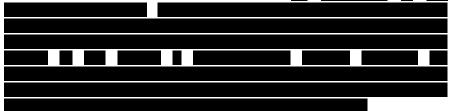
- 1. **Orsted Wind Power North America LLC,** reg. no. 6236482, whose registered office is at 399 Boylston Street, 12th Floor, Boston, MA 02110, United States ("Ørsted"); and
- EEW American Offshore Structures Inc. incorporated in Delaware, whose office is at 6 W. Spruce Ave., Moorestown, New Jersey 08057, United States ("EEW")

(Ørsted and EEW, each a "Party", and together the "Parties").

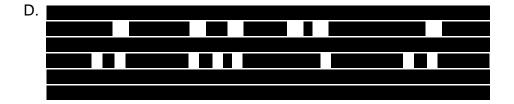
#### WHEREAS:

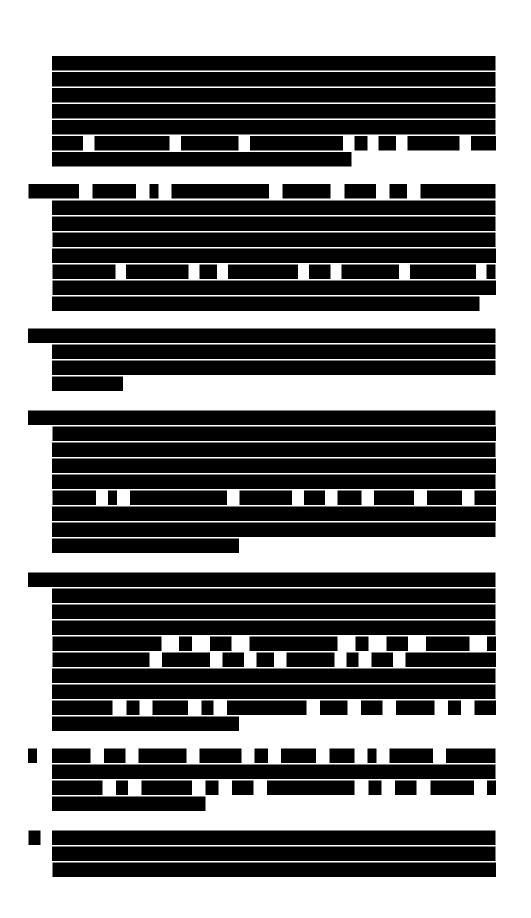


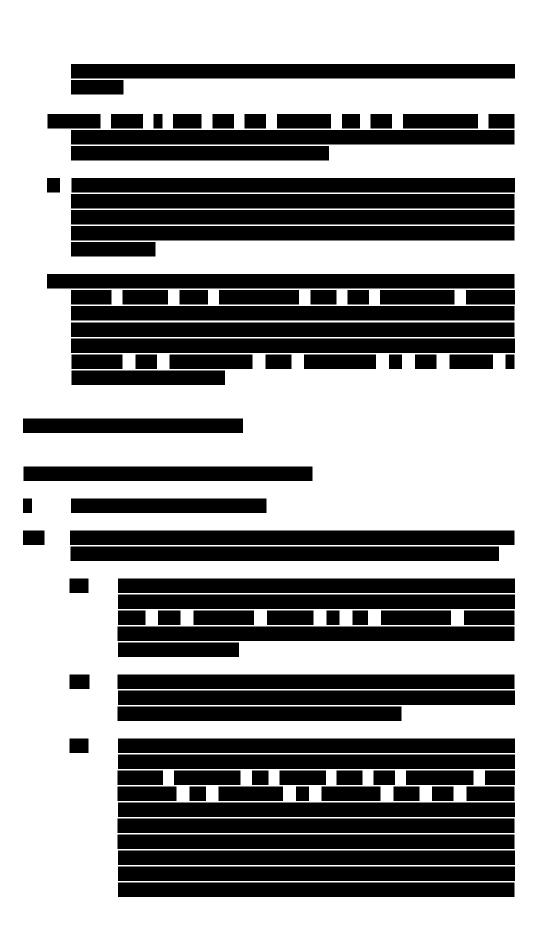
B. The Parties now enter into a second preliminary development agreement ("PDA 2") with the aim of establishing the main principles for establishing phase 2 of the Manufacturing Facility ("Phase 2 Manufacturing Facility")

