



Outerbridge Renewable Connector Project

New Jersey Board of Public Utilities
Offshore Wind Transmission Proposal

Response to Clarifying Questions Set 2 (dated July 8, 2022)
from the NJ Board of Public Utilities in the Evaluation of
Transmission Projects Proposed Under the 2021 State
Agreement Approach

**** PUBLIC VERSION ****



ISSUE INFORMATION

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Certain information in this Supplemental Information Filing contains commercially sensitive business information and therefore has been redacted from this Public Version of the Applicant's submission.



INTRODUCTION

Rise Light & Power (“Rise”), on behalf of our wholly-owned subsidiary Outerbridge New Jersey, LLC (“Outerbridge NJ”), appreciates the opportunity to address the following questions regarding our Outerbridge Renewable Connector (“Outerbridge”) project.

Outerbridge NJ concurs with the logic of the BPU in asking these questions, which lead to the offshore wind developer(s) having greater control over the development of export cable facilities, including selection of technology. Recognizing that there is a fundamental difference of skills necessary for developing offshore wind and onshore transmission, we recommend that the BPU prioritize SAA proposals that allow offshore wind developers to control the offshore work, leaving responsibility for the onshore work with transmission developers. This approach is in the interest of the State of New Jersey and its ratepayers for several reasons.

- The management of all offshore routing and permitting remains in the hands of the offshore wind developers, who are best positioned to align the same with the overall design of the wind farm.
- By offering fixed landing spot at the shore, onshore transmission projects (conforming to Option 1B) greatly simplify the work of the offshore wind developer, while allowing them to maintain control over the BOEM and other federal permitting processes.
- The scope of required federal approvals, if any, is expected to be significantly less for onshore transmission projects – which keeps permitting largely within the jurisdiction of New Jersey.
- As such, onshore transmission projects (conforming to Option 1B) are more likely to be in service in advance of the offshore wind project(s) procured by the Board in their next solicitation – in time to support the commissioning of the offshore wind projects awarded in that solicitation.

During the pendency of the BPU SAA review, Outerbridge NJ has continued to invest significantly to mature our project so that the above benefits can be realized. In anticipation of commencing permitting activities shortly after receipt of an SAA award, Outerbridge NJ recently completed a [REDACTED], which will serve as the basis for preparing permit applications. This independent study, the Executive Summary¹ of which is attached for reference, demonstrates a clear path to a timely permitting and that, based on survey, engineering and other development work performed to date, no fatal flaws are expected to be encountered during the permitting of our project.

¹ Provided in Appendix. Full report available upon request

1. *In the case in which the BPU is interested in future offshore wind generation developers relying on DC technology for its export cable, please explain how Rise’s proposal would change to accommodate DC cables coming from the offshore wind farms at the Werner site instead of AC cables. Please describe the necessary modifications and associated costs.*

We confirm that the design of the Outerbridge project will allow the BPU to direct offshore wind developers to rely on DC technology for their export cables. The design of the Outerbridge project will also provide the BPU an option to allow offshore wind developers to propose either HVAC or HVDC export cables to connect to the Werner site. Depending on the BPU’s preference², the Outerbridge project could be executed in any of the three following alternative configurations:

- **Existing Proposal #490:** 2,400 MW of HVAC export cables from one or more offshore wind facilities to the Werner site (i.e., our Option 1B proposal, as submitted)
- **Modified Proposal #490a:** 2,400 MW of HVDC export cables from one or more offshore facilities to the Werner site
- **Modified Proposal #490b:** 1,200 MW of HVDC cables from one offshore wind facility and another 1,200 MW of HVAC from another offshore wind facility

As detailed in Table 1A below, for either of Modified Proposal #490a or Modified Proposal #490b, our Existing Proposal #490 would require relatively few modifications³, which would all be located on the Werner site. Such modifications include the following:

- One or both onshore HVDC converter stations at Werner would be removed from the scope of the Outerbridge project⁴. Instead, the connecting offshore wind developer would design, build, own, and operate an offshore HVDC converter station and install HVDC submarine cables connecting to the Werner site. This structure preserves the division of scope between Outerbridge NJ (which would be entirely onshore) and the offshore wind developer (which would be entirely offshore).
- The onshore infrastructure at Werner would be reduced. A single HVDC cable set will have the capacity to export 1,200 MW of power, compared to 3 HVAC cables, resulting in fewer horizontal directional drill (“HDD”) ducts required to bring the offshore export cables on-

² See our response to Q7 for a discussion of the two-stage process that would allow the BPU to offer this flexibility to offshore wind developers.

