



July 26, 2018

Ms. Aida Camacho-Welch, Secretary
New Jersey Board of Public Utilities
44 South Clinton Avenue, 3rd Floor, Suite 314, CN350
Trenton, New Jersey 08625
Via First Class Mail and Email
Rule.Comments@bpu.nj.gov

RE: Docket No. QX18040466, Offshore Wind Solicitation of 1,100 Megawatts

Dear Ms. Camacho-Welch:

On behalf of Anbaric Development Partners, LLC ("Anbaric"), I now submit responses to the Board of Public Utilities' Notice in the above-referenced docket seeking comments on a future solicitation of 1,100 megawatts of offshore wind capacity.

Anbaric responds to two questions in the Notice: "how should the BPU structure the initial solicitation for 1,100 megawatts of offshore wind capacity," *i.e.* question 2, and "should the BPU request bids for expandable, non-discriminatory, open-access offshore transmission facilities for the efficient delivery of power to the onshore transmission system," *i.e.* question 9. Our responses also address topics contained in two other questions, namely a "structure to ensure strong competition from multiple OSW developers"(question 4) and "conditions to ensure maximum competition in terms of OREC price" (question 5).

Below Anbaric provides a short summary response to questions 2 and 9, describes its experience in the offshore electricity transmission business in New Jersey, and then offers a comprehensive response to each question, with each response addressing transmission's ability to create competition among OSW wind developers and stimulate price competition. We conclude by offering some observations about possible approaches to transmission in the coming RFP for 1,100 megawatts of offshore wind.

I. Summary Responses to Questions 2 and 9

Anbaric believes that the structure of the offshore wind industry should mirror the structure of the electricity industry in the United States, to wit: generation and transmission are developed, owned and managed separately from each other, with each facing competitive forces within its sector and with competition between the sectors. This structure has yielded regular, substantial growth, continuous innovation, and declining costs in the fossil and renewable industries across the United States. In establishing a new offshore wind industry here in New Jersey, there is no reason to deviate from this national record of success fostered by the separation of transmission and generation.

Accordingly, the Board of Public Utilities should separate generation and transmission in the initial 1,100 MW solicitation, as well as subsequent solicitations, and allow the same virtuous dynamic present in the nation's onshore electricity sector to take root in the State's developing offshore wind industry. Thus the State should separately procure the foundational infrastructure, open-access transmission facilities, to bring this initial 1,100 MW of offshore wind to shore.

In the context of a developing offshore wind industry, this separation of transmission and generation and the development of open-access transmission can produce immediate and long term benefits.

The immediate benefits include reduced environmental impacts and reduced costs from the earliest stage of development, where a single open-access transmission line can be shared by two or more competing wind energy projects.

The long term benefits include the low prices that European countries have obtained by separating transmission and generation, which intensifies competition among generators. That approach has yielded prices at parity with conventional onshore generation in The Netherlands and Germany, as evidenced by several zero subsidy bids in recent offshore auctions. The long-term benefits also include rapidly achieving scale, as Germany has now passed 5,000 MW of installed capacity and The Netherlands has embarked on the next phase of its offshore wind program by committing to a 3,500 MW transmission system, with another 3,500 MW transmission system to follow by 2028.

Finally, the separation of transmission and generation will allow for the development of a new thriving domestic industry and avoid problems of monopoly/duopoly and the unfair advantages that a first mover generator could obtain through control of transmission, especially where, as in New Jersey, there are relatively few robust interconnection points, and given the multitude of sensitive ecosystems along the coast there few paths to shore that can be permitted.

II. Anbaric's Offshore Transmission Projects in New Jersey

Anbaric has completed two 660 MW transmission projects in New Jersey in the last decade, each buried underground and underwater for their entire distances: the Neptune Regional Transmission System, extending 65 miles from Sayreville, New Jersey to New Cassel, Long Island (<http://neptunerts.com>), and the Hudson Transmission Project (<http://hudsonproject.com>), an eight-mile link between Ridgefield, New Jersey and the West 49th Street substation in New York City. Neptune utilizes a high-voltage, direct current classic configuration for its entire length and Hudson uses a back-to-back AC to DC to AC system in New Jersey and then buries a high-voltage AC cable in the sediments of the Hudson River until landfall in Manhattan, adjacent to the West 49th Street substation.

Each of the projects was completed on time and on budget.