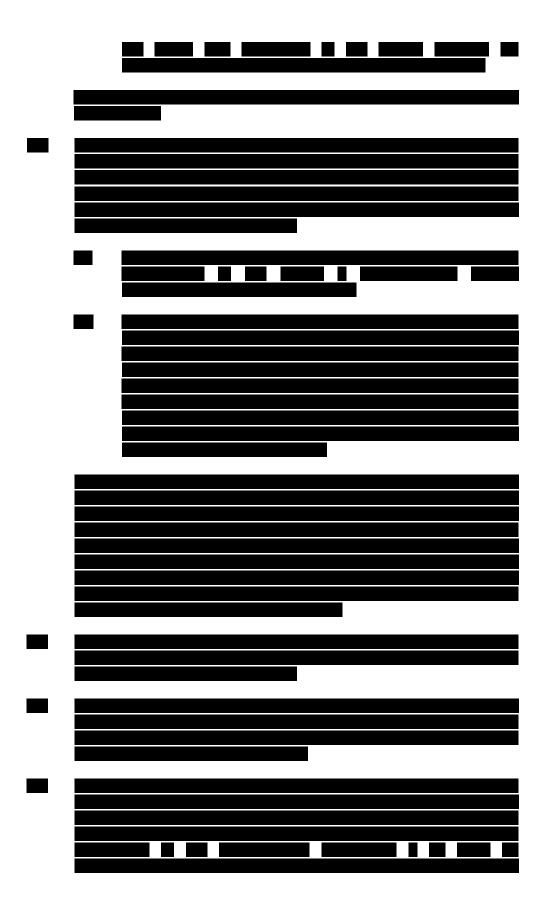


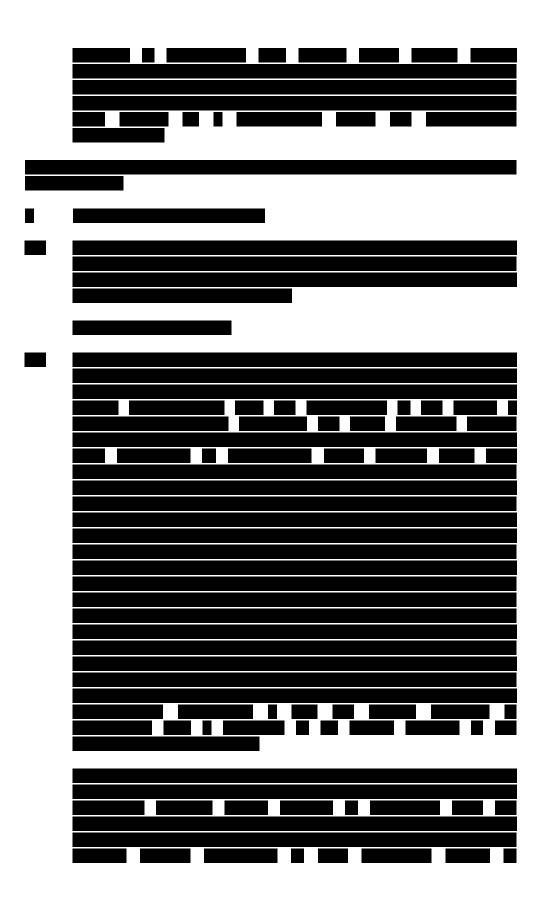
C. On 9 September 2020, the New Jersey Board of Public Utilities ("NJBPU") voted unanimously to open the application window for the New Jersey State's second solicitation of offshore wind capacity. This second solicitation is seeking applications to secure offshore wind renewable energy certificates ("ORECs") targeting 1,200 MW to 2,400 MW of offshore wind capacity.

