August 17, 2020

ALLIANCE FOR american manufacturing

President Joe Fiordaliso
New Jersey Board of Public Utilities
44 South Clinton Avenue, 9th Floor
Post Office Box 350
Trenton, NJ 08625

Re: Draft New Jersey Offshore Wind Strategic Plan
Docket No. QW18030284

Dear President Fiordaliso:

On behalf of the Alliance for American Manufacturing (AAM), I urge you to embrace the opportunity New Jersey has to create jobs in the manufacturing supply chain for offshore wind and in the infrastructure built to support the purpose-build Wind Port.

AAM is a labor-management partnership between the United Steelworkers and some of America's leading manufacturing companies. Together, we support policies that benefit both American workers and companies doing business here at home in the United States

We are pleased to see that New Jersey has had the foresight to consider port and harbor infrastructure investments that will be necessary to support the growing offshore wind industry and are eager to learn more about the buildout of port infrastructure and the on-site manufacturing the New Jersey plans to locate at port sites.

New Jersey has longstanding Buy America laws that require the purchase of goods manufactured in the United States wherever or whenever possible. N.J.S.A.52:32-l provides that the specifications for "state work" or work paid for, in whole or part, by the State shall require the use of manufactured products of the United States "whenever available." N.J.S.A.52:33-l requires the use of "domestic materials" in connection with public works at all levels of government unless inconsistent with the public interest or if United States products in sufficient quantity and of satisfactory quality are unavailable.

In 2013 the Legislature passed the bipartisan New Jersey Made in America package of legislation (A-3059, A-3280, A-3281, A-3221, and A-3279) only for it to be vetoed by then Governor Christie. In 2020, S. 853, similar Buy American legislation. Both of these efforts sought to build on the existing laws and assure that as companies continue to invest in their U.S. operations, modernize plants to make them safe and efficient, that they will sustain and create jobs here in the United States in the process.

At a time when the COVID-19 related economic fallout has cost tens of millions of Americans their jobs and over seven hundred thousand manufacturing workers have already been laid off, we urge this Administration to uphold this longstanding value of New Jersey and promote the economic recovery from COVID-19 by ensuring that Buy American is applied to the proposed port projects in this strategic plan.

Sincerely,

Brian J. Lombardozzi
Vice President for State Governmental Affairs
Alliance for American Manufacturing

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August 17, 2020

VIA ELECTRONIC MAIL
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RE: OSWSP Comments
Comments of Exelon and Atlantic City Electric Company on the Draft Offshore Wind Strategic Plan
BPU Docket No. QW18030284

Dear Secretary Camacho-Welch:

On behalf of Exelon and Atlantic City Electric Company ("ACE" or the "Company") please accept these comments in connection with the New Jersey Board of Public Utilities ("BPU" or the "Board) request for comment on the draft Offshore Wind Strategic Plan ("OSWSP"). Exelon and ACE appreciate the opportunity to participate in this initiative and value the open public input process the Board has pursued.

As the OSWSP evolves and the Board evaluates written comments and the oral comments received at the public meeting on August 3, 2020, Exelon and ACE respectfully request that the Board consider the following comments.

Introduction

ACE currently serves approximately 560,000 customers in its 2,800 square mile territory that includes the City of Atlantic City, rural and shore communities, and industrial parks and farms. ACE has been serving customers in southern New Jersey for almost a century; it is a part of the fabric of southern New Jersey. ACE has seen its customers persevere through the Great Depression, numerous recessions, economic recoveries, and the current pandemic. The Company's ties to the local communities go beyond being an essential service provider of

electricity. Southern New Jersey is our home, our employees live in these communities, raise their children here, volunteer their time and resources in New Jersey's communities, and deeply care about the clean energy future of New Jersey. We commend the Board for how it incorporated its vision into the draft OSWSP. The OSWSP can be a defining moment for a clean energy economy in New Jersey and can be a building block to recover from the current economic downturn. Regulators, local businesses, New Jersey customers, and companies like ACE need to work together to make this happen. The Company is pleased to offer its support for the draft OSWSP.

ACE recognizes the important role that offshore wind ("OSW") can play in New Jersey's carbon-free future. OSW is a transformative opportunity that will create new high paying jobs[1] and allow the State to recover from the current economic downturn, all through the development of zero-emission energy. As New Jersey reduces its carbon emissions, OSW can be a clean energy economy enabler. New Jersey's goal of 7,500 megawatts of OSW by 2030, which represents 50 percent of New Jersey's projected 2035 load, can play a significant role in achieving New Jersey's overall clean energy objectives, while providing an avenue of economic growth.

Like the draft OSWSP, Exelon and ACE view climate change as a real and immediate environmental and economic threat. Scientists at the Copernicus Climate Change Service announced that May 2020 was Earth's hottest May ever; 2019 was the second hottest year ever and capped off the hottest 10 years in recorded history. The current year, 2020, is forecast to be among the top 10 hottest years ever.[2] The National Oceanic and Atmospheric Administration ("NOAA"), through its National Centers for Environmental Information, calculated that, as of July 8, 2020, there have been 10 weather/climate disaster events with losses exceeding $1 billion each to affect the United States. The annual average of these events was 6.6 per year between 1980 – 2019, but the most recent five-year average (2015 – 2019) was 13.8 events. For the 2015 – 2019 period, NOAA estimates a total of $535.6 billion of losses due to these events.[3] Customers and communities, especially shore communities, increasingly value zero-carbon resources of electricity and are looking to ACE and other utilities to help them transition to a carbon free future.

We are pleased to see that the draft OSWSP recognizes the important role of OSW and intends to responsibly develop the industry. The OSWSP is also mindful of environmental and natural resource protection, commercial and recreational fisheries, supply chain and workforce development, ports and harbors, and energy markets and transmission. ACE believes that OSW can be developed in a responsible least-cost manner with minimal environmental impact and without harming current New Jersey industries and natural resources. ACE and the other New

[1] *See* Figure 4-2 in the draft OSWSP, "offshore will create between 6,000 and 8,000 jobs per year from 2028 to 2034. Cumulatively 68,340 job years will be created from 2020 to 2035", https://www.nj.gov/bpu/pdf/Draft_NJ_OffshoreWindStrategicPlan%26Appendices_7-13-20.pdf

[2] *See* https://www.cnbc.com/2020/06/05/climate-change-may-2020-is-hottest-month-on-record.html, and https://climate.copernicus.eu/

[3] https://www.ncdc.noaa.gov/billions/

Jersey transmission owners are an important resource which the State can utilize to pursue needed least cost transmission infrastructure which can then effectuate the goals of the OSWSP.

Environmental and Natural Resource Protection

Offshore wind development is a capital-intensive endeavor with a significant footprint. Most of the footprint is in federal waters and the Bureau of Ocean Energy Management ("BOEM") is responsible for the environmental and natural resource impact through its permitting process. The electric infrastructure interconnecting the wind farm to the onshore transmission grid constitutes most of the OSW infrastructure that is subject to New Jersey jurisdiction. However, the impact to natural resources and the environment from OSW development in federal waters affects New Jersey and ACE supports the recommendations in the OSWSP.

ACE strongly encourages the State to increase communication and coordination with all federal agencies overseeing OSW development to make sure that New Jersey's concerns and requirements regarding natural resource and environmental protection is clearly heard and understood. The New Jersey Environmental Resources Offshore Wind Working Group could be the vehicle for this. As mentioned in the draft OSWSP, use of best available technology, prioritization to develop areas of lower relative susceptibility, leveraging existing data, and creating a requirement to share all state funded OSW data and information is a good starting point for the State to advocate.

The draft OSWSP outlines specific concerns related to birds, fish, cetaceans and sea turtles, benthic invertebrates, social use, utility resources, restricted use, and vessel density. Most of these issues seem to relate to the generation component of an offshore wind farm and ACE agrees with the recommendations contained in the OSWSP. However, the environmental and natural resource concerns should apply equally to all of the components of an offshore wind farm. The onshore transmission component, which is jurisdictional to New Jersey,[4] should also be explicitly mentioned in this section. The transmission component should be designed to minimize its environmental footprint and natural resource impact. Minimizing the needed number of cables to make landfall and minimizing the number of required onshore upgrades should be the base starting point for OSW in New Jersey. Talking about the need to minimize environmental and natural resource impact but not actually applying it to all the components of offshore wind should not be an option.

Robust transmission planning will be necessary if New Jersey is to meet its environmental and natural resource impact goals. If future OREC solicitations continue to request bundled bids, then this section of the draft OSWSP ignores certain portions of an entire OSW project. More specifically, shore communities that experience the environmental impact of multiple generation tie lines over multiple years are virtually carved out from having this section of the OSWSP apply

[4] New Jersey jurisdiction extends three nautical miles into the ocean and some undersea cable would also fall under New Jersey jurisdiction.

to transmission. ACE and the other New Jersey transmission owners have significant experience with transmission planning, especially through shore communities and through areas of environmental sensitivity. We are ready to help the State in this endeavor, and believe that our involvement would greatly benefit New Jersey.

Commercial and Recreational Fisheries

Commercial and recreational fishing is a significant part of the New Jersey economy. Businesses and jobs are dependent on maintaining this industry and OSW will start to share portions of the ocean with the fishing industry. OSW will create jobs and economic growth in New Jersey, but it should not be done at the expense of the existing fishing industry. It is critical that OSW be developed in a manner that does not pose a significant threat to the fishing industry. ACE is supportive of the OSWSP's goal to not harm the fishing industry while developing the offshore wind industry. ACE also supports the State's active involvement at BOEM to present a statewide view of the potential impact of OSW to the commercial and recreational fisheries in New Jersey.

The fishing industry is actively participating in the BOEM process for permitting individual OSW farms and the BOEM process for auctioning off lease sites. This is done in order to protect their individual well-being, but does not imply that all affected parties are actively participating or know how to participate. The State, possibly through the Offshore Wind Environmental Resources Working Group, should be actively involved at the BOEM to present a statewide view of the potential impact to the commercial and recreational fisheries in New Jersey. ACE supports the OSWSP recommendation on data gathering and the sharing of information, but the most important thing is to ensure that New Jersey has a voice in the BOEM process. The State is not a typical stakeholder in these BOEM proceedings since it represents a wide group of interests and the State should strive to create a federal-State working group to coordinate with federal agencies on offshore wind site leasing and offshore wind development.

Supply Chain and Workforce Development

The development of an offshore wind supply chain and continued workforce development for OSW will bring new economic opportunities to New Jersey. New Jersey will be competing with its neighboring states for the development of this new industry and the draft OSWSP provides significant recommendations to allow New Jersey to maintain a competitive advantage. Exelon and ACE support the State's goals to develop a local supply chain and provide new job opportunities for New Jersey residents and strongly believe that the Wind Innovation and Development ("WIND") Institute can play a significant role.

Considering the buildout of offshore wind on the East Coast, the need for new substations and upgrades of existing substations will be significant. Substations to accommodate offshore wind tend to be a subtle component but the demand for substation equipment is another avenue

that New Jersey should seriously consider. The draft OSWSP is silent on this issue but attracting manufacturing to address substations for offshore wind can provide additional jobs. This is a component of the offshore wind supply chain and attracting a substation equipment manufacturer to New Jersey will give the State an advantage over other states.

In addition, the activities that the Wind Innovation and Development ("WIND") Institute will engage in will positively impact local communities, including workforce training, and provide benefits that will attract aspects of the national offshore wind supply chain to New Jersey. The WIND Institute should leverage local universities such as Stockton, Rowan, Rutgers, and others to provide a best-in-nation education, research, innovation, and workforce training clearinghouse in New Jersey. Involving universities and communities from locations directly impacted by offshore wind development will ensure that these academic and residential communities can participate and benefit from this new industry. Exelon and ACE believe that the WIND Institute is an important part of growing the OSW industry in New Jersey, and we are eager to participate in this initiative. If desired, the Company could host WIND Institute meetings, provide a forum for the WIND Institute activities, serve on advisory boards, support training programs, and explore research and development efforts.

Ports and Harbors

In order to develop a local supply chain that not only serves the offshore needs of New Jersey, but the offshore wind needs of the East Coast, the development of ports and harbors is essential. As with the supply chain and workforce development, New Jersey will be competing with its neighboring states. New York and Massachusetts desire significant port development. For its second offshore wind solicitation, New York now requires an offshore wind bid bundled with port development. Ports and harbors will attract a local supply chain, jobs, and an overall economic jumpstart. They are an integral part of achieving the State's vision as the region's centralized offshore wind hub. Exelon and ACE support the OSWSP recommendations regarding ports and harbors and submit that the recently announced New Jersey Wind Port and the recommendation to expand New Jersey's financing and incentive programs to stimulate investment in marshaling and manufacturing ports are two critical components to maintain New Jersey's competitiveness.

Energy Markets and Transmission

Exelon and ACE maintain that transmission is a vital element to unlocking New Jersey's ability to integrate 7,500 MW or more of offshore wind. We respectfully submit, however, that this issue needs more focused attention in order to fully consider the cost impacts of transmission, permitting and right-of-way issues. The draft OSWSP contains many important recommendations and we want to support the State by actively participating to achieve these goals. The energy markets and transmission recommendation in the draft OSWSP that are most critical include:

- collaborate with PJM;
- work with PJM and the local utilities to develop a grid transmission study for the integration of 7,500 MW of offshore wind;
- evaluate the current regulatory process as it applies to OSW transmission upgrades and the consideration for environmental impact, especially within environmental justice areas;
- evaluate offshore energy infrastructure, such as radial or backbone scenarios; and
- advocate for clean energy policies with the Federal Energy Regulatory Commission ("FERC") and PJM so OSW does not face barriers to entry in energy markets.

Concerning the levelized cost of energy ("LCOE"), ACE understands the Board's focus on the topic and recommends applying it to OSW in a pragmatic fashion, most of the energy markets and transmission section talks about cost and minimizing the LCOE. Figure 6-3: Percent Change in LCOE From Key Factors is a packed chart. It resembles a standard tornado chart which identifies the individual impact of variables while holding every other variable constant. The chart shows that, for grid connection, a 25 percent increase in transmission cable distance results in an increased LCOE of about 1.5 percent,[5] while holding everything else constant. Considered on its own, this is a significant impact. For OSW, however, this figure should not be taken alone. Each offshore wind project is unique with its own characteristics and challenges, but typically, the further away from shore a wind farm is placed, the better the wind – and the better the capacity factor. If the distance from shore to the wind farm increases, the cost to build the export cable may increase, but the overall impact should also consider the increase in wind speed. According to the chart, a 1 meter per second increase in average wind speed can reduce the LCOE by 10 percent.[6] While this type of tornado chart is common in project financing. In the case of the offshore wind case presented in the draft OSWSP, however, a change in one variable, necessarily implies a change in another variable. We caution making inferences on these variables on a standalone basis. In addition, the LCOE analysis seems designed for individual wind farms with their own individual radial export cable. Under an unbundled approach to transmission, however, an individual offshore transmission system would service multiple windfarms. The State should consider a LCOE sensitivity around a radial and unbundled, coordinated approach to transmission, and determine the impacts these approaches have for the buildout of 7,500 MW of OSW in New Jersey.

The OSWSP points out that New Jersey electricity costs are high relative to other states. Exelon and ACE are sensitive to this issue and recommend that the State engage with PJM and the

[5] *See* Figure 6-3 in the draft OSWSP, "offshore will create between 6,000 and 8,000 jobs per year from 2028 to 2034. Cumulatively 68,340 job years will be created from 2020 to 2035", https://www.nj.gov/bpu/pdf/Draft_NJ_OffshoreWindStrategicPlan%26Appendices_7-13-20.pdf

[6] Id.

regulated utilities to perform a comprehensive study that can identify the most efficient and least-cost transmission solutions that can optimally serve multiple wind farms, reduce construction cycles, reduce environmental and traffic impacts, and lower costs by leveraging existing infrastructure. Other onshore needs (including, without limitation, resiliency and aging infrastructure.) can also be addressed by the study. Exelon and ACE respectfully submit that the BPU should consider a least-regret holistic approach which best helps local communities and the State.

Individual OSW developers are competing against each other, especially on cost. An offshore wind developer will do what is best for that individual wind farm and for that specific solicitation, without any regard to how best to help meet New Jersey's long-term goal of 7,500 MW of offshore wind. We respectfully submit that this results in an inefficient process that ultimately drives up offshore wind cost, provides an undue advantage to early winners, and causes the most environmental impact.

New Jersey's first bundled solicitation permitted network transmission costs to be passed through to New Jersey ratepayers. At the time of the award, the network upgrade costs were unknown. Regardless of whether network transmission upgrade costs are included as part of the developer's OREC or are paid for through transmission rates, New Jersey ratepayers ultimately pay for these costs. Bundled solicitations ensure that New Jersey will utilize the most export cables possible taking up ideal points of interconnection while passing-through to ratepayers the associated network transmission costs. If future OSW solicitations are bundled, the State risks allowing OSW developers to dictate New Jersey's transmission planning. While these developers are experienced with European OSW development, they are not necessarily suited to determining the needs of the State's transmission system.

Concerning an open-access backbone offshore transmission system, ACE encourages the Board to continue discussions on this topic and explore options other than HVAC radial lines and an HVDC ocean grid. Exelon and ACE recently participated in a conference call with the Board and Levitan & Associates regarding transmission for offshore wind. The prepared questions focused on radial high voltage alternating current ("HVAC") generation tie lines versus a high voltage direct current ("HVDC") ocean grid type of project. Exelon and ACE appreciated the opportunity to participate in that discussion, but were disappointed because the topics were limited to the two bookend options (HVDC ocean grid and HVAC radial) without consideration of a middle ground option. The discussion ended with the announcement that no further discussion would take place. We encourage discussions to continue and work should commence on a comprehensive study that examines all possible solutions, including an open-access offshore collector transmission system coupled with a coordinated expansion of the terrestrial/land grid. Our written answers to those prepared questions addressed this issue in more detail, and touch upon many of the OSWSP's transmission goals. We have attached those responses to this document as they reflect our thoughts on how New Jersey should proceed regarding transmission for offshore wind. *See* **Attachment 1**.

Conclusion

Exelon and ACE value the opportunity to provide input into the State's draft OSWSP. ACE is looking forward to partnering with the Board, the other New Jersey utilities, PJM, and other interested parties to help shape the implementation of offshore wind in New Jersey. All stakeholders need to address the most efficient least-cost transmission solution to integrate 7,500 MW or more of offshore wind, while considering the economic realities facing the utility community and its customers during this unprecedented period.

Respectfully submitted,

Philip J. Passanante
An Attorney at Law of the
State of New Jersey

Attachment 1

Exelon and Atlantic City Electric Company Response to New Jersey Offshore Wind Transmission Information Gathering

BPU Docket No. QO20060463

August 13, 2020

VIA ELECTRONIC MAIL
https://levitan.sharefile.com/r-r6e2050333e54a00a

Richard Levitan
President, Levitan and Associates

Jim Ferris, P.E., CEM
Bureau Chief of New Technology
Clean Energy Division
New Jersey Board of Public Utilities

RE: Exelon and Atlantic City Electric response to New Jersey Offshore Wind Transmission Information Gathering in Docket No. Q020060463

Exelon and Atlantic City Electric ("ACE") appreciates the opportunity to assist the New Jersey Board of Public Utilities ("BPU") and Levitan & Associates, Inc. ("Levitan" or "LAI") regarding needed transmission infrastructure to achieve the State's ambitious goal for 7,500MW of offshore wind ("OSW") by 2035. Exelon and ACE supports Governor Murphy's goal to transition to 100% clean, renewable energy by 2050 and OSW is a resource that is expected to play a critical role in achieving this goal. ACE believes that involvement of the incumbent transmission owners will facilitate completion of this goal in a safe, reliable, timely, and affordable means and in a manner that will minimize impacts to the environment.