³ See our response to Q4 for a discussion of the cost implications of these modifications.

⁴ There could be 0, 1, or 2 onshore HVDC converter stations at Werner depending on whether the connecting offshore wind developers elect to use HVDC or HVAC export cables, subject to the process described in Q7.

shore. In addition, the HVDC cable would be directly routed across the Werner site through extended ducts (by approximately 0.5 miles) to the underground transmission line ducts from Werner to the Half Acre site.

- The proposed Werner AC substation upgrade would be eliminated in Modified Proposal #490a (i.e., HVDC export cable on each 1,200 MW capacity modules). Without an onshore HVDC converter station at Werner, the capability to reverse power flow from the Half Acre site to the Werner substation will not be possible.
- All other elements of the project remain unchanged.

Table 1A

	Existing Proposal #490 (2,400 MW HVAC, as submitted)	Modified Proposal #490a (2,400 MW HVDC)	Modified Proposal #490b (1,200 MW HVDC + 1,200 MW HVAC)
Werner Site			
Cable Vault and Associated HDD Ducts to Receive HVDC Export Cables	0 sets	2 sets	1 set
Cable Vault and Associated HDD Ducts to Receive HVAC Export Cables	2 sets	0 sets	1 set
Onshore Cable Collector Substation for HVAC Export Cables	Yes, designed for 2,400 MW	No	Yes, designed for 1,200 MW
HVDC Converter Station	2 Converter Stations	No Converter Stations	1 Converter Station
Werner Substation Upgrade	Yes ⁵	No	Yes
Conrail Right of Way			
Underground cable duct bank (for HVDC cables)	2 sets	2 sets	2 sets
HVDC cables	2 sets	2 sets	2 sets
Half Acre Site			
500kV GIS AC substation	Yes	Yes	Yes
HVDC Converter Stations	2 Converter Stations	2 Converter Stations	2 Converter Stations
Connection from AC substation to East Windsor-Deans 500kV line	Yes	Yes	Yes

⁵ For the site to accommodate two HVDC converter stations

Each of the foregoing technical configurations has different expected costs and associated Aggregate Construction Cost Cap, which we address in our response to Q#4, below. The commercial construct(s) under which we would contemplate executing such proposals are detailed in our response to Q#3, below. Our project design allows the BPU a unique ability to retain our offered cost containment provisions, while deferring the decision on a final configuration until the connecting offshore wind project(s) have been identified, as detailed in our response to Q#7, below.

2. Are the components of Rise's proposal 490 separable?

Yes, as detailed in our response to Q#1, above.

3. If so, would Rise be willing to build the components of its proposals and acquire the necessary land described in Scenario 1 and Scenario 2 below?

- **Scenario 1: Rise builds only the AC portion of the proposed substation in its proposals and acquires the adjacent land for two DC converters.**
- **Scenario 2: Rise builds or acquires the facilities and land in Scenario 1 plus the underground infrastructure included in Rise's proposal from the proposed substation to an offshore bulkhead location capable of hosting DC cables and converters later installed by offshore wind generation developers (i.e., land for converter stations, vaults and duct banks, but not the DC cables and converter stations themselves). In this scenario, Rise would complete all of the onshore work and near-offshore work necessary for use by future offshore wind generation developers to be able to install their own DC cables and converters using the facilities built by Rise with interconnection at Rise's proposed AC substation.**

We strongly support the BPU awarding SAA projects that allow the offshore wind developer(s) to assume responsibility for all aspects of the project that are in the marine environment (i.e., offshore from the cable landing vault) and that allows the transmission developer(s) to assume responsibility for all aspects of the project in the terrestrial environment (i.e., onshore from the cable landing vault). See the "Introduction", above, for further context.

While Outerbridge NJ is open to discussing a construct that results in separating components of our Existing Proposal #490 as contemplated under Scenario 1 or Scenario 2, for the following reasons, and others articulated in the "Conclusion" section below, we believe neither of these scenarios is in the best interest of the State of New Jersey or its ratepayers.