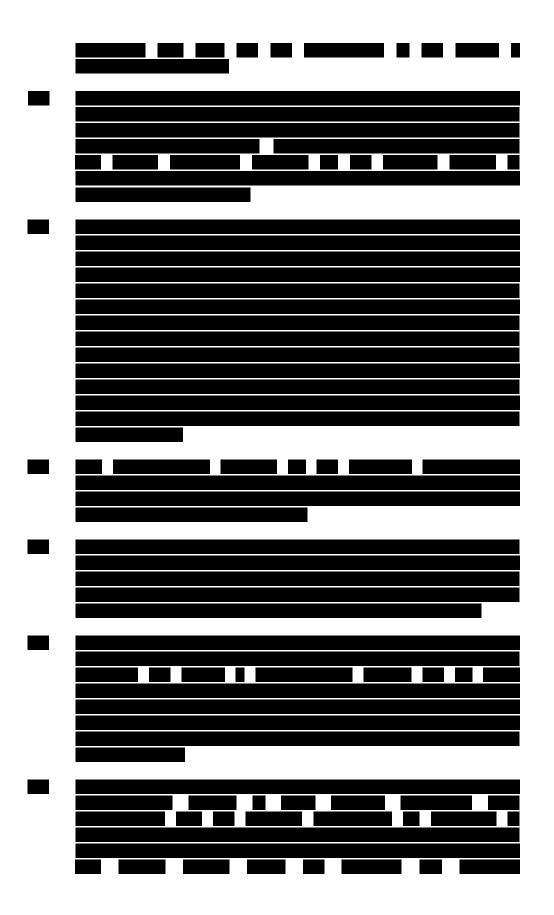


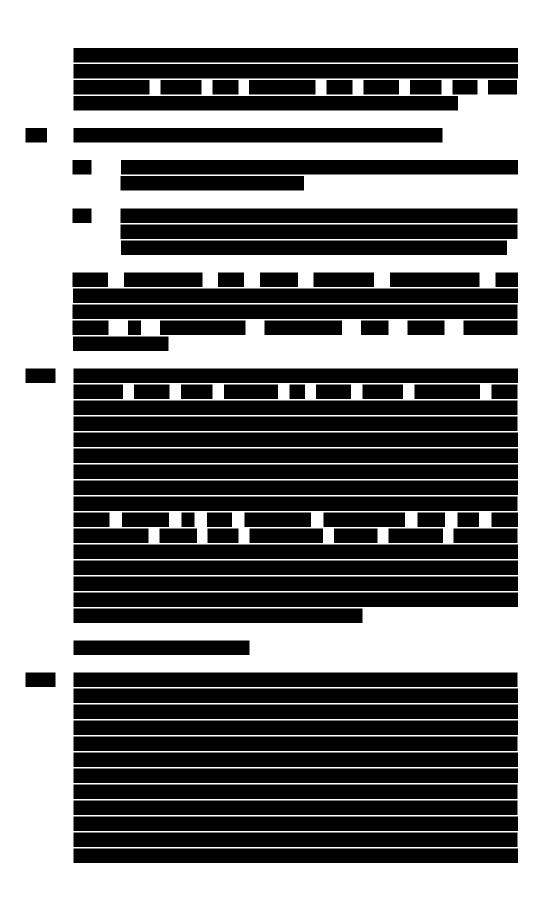




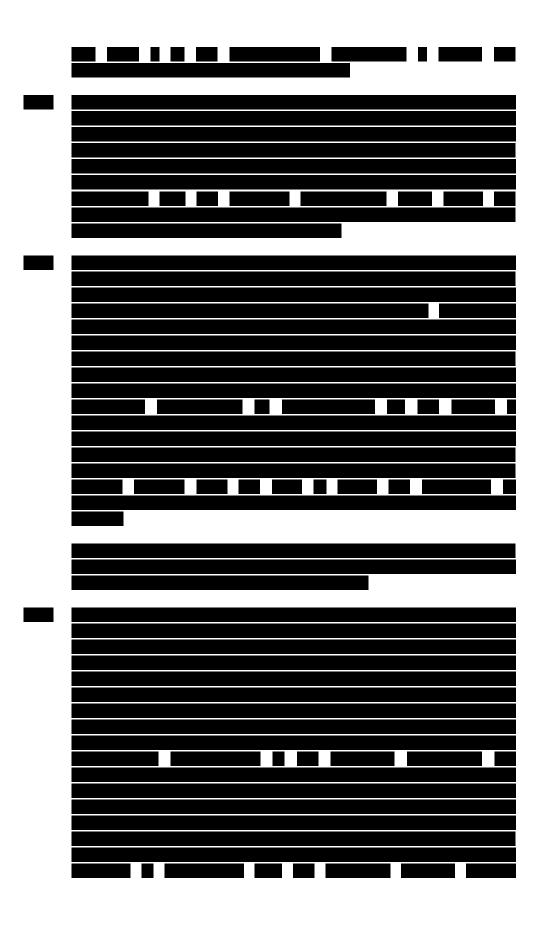


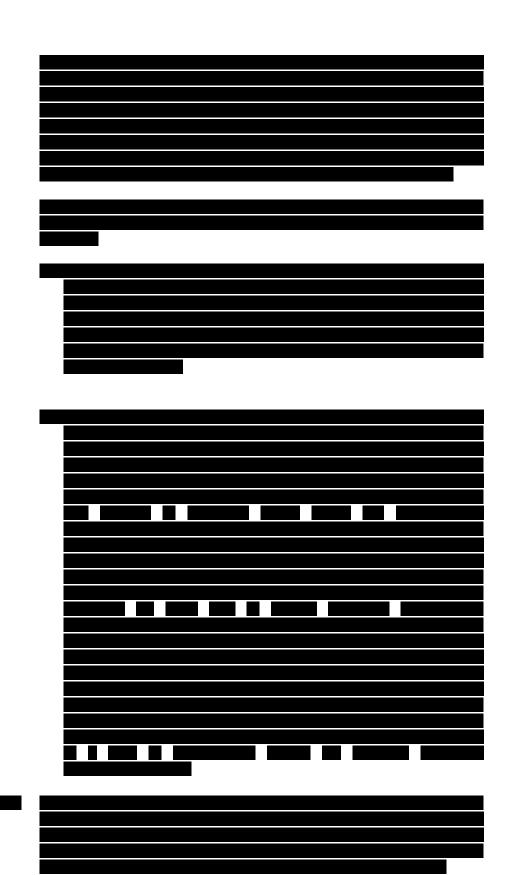




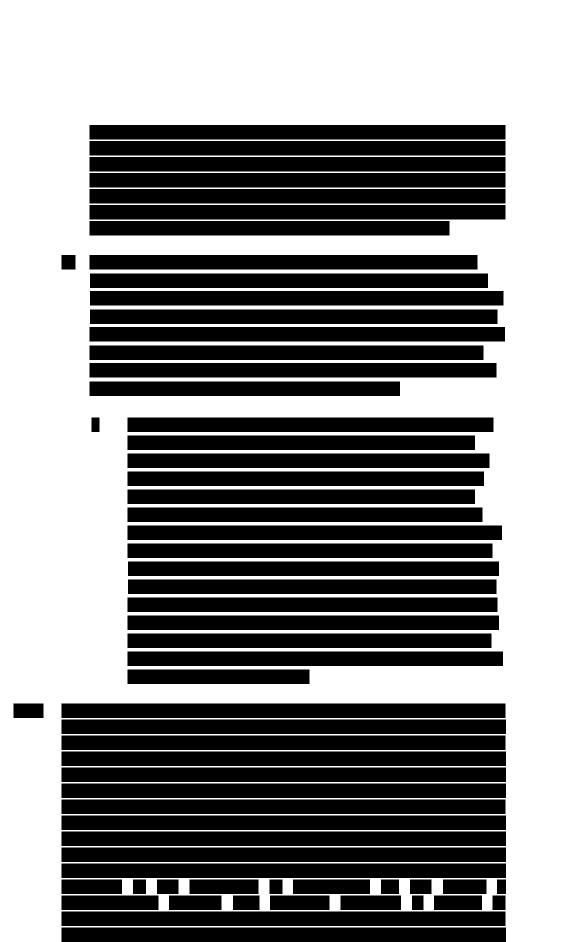


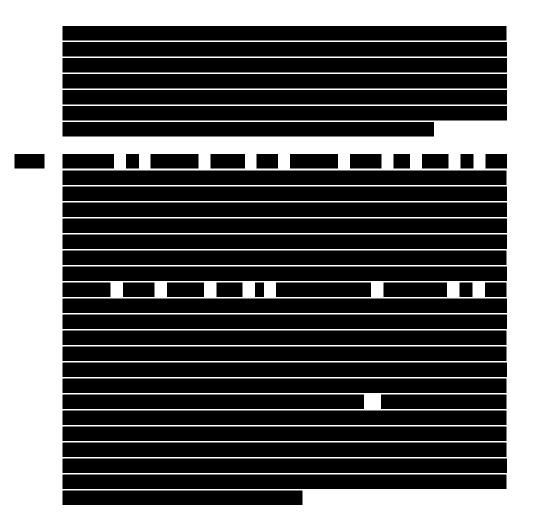


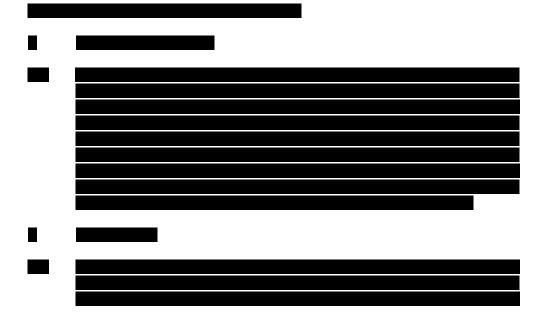




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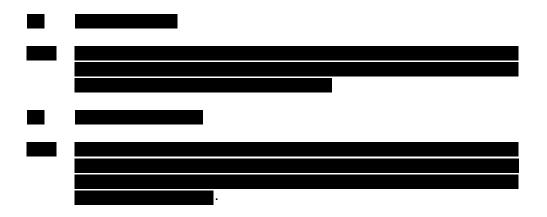







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**AS WITNESS WHEREOF** the Parties have executed and delivered this PDA 2 on the date above.