While 7,500MW of OSW by 2035 is the current goal, this is just a floor. The current Bureau of Ocean Energy Management ("BOEM") offshore wind lease areas off the New Jersey coast, along with the proposed leases to be auctioned over the next year, have the potential to supply the State with thousands more megawatts of OSW generation capacity beyond the current goal. To efficiently and cost effectively unlock this clean resource, Exelon and ACE strongly believes that transmission is the key element for New Jersey to integrate 7,500MW or more of OSW through an open access, non-discriminatory transmission system.

Exelon and ACE are keen to participate and aid the State and Levitan in this endeavor and appreciates the opportunity afforded by the BPU to directly address this issue via the video conference held on July 30, 2020 and to provide these written responses post video conference. However, we must emphasize that the issue at hand is solely exploring the

offshore, or wet, component for OSW transmission and only addresses half of the needed transmission infrastructure. The onshore, or dry transmission component, is equally critical. Without simultaneously addressing the onshore transmission grid, onshore transmission issues can quickly become the single biggest bottleneck to achievement the States OSW goal resulting in increased cost and delays.

Pursuant to the written questions and the video call on the New Jersey Offshore Wind Transmission Informational Gathering in Docket No. QO20060463, Exelon and ACE have prepared the following responses. However, before we address each question, we wish to discuss an inquiry from Levitan that came up during the video call on July 30, 2020 and which was not included as part of the written questions. Levitan was interested in the largest N-1 contingency in EMAAC.

The contingency issue is better suited for PJM, but we did explore the issue here at Exelon. In general, the largest contingency implies the single biggest loss to the grid, but it's not that clear cut. The largest contingency is not static, it changes based on which power plants are running and at what level it is dispatched. The largest contingency could differ today compared to Friday of last week, and in fact, can also theoretically change throughout a single day. PJM operates as a single balancing area with adequate spinning reserve for the loss of the largest unit anywhere in PJM. In general, the single large contingency for any region in PJM will likely be the single largest unit in PJM. The largest units in PJM are 1,600MW – 1,700MW and located in Dominion's service territory. Specifically, for EMAAC, there was a time when Limerick 2 was one of the most limiting contingencies for a reactive interface, but new gas generation in eastern PJM have largely addressed this limiting issue. If you are wondering about the biggest units in EMACC, here is a list of all the EMAAC units over 1,000MW. Depending on outages, any one of these units could be the largest single unit contingency in EMAAC, but as mentioned above, spinning reserve is typically determined by units in Dominion, and as the issue is dynamic, the largest single unit contingency may be located elsewhere in PJM, depending on the day.

- Limerick 1 – Summer Capacity: 1,119.7MW
- Limerick 2 – Summer Capacity: 1,122.1MW
- Peach Bottom 2 – Summer Capacity: 1,125.4MW
- Peach Bottom 3 – Summer Capacity: 1,125.4MW
- Wildcat Point Generation Facility CC1 – Summer Capacity: 1,000MW
- Hope Creek 1 – Summer Capacity: 1,172MW
- PSEG Salem Generating Station 1 – Summer Capacity: 1,170.2MW
- PSEG Salem Generating Station 2 – Summer Capacity: 1,158MW

1. *Do you support OSW development with bundled HVAC radial export cables or with an independent HVDC ocean grid? Why? Does either configuration facilitate options for minimizing the number of cable landfall points?*

Assessing between bundled HVAC radial export cables and independent HVDC ocean grid only looks at two outlying endpoints without accounting for middle ground options. Exelon and ACE support the most efficient, cost-effective and least regret approach to OSW development and that implies assessing all options including a middle ground option between the two bookends. An offshore collector transmission system located in the Atlantic Ocean connected to the onshore grid may be the most optimal solution and should be part of the consideration. Exelon and ACE are agnostic as to whether the platform is AC or DC and should be designed to meet the optimal needs of New Jersey. In order to explore all three options, a comprehensive study to analyze the technical considerations for the efficient buildout of transmission for OSW is needed.

At a high level, a coordinated expansion of the terrestrial/land grid coupled with an open-access offshore collector transmission system is a more practical solution to interconnecting 7,500MW of OSW into NJ. An offshore collector system is a commonsense approach that will minimize the number of cables impacting shore communities and potentially make the most effective use of existing points of interconnection. The offshore collector system is different from an ocean grid; a collector system, as its name implies, collects power from multiple windfarms and brings that power to shore. An ocean grid system while providing some redundancy by creating links between HVDC collector platforms, requires additional runs of offshore HVDC cables, several HVDC or multi-terminal offshore HVDC stations, and likely additional onshore construction for a HVDC converter station, may ultimately become a cost prohibitive option. New Jersey may look to build an expandable ocean grid-type system whose links and multi-terminal stations could be added incrementally on an as needed basis or opt for an offshore collector system which may be expandable based on future needs. Both are suitable but a comprehensive study is needed to identify the most appropriate design for NJ.

A bundled HVAC radial solution is an easy way to deal with the issue in the short-term, but the long-term implications can be severe in the form of reduced competition/competitiveness for offshore wind, inefficient use of the transmission grid to tie in multiple generator lead lines, and overall increased cost to customers. Continued use of individual HVAC radial tie-lines may be physically impractical or alternatively, cost-prohibitive to achieve NJ's goal of 7,500MW of OSW.

Permitting through coastal communities, access to ROW, environmental impacts, community impacts, physical & technical limits along route (existing energy, water, sewer and transportation facilities), and noise and traffic impacts of multiple construction cycles are challenges to an efficient buildout. Minimizing the number of lines that need to be built for OSW should be the overall goal.

- Serial gen-tie facilities support limited interconnections; communities and the environment are adversely impacted each time new gen-tie facilities are built,

leading to escalating costs in future solicitations and increased risk of unsuccessful gen-tie buildout

- Bundled HVAC radial lines are typically designed by the wind developers who have no incentive or ability (due to state requirements) to design and co-locate their gen-tie facilities with existing infrastructure or with competing developers, including offshore and onshore substations, in a manner that can provide nondiscriminatory transmission access to future competitors; developers are incented to design and minimize gen-tie costs for their specific facility without the long-range goal of minimizing cost for their competitors in the future. This will necessarily lead to an increased number of future OSW export cables.
- A bundled HVAC radial approach has the potential to provide a detrimental first mover advantage by allowing an individual wind developer to monopolize the development of onshore and offshore transmission infrastructure early in the life cycle of offshore wind, thereby lessening competition in future solicitations and creating competitive barriers for new participants in later rounds
- Unbundled planned onshore network transmission facilities (such as centralized cable landing sites, onshore cable routes and interconnection substations) coupled with an offshore collector system will minimize these impacts resulting in the most efficient buildout option
- Incumbent transmission owners can additionally reduce siting and permitting risks associated with a planned onshore system by leveraging their existing ROW which should result in lower cost, less land use, and reduced environmental impact
- Leveraging a TO's onshore infrastructure needs can create additional synergies and savings (cost, environmental…) by addressing multiple needs beyond OSW (resiliency, aging infrastructure…) with one common solution
- When connected to an open access offshore collector system, offshore wind developers can leverage this pre-planned infrastructure, which eliminates one element of risk and cost uncertainty, thereby providing additional opportunities for competition in the sourcing of offshore wind energy
- An expandable offshore collector system consisting of HVDC collector stations where wind farms plug into and transmission cables to shore that carry power of multiple wind farms can provide open access and promote competition amongst wind developers, ultimately lowering overall OREC costs.

Choosing between HVAC and HVDC for the buildout of a transmission system for OSW depends on several factors. Primarily among them is distance from shore. ABB notes that after about 60 km or 37 miles of subsea cable length, HVAC costs overtake HVDC costs. While HVDC is costlier than HVAC due to the need for converter stations, after this critical distance, HVDC has advantages over HVAC:

- HVDC has lower line losses over an equivalent distance compared to HVAC

- HVDC does not require reactive compensation over a similar length of power transmission, which can be an expensive facility to build as it would require an additional ocean platform between the windfarm and cable landing site
- Ability to transmit larger amounts of power over long distances compared to HVAC for the same size of cable (thereby allowing higher amounts of power in each ROW corridor compared to HVAC)
- Ability to control power flow and reduced impacts associated with deploying multiple HVAC radial lines

HVAC uses 3 core insulated cables with both the offshore and onshore segments typically buried underground

- Typical 220kV export cables can transmit up to 400 MW – dependent on environmental conditions.
- Larger wind farms may require multiple HVAC export cable circuits buried along adjacent subsea routes
- Each phase of underground HVAC cables typically needs to be enclosed in a separate conduit. For example, an 800 MW offshore wind farm that utilizes two 3-core HVAC export cables for the offshore system may require burying six individual onshore conduits in a very wide or deep trench. Digging such expansive trenches in permittable ROWs, such as under streets containing pre-existing utility infrastructure, becomes problematic.

To fully determine whether HVDC or HVAC is appropriate, whether through an ocean grid project, offshore collector system, or bundled HVAC gen-ties, at a minimum, the state of New Jersey should review the amounts of coastline, available points of interconnection, expected transmission cable lengths, transfer capability requirements, land use availability, environmental sensitivity, community impacts, and cost. European countries are further ahead than the US in developing OSW, and each country studied this issue and decided on transmission design prior to developing the bulk of their OSW. For instance, the UK, with a coastline that virtually encompasses 360 degrees, decided on AC radial gen-tie facilities to integrate all their OSW but are now starting to consider alternative approaches for future OSW. Germany on the other hand, has a limited coastline and a more congested onshore grid; they decided on an HVDC collector system for windfarms in the German North Sea.

2. *How might your role as a regulated TO in New Jersey differ between these two options in regard to operational responsibilities? Ownership? Finance and rate authority?*

A bundled HVAC radial project excludes the regulated TO from participating in the buildout of high voltage electric facilities in NJ. The financing, construction, ownership, and operation of the electric facilities will be the sole responsibility of the selected OSW developer. An unbundled open access transmission system like an offshore collector system or an ocean grid, whether HVDC or HVAC, offer the regulated TO the opportunity to participate in the financing, construction, ownership and operation.

Regulated TOs will operate and maintain the unbundled HVDC or HVAC transmission for the benefit of all generation developers in a non-discriminatory manner and ensure availability for the benefit of the grid in general. O&M associated with a single transmission asset can be significant but integrating the land portion of the offshore wind transmission facility into a TO's existing O&M operation is de minimis, improves efficiency and enhances reliability.

3. *If there was an opportunity to build, own, and operate an ocean grid, would you be a bidder? What expertise would you offer? Would you partner with another firm? What experience do New Jersey TOs have to support development of an ocean grid?*

Exelon/ACE would welcome the prospect to participate in an opportunity to build, own, and operate the offshore portion of the transmission system to enable 7.5 GW of offshore wind. This opportunity is currently not available in New Jersey, but if it does in the future, it would certainly elicit serious consideration. Exelon/ACE will consider all structures and is open to all options, depending on the specifics of the opportunity. ACE has significant experience maintaining, operating, and planning electric transmission infrastructure and can apply this towards any opportunity to construct and own electric infrastructure. While the regulated TOs have limited experience building underwater transmission in the Atlantic Ocean, they have the capability and experience to manage complex transmission projects and can leverage those skills to manage the same engineering and construction firms that offshore wind developers would employ to build underwater export cables.

4. *Will New Jersey's transmission needs be equally well-served by bundled radial export cables or an ocean grid for the target 7.5 GW of OSW development? Is PJM's transmission planning process, i.e., RTEP, adequate for meeting New Jersey's future OSW transmission system needs? If so, describe the applicable RTEP provisions.*

As noted earlier, Exelon/ACE supports an offshore collector system instead of an ocean grid configuration. If transmission for OSW continues to be bundled radial export cables in future solicitations, then a patchwork of uncoordinated offshore substations and radial lines may emerge, imposing multiple rounds of traffic and environmental impacts on local communities. New Jersey has a vast coastline, but points of interconnection may be limited due to location and cost to access. Radial lines are sized for individual projects and take up valuable positions that could have been more optimally utilized by a series of offshore collector stations. At the very minimum, we recommend PJM perform transmission studies (not limited to the two bookends of

bundled gen-ties and HVDC ocean grid) that can identify the most efficient and least cost transmission solutions that can (1) optimally serve multiple wind farms; (2) reduce construction cycles; and (3) reduce environmental and traffic impacts; and (4) lower costs by leveraging existing infrastructure and address other onshore needs (resiliency, aging infrastructure …). An offshore collector coupled with adequate terrestrial network upgrades provides a more comprehensive and efficient path to address these issues. With each incremental bundled radial cable, negative social impacts are exacerbated, may increase the cost of transmission, and ultimately, increase the cost of offshore wind itself.

Exelon/ACE, along with FE and PSEG began to analyze transmission for OSW and how to best plan for 7,500MW. Part of the analysis included outreach to PJM and discussed how PJM can take proactive steps to study different scenarios to accommodate state renewable goals. The regulated TOs began the effort by studying cost-effective points of interconnection for offshore wind. In January 2020, the regulated TOs decided to coordinate their efforts through PJM as it became apparent that PJM is best situated to analyze these issues for New Jersey. During the discussion, PJM indicated that they are exploring a possible transmission study for New Jersey offshore wind. The TOs have offered any support that PJM may require.

If the choice is between an offshore collector system, an ocean grid, or radial AC export cables, the collector configuration provides a more feasible and straight-forward way to interconnect large amounts of OSW resources than AC radial lines. A radial approach to interconnect 7,500MW or more of OSW will not be effective. The most efficient method available is to enable a collector system and utilize PJM's State Agreement approach to build those collector facilities.

Whether NJ decides on an offshore collector approach or individual radial export cables, the path to building will go through PJM. A radial approach must follow the FERC-approved interconnection process which is described in PJM Manual 14A. This is a serial interconnection process which strictly looks at interconnection requests and the amount of energy and capacity that each position requests. Once the necessary information is provided by the developer, PJM's interconnection process will identify the upgrades (facility & network) required to interconnect. The study is limited in that it does not explore whether the selected POI is the best place to interconnect, does not take into consideration a holistic approach to interconnect 7,500MW, and it certainly does not look at constructability and societal impact.

Utilizing the PJM interconnection queue, OSW request are currently assigned approximately 28% capacity injection. For example, PJM queue request AE2-251 is seeking 1,200MW of OSW at Cardiff 230kV and PJM is allowing 337.2 MW of capacity injection. Accordingly, deliverability upgrades will only be built to accommodate

337.2MW. It is possible that in certain situations, the energy output of the wind generator will be curtailed from 1,200MW to 337.2MW. This type of curtailment scenario is not ideal, but a coordinated, non-discriminatory open access transmission system approved through PJM's State Agreement approach could minimize curtailment. A project approved through the State Agreement approach could be designed and sized with the overall state OSW goal in mind and would possess a significantly reduced curtailment potential compared to a gen-tie line utilizing the PJM's serial interconnection process.

5. *Do you have specific OSW transmission system concerns that may not be covered adequately by PJM and RTEP? If so, what should be done to improve RTEP?*

If NJ continues bundled OREC solicitations, the broader effectiveness of the RTEP planning process is limited as uncoordinated radial gen-tie facilities would strictly utilize PJM's serial interconnection queue. As more gen-ties are built, and ideal points of interconnection are taken up by inefficient radial line designs, interconnection and gen-tie costs will increase. Future OSW competitors would have a competitive disadvantage and NJ communities would experience a revolving door of construction cycles.

The PJM State Agreement Approach has never been used, but it can provide an adequate solution for the buildout of OSW transmission. However, public policy criteria, a holistic approach to building out transmission to accommodate renewables and addressing the existing insufficient transmission to support maximum capacity factors are three areas where PJM can improve on. PJM can address these issues by taking a more proactive approach to these issues by leveraging its experience in planning, operations and markets. To this end, PJM has setup the State Policy Solutions Group, which is a new group that "will pair PJM's expertise in planning, operations and markets with a firm understanding of state law and regulation to assist states in the implementation and, when requested, the formation of state energy policy." This is a forward step and should be utilized by states looking to develop transmission for public policy needs. ACE/Exelon has advocated for PJM support of state goals on numerous occasions with New Jersey and will continue to advocate for this approach.

6. *Should OSW developers compete for access to the PJM grid through the established interconnection process or should they have assured access through an ocean grid? Is PJM's OATT sufficient to enable competitive access to the PJM grid? How do you view FERC's recent decision denying Anbaric's Complaint regarding transmission system access?*

This is an example of where PJM's State Policy Solutions group can be useful. A closer collaboration between the state and PJM can result in an ideal solution between interconnection needs and developers' access to the grid. PJM should review NJ's transmission infrastructure needs and understand what is needed to achieve the state's ultimate goals, and then present those findings to NJ. The PJM analysis should incorporate the option to leverage existing infrastructure in order to address multiple needs and involve the incumbent TOs in the analysis as they possess the most local knowledge pertaining to the New Jersey grid. The state can then exercise its option to utilize the PJM State Agreement Approach to develop the transmission. The PJM State Agreement Approach is adequate to provide a cost-effective public policy transmission system which can then facilitate a more competitive NJ OSW solicitation.

FERC's decision to deny the Anbaric complaint is in line with the concept of open access to transmission and the FERC-approved PJM tariff. Anbaric's approach would take up interconnection positions and lock up transmission capacity with no actual generation projects behind those spots. It would also require offshore wind developers to pay a subscriber fee for use of the transmission system enabled by Anbaric, a system which was not designed based on NJ's needs or PJM's review of available and needed transmission infrastructure.

A coordinated transmission development approach will offset the need for offshore developers to seek out and submit interconnection requests. The current queue and process has become complicated and meaningless as multiple developers seek interconnection for 1,000's of megawatts of offshore wind into a rather weak costal transmission system; most of these requests won't be built since developers are testing various points of interconnection, and as requests are stacked upon each other, the cost of interconnection upgrades balloons to impractical levels (see AE2-251 example in Q8 below). Instead, the state should be granted a certain amount of injection rights, afforded by a coordinated onshore and offshore buildout and enabled through PJM's State Agreement Approach; these rights will then be allocated to developers once they have been awarded an OREC contract. This approach eliminates the uncertainty developers face as they determine where to interconnect and estimate the costs for interconnection in the OREC bid.

An important distinction between Anbaric and the State Agreement Approach is that under the State Agreement Approach, the states file with FERC a determination of how the transmission for offshore wind is paid for as well as a determination of who can interconnect to the offshore system. In New Jersey's case, this would be an open-access system for New Jersey paid for by New Jersey. Anbaric's approach does not address this interconnection issue since offshore wind developers would still be required to go through the interconnection queue, make speculative decisions on upgrade costs, and ultimately, fund required upgrades; any offshore wind developer would be able to take

up the transmission capacity on Anbaric's line even if they are not selected by the state in an OREC solicitation. Through the State Agreement Approach, the states have the option to file with FERC an approach to hold interconnection rights and grant those rights to qualified developers.

7. *Are the current PJM interconnection procedures and tariff provisions adequate to meet the growing interconnection needs for OSW? If not, what are some of the improvements that can be made to better facilitate the interconnection of OSW?*

Yes, as already described above, the PJM State Agreement Approach is an adequate tariff provision to sufficiently meet the needs of OSW. Ultimately, how OSW is built-out and the type of facilities to deliver that energy to the grid is up to the state of New Jersey. PJM can currently accommodate the process for an uncoordinated radial gen tie approach, but it may result in the most inefficient and uneconomic option to interconnect 7,500MW of OSW for NJ. An open-access terrestrial transmission network buildout coupled with offshore collector system that achieves a best-fit least-regrets transmission system can be developed through the State Agreement Approach.