- Scenario 1 will require offshore wind developers to obtain the permits, entitlements and other approvals necessary for overland transmission projects, which will likely add time, cost and risk to the project(s);
- Scenario 2 raises a few non-trivial regulatory questions, including which specific assets are FERC Order 1000 jurisdictional. Separately, Scenario 2 will not allow for a clean separation of ownership, which will create multiple points of potential disputes between the owner of the duct banks and the owner of the cables within them; and
- The limited scope of either Scenario 1 or Scenario 2 will not provide a significant incentive for an onshore transmission developer to offer substantive cost containment provisions.

Instead, we recommend the BPU consider an alternative commercial approach to achieve the same objective. Under our recommended approach – which we refer to as “Scenario 3” – the SAA awardee(s) would develop, design, engineer, finance, own, and operate all the onshore infrastructure to accommodate export cable connection(s).

This “Scenario 3” preserves the structure of the BPU’s SAA Option 1B concept by clearly delineating the scope between offshore wind developer and the onshore transmission developer, with the onshore transmission developer responsible for everything upland of the cable landfall, and the offshore wind developer responsible for everything offshore from the cable landfall. Under this construct, a “point in change in ownership” from the offshore wind developer to the onshore transmission developer would be established at the export cable’s landfall vault. This approach is not theoretical; it was successfully applied on the Block Island Wind Farm and therefore has been proven to be feasible from technical, legal, regulatory, commercial, and financial perspectives. Specifically, in the case of the Block Island Wind Farm, the offshore wind developer – Deepwater Wind – took responsibility for constructing the wind farm’s export cable up to the cable landfall at Crescent beach on Block Island, and the onshore transmission developer – an affiliate of National Grid – took responsibility for constructing the onshore ducts, vaults, cables, and substations.

An obvious difference between the Block Island Wind Farm and the projects now being contemplated by the BPU is the use of HVDC technology. If our recommended Scenario 3 were implemented⁶, the onshore converter station(s) will be owned by different entities than the offshore converter station(s). This, too, is not without precedent. In the case of the Clean Path New York project, which holds a long-term contract with NYSERDA under that agency’s Tier 4 renewables program, the

⁶ This is applicable to our Modified Proposal #490a and Modified Proposal #490b, as detailed in our response to Q1.

converter stations for a single HVDC transmission project are owned by 2 different parties⁷. Specifically, a converter station at the Fraser Substation (Delaware County, NY) is owned by the New York Power Authority, and the converter station at the Rainey Point of Interconnection (Queens, NY) is owned by Forward Power – a joint venture between Invenergy and EnergyRe.

The Block Island Wind Farm and Clean Path New York projects demonstrate that Scenario 3 is feasible. Scenario 3 is in the best interest of the State and its ratepayers⁸ because it allows the onshore and offshore developers to each focus on the areas in which they are most capable, as further detailed in the “Conclusion” section, below. Implementing Scenario 3 will require close coordination between the offshore wind developer and the onshore transmission developer regarding the design and engineering of the onshore HVDC system, which the BPU has the authority to mandate through its orders awarding both the SAA project(s) and the OREC project(s). Doing so is not only within the BPU’s authority, but also practical and reasonable, because the offshore wind developers will not definitively commit to its offshore converter station manufacturer until after an OREC contract has been awarded, which will happen after the SAA project(s) and associated technical configurations have been selected and made public. We offer our thoughts on the sequence for doing so in our response to Q#7, below.

The Outerbridge project is uniquely positioned to deliver the benefits of Scenario 3, given the flexibility of design addressed in our response to Q#1, the lower expected cost and cost containment provisions addressed in our response to Q#4, and for the strategic reasons articulated in the Conclusion section, below. If the BPU elects to allow offshore developers to propose either HVAC or HVDC export facilities, as contemplated in our response to Q#1, then the process for establishing the final configuration of the Outerbridge project shall be as set forth in our response to Q#7.

Outerbridge NJ is not affiliated with any offshore wind developer, has not committed any portion of its assets to any other party, nor does it currently have any exclusivity or conditional access agreements in place with any offshore wind developer. If selected by the BPU, Outerbridge NJ would fully cooperate with the BPU to allow winners of future offshore wind solicitations to make use of its assets necessary to interconnect. Consistent with our September 2021 proposal, Outerbridge NJ will

⁷Clean Path New York web site. Online. 07/14/2022. Available: <https://www.cleanpathny.com/>

⁸ See our response to Q4 below for details regarding the expected costs and cost containment provisions associated with the Modified Proposals contemplated in Q1.

defer to the BPU as to which offshore wind developers have rights to interconnect with the awarded Outerbridge project⁹, which ensures all offshore wind developers have equal access.