### **EXECUTED**

on behalf of of Orsted Wind Power North America LLC, by two authorised signatories, being persons who, in accordance with the laws of that territory, are acting under the authority of the company

David Hardy

(Authorised signatory)

David Hardy Name: . . . . . . . . . . . . . .

President & COO Orsted Offshore NA Title:

**Orsted Wind Power North** America LLC

	Allen n 26, 2021 11:11 EST) sed signatory)
Name:	Peter W. Allen
Title:	Head of Finance
• • •	

#### **Orsted Wind Power North America** LLC

EXECUTED on behalf of EEW American Offshore Structures Inc, a company incorporated in Delaware,

afferly. Lee La

aurendeau (Jan 26, 2021 11:15 EST) (Authorised signatory)

Lee Laurendeau Name:

CEO EEW American Offshore Structures Inc Title:

**EEW American Offshore Structures Inc** 

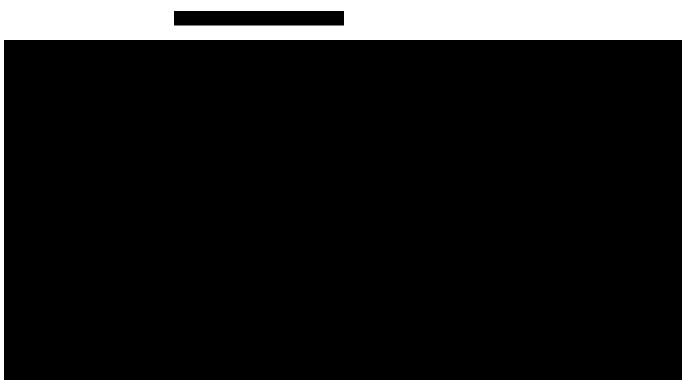
n 27, 2021 10:50 GMT+1)

(Authorised signatory)

N	Ralf Pulverich						
Name:	••••••						

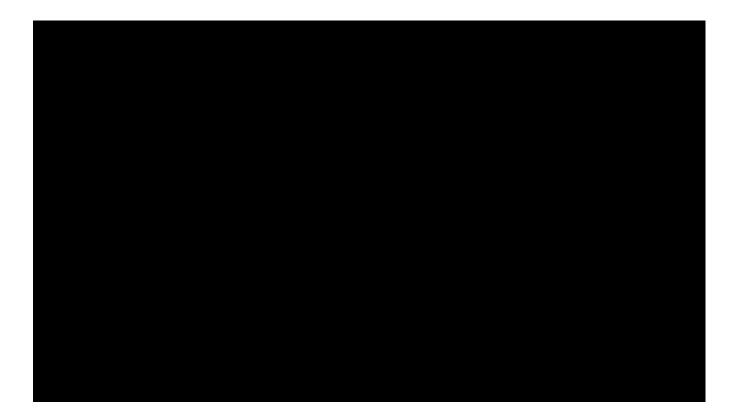
Treasurer EEW AOS/ MD EEW Holding Title: 