8. *As a TO, what factors relevant to your role should the Board consider in selecting a radial export cable or ocean grid for New Jersey's OSW industry in procurement rounds 3 through 6?*

Exelon/ACE strongly believes that transmission is the key element to unlocking New Jersey's ability to integrate 7,500 megawatts or more of OSW, and that an open access, non-discriminatory transmission system should be the path forward. The incumbent TOs can play an integral role in designing and building the most cost-effective solution for New Jersey.

The state's coastline infrastructure is inadequate to deliver these resources across the state. PJM queue position AE2-251, which was mentioned above, provides a glimpse into the story. In order to inject 337.2MW of OSW capacity the PJM Impact Study Report shows possible system upgrades of over $900M. While this is an early estimate, this figure sums up grid reinforcement costs and does not include costs for the gen-tie, interconnection substation, cable landings, export cables or the offshore substation. The ability to construct through a coastal community, the ability to acquire right-of-way, and the social disturbance impact may be harder to overcome than $900M in upgrade costs. Pairing an offshore collector system with an adequate onshore network system is critically important. The regulated TOs can play a key role in this process as they can build transmission within utility-owned rights-of-ways and with

reduced land-use and environmental impacts. As a last resort, the regulated TOs have eminent domain rights to help mitigate costly project delays.

If the risk of permitting and constructing a transmission line through a New Jersey coastal community is taken away from the offshore wind developer, and everyone has access to a non-discriminatory open access, terrestrial and underwater transmission system, competition will be more robust, which will in turn put downward pressure on OREC prices.

As noted earlier, Exelon/ACE supports an offshore collector system instead of an ocean grid configuration and believes that a comprehensive transmission study will prove the collector system as the best fit for New Jersey. The onshore aspect of any transmission system to enable offshore wind is a critical component of building out the necessary transmission. As stated on several occasions above, coordinated planning enabled by PJM has many common-sense advantages over a radial build out and the regulated TOs have the local knowledge and experience to do this:

- optimizes the size and location of offshore substations to serve multiple wind farms
- reduces environmental impacts through fewer ROWs, onshore substation expansions, shore crossings, offshore substations
- decreases the traffic and environmental impacts to local communities by having fewer cycles of construction for a planned system
- lessens the costs of making incremental onshore transmission upgrades
- avoids having a patchwork of radial lines and non-standardized designs
- optimizes the interconnection to allow for additional offshore wind at that same location in future solicitations
- provides a forward-looking and cost-effective solution that addresses overall state goals/policy versus short-sighted planning for individual wind farms

9. *Is there anything else you wish to bring to our attention affecting the potential development of radial export cables versus ocean grid for future OSW procurement rounds?*

Interregional coordination on an ocean grid buildout is a topic that has yet to be mentioned but possibly merits study. A true ocean grid system that can connect multiple states, such as NJ, NY, MD and DE may have the build-out potential as the most efficient network collector ocean grid system accessing multiple BOEM lease sites with potential delivery into every state. Developers from sites off coasts of multiple states bidding into multiple solicitations will add yet another level of competition that will further drive down costs for OSW. Understandably, this type of grand public policy coordination on energy infrastructure has never occurred to our knowledge and will encounter numerous hurdles (equitable cost allocation among the top of the list). However, if ground rules could be setup such as 1) allocation of costs based on certain factors (e.g. MWh usage

of the ocean grid system by each state or a MW deliverability level desired by each state, etc.), 2) only allow one-way powerflows from the ocean grid to terrestrial system to limit network flows resulting in cost allocation concerns, and 3) an expansion of the interregional transmission system between PJM and NYISO to ensure deliverability of offshore energy between the regions, many issues seen in the past can be addressed.

Exelon and ACE greatly appreciate this opportunity to provide this written response and hopes it is beneficial to the BPU and Levitan as it considers transmission for OSW. We would be pleased to walk you through this response or to further discuss transmission for offshore wind. Thank you for your time.

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Subject: Comments on the Draft New Jersey Offshore Wind Strategic Plan

Dear President Fiordaliso, Commissioners Holden, Solomon, Chivukula, and Gordon,

Thank you for the opportunity to comment on the draft New Jersey Offshore Wind Strategic Plan[1] (draft OWSP or draft Plan). Not only that, but thank you for listening to and hearing stakeholders who urged BPU to extend the review and comment period for the draft OWSP. These additional weeks have been crucial for fully reviewing the draft Plan.

The American Littoral Society recognizes the development of offshore wind as an important component in the fight against climate change by replacing demand for energy production from dirty, polluting fossil fuel sources with clean, renewable energy sources. To that end, we applaud Governor Murphy for his leadership in creating this draft OWSP.

Executive Order 8 requires that the Offshore Wind Strategic Plan "ensure that natural resources are protected throughout the development and operational stages of offshore wind energy production."[2] While the draft OWSP recognizes and attempts to address many of the challenges offshore wind faces through a series of strategic recommendations, it fails to adequately ensure successful outcomes for natural resources by deferring too many critical recommendations or requirements to others without providing additional details or specifying follow through. It also fails to provide a process to update and revisit the Plan and continue the process of stakeholder engagement. Our comments below focus on our specific recommendations for strengthening the draft Plan to achieve the best outcomes for both the ocean ecosystem and the offshore wind industry.

[1] New Jersey Offshore Wind Strategic Plan, Navigating Our Future, (July 2020 Draft) (Draft OWSP or Draft Plan).
[2] New Jersey Executive Order 8, Section 2. (January 2018) https://www.state.nj.us/infobank/eo/056murphy/pdf/EO-8.pdf (Last Visited August 14, 2020)

Climate Change and the Ocean

The effects of climate change have already caused harm to our state and ocean: increasing global temperatures and warming ocean waters causing more frequent and stronger storms and species shifts; melting glaciers causing sea level rise and increased flooding; acidification of ocean waters causing impacts to shellfish and coral reef bleaching and die-offs, to name a few.

However, in our efforts to protect the ocean and our state from further climate change impacts by developing offshore wind, we must recognize and respect that our efforts are not without new potential consequences. There is a crucial role for the final New Jersey OWSP in avoiding and minimizing those consequences.

Demands to use the ocean, both its waters and natural resources, are expanding rapidly. While plans for large offshore wind energy projects in New Jersey and all along the Atlantic coast are becoming a reality, offshore shipping traffic is growing, and ocean mining is also increasing dramatically. Our region's government agencies are making big decisions that will greatly impact the health of our ocean and coasts for decades to come.

In order to ensure a healthy thriving ocean in the future, the final OWSP must guarantee a more informed and coordinated approach to how we manage our ocean's resources in New Jersey and beyond.

The American Littoral Society supports the development of offshore wind when it is responsibly sited and developed with stakeholder participation throughout the process. Therefore, siting of wind projects in New Jersey and throughout the mid-Atlantic must always protect ocean and coastal habitats, protect ocean wildlife, and avoid ecologically special places, including components of ecological importance for the entire Atlantic coast. While the draft OWSP recognizes and promotes recommendations to protect many of New Jersey's coastal and ocean environmental and natural resources, the final plan must include our additional recommendations to fully ensure successful outcomes.

Responsible siting will:

- Utilize the ocean data portals:
    - as tools to identify conflicts and special places,
    - to provide regional context, and
    - as a shared resource of information and data for stakeholders, developers, and all levels of government.
- Avoid Prime Fishing Areas (Recreational Prime Fishing Grounds);
- Avoid Migratory Pathways;
- Avoid Special Environmental Areas, including areas of high productivity, biodiversity, species abundance, vulnerability and rarity;
- Account for equitable playing field across the mid-Atlantic states, New York, New Jersey, Delaware, Maryland, and Virginia, ensuring state-level coordination and commitment to shared, consistent standards for environmental and natural resource protections;
- Utilize MARCO and MACO as forums for consistent standards across the Mid-Atlantic states towards the shared priorities and standards for what responsible siting that ensures the protection of the environment and natural resources and a successful wind industry;
- Require a full direct and indirect impact analysis, as well as consideration of cumulative impacts, on a regional scale for each project and at each procurement phase to achieve true 'net environmental benefits'; and

- Recognize and address impacts from cable transmission lines through state waters and the onshore development of substations.

Creating the draft OWSP was a tremendous undertaking and challenge and we applaud the state for its work. The size of the offshore study area and scope of acknowledging the existing, traditional, and future – and often competing or conflicting uses – required significant stakeholder engagement, assessment of scientific studies, consideration of tremendous marine resource impacts, and extensive evaluation of complicated economic impacts.

However, we have identified several components of the draft OWSP that lack the requirements necessary to ensure successful outcomes for responsibly sited offshore wind and ocean protection and offer our recommendations for improvements around resource protection and stakeholder engagement.

Section 01: Strategic Plan Introduction

Recommendation:

1) Specify that the New Jersey Environmental Resources Wind Working Group (EWG) engagement takes place as early as possible in the process, and at least upon each new solicitation.

The draft OWSP introduction spends much time providing an overview of the Bureau of Ocean Energy Management leasing process, but importantly, it also clearly identifies and acknowledges the New Jersey Department of Environmental Protection's important role in the permitting and approval process.

> *States and other stakeholders work with developers and federal agencies to plan and approve the development of specific wind farms.*
>
> Selection of WEAs, lease areas, and individual project development are all subject to the federal environmental review process under the National Environmental Policy Act (NEPA). Developers also submit a site assessment plan (SAP) and a construction operation plan (COP) to BOEM for review and commentary before the public comment period begins. Public comments will be addressed, and these documents will be revised, based upon BOEM's comments and resubmitted for final approval.
>
> *States play an important role in the offshore wind project review process. New Jersey is a key stakeholder and has authority under the federal Coastal Zone Management Act to review project consistency with state coastal plans. NJDEP is the lead agency for the state permitting process and has regulatory oversight over offshore wind energy transmission cables and infrastructure built in state waters, as well as onshore activities. NJDEP will also be designated as a cooperating agency for the federal environmental review processes and can make recommendations for measures to minimize and mitigate potential natural resources impacts.*[3]

To ensure the OWSP can meet its requirement of ensuring natural resources are protected throughout the development and operational stages of offshore wind energy production, NJ DEP must go beyond reminding readers as to its consistency review authority and instead integrate into the final OWSP how New Jersey will initiate and fulfill its consistency review obligations within the context of this process. When and how will a review be triggered? How will stakeholders know New Jersey is undertaking a

[3] Draft OWSP, Section 1.2, p. 16 (emphasis added).

review? What was the outcome of the review on a project? Were there recommendations for measures to minimize and mitigate potential natural resources*?* Where can stakeholders read consistency reviews relevant to the offshore wind development process?

This strategic plan is, at least in part, meant to inform stakeholders that the state of New Jersey has a plan for how it will protect the environment and natural resources under its stewardship as offshore wind projects come online in New Jersey and the New York Bight. To fulfill that promise, NJ DEP must also do more than identify that public comments will happen around the BOEM process as currently written in Section 1.2. Instead, it must detail when and how it plans to engage its stakeholders to ensure ongoing stakeholder voices are raised to New Jersey state decision-makers at important inflection points of wind development. We, therefore, request development of a *specific* recommendation detailing how the New Jersey Environmental Resources Wind Working Group (EWG) will be engaged throughout the process and when that will happen.

Section 02: Environmental and Natural Resource Protection

Recommendations:

1) The final OWSP must adjust the inshore boundary of the study area to include the 3-nautical-mile state jurisdictional boundary and make a set of recommendations around "construction" for cable routes, landings, substations, etc. to ensure protection of environmental and natural resources;
2) The Final OWSP must strengthen several of the "Strategic Recommendations" to ensure the information and data being used by New Jersey to protect its environment and natural resources are up to date and close data gaps.
3) The final OWSP must create a specific set of recommendations for formalizing the scope and charge of the New Jersey Environmental Resources Wind Working Group (EWG) given its importance in ensuring the protection of the state's environmental and natural resources;
4) The final OWSP must recommend regional stakeholder engagement participation via the Mid-Atlantic Regional Council on the Ocean (MARCO) and the Mid-Atlantic Committee on the Ocean (MACO) Offshore Renewable Energy Work Group to ensure successful outcomes; and
5) The state should identify in the final OWSP how it plans to use the Weighted Sensitivity Analysis as a baseline marker to determine how the state will maximize the avoidance of sensitive areas to offshore wind development and develop appropriate mitigation measures for other more appropriate areas.

Section 2 reiterates the importance of offshore wind energy development to providing a clean, renewable energy source in order to "offset traditional sources of power that are associated with the emissions that contribute to a changing climate."[4] Utility-scale offshore wind will "be a major element in addressing the challenges of climate change and will create both economic and environmental benefits for generations to come".[5]

There is no doubt that offshore wind development is important for climate mitigation. However, offshore wind that serves environmental benefits for generations to come and as a *truly sustainable ocean use* – beyond a means to lessening reliance on fossil fuel alternatives – hinges on where it is sited, and, to some extent, *yet unknown*, the overall scale at which it is developed in the study area and all along our Atlantic coast. Understanding the true and eventual impacts to our ocean resources and other

[4] Draft OWSP, Section 2, p25.

[5] *Id.* at 25.

ocean uses, such as marine habitats and recreational fishing, will be revealed on a continuing basis as more of our ocean space is utilized and industrialized. This process is reflected in our recommendation for continuous engagement of the NJDEP Environmental Resources Working Group and an adaptive management process.

As each lease area is reviewed for development, it is easy to say that it would be inappropriate to place a wind farm on marine habitat that is critical to the health of the ocean or along shipping lanes, whale migration routes, and in the path of migratory birds, and should not be allowed. The difficulty arises when we consider the cumulative impacts of a project, or projects, as we in New Jersey and other states continue into each new solicitation phase and develop more of our currently open offshore areas. The lease areas within the study area will not be solely developed by New Jersey and the final OWSP should plan for how to engage on all wind development in the region.

As New Jersey continues to make tremendous continued investments in reaching our goal of 7500 MW of offshore wind, everyone involved must be guaranteed a seat at the same common table while we make these future decisions, from our fishing communities, to the Coast Guard, to coastal communities, tribes, cable layers, and more. The final OWSP must include recommendations for engagement around other states' projects. We do not find that the draft OWSP makes that a guarantee as laid out in the Environmental and Natural Resource Protection Strategic Recommendations. There is a need for more directed recommendations around stakeholder engagement, the study area, the analysis and updates to help close those gaps and ensure the successful development of offshore wind.

Recommendation 1: The final OWSP must adjust the inshore boundary of the study area to include the zero to three nautical-mile state jurisdictional boundary and make a set of recommendations around "construction" for cable routes, landings, substations, etc. to ensure the protection of the environment and natural resources.

Section 2.1 the draft OWSP notes several elements that are "key to the strategic importance of environmental and natural resource protection in the context of offshore wind development and operations in New Jersey"[6]. We agree that protection of these elements is vital to maintaining a healthy ocean ecosystem and economy.

Several of these elements do not just implicate the offshore ocean space beginning at three nautical miles. For instance:

- New Jersey has a *vast shoreline* and marine areas that provide important habitat for birds, bats, marine mammals, turtles, fish, and benthic life
- New Jersey's *coastal environment* contributes significantly to the economy through recreation, tourism, and commerce activities (e.g., beach going, boating, fishing, nature viewing, swimming ...
- New Jersey has strong and engaged regulatory agencies and research institutions to monitor and protect the state's *coastal and marine environment*
- New Jersey's *coastal ocean* is used by a wide variety of stakeholders for diverse purposes.[7]

Several of these elements specifically identify the importance of New Jersey's coastal environment for marine wildlife, to the economy, to residents, and for regulatory and protection purposes. To limit the ***state*** plan's analysis to federal waters seems to fit the saying "a penny wise, but a pound foolish". It may

[6] *Id.* at 26.

[7] *Id.* at 26. (emphasis added)

seem logical now given the interest and action on offshore wind development is found within federal waters. However, the impacts to New Jersey's coastal waters will also be important as projects look to cable back to land through potentially sensitive coastal marine habitats. Limiting the analysis will tie the state's response to the resources in the existing study area, effectively diminishing the tools available to the state of New Jersey for analyzing impacts to resources found in zero to three nautical-miles.

Technical Appendix B, supporting Section 02's analysis and recommendations, on one hand states that zero to three nautical-miles is not found to be the most viable area for offshore wind development in part because it is not appropriate (or efficient in the sense of data management, computing, or discussion) to include them in a single model. It then finds that the Ocean/Wind Power Ecological Baseline Studies (NJDEP 2010) "identifies the majority of the areas with highest sensitivity were located along the coast"[8]. While we understand this is stated to show why the analysis starts at 3-nautical-miles, it fails in not considering that some stages of offshore wind development will most definitely take place within and thus impact that inshore zone. The state cannot defer the resource evaluation to the state regulatory program with minimal consideration of impacts within the OWSP plan itself.

The final plan must account for the 0-3-nautical-miles to ensure that the environmental and natural resources are protected throughout the development and operational stages of offshore wind energy production. This is incredibly important as New Jersey moves forward with a goal of 7500 MW of offshore wind energy, many cable routes and substations leading to and landing on our shores are forthcoming. The final plan must take into consideration the impacts that will occur in state waters and on the coast. The state cannot adequately address natural resource protection, including state water protected areas or species moving inshore from the ocean to the bay to spawn (e.g. striped bass) if we are only looking at half the picture and deferring to project by project regulatory processes. We note that the plan finds and states that cables connecting the wind turbines are in fact considered part of the "construction phase".

Therefore, the state should create a set of "Strategic Recommendations" under "benthic invertebrates" or "utility resources" or a separate category like "benthic environments" that prioritize the nearshore coastal environment and the necessary potential avoidance and mitigation measures. One such strategic recommendation should include: "to the maximum amount practicable cables should be installed to minimize individual cabling and concentrate the landings regionally".

Recommendation 2: The Final OWSP must strengthen several of the "Strategic Recommendations" to ensure the information and data being used by New Jersey to protect its environment and natural resources are up to date and close data gaps.

The following are current strategic recommendations for environmental and natural resource protection in the draft OWSP:

- Consider updating the NJDEP 2009 Technical Manual for Evaluating Wildlife Impacts of Wind Turbines to include newly available information, guidance, and trends (e.g., distance from shore, number and size of turbines to meet the 7,500 MW goal).
- Consider additional evaluations, studies, or assessments that aim to close data gaps, address comments from stakeholder groups, and evaluate the potential for near-term, long-term, and cumulative environmental effects and that allow for quantifying physical changes to the environment that may result from wind turbines or other environmental changes such as climate change. Specific studies should be identified by the New Jersey Environmental

[8] Draft OWSP, Environmental and Natural Resources Technical Appendix, p1.

Resources Offshore Wind Working Group and could include a focus on commercially or economically important species, protected species, data gaps, long-term evaluations, air quality improvements and human health effects.
- Consider implementation of avoidance and minimization measures for each offshore wind project.[9]

These recommendations, as written, do nothing to help ensure that the state meets its requirement in EO 8 to ensure that natural resources are protected throughout the development and operational stages of offshore wind energy production. The recommendations should instead read:

- NJDEP will update the NJDEP 2009 Technical Manual for Evaluating Wildlife Impacts of Wind Turbines to include newly available information, guidance, and trends (e.g., distance from shore, number and size of turbines to meet the 7,500 MW goal).
- NJDEP will identify additional evaluations, studies, or assessments that aim to close data gaps, address comments from stakeholder groups and evaluate the potential for near-term, long-term, and cumulative environmental effects and that allow for quantifying physical changes to the environment that may result from wind turbines or other environmental changes such as climate change. NJDEP will work with the New Jersey Environmental Resources Offshore Wind Working Group to identify specific studies and could include a focus on commercially or economically important species, protected species, data gaps, long- term evaluations, air quality improvements and human health effects.
- The State of New Jersey will seek to ensure implementation of the following avoidance and minimization measures for each offshore wind project.