4. If so, please provide cost estimates (based on and at a similar level of detail as provided in its Option 1B proposal) for the facilities included in Scenario 1 and Scenario 2. Please include estimates with and without the land necessary to support two DC converter stations.

Outerbridge NJ stands by all the commitments in Section 5 and Appendix H of our September 2021 proposal, including those associated with Existing Proposal #490, as submitted for 2,400 MW of capacity assuming HVAC export cables into Werner. In addition to the existing offers, in the event the BPU elects to proceed with our recommended Scenario 3, per our response to Q#3 above, Outerbridge NJ makes the following offers respecting the Modified Proposals contemplated in our response to Q#1, as detailed in Tables 4A and 4B, below:

- **Modified Proposal #490a:**

- The total estimated cost is [REDACTED] – approximately [REDACTED] million less than Original Proposal #490.
- Outerbridge NJ would provide an adjusted Aggregate Construction Cost Cap Amount of [REDACTED]

- **Modified Proposal #490b:**

- The total estimated cost under is [REDACTED] – approximately [REDACTED] million less than Original Proposal #490.
- Outerbridge NJ would provide an adjusted Aggregate Construction Cost Cap Amount of [REDACTED]

The adjusted Aggregate Construction Cost Cap for Modified Proposal #490a and Modified Proposal #490b are subject to the same terms and conditions as provided in Appendix H of the SAA proposal submitted to the BPU in September 2021. Other cost containment provisions as provided in Appendix H remain unchanged and would apply to Modified Proposals 490a and 490b, including Return on Equity Cap and Capital Structure Cap.

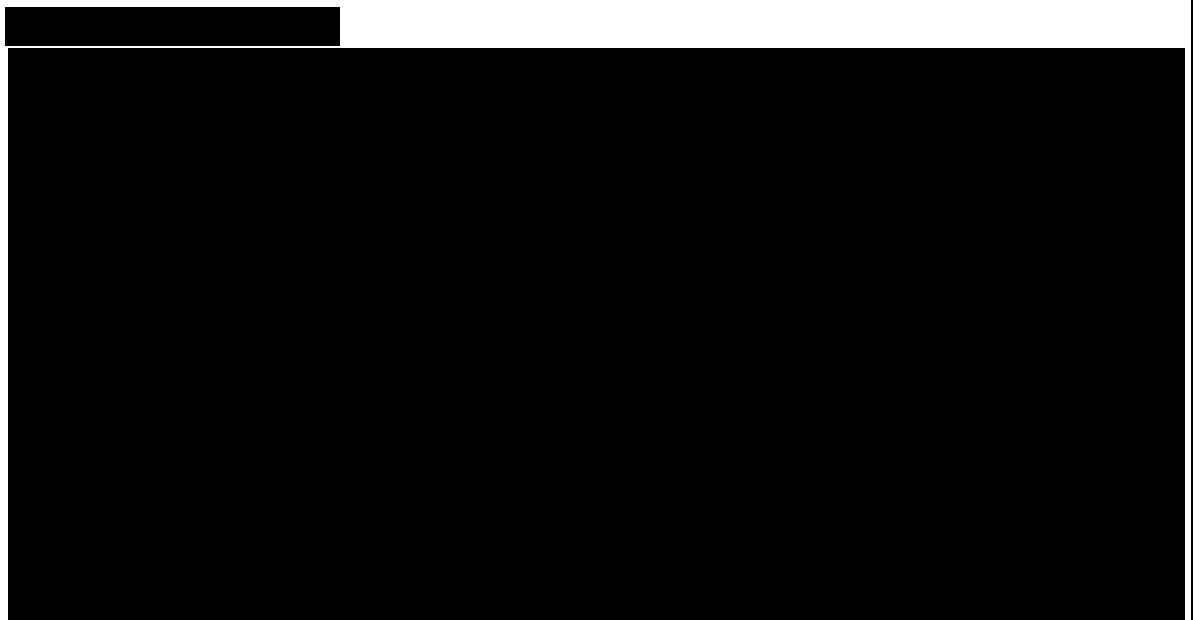
The adjusted Aggregate Construction Cost Cap reflects that some capital expenditure items included in the Aggregate Construction Cost Cap for Original Proposal #490 are not required for Modified

⁹ Outerbridge NJ would accept a condition in an order awarding its project that stipulated that the BPU has exclusive rights to designate which offshore wind developer(s) may connect to the awarded Outerbridge project.