This track record of providing value to ratepayers in New York and New Jersey – \$1.5 billion dollars of completed infrastructure in densely settled, ecologically sensitive, and economically vital areas of New Jersey and the tri-state region – is a useful data point for policy makers in the Murphy Administration. Our past performance confirms that Anbaric – and other seasoned transmission developers – can offer similar value if permitted to compete in the coming 1,100 MW procurement.

III. The Role of Transmission in the Offshore Industry – Question 2

The BPU should structure the initial solicitation for 1,100 megawatts of offshore wind capacity to include open-access transmission, regardless of whether that procurement seeks all 1,100 MW or some lesser amount (e.g. 400 MWs). In either scenario, planned open-access transmission offers multiple advantages for ratepayers and affected stakeholders.

First, timing.

Experienced transmission developers can develop lines from the offshore wind project(s) to the on-shore grid faster and are better equipped to navigate permitting challenges than generators who have never built a project here in New Jersey and who may not have experience building transmission in the United States. Of course, the competition to build and own open access transmission should be open to all qualified entities, including offshore wind developers. The BPU can evaluate which transmission proposal is most likely to meet permitting and construction milestones, and which makes the most sense for New Jersey's ratepayers. The larger and more complex the project, the better it will be to have an experienced transmission developer building the line to the on-shore grid.

Second, transparency in pricing.

If a generator were to offer transmission and generation bundled in a single OREC price, the State of New Jersey would be unable to separate the per MWh price of the offshore wind generation from the cost of the line to shore and associated infrastructure. This lack of transparency makes price comparison and negotiation more difficult than necessary. It is important, especially at the dawn of a new industry, for elected officials to be able to attract support for the industry. Being certain that the terms of the transaction are credible and fair – and in line with industry norms of fair and open competition – is a necessary part of securing that support. Absent the transparency that comes with the separation of transmission and generation pricing, evaluation of the competitiveness of price and other key terms is difficult.

Third, reduced impacts, both financial and environmental.

With a planned, open access transmission system, lines to the on-shore grid can be shared between two or more generation projects. Shared lines mean fewer lines than would be the case if every developer built its own line, and consequently fewer lines mean lessened environmental impacts – on the ocean ecosystem, endangered marine species and on commercial and recreational fisheries – along with associated reduced costs. It's that simple. Among those who will benefit from fewer seabed cables will be commercial shipping vessels concerned about encountering seabed cables in its anchorages and trawling fishing boats with similar concerns. On shore, fewer streets will be dug up to bury cable from shore landing to an interconnection substation.

If the State embraces a planned, open-access transmission system, the benefits of this approach can be secured from the first offshore wind development.

Planning is necessary when spending billions of dollars in ratepayer funds. This is especially true here in New Jersey. This initial procurement for 1,100 MW is among the largest single procurements for offshore wind anywhere in the world, and the overall goal of 3,500 MW by 2030 is no less ambitious. With public policy objectives this ambitious and this important, advanced planning is not only wise, but necessary. In a single state with few wind energy areas established to date, it is feasible to do this planning quickly.

The benefits of planned, open access transmission include the following:

- The State can help plan the location of the interconnection points to optimize the performance of competing wind farms. Without planned transmission, those farms will take the path of least resistance and build the lowest cost line to shore, irrespective of the needs of grid operators and electricity consumers and often tying up a valuable interconnection point with a line that under-utilizes the point's potential capacity.
- The State can help lower costs by allowing economies of scale to influence design of the transmission, so that multiple projects can connect to a single transmission system. Without planned transmission, there's no development of a grid and each solitary project emerges, one after another, without thoughtful coordination and minimization of overall impact. To date, each offshore wind developer has shown a marked preference to build its own project's lead line to shore, but in a grid, where the benefits of the whole exceed the sum of the parts, this piecemeal approach to developing infrastructure creates greater costs and needlessly limits benefits. To be clear, a generator lead built to serve a project may be the lowest cost solution for the project, but will not necessarily be in the best interests of the ratepayer.
- The State can help build in redundancy as a principle for transmission, so that wind farms are not dependent on a single connection to shore. Without planned transmission, there's no priority given to reliability and other benefits of building an offshore transmission system, rather than multiple, single radial lines. Redundancy and increased reliability remain vital for a coastal state like New Jersey which will continue to face multiple extreme weather events as a result of climate change.

IV. Open-Access Transmission Creates Competition and Yields Low Prices for Offshore Wind – Question 9

The BPU should request bids for expandable, non-discriminatory, open-access offshore transmission facilities for the efficient delivery of power to the onshore transmission system beginning with the first procurement.