Now is not the time for the state to half commit to possibly doing something. The state must be using updated information to make decisions, it must proactively be looking for ways to close data gaps, and actively identify ways to implement avoidance mechanisms to minimize impacts from offshore wind projects. We expect these recommendations to be affirmations of intent as opposed to possibly future actionable ideas. Many of the areas around specific recommendations (e.g. birds, fish, cetaceans and sea turtles) are affirmative avoidance or mitigation measures. But these measures are greatly weakened by the preceding language: "consider implementation of avoidance and minimization measures for each offshore wind project".[10] Instead, the recommendation should read as a requirement (where applicable) for each project before moving forward to ensure protection of the environment and natural resources as New Jersey works to meet its offshore wind energy goal.

Recommendation 3: The final OWSP must create a specific set of recommendations for formalizing the scope and charge of the New Jersey Environmental Resources Wind Working Group (EWG) given its importance in ensuring the protection of the state's environmental and natural resources.

Section 2.2 details the course and extent of stakeholder engagement, which led to the development of the New Jersey Environmental Resources Wind Working Group (EWG), which the Littoral Society advocated for. However, the EWG has only had two meetings to date and there is no outlined path forward for continued engagement, nor does the plan make a specific recommendation for such.

Appendix B, 1.2 Analysis Conducted in Support of the OWSP states:

[9] Draft OWSP, Section 2 Strategic Recommendations, p39.
[10] *Id*.

> The evaluation of environmental and natural resources and effects associated with offshore wind will be an iterative and adaptive process, and the OWSP recommends future studies and coordination through the existing Offshore Wind Environmental Resources Working Group to continue ongoing evaluations.[11]

While we commend the recommendation for coordination, we once again note there is currently no outlined path forward for the EWG nor correlation for studies and evaluations related to the solicitation schedule or increase in WEAs in the overall study area. There is also no recommendation for a revisiting or updating of the final OWSP as projects are permitted and developed. How will the state measure success of the plan recommendations without such re-examination? The recommendations in the final OWSP must include requirements that:

- Tie adaptive management considerations by NJDEP to important inflection points within offshore wind development like solicitations; and
- Outline required engagement of the EWG on a schedule that is tied to each project solicitation.

The level of public engagement, additional and ongoing research, and impact assessments will need to include planned and regularly scheduled meetings that go well beyond the EWG and ocean users identified (such as coastal community officials), and also must routinely extend outside the state of New Jersey throughout the mid-Atlantic region and beyond. This idea is vaguely captured in one of the plan's "Strategic Recommendations":

> Enhance communication and coordination between conservation communities and state and federal agencies through the newly established New Jersey Environmental Resources Offshore Wind Working Group (Environmental Working Group) or through regional, multistate, and multi sector collaborations.[12]

Fortunately, regional ocean planning and coordination has been ongoing within the Mid-Atlantic and Northeast regions since 2012 and provides a readily available common table where. a wide variety of stakeholders, including federal agencies and state representatives, come together. This regional collaboration provides an existing platform for offshore wind development as it relates to environmental and natural resource protection goals of the final OWSP.

Recommendation 4: The final OWSP must recommend regional stakeholder engagement participation via the Mid-Atlantic Regional Council on the Ocean (MARCO) and the Mid-Atlantic Committee on the Ocean (MACO) Offshore Renewable Energy Work Group.

The final OWSP must make specific recommendations for inclusive stakeholder engagement through the Mid-Atlantic Regional Council on the Ocean (MARCO) and Mid-Atlantic Committee on the Ocean (MACO) Offshore Renewable Energy Work Group to ensure successful outcomes. Without a set of stakeholder engagement metrics, the state will fall behind in the sort of work it plans to task the New Jersey Work Group with on natural resource evaluations that impact outside of New Jersey waters.

New Jersey is currently the Chair of MACO which also includes representatives of the states of Delaware, Maryland, New Jersey, New York, and Virginia. Current federal participants include the National Oceanic and Atmospheric Administration; the Department of the Interior through the US Geological Survey, Bureau of Ocean Energy Management, Fish and Wildlife Service; the Department of Defense through the

[11] Draft OWSP, Environmental and Natural Resources Technical Appendix, p11.

[12] Draft OWSP at 38.

Joint Command, Navy, and/or Army Corps of Engineers; the Department of Homeland Security, US Coast Guard; the Environmental Protection Agency; the Department of Transportation Maritime Administration; the Department of Energy, and others. Tribal engagement is with the Shinnecock Indian Nation. The Mid-Atlantic Fishery Management Council also participates.

Many ocean users whose industry and livelihoods are affected by proposed offshore energy development operate at regional scales and BOEM's stakeholder engagement should represent those interests throughout the region. Without broad representation and diverse input there is great potential to lose sight of cumulative impacts. This work must be done at the regional level through MARCO and MACO. Support engaging stakeholders for input on baseline scientific research and a requirement of developers to conduct before, during, and after scientific surveys and analyses during site assessment as well as research throughout offshore installation and post-construction.

Given New Jersey's leadership role, the final OWSP must contain specific recommendations that tie state stakeholder engagement metrics to regional stakeholder engagement participation via the Mid-Atlantic Regional Council on the Ocean (MARCO) and the Mid-Atlantic Committee on the Ocean (MACO) Offshore Renewable Energy Work Group to ensure successful outcomes and implementable recommendations within the final OWSP.

Recommendation 5: The state should identify in the final OWSP how it plans to use the Weighted Sensitivity Analysis as a baseline marker to determine how the state will maximize the avoidance of sensitive areas to offshore wind development and develop appropriate mitigation measures for other more appropriate areas.

The draft OWSP takes a very important step in its weighted sensitivity analysis by looking at the most recent science and reflecting out the appropriate resource impacts. We applaud the state's use of the MDAT data and the type of impacts focused on within this analysis. It provides the state much needed continuity when looking at a scale and scope that is not just within state boundaries to include regional efforts created through the Mid-Atlantic states, federal agencies, and tribal nations. However, we do note, that even with this applause for using data created at the regional scale, that does not mean that state data inclusive of the 0-3-nautical-miles is not just as important for various points of the offshore wind development process and again urge the state to integrate this data into this analysis.

We agree that this analysis cannot be used as a substitute for site specific reviews but it can be used to guide WEAs and siting away from the most sensitive places offshore. Therefore, as the draft plan notes, the analysis gives decision-makers incredibly important insights into potential resource impacts that can be used in the first instance to guide decision-makers away from sensitive areas with large impacts in any of the four primary stages of offshore wind development.

There are also places identified and protected under various state laws and/or regulations that may effectively rule out wind project development within those places. New Jersey Prime Fishing Areas are one such designation, which can be found located and mapped within current and future wind energy lease areas *throughou*t the study area, as identified in Figure 81: Recreational Fishing and Table 8: Recreational Fishing in OWSP Study Area, including lease areas of interest beyond New Jersey. We further address this under our recommendations in Section 03: Commercial and Recreational Fisheries but find it important to call out here as the WSA focuses on resources and not places.

As a final note, the WSA analysis should be placed in a public space for stakeholders to view in an interactive format with zoom capabilities to look at specific lease areas and WEAs.

Section 03: Commercial and Recreational Fisheries

Recommendations:

1) The recreational fishing industry must be more clearly defined, represented, and engaged, in the final OWSP; and
2) The final OWSP must specifically call out New Jersey Prime Fishing Areas as environmental and natural resource areas of avoidance and protection.

Recommendation 1: The "recreational fishing industry" must be more clearly defined, represented, and engaged.

Recreational fishing in New Jersey is not a 'one size fits all' or easily discernible user group and presents a very distinct set of challenges around engagement and protection of resources. The plan rightly recognizes the economic importance recreational fishing providing to our economy "at least 15,000 jobs and adds $1.7 billion in sales, $0.7 billion in income, and $1.1 billion in value added to the economy from millions of anglers and angler trips per year"[13].

What the plan needlessly does is compare recreational fishing to commercial fishing. While the value of the recreational fishing industry may not be comparable on a pure revenue basis, the economic and cultural significance of recreational fishing in the state of New Jersey should be minimized in the plan through a solitary financial comparison with the commercial fishing industry. The recreational angler community should specifically be recognized as a valuable user group in and of itself.

To assist in moving toward that goal, the draft plan currently recommends enhanced communication and coordination between fishing communities and state and federal agencies (through the Offshore Wind Environmental Resources Working Group). The plan notes that stakeholder engagement for the commercial and recreational fishing industries will continue to be led by the Environmental Working Group. Again, we reiterate the critical need of our earlier recommendation for the final OWSP to detail how the state will empower and utilize the NJDEP Environmental Resources Working Group in a regular and consistent manner throughout the development of offshore wind. If the Working Group is to be tasked with assisting in enhancing communication and coordination between fishing communities, especially one as disparate as the angler community, requires a plan for the Environmental Working Group, otherwise engagement will continue to be sporadic and lead to future unnecessary conflicts.

The draft plan also recommends that developers and the state provide liaisons to the fishing 'industry'. The American Littoral Society regularly interacts with and engages recreational anglers through our Fish Tagging Program. The Society presents on offshore wind at recreational fishing club meetings and conducts engagement and presentations around our reviewing state fish and fish habitat policies and protections. Although there has been limited engagement with developers to date, during discussions with anglers around offshore wind development, we find there has been little focus on engaging the recreational fishing industry, which is concerning. When "fishing industry liaisons" are brought on by developers, they are heavily focused on the commercial industry.

Clarification and improvement are needed in the final OWSP to specifically recognize the value of and diversity within the recreational fishing community as it is distinctly different from the commercial industry. Bottom line is the recreational angler community should be better engaged and more widely represented outside of the work done thus far by fishing industry liaisons.

[13] Draft OWSP at 43.

Currently, a draft OWSP strategic recommendation for commercial and recreational fishing calls for the state to:

> Utilize the New Jersey Offshore Wind Environmental Resources Working Group to continue engagement between the state and the commercial and recreational fishing community throughout each project's life cycle and request that developers and the state identify fishing industry liaisons.[14]

If the Working Group is to be charged with engaging anglers, the state must charge the Working Group with developing an actual offshore wind outreach strategy to anglers, because the Working Group, as constructed, does not fill any sort of coordinated angler outreach need as called for in this recommendation. The strategic recommendation should be modified to read:

> Utilize the New Jersey Offshore Wind Environmental Resources Working Group to increase clear engagement between the state and the commercial and recreational fishing community. This should be throughout each project's life cycle and request that developers and the state jointly identify fishing industry liaisons that will work with both commercial and recreational fisheries or identify separate liaisons. The WG membership will have to reflect this shift to better include recreational voices.

Recommendation 2: The final OWSP must specifically identify out New Jersey Prime Fishing Areas as environmental and natural resource areas of avoidance and protection.

The draft OWSP recognizes that the "long-term effects of offshore wind development on recreational fisheries...are largely unknown."[15] But also then claims that "recreational/sportfishing grounds may be less susceptible to offshore wind development effects than commercial fishing areas ..."[16] because of their smaller vessel size and economic impact or even that offshore wind may provide a benefit due to "potential increases in localized fish abundance."[17] It is hard to understand how the draft plan can at once say there will be little to no or may positive impacts while also long-term impacts are unknown. With a lack of clarity around potential impacts comes a higher likelihood that the result will be patchwork decision-making, which fails to adequately plan to protect these places and resources.

The draft OWSP currently assesses the impacts to recreational fishing based on three layers: prime fishing grounds of New Jersey (polygons), prime fishing grounds of New Jersey (points), and artificial reefs. The footprint of New Jersey prime fishing grounds and artificial reefs is not insignificant, especially in several of the study area's WEAs and leases. The plan notes that thirteen percent of the OWSP study area is covered by these mapped recreational fishing areas. However, the plan makes no specific recommendation to avoid or protect these areas.

The state has already recognized PFAs as having "*a demonstrable history of supporting a significant local intensity of recreational or commercial fishing activity"*[18] and prohibits certain development (ie sand or

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[14] *Id*. at 49

[15] Draft OWSP, Environmental and Natural Resources Technical Appendix, p131.

[16] *Id*.

[17] *Id*. Also, it is not clear whether the word abundance or aggregation would be more appropriate to describe the increase in fish around wind turbines.

[18] N.J.A.C. 7:7-9.4(a) (emphasis added). Available at https://nj.gov/dep/rules/rules/njac7_7.pdf (last visited August 17, 2020).

gravel mining) *"which would alter existing bathymetry to a significant degree so as to reduce the high fishery productivity of these areas"*[19]. Given the important role of states in the offshore wind project review process and New Jersey's authority under the federal Coastal Zone Management Act to review project consistency with state coastal plans, the final OWSP must plan for how to deal with PFAs in offshore wind development.

Therefore, to limit impacts on these areas important to the recreational fishing industry, especially where the analysis states impacts are mostly unknown, more emphasis and resource protections must be given in the final OWSP to the entirety of New Jersey's prime fishing grounds, which includes the over 140 mapped Prime Fishing Areas (PFAs) and the prime fishing points. To bring this point home, we have attached a map (Attachment 1) with every named New Jersey Prime Fishing Area, produced by Stockton University's Coastal Research Center, for use during our outreach to recreational anglers for our fish and fish habitat project. This map shows the sheer scope of the PFAs within and outside of the OWSP study area, raising the real potential for impacts from offshore wind development.

In fact, as discussed in the draft OWSP, PFAs are located and mapped within current and future wind energy lease areas *throughou*t the study area, including lease areas of interest beyond New Jersey. The American Littoral Society therefore recommends that the final OWSP specifically recognize Prime Fishing Areas as places to avoid during offshore wind development in order to ensure environmental and resource protection.

Not only will this recommendation ensure protection against adverse impacts to resources within the PFAs and to the recreational fishing industry, it recognizes that many of these areas sit outside New Jersey waters and may have an impact across states. While each state has its own requirements for resource protection within its coastal management plans, for resources within its waters, we all recognize offshore wind is an activity with regional impacts and requires states to prioritize how to ensure equal protections for natural resources and successful outcomes for the offshore wind industry.

Conclusion

It is important that in creating and planning for our clean energy future that we remember **the ocean is held in public trust and belongs to us all.** Decision-makers must work to minimize the impacts to marine life at every stage of wind development, including the nearshore environment, and include stakeholder engagement to ensure every voice is given equal opportunity to be heard on every solicitation across the Mid-Atlantic region**.** We look forward to seeing how the final OWSP reflects our recommendations and helping New Jersey move toward the clean future we all deserve.

Sincerely,

Helen Henderson
Ocean Program Manager
American Littoral Society

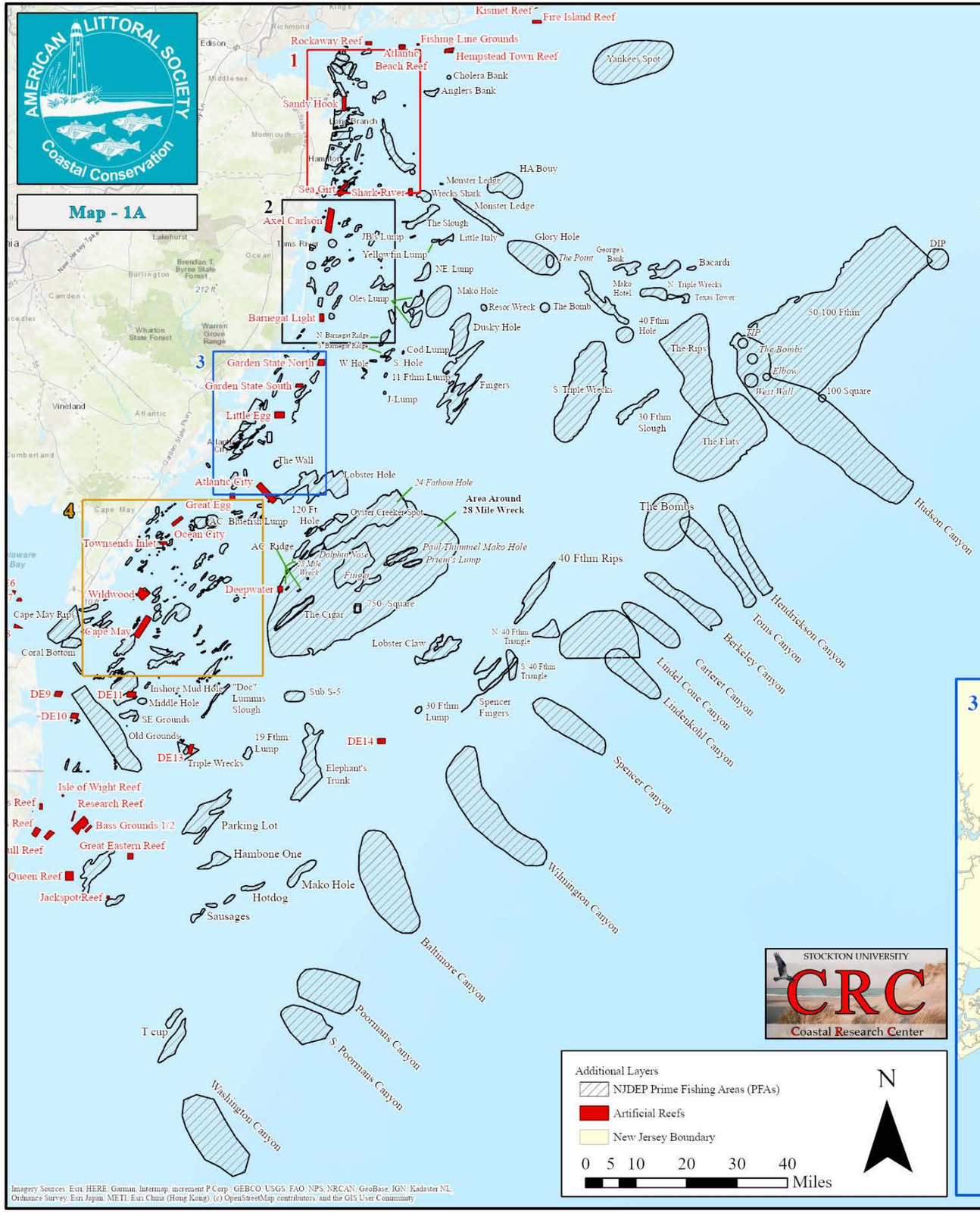
[19] *Id*. (b)(2) (emphasis added).