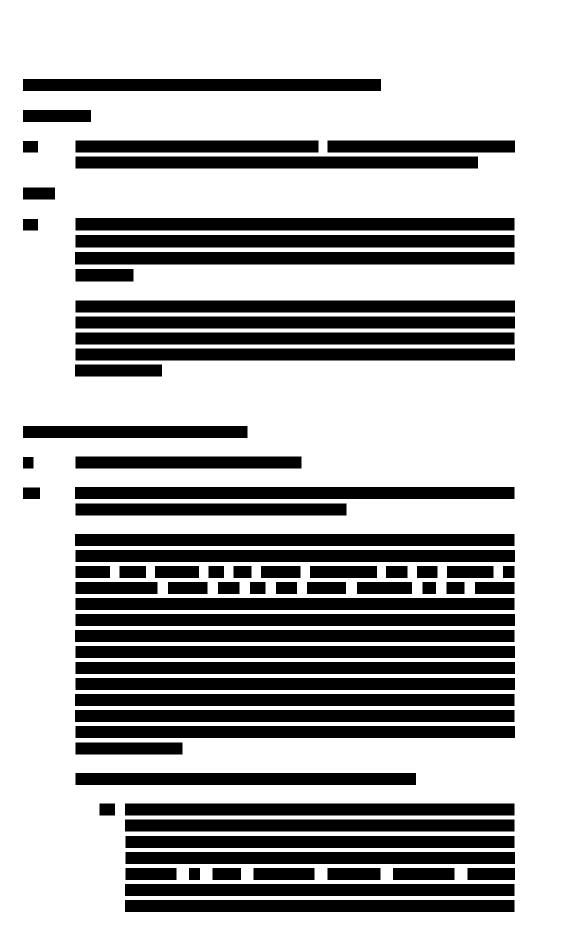
**EEW American Offshore Structures** Inc



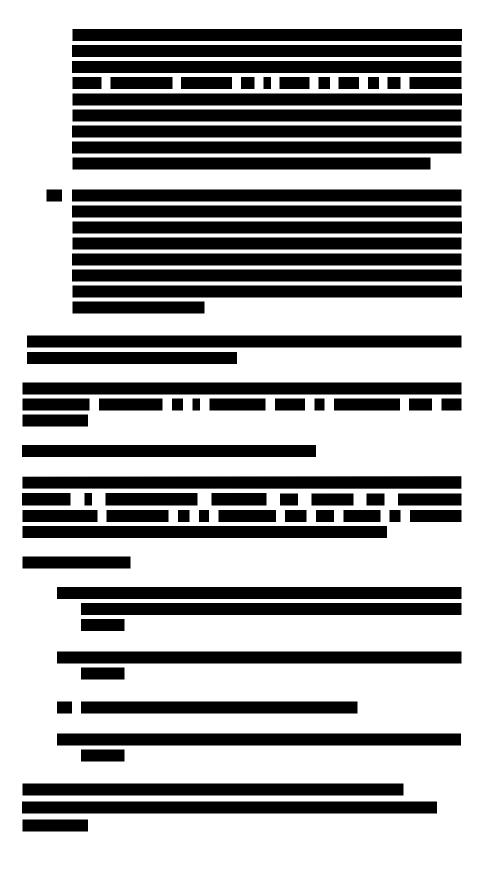
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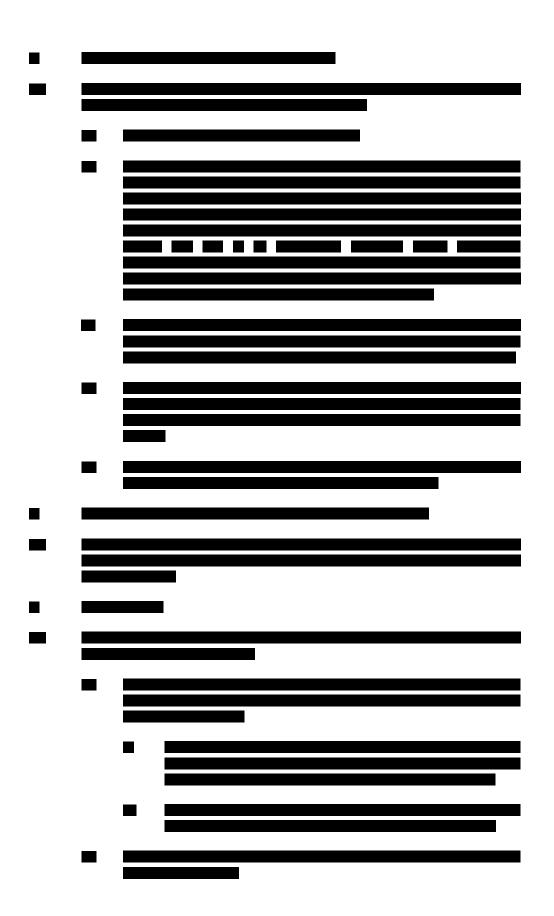