For the reasons discussed in section III above, Anbaric believes that the separation of transmission and generation should be established in the first and subsequent procurements for offshore wind in New Jersey. Some wind generation developers take a contrary position – arguing that generation lead lines are all that's necessary and appropriate.

The three most common arguments in favor of multiple lead lines and against appropriately planned open access transmission can be summarized as follows.

- First, risk. Those without transmission expertise argue that without a single entity in control of both generation and transmission construction, there is substantial risk that transmission will not be ready when the offshore wind turbines are installed and prepared to generate electricity or vice-versa.
- Second, control. Non-transmission experts argue it's more efficient for a project developer to be the single entity responsible for all aspects of the project: one project, one responsible entity.

- Third, financial viability. Some have claimed that without control of every aspect of development from the installation of the turbines to the point of interconnection to the grid, it will be difficult or impossible to obtain project financing for the project.

None of these arguments withstand scrutiny. Each is contradicted by practices common in the industry in the United States and in Europe.

Risk exists whether one or two entities are building the project; what counts is whether there are effective measures to control risk. As a practical matter, the challenges involved in permitting and building a linear project, a transmission line from the ocean to a substation on land, differ from the work involved in a generation project, designing and building an array of dozens to hundreds of turbines in an established area of the ocean. The construction of the transmission line and the turbines will be completed within different operating units of the company and coordination of the timing of design, ordering the supplies, and construction of each part of the project will be necessary to the success of the project. That coordination can occur across two units of one company or across two companies. There's no guarantee of success by using one or another structure.

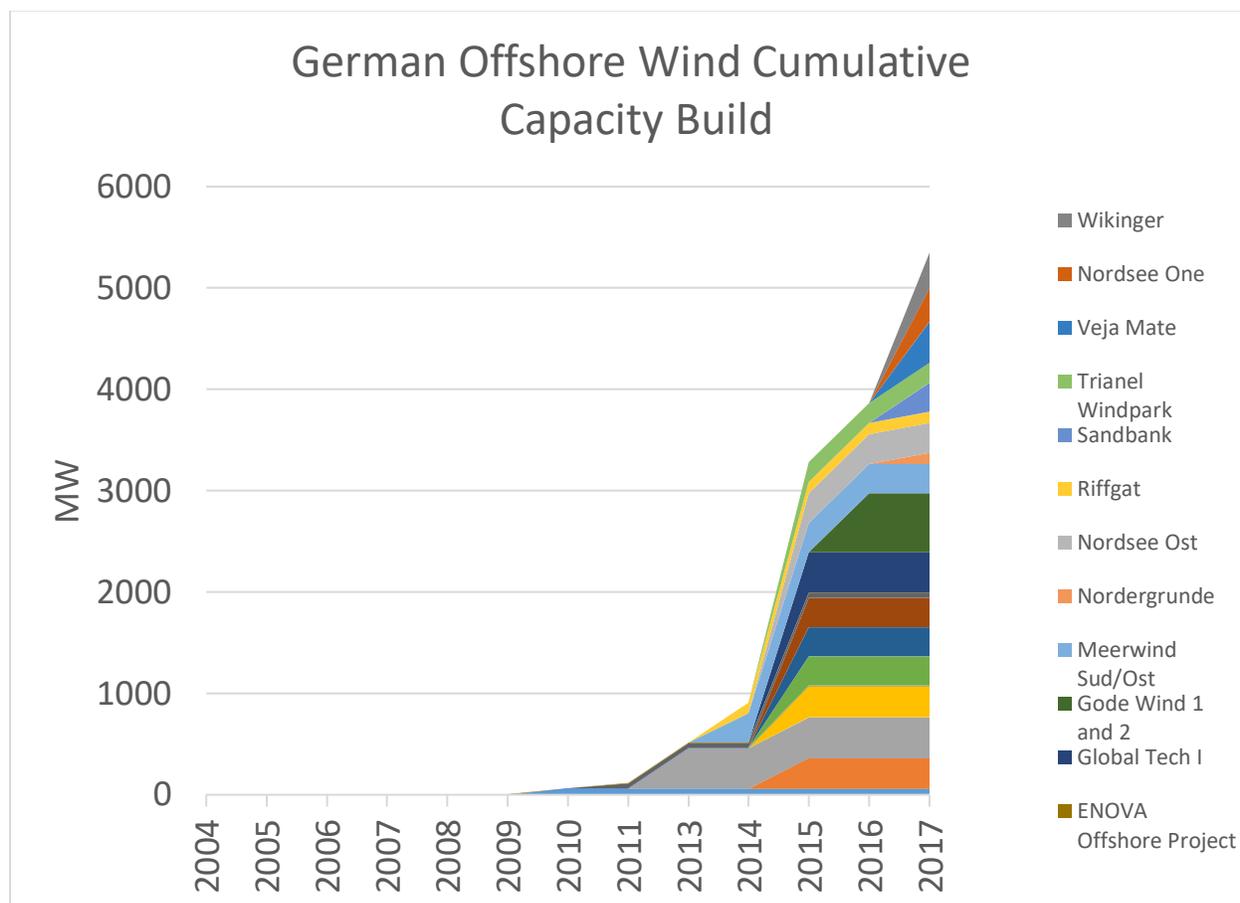
Nonetheless, some assert that it's just "easier" to reduce risk by having one company do everything. This claim is contradicted by practices throughout the industry in the last two decades, from Texas with its Competitive Renewable Energy Zone ("CREZ") transmission build-out, which enabled the development of more than 17,000 MWs of terrestrial wind, to The Netherlands, Germany, and other countries in continental Europe who adopted a "transmission first" approach to offshore wind and have seen deployments of offshore wind leap from a few hundred megawatts installed to thousands installed and thousands more in the development pipeline. There is no basis in history or industry practice for the claim that it's "easier" for one company to do it all. The growth of capitalism shows the benefits of specialization.