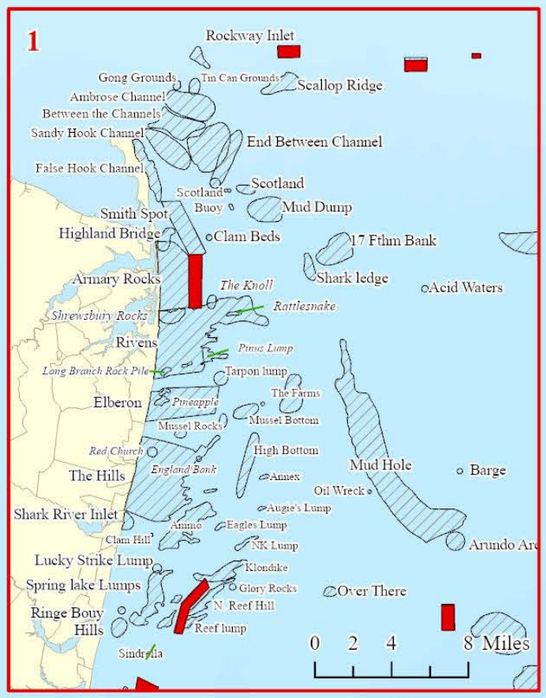
Recreation Base Layer

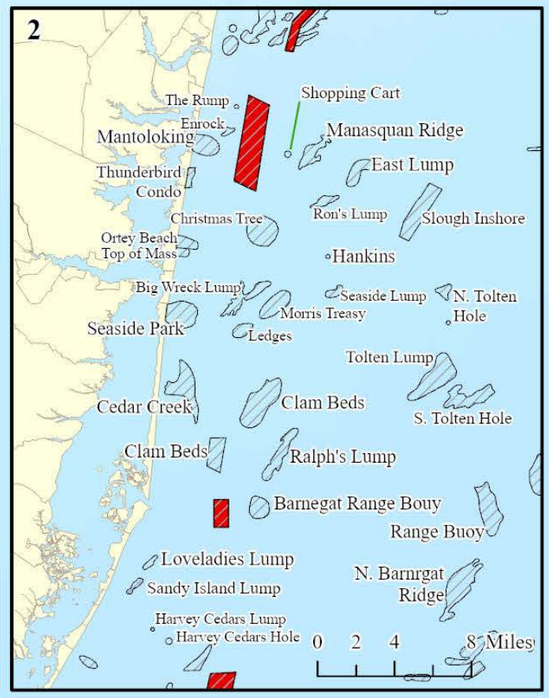
Prime Fishing Areas (PFAs) and Artificial Reefs

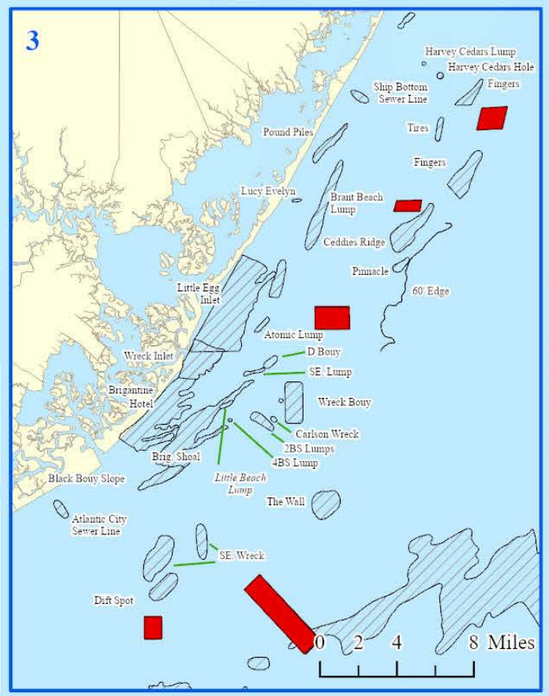
AMERICAN LITTORAL SOCIETY Coastal Conservation

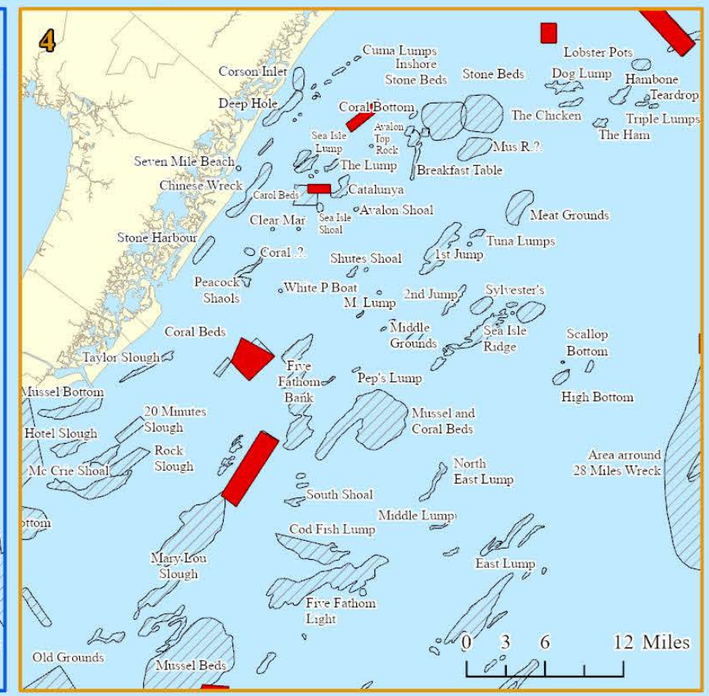
Map - 1A











STOCKTON UNIVERSITY CRC Coastal Research Center

Additional Layers
- NJDEP Prime Fishing Areas (PFAs)
- Artificial Reefs
- New Jersey Boundary

0 5 10 20 30 40 Miles

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Comments to the State of New Jersey Board of Public Utilities and the Interagency Taskforce on Offshore Wind on the Draft New Jersey Offshore Wind Strategic Plan

American Wind Energy Association
Mid-Atlantic Renewable Energy Coalition

The American Wind Energy Association ("AWEA") and the Mid-Atlantic Renewable Energy Coalition ("MAREC Action") appreciate the opportunity to provide these comments to the State of New Jersey Board of Public Utilities ("BPU" or "Board") and Interagency Taskforce on Offshore Wind on the Draft New Jersey Offshore Wind Strategic Plan ("draft Strategic Plan" or "draft Plan"). Our organizations collectively represent and work with many of the offshore wind development companies that are involved in the offshore wind business in New Jersey, regionally and across the United States. Many of our offshore wind member companies have extensive experience developing offshore wind farms internationally.

These comments are submitted on behalf of AWEA[1] and MAREC Action.[2] These organizations are referred to collectively in these comments as "we," or "our."

01 - Introduction

AWEA and MAREC Action applaud Governor Murphy and his Administration, as well as the State Legislature, for the vision and strong leadership New Jersey has demonstrated with respect to offshore wind. The 7,500 MW target for offshore wind, the 100% clean energy by

[1] AWEA is the national trade association representing a broad range of entities with a common interest in encouraging the expansion and facilitation of wind energy resources in the United States, including offshore wind. AWEA's more than 1,000 member companies include wind turbine manufacturers, component suppliers, project developers, project owners and operators, financiers, researchers, utilities, marketers, customers, and others. For more information, see: www.awea.org.

[2] MAREC Action is a nonprofit organization that was formed to help advance the opportunities for renewable energy development primarily in the region where the Regional Transmission Organization, PJM Interconnection, operates. MAREC Action's footprint includes New Jersey and nine other jurisdictions in the region. MAREC Action members include utility scale wind (including offshore wind) and solar developers, wind turbine manufacturers and non-profit organizations dedicated to the growth of renewable energy technologies.

2050 vision, and the recent New Jersey Wind Port announcement all demonstrate the seriousness with which the State is taking the economic and clean energy opportunity provided by offshore wind.

In the comments to follow, AWEA and MAREC Action:

- Provide additional resources on the expected impacts of climate change and the role offshore wind can play as a solution.
- Urge New Jersey to avoid prescriptive recommendations or conditions for projects that could be inconsistent with federal recommendations for issues already addressed in the lengthy federal permitting process for offshore wind.
- Urge awareness and coordination with multiple research efforts underway to build-off of existing plans and avoid duplication of effort.
- Share information on what others have found with respect to the potential impacts to different resources as identified in the Environment and Natural Resource Protection chapter of the draft plan.
- Respond to each of the specific recommendations in the Environmental and Natural Resource Protection and the Commercial and Recreational Fisheries Chapters.
- Provide feedback on the Supply Chain and Workforce Development and the Ports and Harbors chapters.
- Make recommendations related to transmission and wholesale electricity market needs for offshore wind.

In general, the draft Strategic Plan is thorough and well done. We offer the following comments in the hopes of improving the already strong material.

02 - Environmental and Natural Resource Protection

Impacts of climate change and offshore wind as a solution

AWEA and MAREC Action share the concerns of the Administration regarding the threats posed by climate change and the important role that offshore wind can play in reducing greenhouse gas emissions.

The Fourth National Climate Change Assessment[3] notes, "Ocean warming, acidification, and deoxygenation are leading to changes in productivity, recruitment, survivorship" that are impacting species, including "impacting the distribution and availability of many commercially and recreationally valuable fish and invertebrates."[4]

Similarly, climate change is predicted to have significant effects on marine mammals and sea turtles[5] and a 2016 study conducted by the National Marine Fisheries Service (NMFS), found that shellfish are uniquely affected[6] by climate change.

In August 2016, the U.S. Environmental Protection Agency (EPA) published a fact sheet titled, "What Climate Change Means for New Jersey," summarizing harmful impacts to coastal ecosystems, agriculture, commercial and recreational fishing, homes and other infrastructure, and

[3] The National Climate Change Assessment is led by the National Oceanic and Atmospheric Administration and is put together by a team of more than 300 federal and non-federal experts, including individuals from federal, state and local governments, tribes and indigenous communities, national laboratories, universities and the private sector. Additional information can be found at: https://nca2018.globalchange.gov/.
[4] https://nca2018.globalchange.gov/chapter/9/
[5] Morten Frederiksen & Tore Haug, Climate change and marine top predators, 3 FRONTIERS IN ECOLOGY AND EVOLUTION 136 (2015), https://www.frontiersin.org/articles/10.3389/fevo.2015.00136/full
[6] Jonathan A. Hare et al., A Vulnerability Assessment of Fish and Invertebrates to Climate Change on the Northeast U.S. Continental Shelf, PLOS ONE (Feb. 3, 2016), https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0146756.

human health.[7] With respect to fishing specifically, the EPA findings indicated, "Higher ocean acidity would impair the ability of young scallops and surf clams to build shells, and potentially reduce the populations of these two shellfish, which account for about two-thirds of New Jersey's commercial fishing revenues. Higher acidity in estuaries, as well as the loss of wetlands and eelgrass, could harm crabs and hard shell clams, which account for another 15 percent of fishing revenues. As ocean temperatures rise, some fish species are moving northward or into deeper waters to remain within their normal temperature ranges."

The reports are consistent with the findings of the New Jersey Department of Environmental Protection.[8]

Fortunately, offshore wind will play a key role in reducing greenhouse gas emissions. With respect to carbon emissions, AWEA estimates that each megawatt-hour (MWh) of offshore wind energy generation will avoid 0.49 metric tons of carbon dioxide emissions. For the full 22 gigawatt (GW) buildout of offshore wind projects along the Atlantic Coast recently evaluated by the Bureau of Ocean Energy Management (BOEM) in the Vineyard Wind supplemental draft environmental impact statement (SDEIS),[9] BOEM found these projects would result in reductions of roughly 42.5 million metric tons of carbon dioxide annually, equivalent to the emissions of over nine million cars. A 2016 study quantified that offshore wind in the Mid-Atlantic would provide between $54/MWh to $120/MWh of health and climate related benefits.[10]

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[7] https://19january2017snapshot.epa.gov/sites/production/files/2016-09/documents/climate-change-nj.pdf
[8] https://www.nj.gov/dep/climatechange/
[9] https://www.boem.gov/renewable-energy/vineyard-wind-1-supplement-eis
[10] Buonocore, Jonathan J., Patrick Luckow, Jeremy Fisher, Willett Kempton, and Jonathan I. Levy. 2016. "Health and Climate Benefits of Offshore Wind Facilities in the Mid-Atlantic United States." Environmental Research Letters 11 (7): 074019. https://iopscience.iop.org/article/10.1088/1748-9326/11/7/074019

To realize these benefits, however, the offshore wind industry needs a reasonable permitting process. While AWEA, MAREC Action and our members understand the State's desire to be protective of the environment and balance stakeholder interests, New Jersey should avoid prescriptive recommendations or project conditions that could be inconsistent with those required under the federal review process that already robustly considers potential environmental and natural resource impacts from offshore wind. Overly prescriptive or onerous recommendations could add uncertainty, and uncertainty can raise costs, stall investment and job creation, and kill projects.

As described in more detail below, several of the recommendations articulated in the Strategic Plan are subject to the United States Coast Guard's (USCG) and BOEM's jurisdiction and are therefore fully addressed in the federal permitting process. Therefore, AWEA and MAREC Action urge the state to consider the parameters that may conflict with federal law and eliminate them from consideration where appropriate.

Federal review robustly addresses potential environmental and natural resource impacts

AWEA and MAREC Action appreciate that the draft offshore wind Strategic Plan acknowledges the primary regulatory authority of BOEM over offshore wind development given the current projects, including those in the study area in the draft report, are all in federal waters.[11]

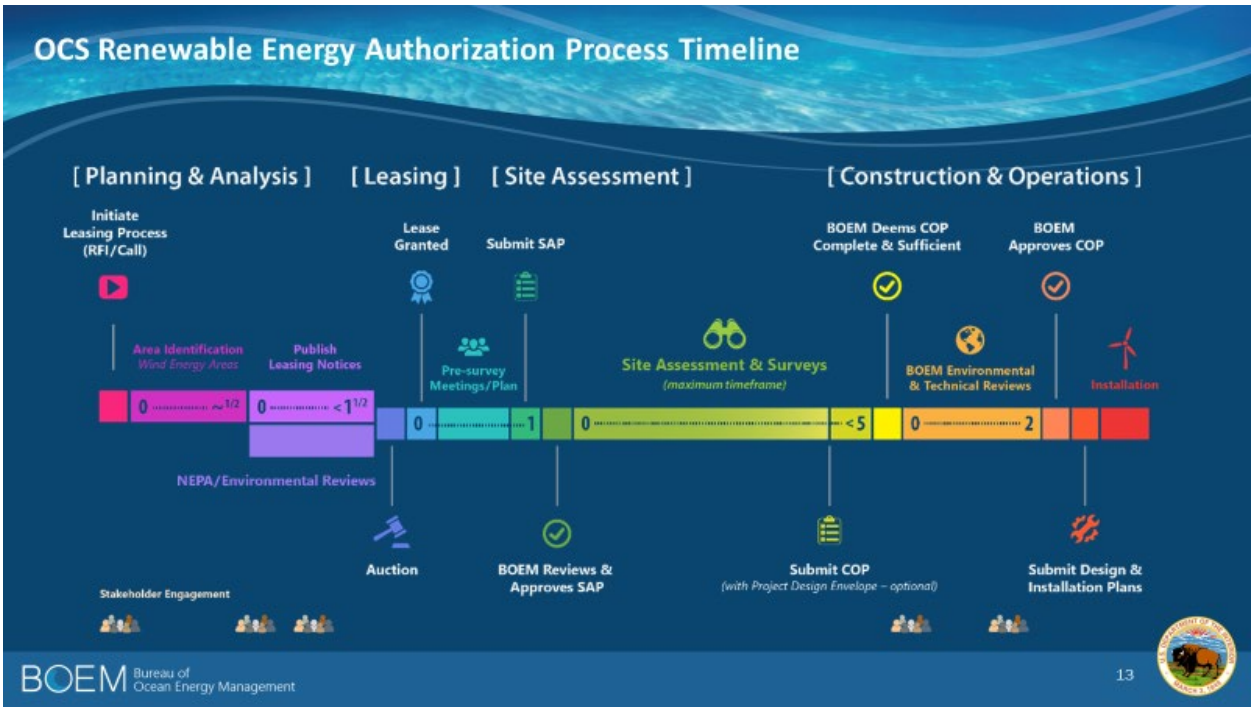
Under the National Environmental Policy Act (NEPA) and BOEM regulations, BOEM comprehensively considers potential impacts to the environment and natural resources when

[11] Draft NJ OSW Strategic Plan, page 34, "Such impacts are subject to regulatory review by BOEM where they occur in federal waters and review by New Jersey state agencies (e.g., NJDEP) where elements (e.g., cable landfalls, other coastal infrastructure) occur within state jurisdictions (on or within three nautical miles of shore)."

developing lease areas and again when reviewing project-specific construction and operations plans (COPs). The NJ Offshore Wind Strategic Plan, as primary reference for stakeholders, would be more effective by illustrating the federal regulatory review process and emphasizing the ample opportunities for public and stakeholder engagement during these processes. Additional references to the public participation guide published by AWEA and the Special Initiative for Offshore Wind[12] made also be useful.

The BOEM permitting process, which should be detailed in the New Jersey Strategic Plan, is extremely comprehensive with numerous opportunities for stakeholder input. As seen in the graphic on the BOEM website,[13] planning and analysis related to identification of potential lease areas, which includes environmental review, can last up to two years. The leasing process, including publishing notices, conducting the auction, finalizing lease terms etc. can take up to two years. Site assessment, including preparation of a Site Assessment Plan (SAP) and performance of the actual surveys, data-gathering and analysis can take up to five years. The data gathered during the site assessment phase is used to develop and finalize the COP submission, which triggers the environmental impact statement (EIS) preparation by BOEM under NEPA. BOEM environmental review of the COP can take up to two years. Assuming COP approval, it can take several more months to finalize design and installation plans and two years or more to actually construct the wind farm (depending on size). Below is a more detailed graphic from BOEM that BOEM presented in a slide deck on a recent U.S. Department of Energy webinar:[14]

[12] https://www.awea.org/Awea/media/Resources/Fact%20Sheets/AWEA_Engagement-Process-FINAL_1-24.pdf
[13] https://www.boem.gov/renewable-energy/regulatory-framework-and-guidelines
[14] https://www.energy.gov/sites/prod/files/2020/05/f74/offshore-wind-turbine-radar-interference-mitigation-webinar-5-2020.pdf



It would be valuable in the final Strategic Plan for New Jersey to provide an overview of the federal review process. For example, BOEM regulations require that any offshore wind project that is authorized provide for "protection of the environment" and "conservation of the natural resources of the OCS." [15] Further, BOEM requires that offshore wind facilities "not cause undue harm or damage to natural resources, including their physical, atmospheric and biological components…".[16] BOEM regulations require that when submitting a SAP, the developer must demonstrate that site assessment activities do "not cause undue harm or damage to natural resources; life (including human and wildlife); property; the marine, coastal, or human environment; or sites, structures, or objects of historical or archaeological significance."[17] The same requirement applies to COPs.[18] BOEM also requires both SAPs and COPs to explain the

[15] 30 C.F.R. 585.102
[16] 30 C.F.R. 585.105
[17] 30 C.F.R. 585.606
[18] 30 C.F.R. 585.620

best management practices that companies will use to reduce impacts[19] and require utilization of "best available and safest technology."[20] The final Strategic Plan should highlight that BOEM rules require developers to explain in COPs what measures they are proposing for "avoiding, minimizing, reducing, eliminating, and monitoring environmental impacts."[21] We recognize these are issues that are of strong interest to the State of New Jersey and to various stakeholders. Helping stakeholders understand what the federal review process entails, how the State engages under that process, and where the State can leverage the federal process under your own authorities would strengthen the final report.

BOEM may then approve, disapprove, or approve with modifications a proposed COP based on their technical and environmental review.[22] BOEM can impose terms and conditions on project approval to address impacts to the environment and natural resources.

In addition to BOEM's regulatory framework described above, the final report could direct stakeholders to various guidance documents BOEM has published that provide additional details on the federal review process, such as the detailed guidelines for what needs to be included in a project COP.[23] For example, BOEM requires developers to conduct a series of surveys and share the resulting data. The surveys include shallow hazards, geophysical, biological, geotechnical, and archaeological resources. The guidance document also includes a summary of best management practices for preconstruction planning, seafloor habitats, marine mammals, fish resources and essential fish habitat, sea turtles, avian resources, acoustic

[19] 30 C.F.R. 585.606 and 620
[20] Ibid.
[21] 30 C.F.R. 585.627
[22] 30 C.F.R. 585.628
[23] Information Guidelines for a Renewable Energy Construction and Operations Plan. BOEM. Version 4.0. May 27, 2020. Available at: https://www.boem.gov/sites/default/files/documents/about-boem/COP%20Guidelines.pdf

environment, fisheries, coastal habitats, electromagnetic fields, transportation and vessel traffic, visual resources, and operations.[24]

Readers of the final Strategic Plan could be directed to the recently released 420-page supplement to the SDEIS[25] for the Vineyard Wind I offshore wind project, which also considered the cumulative impacts of 22 GW of offshore wind build off the Atlantic seaboard, for an illustration of the breadth of the BOEM review of potential project impacts. The SDEIS considered the project-specific and cumulative impacts of offshore wind on more than 20 different environmental and natural resources, including terrestrial and coastal fauna; coastal habitats; benthic resources; finfish, invertebrates, and essential fish habitat; marine mammals; sea turtles; demographics, employment and economics; environmental justice; cultural, historical and archaeological impacts; recreation and tourism; commercial and recreational fishing; land use and coastal infrastructure; navigation and vessel traffic; scientific research surveys; military and national security; aviation; cables and pipelines; radar systems; air quality; water quality; birds; and bats.