Proposal #490a and Modified Proposal #490b. Outerbridge NJ will cap, on an aggregate basis and subject to the conditions outlined in the legal language provided to PJM, the capital expenditure for the procurement of specific equipment included in the Outerbridge NJ scope of work. Table 4A below is comparable to Section 5 of our September 2021 proposal, providing the capital expenditure for the original and modified proposals, and Cost Containment Commitment for each, in 2021 dollars.



The overnight construction costs of these Modified Offers are summarized in Table 4B below.

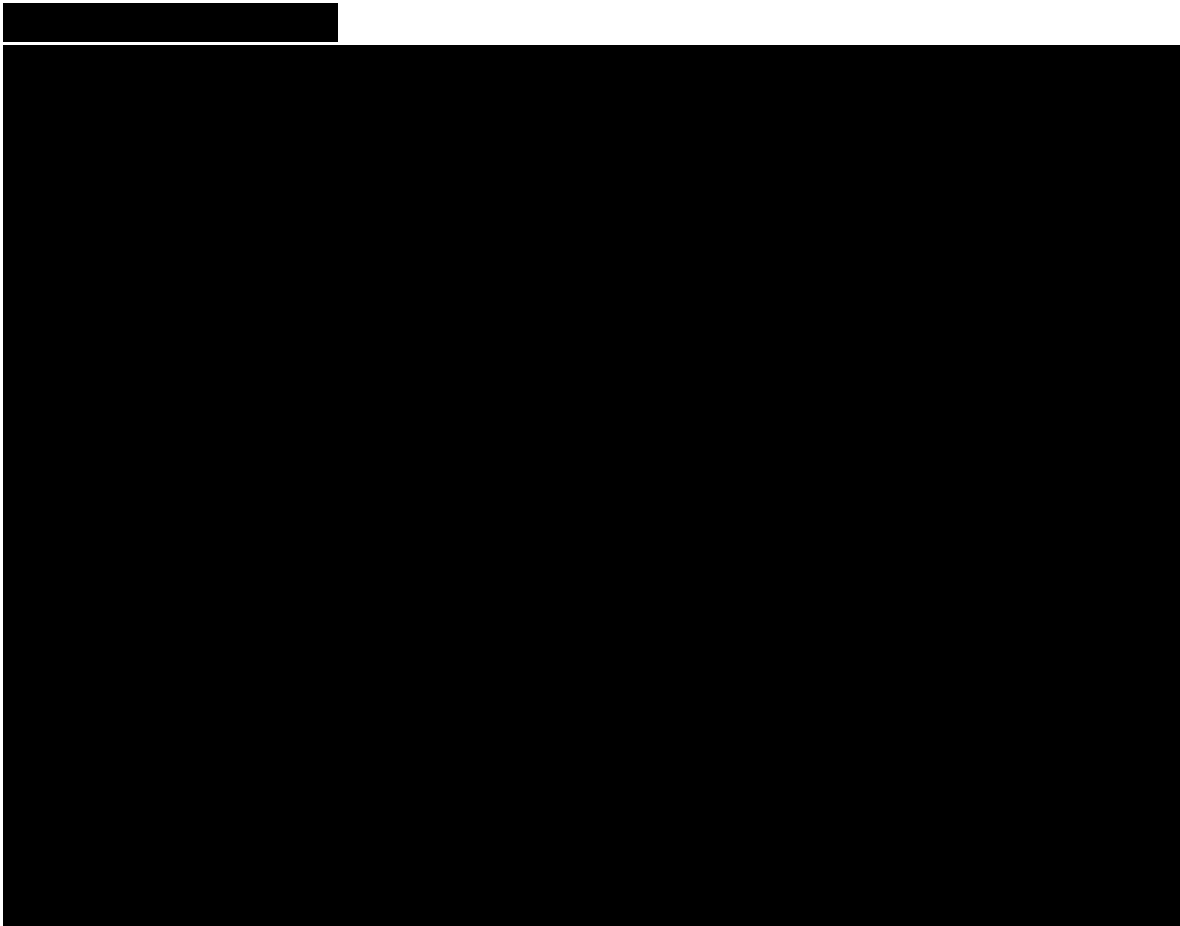


These estimated construction costs assume Outerbridge NJ is authorized to construct the full 2,400 MW capacity, and that the offshore wind developer is directed to select an offshore HVDC converter station that is compatible with what Outerbridge NJ assumed for its proposal to the BPU¹⁰. These cost estimates also assume a commercial operations date around year 2028. The estimates for