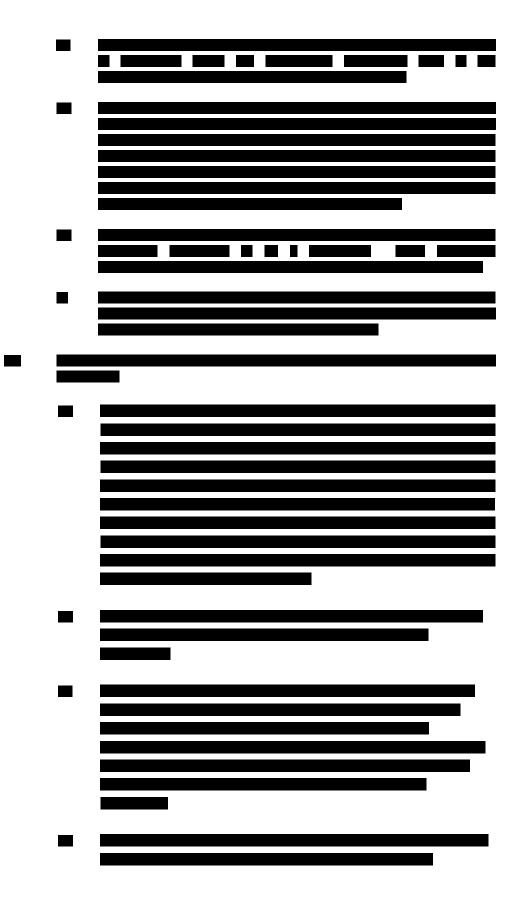


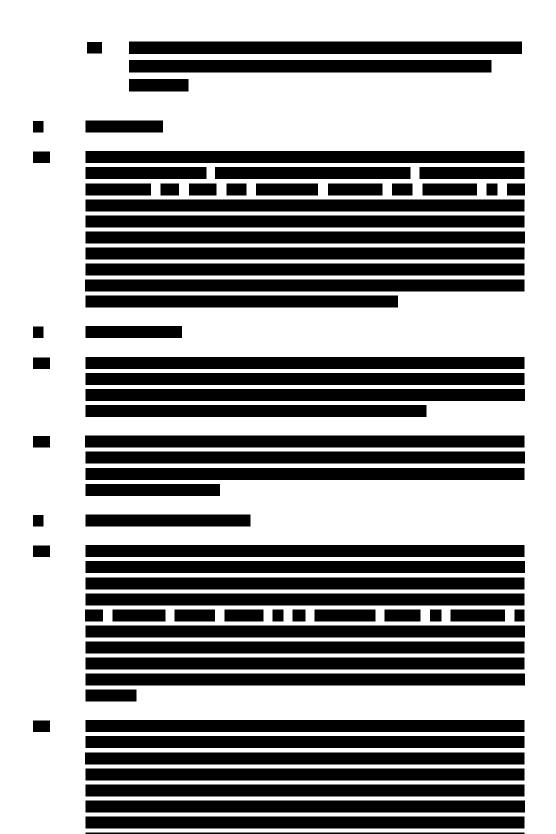


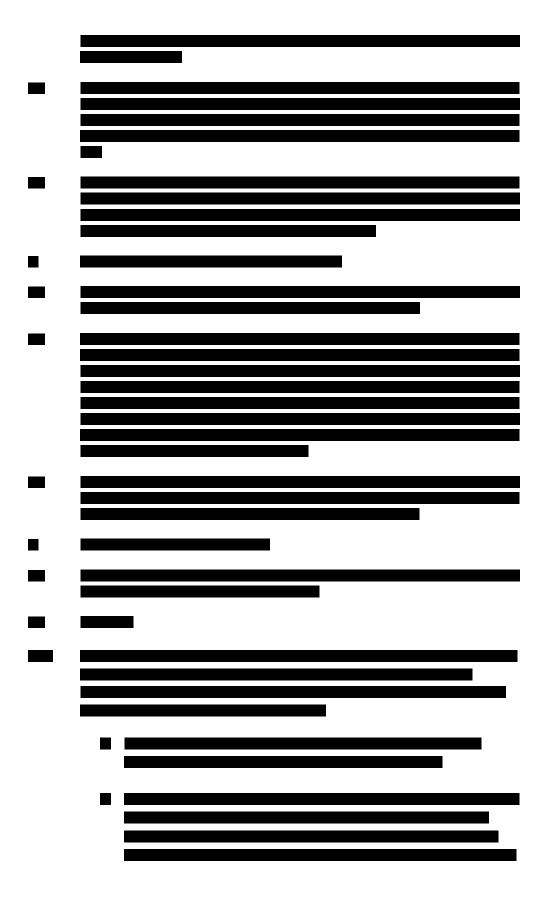


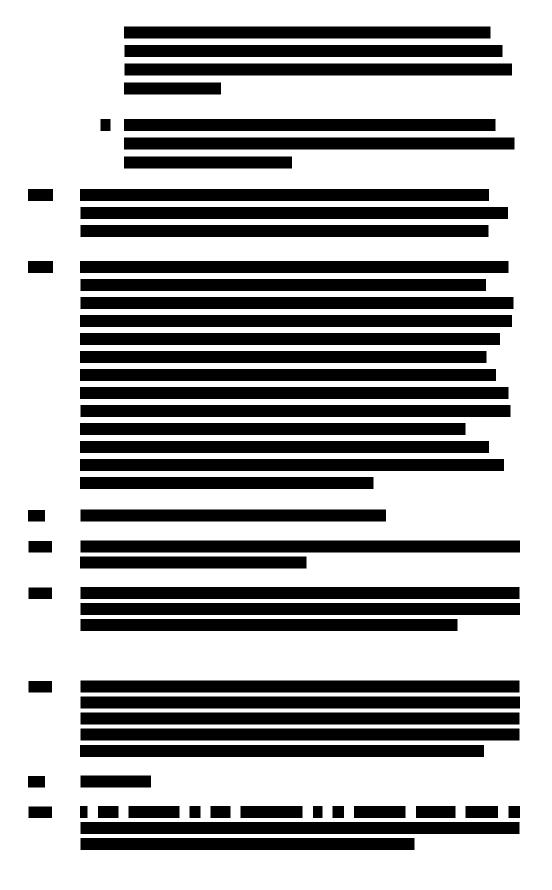


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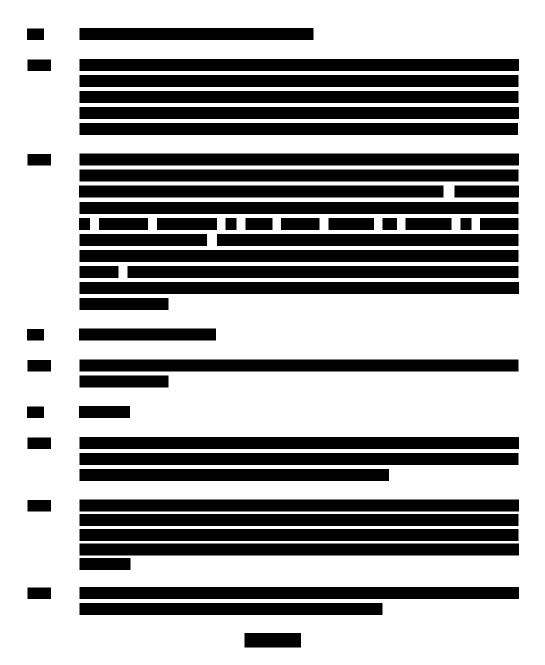






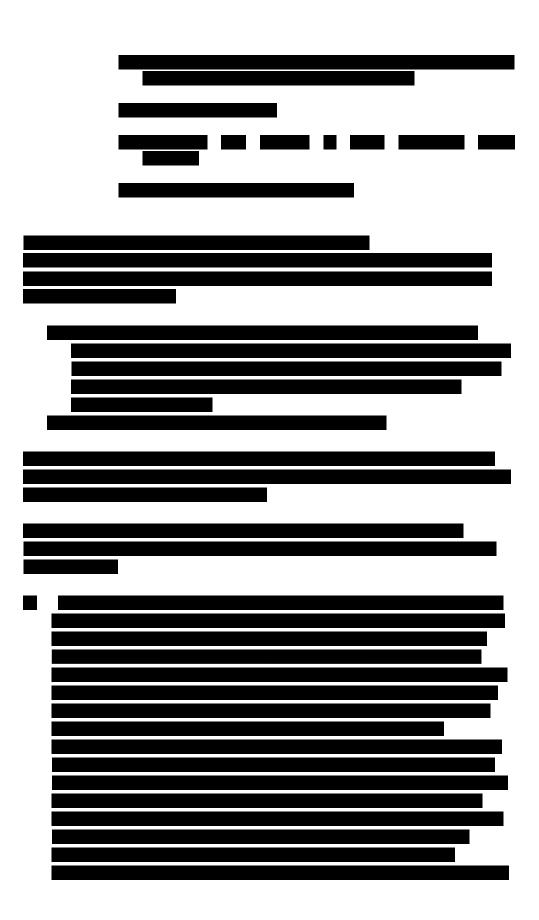


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Attachment to Questions 32-48



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Attachment to Question 54



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Attachment to Question 64



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