Comments specific to the draft New Jersey Offshore Wind Strategic Plan chapter

AWEA and MAREC Action appreciate the information presented in the weighted susceptibility analysis (WSA) maps, which are relevant to State planning and decision making that may impact marine resources in general. However, that information is not appropriate or sufficient for driving project specific decisions. Mere presence of a resource within a lease area, for example, does not equate to negative impact. As required by federal rules, site-specific

[24] Ibid. Attachment A, pages 24-28. Further, Attachment E beginning on page 37 provides detailed information by potentially affected resource on what needs to be in the COP, including the focus, scope, impacting factors to be analyzed, other potential needs for COP approval, and monitoring plan.
[25] https://www.boem.gov/sites/default/files/documents/renewable-energy/Vineyard-Wind-1-Supplement-to-EIS.pdf

evaluations are required for individual projects. Stakeholders should not view the WSA maps in the New Jersey Strategic Plan as signaling where offshore wind turbines should or should not be constructed.

As described above, the environmental reviews conducted by BOEM prior to finalizing an area for leasing and the more detailed environmental review conducted on proposed COPs for a specific project are the appropriate forum for considering potential impacts to environmental and natural resources.

AWEA and MAREC Action also are concerned about the perception the report leaves that there are significant "data gaps" with respect to impacts from offshore wind, both in general and within the Study Area. There is a significant volume of scientific literature on the specific types of impacts that may result from offshore wind (such as sound, presence of structures, EMF etc.) as well as literature specific to offshore wind turbines. For example, the New York State Energy and Research Development Agency (NYSERDA) commissioned a series of technical reports on various potential resource impacts that were published in November 2017. Just two examples of the breadth of information that is already available: (1) The marine mammals and sea turtles report references total 14 pages and nearly 100 citations and (2) The birds and bats report references total 15 pages and more than 190 citations.

Similarly, BOEM's SDEIS for Vineyard Wind I, including cumulative effects analysis for a 22 GW buildout, includes 12 pages of references cited in Appendix H.

AWEA and MAREC Action encourage greater reflection in the Strategic Plan of the numerous collaborative efforts already underway to gather data and coordinate to the extent possible to leverage each other's efforts. To cite just a few examples:

- BOEM has a renewable energy research program. In 2019, BOEM completed 15 studies.[26]

- The National Oceanic and Atmospheric Administration (NOAA) is investing in surveys and other research.[27]

- The offshore wind industry and the commercial fishing industry are collaborating under the auspices of the Responsible Offshore Science Alliance (ROSA),[28] whose work is focused on:

    - Identifying regional research and monitoring needs
    - Coordinating existing research and monitoring
    - Advancing understanding through collaboration, partnerships, and cooperative research
    - Administering research
    - Improving access to scientific data
    - Sharing learnings

- The New York State Environmental Technical Working Group has been in discussions with multiple states, federal agencies, offshore wind developers, and conservation organizations on a regional wildlife science collaborative specific to offshore wind.[29]

[26] https://www.boem.gov/environment/environmental-studies/renewable-energy-research
[27] https://www.fisheries.noaa.gov/new-england-mid-atlantic/science-data/offshore-wind-energy-development-new-england-mid-atlantic-waters
[28] https://www.rosascience.org/
[29] https://www.nyetwg.com/regional-wildlife-science-entity

- The U.S. Department of Energy is also investing and R&D related to offshore wind.[30]

There is also a growing body of data from the pre-construction surveys that offshore wind developers are undertaking. Projects will also be doing post-construction monitoring of impacts. This data will be made available.

AWEA and MAREC Action comments on potential impacts identified in this chapter

To follow are potential impacts cited in the draft Strategic Plan and AWEA's and MAREC Action's responses. In AWEA's and MAREC Action's view, these potential impacts are well-understood, generally can be reduced through mitigation options and should not be significant barriers to the deployment of offshore wind.

- Potential impact: Injury and mortality to birds and bats due to interactions with wind turbines
    - AWEA and MAREC Action response: On a cumulative basis, BOEM found[31] in the Vineyard Wind I SDEIS that offshore wind, when combined with existing impacts to birds like climate change, interactions with fisheries and gear, and accidental spills, will have a moderate impact on birds. BOEM also noted that turbines may provide some beneficial impacts to birds by aggregating some fish, which provides for increased foraging opportunities. BOEM did not attempt to calculate the relative impact of existing causes of adverse impacts to the presence of offshore wind turbines. Offshore wind developers are considering steps to reduce even these limited impacts, including through lighting that reduces impacts

[30] https://eere-exchange.energy.gov/FileContent.aspx?FileID=eb628c28-5cf1-4781-94f5-b57fde220827 and via the National Office Wind Research and Development Consortium at: https://nationaloffshorewind.org/
[31] Vineyard Wind I SDEIS, beginning on page A-67.

consistent with FAA and FWS recommendations and deployment of anti-perching devices. With respect to bats, BOEM found the cumulative impacts to be minor, even when considering climate change and ongoing impacts to bats.[32]

- Potential impact: Injury and mortality to marine mammals or other fauna (e.g., sea turtles) due to collisions with in-water structures or vessels (e.g., vessels used in material delivery, installation, inspection, operations, and maintenance)
    - AWEA and MAREC Action response: BOEM found the potential cumulative impacts to marine mammals to be moderate, but noted mitigating actions are available and that BOEM "does not expect the viability of marine mammal stocks or populations to be effected." BOEM's findings on sea turtles were similar. With respect to North Atlantic Right Whales (NARW), BOEM acknowledged that Vineyard Wind is implementing the following measures:
        - NARW sightings information would be checked daily.
        - If a NARW or large whale were observed within 328 feet (100 meters), the transiting vessel would shift engine to neutral and would not re-engage engines until the NARW has moved out of the vessel path and beyond 328 feet (100 meters).
        - Maintenance of a 1,640-foot (500-meter) setback for NARWs (Vineyard Wind 2018) and 328-foot (100-meter) setback for other listed whale species between all transiting construction-related vessels and whales.

[32] Ibid. Beginning on page A-83.

        - Transiting vessels would maintain a separation distance of 164 feet (50 meters) from all other marine mammals and dolphins.
        - If cow/calf pairs or large groups of delphinids were observed within 164 feet (50 meters) of a vessel in transit, the vessel would reduce speed to 10 knots. Normal transit speed would be resumed only after the delphinids have moved outside the 164-foot (50-meter) zone.
        - Requirement of AIS on each project vessel.
    - These measures led BOEM to conclude, "Given the implementation of the above measures, vessel strike of NARW are not anticipated. Given Vineyard Wind's commitment to voluntarily implement the above measures, impacts on listed marine mammal species, if any, resulting from vessel strikes would be expected to be negligible."

- Potential impact: Displacement or injury to biological resources associated with physical infrastructure or noise from survey vessels and construction/decommissioning activities
    - AWEA and MAREC Action response: BOEM found in the Vineyard Wind SDEIS that noise from construction activities like pile driving will result in localized and short-term avoidance/displacement by marine mammals and sea turtles. For example, with respect to marine mammals, BOEM concluded, "In many cases, responses to noise can be localized and temporary, and individuals can be assumed to resume normal functioning when exposure to the stressor ceases."[33] With respect to sea turtles, BOEM noted, "BOEM has concluded that

[33] SDEIS, page 3-33

disturbance of sea turtles from underwater noise generated by site characterization and site assessment activities would likely result in temporary displacement and other behavioral or non-biologically significant physiological consequences (BOEM 2019a) and impacts on sea turtles would not result in stock or population-level effects."[34]

- Importantly, however, BOEM also found the impacts from this stressor can mostly be avoided through mitigation and the resources would recover completely without additional mitigation after the impact producing factor is removed. For example, via consultations with BOEM and NOAA under the Marine Mammal Protection Act, developers may consider daily monitoring prior to start, noise reduction technologies, seasonal and time of day limits on pile driving, monitoring during work to watch for certain species in the area and to halt work when safe to do so until they disperse.

- Potential impact: Attraction to wind infrastructure due to lighting and reef effects, leading to the potential for wildlife injuries.

    - AWEA and MAREC Action response: In general, BOEM did not identify lighting as a concern with respect to avian or aquatic species in the Vineyard Wind SDEIS because lighting would be minimized consistent with FAA and FWS recommendations. For example, the SDEIS found the following with respect to lighting impacts on specific species:

[34] Ibid, page 3-46

- Sea turtles: "WTG lighting is not anticipated to have any detectable effects (adverse or beneficial) on any age class of sea turtles in the offshore environment given the current lack of evidence that platform lighting leads to effects on sea turtles as shown by decades of oil and gas platform operation in the Gulf of Mexico, which can have considerably more lighting than offshore WTGs."[35]
- Fish: "Because navigation and/or aviation hazard lights are not downward-focused lighting, the amount of such light penetrating the sea surface is anticipated to be minimal and not likely to cause impacts on finfish, invertebrates, and EFH."[36]
- Birds: "Cumulative impacts, if any, would be negligible from lighting, and no individual or population-level impacts would be expected."[37]

o With respect to reef effects, in general, BOEM finds these effects to be positive:

- "…thus inducing the 'reef effect' that is associated with higher densities and biomass of fish and decapod crustaceans," which can result in increased prey for some marine mammals resulting in "beneficial effects" while also noting the potential for increased interaction with fishing vessels and gear.[38]

[35] Ibid, page 3-45
[36] Ibid, page 3-21
[37] Ibid, page A-73
[38] Ibid, page 3-36

        - "Recent studies have found increased biomass for benthic fish and invertebrates, and possibly for pelagic fish, sea turtles, and birds as well (Raoux et al. 2017; Pezy et al. 2018; Wang et al. 2019), indicating that offshore wind facilities can generate beneficial permanent impacts on local ecosystems, translating to increased foraging opportunities for sea turtle species."[39]

        - "…the scour protection and foundations of offshore wind structures could provide new opportunity for for-hire recreational fishing businesses and certain types of commercial fishing by attracting certain fish through the reef effect."[40]

- Potential Impact: Changes in behavior associated with the electromagnetic field generated via energized transmission cables of an operating wind farm.

    - AWEA and MAREC Action response: In the comprehensive analysis in the Vineyard Wind SDEIS, BOEM dismissed concerns regarding potential impacts from electromagnetic interference due to cable burial depth and shielding options. A BOEM fact sheet also provides an overview of the limited impact of EMF from cables associated with offshore wind facilities.[41]

        - "Any impacts of EMF on coastal habitats would likely be undetectable."[42]

[39] Ibid, page 3-48.
[40] Ibid, page 3-57.
[41] https://www.boem.gov/sites/default/files/documents/renewable-energy/mapping-and-data/Electromagnetic-Fields-Offshore-Wind-Facilities.pdf
[42] SDEIS, page 3-6

- "Impacts on benthic resources would likely be undetectable…"[43]
- "There is no evidence to indicate that EMF from undersea AC power cables adversely affects commercially and recreationally important fish species within the southern New England area."[44]
- "Marine mammals have the potential to react to submarine cable EMF; however, this impact, if any, would be limited to extremely small portions of the areas used by migrating marine mammals. As such, exposure to this IPF would be low; as a result, impacts such as changes in swimming direction and altered migration routes would not be expected to biologically significant."[45]

- Potential impact: Disturbance to habitat and organisms associated with installation and decommissioning of turbine foundations and transmission cables
  - AWEA and MAREC Action response: BOEM extensively considered the potential impact from offshore wind turbine installation and decommissioning, including transmission cables, in the Vineyard Wind I and cumulative analysis and generally found those impacts to be limited and manageable.
  - With respect to turbine construction/decommissioning, the impacts are generally addressed in other sections related to noise, lighting, vessel traffic etc. But, specifically with request to changes to habitat:

[43] Ibid, page 3-12
[44] Ibid, page 3-31
[45] Ibid, page 3-31

- BOEM found water flow impacts to be limited, "In general, modeling studies indicate that water flow typically returns to within 5 percent of background levels within a relatively short distance from the structure. Given this, the disruption to mean flows is not likely to reach from one foundation to an adjacent foundation."[46]

- BOEM found limited impacts from sediment changes, "effects on finfish, invertebrates, and EFH from sediment resuspension near foundations are not anticipated to be measurable above existing natural/baseline conditions."[47]

- BOEM found limited impacts on oceanographic and atmospheric conditions, "The presence of many wind turbine structures could affect local oceanographic and atmospheric conditions by reducing wind-forced mixing of surface waters and increasing vertical mixing of water forced by currents flowing around foundations… ultimate impacts on finfish and invertebrates of changes to local oceanographic and atmospheric conditions caused by the presence of offshore structures are expected to be localized, and likely to vary seasonally and regionally."[48]

- BOEM reported that the presence of structures could provide some benefits to marine mammals, the "presence of new structures could result in increased prey items for some marine mammal species" and "offshore

[46] Ibid, page 3-23
[47] Ibid
[48] Ibid, page 3-23

wind farms can generate beneficial permanent impacts on local ecosystems, translating to increased foraging opportunities for marine mammal species."[49] Though, BOEM does also note the potential for displacement of marine mammals into areas with higher vessel density and potential impacts to echolocation.

- With respect to the fishing impacts of the construction of structures, BOEM reported some mixed impacts, "Structures may alter the availability of targeted fish species in the immediate vicinity of the structures. For example, structure-oriented fish such as black sea bass, striped bass, lobster, and cod may increase in areas where there was no structure (natural or artificial) prior to offshore wind infrastructure. Flatfish, clams, and squid species are likely to remain in open soft-bottom sandy areas. Furthermore, altered community composition could change natural mortality of certain species due to predation (decrease), refuge (increase), and increase competition between species, which could have indirect beneficial and adverse effects, depending on the species."[50] BOEM also analyzed potential non-biological impacts to commercial fishing, such as an increased risk of accidents and gear damage/loss. But, BOEM found such issues are manageable through mitigation measures, including adequate turbine spacing.

- With respect to installation/decommissioning of transmission cables:

[49] Ibid, page 3-36
[50] Ibid, page 3-95

- BOEM found impacts to commercial and recreational fishing from cabling to be localized and short-term.[51]

- For impacts to finfish, invertebrates etc. BOEM found "the extent of impacts would be limited to approximately 6 feet (2 meters) to either side of each cable, and finfish, invertebrates, and most EFH would recover following disturbance, although some habitats would not fully return to their previous conditions."[52] And, BOEM reported, "The area with a cumulatively greater sediment deposition from simultaneous or sequential activities would be limited, as most of the impacted areas would only be lightly sedimented (less than 0.04 inch [1 millimeter]) and would recover naturally in the short term."[53]

- For marine mammals, BOEM found, "While the cable routes for future offshore wind developments are unknown at this time, the areas subject to increased suspended sediments from simultaneous activities would be limited and all impacts would be localized and temporary." And, "no individual fitness or population-level impacts would be expected to occur because marine mammals do not appear to be affected by increased turbidity and would be expected to be able to successfully forage in adjacent areas not affected by sediment plumes."[54]

[51] SDEIS, page 3-94
[52] Ibid, page 3-21
[53] Ibid, page 3-25
[54] Ibid, page 3-32

- Finally, for sea turbines, BOEM found, "the risk of injury or mortality of individual sea turtles resulting from dredging necessary to support projects considered here is low and population level effects are unlikely to occur."[55]

- Potential impact: Challenges associated with vessel navigation and shipping (e.g., obstacle avoidance)

  - AWEA and MAREC Action response: USCG has authority over vessel navigation and as a coordinating agency is working closely with BOEM on reviewing the navigation safety risk assessments required of offshore wind developers as a part of the COP and making recommendations for navigation related conditions as a part of the NEPA review. Further, with respect to New Jersey specifically, USCG is conducting a Port Access Route Study (PARS) for the seacoast off New Jersey.[56] The study will determine whether additional routing measures, such as traffic separation schemes, two-way routes, recommended tracks, deep water routes, precautionary areas, or areas to avoid, are necessary in light of offshore wind and other developments. USCG also recently announced an advanced notice of proposed rulemaking regarding the possible establishment of north-south fairways (i.e. navigation lanes in which no permanent structures are allowed) along the Atlantic Coast,[57] including off New Jersey. New Jersey should defer to the U.S. Coast Guard and BOEM on vessel

[55] SDEIS, page 3-46
[56] https://www.federalregister.gov/documents/2020/05/05/2020-09538/port-access-route-study-seacoast-of-new-jersey-including-offshore-approaches-to-the-delaware-bay#:~:text=The%20Coast%20Guard%20is%20conducting,approaches%20to%20the%20Delaware%20Bay
[57] https://www.federalregister.gov/documents/2020/06/19/2020-12910/shipping-safety-fairways-along-the-atlantic-coast

navigation issues. Given the decades of experience in Europe and BOEM and USCG analyses to date, AWEA and MAREC Action are confident that offshore wind is fully compatible with safe vessel navigation.

AWEA and MAREC Action responses to the specific recommendations in this chapter:

1. Report recommendation: Prioritize the development of areas of lower relative susceptibility to offshore wind within existing offshore wind lease areas and proposed wind energy areas.

    a. AWEA and MAREC Action response: While we understand New Jersey's motivation, ultimately, given all of the lease and call areas in the study area for this draft report are in federal waters, where projects are leased and where turbines are sited within a given lease area is a federal decision made by the Bureau of Ocean Energy Management and the Department of Interior. As noted earlier in our comments, environmental and natural resource issues are considered by BOEM when designating Wind Energy Areas (WEA). Consideration of these issues leads to the scaling back of the area made available for leasing when BOEM designates the actual lease areas. When developers are doing site investigation surveys, they also may identify areas where they are less likely to place turbines for one reason or another and they will identify that in their COP. The developable space in a lease area can be further limited during project specific NEPA review of COPs. As described above, New Jersey should ensure that any state level measures are consistent with federal requirements.

2. Report recommendation: Leverage research by developers, state universities, government agencies, and state contracts including the New Jersey Ocean Trawl survey and require sharing of all state-funded information, environmental studies, and findings to contribute to planning efforts, closing of data gaps, and meeting of long-term monitoring needs. Efforts should include baseline monitoring as well as monitoring of development and operations of offshore wind projects.

    a. AWEA and MAREC Action response: Data collection and data sharing is generally helpful. As noted earlier, developers are collecting significant volumes of data via pre-construction monitoring and post-construction monitoring is planned as well. This data will generally be available. However, AWEA and MAREC Action note there are many research and data gathering efforts with respect to offshore wind. So, to the extent the state is planning to fund additional efforts, you should do so only with full awareness of what is already underway or planned to leverage existing efforts and avoid duplication.

3. Report recommendation: As part of the offshore wind energy solicitation process, require the use of "best available technology" within the industry to achieve the goal of limiting environmental effects (e.g., use of larger turbines reduces the overall wind farm footprint and reduces environmental impacts accordingly).

    a. AWEA and MAREC Action response: BOEM regulations already requires use of BAT. New Jersey does not need to duplicate that requirement. But, to the extent New Jersey wants to reinforce the BOEM position, it is important that the State <u>not</u> be prescriptive on what qualifies as a BAT (such as requiring a specific turbine, monitoring system or lighting system). Developers need flexibility to

determine what works best for their project in conjunction with BOEM and the federal environmental review process.