¹⁰ Outerbridge NJ assumes to be utilizing two 1,200 MW 320kV +/- symmetrical monopole HVDC converter stations from [REDACTED].

Modified Proposals #490a #490b reflect the material modifications to Original Proposal 490 to accommodate HVDC export cables. Other minor modifications may be required at the Werner site, but have not been evaluated in detail, given the short response time required by these questions.

As detailed in our response to Q#7 below, Outerbridge NJ would accommodate a staged authorization so that the BPU may allow offshore wind developers to propose either HVAC or HVDC export facilities. If the BPU elects to proceed with that approach, the authorized scopes, expected costs, and Aggregate Construction Cost Cap at each Stage will be as set forth in Table 4C, below.



In the event the BPU wishes to proceed with Scenario 1 or Scenario 2, Outerbridge NJ is not able to provide any cost caps and the expected cost would be subject to the specific scope authorized, subject to further discussion and consideration of Outerbridge NJ's overall site objectives at Werner. Based on the stated question, the estimated high level construction cost under Scenario 1 would be approximately [REDACTED] million, and approximately [REDACTED] million under Scenario 2. Both the Half Acre site

and Conrail RoW would be leased, and thus excluded in the capital cost estimates. As noted in the Conclusion section, Scenarios 1 and 2 have inherent weaknesses that would place greater costs and risks to New Jersey ratepayers – which is what Outerbridge NJ has attempted to address with its proposed Scenario 3.

- 5. For Scenario 1, if Rise is willing to build the facilities described above, would Rise allow the winners of future offshore wind solicitations to lease applicable portions of the land necessary to build and operate DC converter stations that connect to the AC portion of the substation? If so, please explain the approach Rise would take to provide all offshore wind generation developers equal access to the land while minimizing costs to New Jersey ratepayers. Please feel free to propose an alternative arrangement that would permit Rise to allow future offshore wind solicitation winners to use the land.**

Yes. See our response to Q#3, above.

- 6. For Scenario 2, if Rise is willing to build the facilities noted above, would Rise allow the winners of future offshore wind solicitations to access the underground facilities for installing their DC cables and to lease applicable portions of the land necessary to build and operate DC converter stations that connect to the AC portion of the substation? If so, please explain the approach Rise would take to provide all offshore wind generation developers equal access to these facilities and land while minimizing costs to New Jersey ratepayers. Please feel free to propose an alternative arrangement that would permit Rise to allow future offshore wind solicitation winners to use the land**

Yes. See our response to Q#3, above.

- 7. Please indicate any other changes to Rise's proposal that would be impacted by BPU selecting just the components identified above in Scenario 1 and Scenario 2.**

Reference is made to our responses to Q#1, Q#3 and Q#4, above, as well as to Section 3.2, Section 5 and Appendix H of our September 2021 proposal.

The design of the Outerbridge project will permit the BPU to allow offshore wind developers to propose either HVAC or HVDC export facilities, at different levels of output, and make a final decision on the configuration of the Outerbridge project after receiving offshore wind proposals. In this response, we address the process by which the BPU can decide between the project configurations contemplated in our response to Q#1 above, and consider the potential addition of Additional Offers, subsequent to receipt of offshore wind bids.

If the BPU elects to proceed with our recommended approach under Scenario 3, Outerbridge NJ will commit to the following Stages of authorizations and cost containment:

- Stage 1
 - *Start*: SAA award and receipt of FERC approval for abandonment cost recovery
 - *End*: Acceptance by the offshore wind developer(s) of an OREC award by order of the BPU
 - *Authorized Scope*: everything from Outerbridge NJ's September 2021 Original Proposal #490, except for configuration-specific facilities at Werner. This would include the design, engineering, and construction of the Underground HVDC Transmission Lines #1 and #2 along the Conrail RoW, Half Acre HVDC Converter Stations #1 and #2, the Half Acre Switching Station, and the connection of the Half Acre Switching Station to the East Windsor-Deans 500kV line.
 - *Estimated Cost of Authorized Scope*: see our response to Q#4, Table 4C, above
 - *Cost Containment for Authorized Scope*: As per Appendix H of our September Bid, with the Aggregate Construction Cost Cap reduced to align with the Scope for Stage 1 – see Table 4C, above.