Those who would like to have a monopoly over both generation and transmission often point to Germany as evidence that the two should be bundled. It is true that in Germany's early days of offshore wind development, the industry suffered delays in project delivery, in large part due to delays in the construction and operation of transmission from the wind parks to shore. But, the timing delays were not caused by the separation of transmission from generation, or from different companies building transmission and generation. The delays arose from four overlapping factors:

- 1) approval of a large number of offshore generation projects without coordination, and without allowance of sufficient time to plan and construct the required transmission;
- 2) unforeseen design and technical challenges because Germany was building further from shore, more than 100 kilometers, and at depths, more than 40 meters, than had been attempted before;
- 3) constraints in the supply chain, as industry ramped up to meet the demands of this new sector; and
- 4) a regulatory structure that inhibited financing of transmission for offshore wind.

Germany and other European countries learned from that early experience and as a result, shifted to planned, shared transmission. This process has yielded remarkable results – Germany is now second in

the world with over 5,000 MW of installed offshore wind capacity. Taking a transmission first approach has resulted in a rapid build-out of the industry, at scale, with competition driving down prices. The early difficulties in Germany were the exception, not the rule and it makes no sense to build policy around an exception.



Finally, the assertion that without control over every aspect of development, project financing for offshore wind development is at risk is contradicted by the existence of the wind industry in continental Europe. There, transmission is developed separately, and thousands of megawatts of generation projects have secured financing.

V. Preliminary Thoughts on Procurement – the Initial RFP

Given the importance of transmission in building an industry at scale, quickly, and supporting competition while protecting the environment, it’s important to craft the procurements for offshore wind to obtain the benefits of open-access, planned transmission.

Anbaric offers three principles to guide the procurements.

First, robust competition should be encouraged. Generation bids should be separate from transmission bids. If they choose, generators should be able to bid their own generator lead lines, the benefits of which can be compared against independently to bid transmission lines or systems.

Second, in the event that a single entity bids in generation and transmission, the pricing of each component must be provided separately.

Finally, transmission should be planned to cost-efficiently meet Governor Murphy's goal of 3,500 MW by 2030, while minimizing environmental impacts, and allowing for growth of the industry beyond 2030. Such a system can be built in phases to align with the capacities of each RFP or the wind farm(s) selected through each RFP. If the procurement allows for generation to be bid in 400 MW components, transmission should be allowed to bid 400 MW or more, as a single transmission facility can join two or more wind projects, while allowing for future growth. This would allow bidders to demonstrate the potential to accelerate the permitting and construction of planned open access transmission to accommodate every level of generation and to take advantage of economies of scale for transmission (e.g., lower costs per MW of transmission capability the larger the transmission line).

We hope to have the opportunity to work with the Board of Public Utilities and others in the Murphy Administration to provide additional thoughts on procuring open-access transmission.

Respectfully submitted,

Clarke Bruno
President, Transmission
Anbaric Development Partners, LLC