4. Report recommendation: Enhance communication and coordination between conservation communities and state and federal agencies through the newly established New Jersey Environmental Resources Offshore Wind Working Group (Environmental Working Group) or through regional, multistate, and multisector collaborations.

    a. AWEA and MAREC Action response: AWEA and MAREC Action note that the enhanced communication and coordination in this recommendation leaves out the offshore wind industry. For example, the scope of the Environmental Working Group includes consideration of potential mitigation options and supporting scientific and technical research. Consideration of those issues will be improved if industry is also consulted. For example, a project developer will have unique insights on the feasibility of mitigation options.

5. Report recommendation: Review the existing area contingency plan and update it as appropriate to account for potential environmental incidents related to offshore wind development. Require that developers adhere to an approved spill control and response plan. (Note: An area contingency plan is a reference document used for guiding the response to environmental emergencies. In the coastal setting, the United States Coast Guard is the designated lead agency for preparing and administering the area contingency plan (US Environmental Protection Agency in inland settings).

a. AWEA and MAREC Action response: BOEM already requires offshore wind developers to submit an oil spill response plan.[58] To the extent New Jersey requests such a plan, the requirements should be consistent with those in federal law so the same plan can be submitted to the State and BOEM.

6. Report recommendation: Consider updating the NJDEP 2009 Technical Manual for Evaluating Wildlife Impacts of Wind Turbines to include newly available information, guidance, and trends (e.g., distance from shore, number and size of turbines to meet the 7,500 MW goal)

    a. AWEA and MAREC Action response: Considering offshore wind projects are subject to extensive federal review and approval, including for potential impacts to wildlife, AWEA and MAREC Action are unclear on the value of updating this manual. Further, BOEM publishes and updates a series of guidelines for various types of offshore wind-related survey work, including for site characterization, avian issues, archaeological and historic properties, geophysical/geotechnical/geohazard, fisheries, benthic habitat, and marine mammals and sea turtles.[59] AWEA and MAREC Action are concerned about the potential for conflicting state and federal guidance in this area.

7. Report recommendation: Consider additional evaluations, studies, or assessments that aim to close data gaps, address comments from stakeholder groups, and evaluate the potential for near-term, long-term, and cumulative environmental effects and that allow

[58] 30 C.F.R. Part 254 and 30 C.F.R. 585.627
[59] https://www.boem.gov/renewable-energy/survey-guidelines-renewable-energy-development and https://www.boem.gov/sites/default/files/environmental-stewardship/Environmental-Studies/Renewable-Energy/Effects-Matrix-Evaluating-Potential-Impacts-of-Offshore-Wind-Energy-Development-on-US-Atlantic-Coastal-Habitats.pdf

for quantifying physical changes to the environment that may result from wind turbines or other environmental changes such as climate change. Specific studies should be identified by the New Jersey Environmental Resources Offshore Wind Working Group and could include a focus on commercially or economically important species, protected species, data gaps, long-term evaluations, air quality improvements and human health effects.

   a. AWEA and MAREC Action response: AWEA and MAREC Action recommend the State be aware of what research is already underway or planned by BOEM, NOAA, DOE, ROSA, regional collaboratives and other state efforts and coordinate to the extent possible to leverage other efforts and avoid duplication or conflict.

8. Report recommendation: Consider implementation of avoidance and minimization measures for each offshore wind project. Below are example measures for each resource subgroup and ocean use category. The report includes specific recommendations related to birds, fish, marine mammals and turtles, benthic organism and vessel density.

   a. AWEA and MAREC Action response: As noted earlier in these comments, BOEM rules require developers to explain in COPs what measures they are proposing for "avoiding, minimizing, reducing, eliminating, and monitoring environmental impacts." Further, BOEM has published best management practices for preconstruction planning, seafloor habitats, marine mammals, fish resources and essential fish habitat, sea turtles, avian resources, acoustic environment, fisheries, coastal habitats, electromagnetic fields, transportation and vessel traffic, visual resources, and operations. With respect to vessel density,

USCG has authority over navigation safety and is a cooperating agency with the BOEM review process. Navigation issues are properly addressed by USCG and BOEM. With respect to the environmental and navigation issues, AWEA and MAREC Action strongly recommend that New Jersey not be prescriptive as to what measures are required. Developers need flexibility as they are designing their projects, working with stakeholders and discussing plans and options with federal regulators to put together a mix of measures that make the most sense for the project and resources in the individual lease area.

03 - Commercial and Recreational Fishing

AWEA, MAREC Action and our members understand the economic, social, and historical importance of commercial and recreational fishing to New Jersey and other coastal states. Fortunately, BOEM and USCG have made clear they do not plan to restrict fishing within lease areas. BOEM has noted the agency "does not have the authority to restrict vessel traffic in and around offshore wind facilities."[60] USCG has indicated they do not anticipate restricting fishing or sailing within offshore wind farms.[61]

The offshore wind industry strongly believes that deployment of offshore wind can be done in ways compatible with commercial and recreational fishing. That is why the industry has engaged in significant outreach and discussion with various commercial and recreational fishing interests. For example, offshore wind developers have:

[60] https://www.boem.gov/sites/default/files/uploadedFiles/BOEM-Fishing%20FAQs.pdf
[61] https://www.boem.gov/sites/default/files/renewable-energy-program/BOEM-Maritime-Meeting-Summary-FINAL-%281%29.PDF

- Held thousands of individual project-specific meetings and workshops with fishing interests, including local fishermen.
- Hired multiple fisheries liaisons dedicated to work with an expanding network of fisheries representatives.
- Held joint port hours with fisheries' liaisons for commercial and recreational fishing inquiries, comments, and feedback.
- Provided updates to technical working groups, task forces, fishing organizations, agencies, and councils.
- Joined a Joint Industry Task Force of the commercial fishing trade group Responsible Offshore Development Alliance (RODA).
- Joined ROSA, a research focused arm of RODA.
- Engaged with State Fisheries and Environmental Technical Working Groups (e.g, MA Working Group on OSW Energy; NYSERDA Working Groups, RI Fishing Advisory Board).
- Participated in discussions over the formation of a regional offshore wind wildlife science organization.
- Engaged in other proactive engagement and communication efforts, including:
    - Implementing Fisheries' Communication Plans Input provided from commercial and recreational fisheries reps. and federal and state agencies).
    - Social media, trade magazines, newsletters, e-mails, texts, and presentations at fisheries' trade show and Fishery Management council meetings.

- Mariner Updates: Notices to fishermen from developers re: offshore surveys, buoy installations, and other activities.
- USCG Mariner Surveys to gather feedback on WEAs or project areas (e.g., turbine layout, fishing locations, navigation aids on structures, including AIS, radar beacons, marking, and lighting).
- Maintaining fisheries' dedicated webpages.
- Providing electronic charts showing lease areas and offshore survey work.

BOEM has been similarly active in engaging fishing interests,[62] including signing a memorandum of understanding (MOU) with RODA to collaborate on the science and process of offshore wind energy development and participating in various state regional fisheries discussions. NOAA Fisheries is also a signatory to the MOU and has been representing fishing interests, among others, during the interagency processes evaluating proposed wind farms and participating in state and regional fisheries discussions around offshore wind.

Importantly, it has not just been a one-way conversation. Feedback from the fishing community has made a meaningful difference. For example, offshore wind developers have hired fisheries liaisons and implemented communication methods based on fishing community input. Developers have changed proposed project layouts[63] in response to feedback from fishermen, even when doing so came at great economic cost to the project. Developers have also designed programs related to gear interaction/gear loss, including compensation, based on input

[62] https://www.boem.gov/atlantic-fishing-industry-communication-and-engagement
[63] https://www.vineyardwind.com/press-releases/2019/11/19/new-england-offshore-wind-leaseholders-submit-uniform-layout-proposal-to-the-us-coast-guard

from fishermen. As described above, the "reef effect" is expected to provide a benefit to at least some fishing interests by aggregating fish in the vicinity of turbines.

BOEM is also taking potential impacts to commercial fishing seriously. BOEM developed guidelines for engagement with fishing interests[64] and published best management practices and mitigation measures, which were developed with input from the fishing community and others.[65] BOEM has also revised plans and narrowed areas to be leased in response to fishing community input and has made clear that based on project-specific reviews, the agency will impose best management practices as needed to reduce impacts to fishing in a given area.

AWEA and MAREC Action responses to the specific recommendations in this chapter:

1. **Report recommendation**: Ensure continuation of data collection efforts off the East Coast in support of New Jersey state and regional fisheries management decisions and to form the basis of a long-term marine monitoring program for assessing potential cumulative impacts associated with offshore wind development. Determine what survey methodology changes and/or project siting recommendations could be implemented to maintain the continuity and long-term consistency of assessment programs.
    a. **AWEA and MAREC Action response**: Offshore wind developers are collecting substantial amounts of data on their lease areas and the resources within. They will be collecting data after their facilities are constructed as well. Developers welcome a discussion about how this data can help serve New Jersey's needs.

[64] https://www.boem.gov/sites/default/files/documents/about-boem/Social%20%26amp%3B%20Econ%20Fishing%20Guidelines.pdf
[65] https://www.boem.gov/sites/default/files/renewable-energy-program/Fishing-BMP-Final-Report-July-2014.pdf

b. With respect to survey methodologies, AWEA and MAREC Action are confident that scientific surveys can adapt with new methodologies and technologies to gather essential data. Indeed, surveys are already adapting and changing significantly regardless of whether wind farms are present, for example, through the use of drones, remotely operated gliders, more complex acoustic monitoring technologies, improvements in access and quality of satellite imagery, and improved satellite tracking systems, among others. For example, NMFS adapted its research during marine mammal abundance surveys in the Pacific to take advantage of passive acoustic monitoring to get further data on false killer whale (Psuedorca crassidens) group sizes via a new protocol implemented in 2010, and a subgroup-based analytical framework was developed to analyze these data.[66] NMFS also adjusted its analyses to account for this change in protocol. Passive acoustic monitoring is being applied to evaluation of density and use patterns of marine mammals,[67] and NMFS has been investigating use of "advanced survey techniques" to fill data gaps.[68] Further, because species of research interest often range over significant distances, it is common to collect data in randomized transects and extrapolate habitat use and density into areas that are not surveyed, which in the case that surveys were not conducted in wind farm areas, would include those areas.[69] NOAA has also recently taken advantage of using an

[66] A.L. Bradford, et al., NOAA, Technical Memorandum NMFS-PIFSC-104, Abundance estimates of false killer whales in Hawaiian waters and the broader central Pacific (2020).
[67] For example: Joy E. Stanistreet, et al., Using passive acoustic monitoring to document the distribution of beaked whale species in the western North Atlantic Ocean, 74 CANADIAN J. FISHERIES & AQUATIC SCI. 2098 (2017).
[68] Dennis Heinemann et al., NOAA, NOAA Technical Memorandum NMFS-F/SPO-164, Report of the Joint Marine Mammal Commission – National Marine Fisheries Service Passive Acoustic Surveying Workshop (2016).
[69] For example, the following citation combines over 20 years of survey data in different locations to extrapolate marine mammal densities throughout the U.S. Atlantic EEZ: Jason J. Roberts, et al., Habitat-based cetacean density models for the U.S. Atlantic and Gulf of Mexico, 6:22615 SCI. REP. 1 (2016).

Unmanned Systems Strategy, which involves employing autonomous (unmanned) ocean vehicles for collection of "high-quality environmental data for resource management and weather forecasting."[70]

c. While the construction of wind farms may impact dredge surveys for some species, there are often ways to mitigate such impacts using existing technologies. For instance, scallops can be surveyed using optical techniques, such as NOAA's HABCAM and SMAST drop-camera survey methods. These study techniques are routinely used to collect fisheries data for stock assessments for benthic species (e.g., scallops). These survey techniques can be used within wind energy areas. Finally, to the extent NMFS or others cannot navigate larger survey vessels in wind energy areas, fish surveys can be performed from fishing vessels.

d. AWEA and MAREC Action recognize that wind turbines may reduce aerial or ship-based survey access to some areas, which may interrupt track lines, trawl areas, and pre-existing environmental data collection stations, but both the mitigation described above and the ability of researchers to develop corrections for alternate data collection sites, adapt data collection protocols, use remote technologies, and extrapolate from other locations or use proxies for research will limit the impact.

2. **Report recommendation**: Collaborate with other states, academic, and environmental entities, and use regional, multistate, and multisector collaborations to develop and conduct regional fisheries monitoring and data sharing.

[70] See NOAA ramps up use of drones to collect fish, seafloor and weather data, NOAA (June 19, 2020), https://www.noaa.gov/stories/noaa-ramps-up-use-of-drones-to-collect-fish-seafloor-and-weather-data.

a. **AWEA and MAREC Action response**: AWEA and MAREC Action agree that regional and multi-sector collaboration is useful.

3. **Report recommendation**: Leverage existing commercial and recreational fisheries that currently provide valuable information on existing conditions to conduct ecological monitoring in support of construction and operations of offshore wind farms.
    a. **AWEA and MAREC Action response**: AWEA and MAREC Action agree leveraging existing resources is useful. And, as noted, offshore wind developers will be making their data available for others to leverage as well.
4. **Report recommendation**: Utilize the New Jersey Offshore Wind Environmental Resources Working Group to continue engagement between the state and the commercial and recreational fishing community throughout each project's lifecycle and request that developers and the state identify fishing industry liaisons. Establish cooperative research initiatives to provide a means for commercial and recreational fishers to become involved in the collection of important fisheries information to support the development and evaluation of fisheries management.
    a. **AWEA and MAREC Action response**: As noted earlier in these comments, the offshore wind industry has been engaging extensively with commercial and recreational fishermen and making changes to their plans as a result.
5. **Report recommendation**: Enhance communication and coordination between fishing communities and state and federal agencies through the Offshore Wind Environmental Resources Working Group.

a. **AWEA and MAREC Action response**: As noted elsewhere in these comments, AWEA and MAREC Action request that this Working Group also engage with the offshore wind industry.

6. **Report recommendation**: During project design and layout, encourage offshore wind developers, in consultation with State and stakeholders, to assess the need for one or more fairways in lease areas for commercial and recreational fishing vessels.

   a. **AWEA and MAREC Action response**: Vessel navigation, including designation of specific safety measures, is under the jurisdiction of the Coast Guard[71] and BOEM. BOEM has previously revised proposed lease areas based on feedback from the Coast Guard. For example, in its *Final Environmental Assessment for Commercial Wind Lease Issuance and Site Assessment Activities on the Atlantic Outer Continental Shelf Offshore New Jersey, Delaware, Maryland and Virginia*,[72] BOEM acknowledges how their plans changed as a result of USCG input, including eliminating certainty USCG category areas from leasing and changing the agency's proposed action and preferred alternative. The Final EA notes the New Jersey WEAs were specifically designed to avoid shipping lanes and traffic separation schemes. The EA indicates, "Based on recommendations by the USCG, and considering the lack of information currently available to assess vessel traffic types, densities and routing direction of vessels leaving the TSS, BOEM determined that OCS blocks within and directly south of the TSS

[71] 46 USC 70003 and 49 CFR 166
[72] Available at: https://www.boem.gov/sites/default/files/uploadedFiles/BOEM/Renewable_Energy_Program/Smart_from_the_Start/Mid-Atlantic_Final_EA_012012.pdf

were not included in the WEA. OCS blocks within one nm of an identified traditional tug and barge transit route were also removed from consideration."[73]

b. Vessel navigation issues are also considered via required navigation safety risk assessments,[74] which are a requirement element of COP submissions that are reviewed and evaluated by the Coast Guard and BOEM.

c. This recommendation in the draft report should be removed. This is already covered by the Coast Guard and BOEM via PARS, rulemakings and COP/NEPA reviews. Those are the appropriate places for vessel navigation issues to be considered.

7. **Report recommendation**: To the extent practicable, encourage offshore wind developers, in consultation with State and stakeholders, to make choices that maintain access to and transit through wind energy areas by the users who currently rely on them, including fishing and transit without compromising project safety and efficiency.

   a. **AWEA and MAREC Action response**: This recommendation should be revised, as noted above, for the same reason as the preceding recommendation, i.e. it is primarily subject to BOEM and Coast Guard jurisdiction, not the State's. Specific measures related to vessel navigation and safety will be addressed during the federal permitting process. Further, as noted elsewhere in these comments, BOEM and the Coast Guard have already indicated they have no plans to restrict access to lease areas to fishing vessels.

[73] Ibid. Page 6.
[74] https://www.dco.uscg.mil/Portals/9/DCO%20Documents/5p/5ps/NVIC/2019/NVIC%2001-19-COMDTPUB-P16700-4-dtd-01-Aug-2019-Signed.pdf?ver=2019-08-08-160540-483

8. **Report recommendation**: Encourage offshore wind developers, in consultation with the State and stakeholders, to ensure that interconnect and transmission cables are buried to a depth sufficient to avoid interaction with benthic fishing gear and inspect them regularly to ensure adequate cover.

    a. **AWEA and MAREC Action response**: This recommendation should also be revised as the depth of cable burial is regulated by BOEM.[75] BOEM's COP guidelines already state, "Lessees and grantees should avoid or minimize impacts to the commercial fishing industry by burying cables, where practicable, to avoid conflict with fishing vessels and gear operation. If cables are buried, lessees and grantees should inspect cable burial depth periodically during project operation to ensure that adequate coverage is maintained to avoid interference with fishing gear/activity."[76] In the Vineyard Wind SDEIS, Vineyard Wind proposed a target burial depth of 5 to 8 feet.[77] The Bureau of Safety and Environment Enforcement, also within the Department of the Interior, published a technical report[78] providing standards and guidance on acceptable burial depths and separation distance for offshore wind farm cables. As a part of their COP submission, developers will include a target burial depth. Developers will later conduct a cable burial risk analysis to determine the installation tools needed to achieve target burial depths and to identify potential cable protection areas.

[75] 30 C.F.R. 585.802(a)(7).
[76] https://www.boem.gov/sites/default/files/documents/about-boem/COP%20Guidelines.pdf, page 27.
[77] SDEIS, page E-3
[78] https://www.bsee.gov/sites/bsee.gov/files/tap-technical-assessment-program//final-report-offshore-electrical-cable-burial-for-wind-farms.pdf

b. To the extent New Jersey intends to regulate this issue as a cable comes through state waters, the State should not be overly prescriptive and should provide flexibility to developers consistent with the federal review process.

9. **Report recommendation**: To the extent practicable, encourage offshore wind developers, in consultation with State and stakeholders, to incorporate habitat enhancements to attract commercially targeted species and provide long-term benefits to commercial and recreational fisheries.

    a. **AWEA and MAREC Action response**: As noted elsewhere in these comments, this recommendation should be revised as noted above because the reef effect that will result naturally from having turbine foundations in the water will naturally result habitat that will attract certain fish species to the benefit of fishermen.

04 - Supply Chain and Workforce Development

The Strategic Importance to New Jersey

In addition to the importance of the offshore wind industry to the environment, the State recognizes the importance of the supply chain in growing its economy and creating numerous jobs with a build-out of Governor Murphy's directive of a solicitation 7,500 MW of offshore wind projects by 2035. AWEA and MAREC Action fully support this initiative and agree that offshore wind provides a great opportunity for New Jersey to take advantage of its skilled labor force, its port capacity for offshore wind and its strong public policy supporting the development of the supply chain, including local manufacturing facilities designed to meet the needs of the new industry. As the draft Strategic Plan recognizes, the State is also in a particularly strong

place with a higher education system ready to train employees to fill the needs of the offshore wind industry.