- Stage 2
 - *Start*: Acceptance by the offshore wind developer(s) of an OREC award by order of the BPU, which will specify the wind farm(s) export cable technology
 - *End*: Commencement of Commercial Operations of the Outerbridge project
 - *Authorized Scope*: everything from Stage 1, plus the configuration-specific facilities at Werner.

- Existing Proposal #490¹¹: Werner Onshore Collector Stations #1 and #2, Werner HVDC Converter Stations #1 and #2, and Werner substation upgrade.
 - Modified Proposal #490a: Werner HVDC Cable Collector infrastructure
 - Modified Proposal #490b: Werner HVDC Cable Collector infrastructure, Werner Onshore Collector Station #1, Werner HVDC Converter Station #1. Should the BPU elect to not proceed with the Werner substation upgrade, Outerbridge NJ would evaluate the impact at the time and reduce the Stage 2 cost of Modified Proposal #490b, accordingly.
- *Optional Scope*: BPU has an option to elect additional offers under the Original Proposal #490, which includes:
 - Additional Offer A: 400 MW into the 230kV Werner Substation
 - Additional Offer B: 800 MW into the 230kV Werner Substation
 - Additional Offer C: 91MW/364MWh Battery Energy Storage System
- *Estimated Cost of Authorized Scope*: see our response to Q#4, Table 4C, above.
- *Cost Containment of Authorized Scope*: As per Appendix H of our September Bid, with the Aggregate Construction Cost Cap adjusted to reflect the selected Scope for Stage 2 – see Table 4C, above¹².
- Stage 3
 - *Start*: Commencement of Commercial Operations of the Outerbridge project¹³
 - *All other provisions as per our September 2021 proposal*

We note that this two-stage approach provides the benefits of ensuring that the Outerbridge project can commence development activities promptly following an SAA award from the BPU, but also provides the BPU with flexibility to decide on the ultimate configuration – including the potentially very cost-effective additions of incremental capacity contemplated under the Additional Offers¹⁴ – once it has received proposals from the offshore wind developers.

¹¹ No coordination will be required if an OSW developer selects HVAC export cables to connect to the Outerbridge project as HVDC converter stations will both be onshore, and procured by Outerbridge NJ

¹² In addition, the Aggregate Construction Cost Cap for Modified Proposals #490a and #490b assumes there is no impact on Outerbridge NJ's contemplated timeline and in-service date under a staged approach, and the offshore converter station selected is compatible with that used by Outerbridge NJ

¹³ Assumes: (i) Outerbridge project will be deemed in use and placed in service once its scope is complete (i.e., not dependent on timing of interconnecting offshore wind project); and (ii) Any State permits tied to deemed "public need" will not be contingent on selection of a specific interconnecting offshore wind project.

¹⁴ As provided in the September 2021 proposal.

8. Please specify the maximum capacity rating of the AC portion of the proposed substation design to support two DC converter stations.

The design of the HVAC substation at the Half-Acre Site, as contemplated in our proposal and subject to our proposed Aggregate Construction Cost Cap, will have capacity of at least 2.4 GW. We did not evaluate greater send-out capacities on the 500kV bulk transmission system. We are open to exploring greater capacities, although doing so would require a change in our proposed Aggregate Construction Cost Cap.

CONCLUSION: SUMMARY OF THE BENEFITS OF SCENARIO 3

Our recommended approach, Scenario 3, provides the following advantages that make this a compelling approach to the BPU, New Jersey's rate payers, and developers of offshore wind farms:

- **Lower permitting risk**

- Scenario 3 would keep the management of all offshore routing and permitting in the hands of the offshore wind developers, who are best positioned to align the same with the overall design of the wind farm. By offering fixed landing spot at the Werner site, Scenario 3 would greatly simplify the work of the offshore wind developer, while allowing them to maintain control over the BOEM and other federal permitting processes.
- The scope of required federal approvals, if any, is expected to be significantly less under Scenario 3 – which keeps permitting of the Outerbridge project more fulsomely with the State of New Jersey since it is entirely onshore. The Outerbridge project's low impact siting and design is unlikely to trigger review under the National Environment Policy Act ("NEPA"). If it does, it would likely result in a Finding of No Significant Impact given its limited scope in federal jurisdiction. Moreover, Outerbridge would adopt a schedule in consultation with the BPU that would be selected to address lowering cost to ratepayers.
- Under Scenario 3, Outerbridge could proceed with permitting in advance of the BPU's selection of a connecting offshore wind farm because all the work is onshore. Doing so minimizes project-on-project risk and reduces the risk of delays associated with coordinating offshore and onshore permitting under Scenario 1 – whereby the offshore wind developer would be expected to perform onshore work to connect the HVDC cable to the Half Acre site and construct the HVDC converter station at Half Acre.

- Given the ability of Outerbridge NJ to commence permitting ahead of the connecting offshore wind farm, Scenario 3 reduces the risk that the grid connection is not ready in time for the offshore wind farm commissioning.
- **Lower project execution risk**
 - offshore wind developers are in the best position to manage the construction of offshore transmission infrastructure, supply chain, and associated transmission components that will best align with the offshore wind farm and overall project schedule.
 - In contrast, the onshore transmission infrastructure is unique and dependent on local market experience – which JINGOLI Power, Rise’s construction manager partner for the Outerbridge project, is familiar with. As an entirely onshore project, Scenario 3 will enable Outerbridge NJ to tap into the many highly-skilled New Jersey-based contractors that can execute onshore transmission projects today. In addition, and union labor jurisdictions for onshore transmission infrastructure is already defined in New Jersey – reducing project-on-project risk associated with combining onshore and offshore scope as contemplated for offshore wind developers under Scenario 1 and 2.
- **Opportunity to provide offshore wind energy at the lowest cost and lowest risk to New Jersey’s rate payers**
 - Under Scenario 3 (and in conjunction with our response to Question #1 above), offshore wind developers would be able to select the most optimal technology to bring energy onshore in a manner that avoids the controversy associated with placing high voltage cables under recreational beaches. offshore wind developers are best positioned to select the offshore transmission components that will best align with the wind farm and overall project schedule – controlling project-on-project risk.
 - If offshore wind developers are given the choice, the BPU can ask offshore wind developers to demonstrate why its selected export cable technology provides the lowest cost and lowest risk to rate payers.
- **Single party responsibility for the underground onshore transmission (between Werner and Half Acre) improves bankability for the offshore wind developers**
 - The underground transmission line does not depend on the technology of the HVDC converter station and can be built independently. Outerbridge NJ has cultivated a good working relationship with Conrail and is nearly complete with surveying the route along the Conrail RoW.
 - Having a single party responsible for the underground transmission between Werner to [REDACTED] avoids conflicts from having multiple owners (with competing interests) and streamlines the interactions with Conrail – reducing coordination risk.

- A single party ownership of the underground transmission is a more bankable approach as offshore wind developers would be contracting with a third party responsible for ensuring the underground transmission is available to deliver the energy generated offshore into New Jersey's bulk power grid.
- **Single party responsibility on the Half Acre site lowers the risks associated with securing local approvals, reducing project-on-project risks**
 - The Half Acre site is a contiguous plot of land that is owned by [REDACTED]. As Outerbridge NJ secures site control for the AC substation, the same rights would be sought for the two HVDC converter stations.
 - Outerbridge NJ has begun to engage officials at [REDACTED] providing periodic briefings throughout the SAA process. Officials [REDACTED] would expect to deal with Outerbridge NJ if the Outerbridge project is selected. In doing so, we would be best positioned to liaise with the township and local community to secure local approvals.

An additional advantage of the Scenario 3 approach for the Outerbridge project is that the local community of South Amboy, home of the Werner site, is fully supportive of Outerbridge NJ's efforts to help New Jersey meet its offshore wind goals. The Outerbridge project would lead to a redevelopment of an industrial brownfield to enable renewable energy generated from offshore wind to be injected into New Jersey's bulk power grid – all without impacting New Jersey's recreational beaches and associated controversy.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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be used as an engineering control to prevent direct contact with soil concentrations exceeding NJDEP soil

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