The 7,500 MW commitment of offshore wind solicitations by 2035, is a substantial goal that will be a major impetus for business interests to expand or locate to New Jersey to cost effectively help meet the new industry. One concern with the current policy supporting the 7,500 MW solicitation is that only 3,500 MW is currently required by statute[79] and the balance of 4,000 MW is a directive by the Governor's Executive Order No. 92 ("EO 92")[80] This Section of the draft Strategic Plan recognizes the need for a "sustained domestic demand to justify the investment in new facilities" for domestic manufacturing.[81] While 7,500 MW is a goal that should create a sustained demand well into the mid to late 2030s, AWEA and MAREC Action recommend that steps should be taken to codify the 4,000 MW from EO 92 into statute to send the signal that there is continuity for the continued growth of the industry to attract the necessary investment. While an Executive Order is a welcome commitment from the current Administration, it would not necessarily be honored by future ones.

Comments on the Supply Chain and Workforce Development Evaluation

The draft Strategic Plan analyzes two different scenarios for New Jersey and the finding from the study indicates that:

> New Jersey should follow a balanced approach to offshore wind development that considers both New Jersey job creation and reasonable costs to the ratepayers to achieve the lowest levelized cost of energy and to support the build-out of the offshore wind supply chain in New Jersey.[82]

[79] New Jersey Assembly Bill 3723 at 9. https://www.njleg.state.nj.us/2018/Bills/A4000/3723_I1.PDF
[80] Governor Philip Murphy Executive Order No. 92 dated November 19, 2019. https://nj.gov/infobank/eo/056murphy/pdf/EO-92.pdf
[81] Draft Strategic Plan at 52.
[82] *Id at 57.*

Other key findings include the types of jobs likely to be created, such as jobs in production/manufacturing, management, installation and operation and maintenance. Facilities most likely to locate to New Jersey as a result of offshore wind development would be "foundation, tower and nacelle and blade manufacturing."[83] The evaluation also noted the importance of the New Jersey ports and harbor to support the offshore wind manufacturing facilities.

AWEA and MAREC Action believe that the results of the evaluation are reasonable and the likely result of a substantial build-out of offshore wind supply chain consistent, so long as the right market signals are provided to both the developers of the offshore wind projects and the businesses looking to invest in the supply chain. It is also consistent with reasonable expectations that manufacturers will locate domestically near areas of significant planned offshore wind development and in places where policies are in place to support that development, such as New Jersey.

The Draft Plan's Supply Chain and Workforce Development Strategic Recommendation

AWEA and MAREC Action support the strategic recommendations contained in the draft Strategic Plan. We think these are all reasonable approaches to attracting development while at the same time striving for the lowest possible cost for offshore wind development. In addition to the list of recommendations contained in the draft Plan, it is important, as we suggested earlier to codify in statute Governor Murphy's directive to solicit and additional 4,000 MW of offshore wind projects by 2035 to provide the certainty to help ensure that potential supply chain and workforce development opportunities are

[83] *Id.*

realized. AWEA and MAREC Action also commend the State for providing meaningful incentive programs, like the New Jersey Offshore Wind Tax Credit Program as a means of attracting capital investment and driving employment growth for major land-based offshore wind supply chain projects.

05 - Ports and Harbors

Strategic importance to New Jersey

The draft Strategic Plan recognized the vital importance of access to ports and harbors. As the Plan describes, these facilities must be developed and have the capacity of receiving, staging and the assembly of large components, such as blades and foundations. The ports are also where the offshore wind related vessel infrastructure is located and where the wind facilities are managed.

New Jersey has several ports and harbors that could support these activities and facilities. The draft Strategic Plan judges it critical that New Jersey develop its ports to attract the desired supply chain businesses and workforce development. These ports could also present an opportunity for New Jersey to support the development of wind farms in neighboring states and on the East Coast, as well as serving as a hub for providing services to the regional offshore wind market.

AWEA and MAREC Action support New Jersey's strategic vision for its ports and harbors. While it is certainly in a competitive environment with its neighbors, which are also developing their offshore wind industries, New Jersey has a port structure, offshore wind lease development areas nearby (17 lease areas) and a central location necessary to support a hub or center for the regional supply chain or to provide services to other states'

wind farms. The New Jersey Wind Port recently announced by Governor Murphy[84] could uniquely situate New Jersey with a port dedicated to providing New jersey with a staging, assembly, and manufacturing facilities for offshore wind projects. AWEA and MAREC Action supports this initiative, which will begin construction in 2021. It is a forward-thinking project that should place New Jersey in a strong position to attract jobs and supply chain business as offshore wind development progresses in the region.

Ports and Harbors Evaluation Comments

We commend New Jersey for conducting an in-depth evaluation of its port system and the potential for other sights to be developed to support offshore wind farms. The evaluation recognizes the need for investment in New Jersey ports as a means of supporting the offshore wind industry in New Jersey and as an opportunity to attract other regional wind farm development.

As a potential means of reducing the cost to ratepayers, we suggest that the draft Strategic Plan address the issue of regional cooperation with its neighbors. In certain instances, it could be a constructive effort to determine where there may be a benefit to a regional approach to reduce inefficiency and costs to New Jersey residents. While we make this recommendation specifically as part of the ports and harbors evaluation, it could apply to other areas such as the development of the supply chain industry. We believe this outreach and New Jersey's considerable port infrastructure and policies to incentivize development could position New Jersey for a greater share of the burgeoning regional offshore wind market supply chain business. In any event, it would be a useful endeavor

[84] https://www.offshorewind.biz/2020/06/17/new-jersey-to-develop-first-purpose-built-offshore-wind-port-in-us/

to determine where costs related to offshore wind development can be reduced by accessing the least cost facilities. Regional cooperation may also provide opportunities for reducing state expenses.

The Draft Strategic Plan's Strategic Recommendations for Port and Harbors

AWEA and MAREC Action support the Plan's recommendations beginning at page 68. Investment in the State's ports and harbors with the goal of supporting the 7,500 MW of offshore wind projects by 2035 and the possibility of attracting additional business from other East Coast offshore wind farms makes sense. The New Jersey Wind Port is a project that will position New Jersey well to service its own wind farms with a state-of-the art facility.

AWEA and MAREC Action commend the evaluation conducted of the various New Jersey ports, which is detailed in the associated materials included with the draft Strategic Plan. It identified two major ports that could be developed as potential sites for initial offshore wind staging and assembly sites. Further evaluation is needed for these sites and others. We would recommend close collaboration with the offshore wind developers to ascertain their needs and expertise in choosing the best ports for their projects.

06 - Energy Markets and Transmission

A. Transmission Recommendations

The draft Strategic Plan offers several recommendations on transmission, centered upon coordination with PJM Interconnection:

- "Evaluate regional and local energy markets to understand more fully the cost implications to ratepayers of developing offshore wind resources;

- Collaborate with PJM, as set forth in the New Jersey Energy Master Plan, to assure transmission infrastructure accommodates renewable energy such as offshore wind; and
- Work with PJM and local utilities to develop a grid transmission study to integrate 7,500 MW of offshore wind energy by 2035. Develop a short-, mid-, and long-term strategy regarding energy transmission, with particular emphasis on the limitations in New Jersey."[85]

AWEA and MAREC Action support these recommendations, which are closely linked. New Jersey should actively work with PJM and the Organization of PJM States (OPSI) to conduct the studies – and identify and resolve any reforms to transmission planning and interconnection processes – that are necessary to integrate offshore wind. PJM's last stakeholder process evaluating compatibility of current transmission approaches to offshore wind was suspended in October 2019, with no definitive action or recommendation taken.[86] In contrast, ISO-NE is actively conducting multiple transmission futures studies to evaluate the options for integrating offshore wind.[87] Successful development of 7,500 MW of offshore wind over the next decade urgently requires a robust discussion of planning and interconnection options with PJM, as stakeholder processes can take months, and PJM tariff reforms (if needed) could take several years before being approved by the Federal Energy Regulatory Commission (FERC). The draft strategic recommendations correctly identify the need for studies, short-, mid-, and long-term transmission strategies, and collaboration with PJM and other PJM states; New Jersey should move forward as rapidly as possible with these recommendations.

[85] Draft Strategic Plan at 77.
[86] https://www.pjm.com/committees-and-groups/issue-tracking/issue-tracking-details.aspx?Issue=%7BEE2BD8A1-6CA0-45B4-9230-CCC429A4ACD9%7D
[87] https://www.iso-ne.com/static-assets/documents/2020/06/a4_2019_economic_study_offshore_wind_transmission_interconnection_analysis.pdf

The draft also recommends that New Jersey "[e]valuate the potential advantages of offshore energy transmission infrastructure, including radial open, radial closed, and backbone scenarios, as well as ownership structures." AWEA and MAREC Action urge New Jersey to take a flexible approach that will allow for consideration of a range of potential transmission solutions, as different lease areas and/or points of interconnection may be best suited for one approach over another. Depending on the form and extent of any PJM-level transmission and interconnection reforms to accommodate offshore wind, as well as the timing and structure of future solicitations, not all wind projects may use the same transmission approach. New Jersey should identify the benefits and optimal use cases of each type of offshore wind transmission infrastructure option and allow project applicants to propose the most appropriate option. AWEA and MAREC Action also recommend that New Jersey work on a regional basis to identify potential barriers and pathways to a shared offshore transmission backbone grid. While such a backbone system is not feasible for the first round of offshore wind projects advancing through permitting now due to timing challenges, it could potentially be a solution in later years. However, there is a lot of discussion, planning, and analysis that would need to happen between now and then.

B. Energy Markets Recommendations

Next, the draft Strategic Plan suggests that New Jersey should "Advocate, along with other states, for measures that advance clean energy policies with FERC and PJM so that technologies like offshore wind, solar power, and storage do not face barriers to entry in energy markets."[88] The draft Strategic Plan correctly identifies that advocacy at PJM and FERC is necessary to allow offshore wind (as well as other clean energy technologies consistent with New Jersey's

[88] P77

energy and environmental goals) to clear and fully participate in energy markets. If FERC accepts PJM's proposed compliance filing,[89] the currently-effective PJM Minimum Offer Price Rule could allow onshore wind, solar, and battery storage to clear the Base Residual Auction; however, offshore wind would have an extremely high net offer price (illustrated at $3,146 per ICAP MW-day) that would almost certainly preclude it from clearing.[90] AWEA and MAREC Action urge New Jersey to act on this recommendation to reform PJM's capacity market so that resources developed in accordance with state policies are not subject to mitigation, and New Jersey customers are not required to procure unnecessary additional capacity. Additionally, AWEA and MAREC Action urge the BPU to continue its inquiry into all options at its disposal to ensure that the state's policy preferences are reflected in resource adequacy requirements without improper mitigation.[91]

AWEA and MAREC Action also encourage New Jersey's continued coordination and collaboration with PJM, local utilities, and other stakeholders to advance PJM wholesale energy and capacity markets reforms necessary to integrate and support offshore wind. These reforms will be critical to strengthening "the value of offshore wind" in competitive markets which ultimately benefits NJ ratepayers - a key objective of the Energy Master Plan and Offshore Wind Strategic Plan. Key issues include MOPR and PJM capacity markets, carbon pricing and peak energy pricing. Towards this end, AWEA and MAREC Action offer their support to New Jersey in working with adjacent states to leverage combined offshore wind, whether through joint

[89] March 18 Compliance Filing, Docket No. ER18-1314-003 (https://pjm.com/directory/etariff/FercDockets/4443/20200318-er18-1314-003.pdf).
[90] Id. at Table 1.
[91] *See* NJBPU Docket No. EO20030203, Investigation of Resource Adequacy Alternatives, https://www.nj.gov/bpu/about/divisions/ferc/resourceadequacy.html

solicitations, transmission planning, or other mechanisms, in support of development of attractive energy markets and regional investment in shared infrastructure.

The draft Strategic Plan also expresses support for the continuation of New Jersey's Offshore Wind Renewable Energy Certificate (OREC) program, which AWEA and MAREC Action support.[92] ORECs provides a well-structured financing mechanism to ensure long term investment in New Jersey offshore wind resources. New Jersey should maintain its OREC Program, which serves as a model for other states within the region, to ensure New Jersey can meet its goals of 7500 MW of offshore wind capacity by 2035 and 100% Clean Energy by 2050.

Finally, the draft Strategic Plan calls for the state to "Reevaluate the industry and market landscape regularly, and at least prior to each solicitation, to maximize opportunities to drive down LCOE and optimize transmission considerations. These periodic evaluations could influence the timing and/or size of solicitations."[93] As noted in the plan, number of project and site specific factors will impact the levelized cost of energy (LCOE) and costs of offshore wind projects including turbine selection, spacing, point of interconnection etc. AWEA and MAREC Action encourage New Jersey to allow developers flexibility in optimizing project costs and economics in context to competitive solicitations. Of note, is the impact of '1 x 1' turbine spacing on the LCOE. As noted in the report, "using a minimum turbine separation distance of 1 nautical miles in solicitation 2 will increase the wind farm area by 40% and its LCOE by 0.4%. The overall cost impact will be larger as it would force an earlier move to more expensive sites

[92] P76 ("Continue to support incentives for the initial development of a local offshore wind industry until mechanisms such as ORECs are no longer necessary. Offshore wind is expected to have a downward impact on energy market prices, especially with the technological advancements being achieved in offshore wind generation. The NJBPU needs to consider OREC prices to allow ratepayers to take advantage of the decreasing price anticipated for offshore wind projects. The price of ORECs established by New Jersey is important to ensure that ratepayers are not unduly impacted by incorporating offshore wind into the transmission grid.")
[93] P76.

in deeper water and further from shore." (Appendix E). New Jersey can foster cost savings by allowing offshore wind developers to optimize spacing relative to site-specific conditions, in coordination with the Coast Guard and BOEM, and should ensure that a range of approaches can be considered as the state moves towards its goals.

07 - Conclusion

Thank you again for New Jersey's leadership and for the opportunity to comment on the state's draft offshore wind Strategic Plan.

BUSINESS NETWORK for OFFSHORE WIND

August 17, 2020

Ms. Aida Camacho-Welch, Secretary
New Jersey Board of Public Utilities
44 South Clinton Avenue, 9th Floor
Post Office Box 350
Trenton, NJ 08625

Via email to: OSW.Stakeholder@bpu.nj.gov

Re: OSWSP Comments

Dear Ms. Camacho-Welch:

The Business Network for Offshore Wind appreciates this opportunity to provide comments regarding the draft New Jersey Offshore Wind Strategic Plan.

The Business Network for Offshore Wind (the "Network") is the only 501(c)(3) nonprofit organization focused on the development of the U.S. offshore wind industry and its supply chain. Since 2011, the Network has brought together business and government, both domestically and internationally, to educate and to prepare companies and small businesses to enter the offshore wind market. The Network uses the voice of its members to educate and support federal, state, and local policies to advance the development of the U.S. offshore wind industry. The Network empowers its members with the education, tools, and connections necessary to participate in this booming industry.

The Network applauds the New Jersey Board of Public Utilities ("NJBPU"), the Interagency Taskforce on Offshore Wind ("IATF"), and the Ramboll US Corporation consultant team in completing this draft Offshore Wind Strategic Plan ("OSWSP"), and the extensive technical studies that support the OSWSP. These documents together serve as a key step for the state on its route to achieving 7,500 MWs of operational OSW capacity by 2035.

Global and National Context

The offshore wind industry is truly surging globally. The Global Wind Energy Council's recently-released **Global Offshore Wind Report 2020** described 2019 as "the best year in history for the global offshore wind industry," with 6.1 GWs of new capacity added. 2.4 GWs of that single year installed capacity was found in China alone.

Offshore wind has also proven incredibly resilient to the ongoing COVID pandemic, both globally and in the United States. Globally, offshore wind projects saw a record **$35 billion dollars in final investment decisions** made during January through June 2020. This offshore wind investment figure more than offset the declines observed in global investment in solar, onshore wind, and biomass projects during the same period. In the U.S., the Coastal Virginia Offshore Wind ("CVOW") project has stayed on schedule and on-budget, its turbines are now mechanically complete, and commissioning is expected soon. On a side note, CVOW had no issues through

Tropical Storm Isaias on August 4, which is a positive indicator with respect to the resiliency of OSW turbines installed along the U.S. Mid-Atlantic coast.

All this is to say that New Jersey is currently exceptionally positioned to play a defining role in the ever-evolving U.S. OSW industry. But as global markets surge, competition across the global OSW supply chain increases, and bottlenecks can emerge. Without careful planning and strategic decision-making, these bottlenecks and/or other considerations may impede New Jersey's ability to reach its 7,500 MW goal by 2035.

New Jersey must demonstrate to the global industry that it is not only open for business but means business as far as offshore wind is concerned. By and large, New Jersey has done just that. By announcing the New Jersey Wind Port; a solicitation schedule for future offshore wind procurements; the draft OSWSP; and the draft Guidance Document for the state's second offshore wind solicitation, the state has made its offshore wind intentions quite clear. These are critical actions that have elevated New Jersey's profile on the global offshore wind stage.

Nonetheless, rapidly changing markets and many other circumstances – politics, relative success of other renewable energy technologies, fossil fuel price volatility, among others – at the regional, national, and international levels have implications that New Jersey must take into account as the state implements the strategy it is outlining in the draft OSWSP. The passage of the Offshore Wind Economic Development Act ("OWEDA") in 2010 seems a lifetime ago, as does Governor Phil Murphy's January 31, 2018 issuance of Executive Order No. 8.

The U.S. offshore wind industry faces an entirely different scenario than it did in 2010, and even as recently as 2018. Accordingly, as the state looks toward 2035, New Jersey must resist strict adherence to a prescriptive approach to offshore wind success. Rather, the Network encourages New Jersey to continue to adjust and tweak its offshore wind strategy as circumstances warrant.

To that end, the Network's initial logistical/process comments regarding the draft OSWSP are as follows:

- NJBPU and the IATF should consider regular reporting[1] on the implementation of the OSWSP. This is consistent with the approach pursued in the **2019 Annual Report on New Jersey Offshore Wind and the Implementation of Executive Order No. 8**. By engaging in regular self-critical analysis, NJBPU and the IATF can better ensure New Jersey's success as a focal point of the U.S. offshore wind industry as the market continues to evolve.
- In addition to regular reporting, the NJBPU and the IATF should consider revising/updating the OSWSP every year to reflect new strategic priorities.

The Network provides the following additional feedback regarding the draft OSWSP:

[1] This reporting could be quarterly or every six months.

BUSINESS NETWORK for OFFSHORE WIND

New Jerseyans Must Understand OWEDA

The Network strongly encourages the NJBPU to pursue ongoing broad stakeholder engagement as it continues to develop and execute upon New Jersey's offshore wind strategy. At present, New Jersey residents overwhelmingly support offshore wind. A February 2019 **Monmouth University poll** found that 76% of New Jersey residents favor offshore wind. A more recent poll found that viewshed concerns are minimal, with 85% of poll participants (New Jersey voters) saying they would continue to vacation at the Jersey Shore **even if they saw turbines in the ocean**.

However, it is crucial to note that the same Monmouth University poll also found that support decreases among New Jerseyans if electricity rates were to go up because of greater investment in offshore wind facilities. As outlined in the NJBPU's **June 21, 2019 Order**, offshore wind projects in New Jersey will, at least initially, place upward pressure on electricity prices in New Jersey. But this rate increase is expressly premised upon Ocean Wind's 1,100 MW offshore wind project having local content resulting in net economic benefits of $1.17 billion to New Jersey, with a monopile foundation fabrication facility in Paulsboro; construction phase and operation phase jobs; and purchases in New Jersey over about 40 years associated with its in-state construction logistics bases, foundation and transition piece staging port, and operations and maintenance port.

The Offshore Wind Economic Development Act ("OWEDA") is New Jersey's foundational offshore wind legislation. It specifically requires New Jersey offshore wind project proposals to include a cost-benefit analysis demonstrating a net economic and environmental benefit to the state as a result of the project. Via the above-described local content associated with the Ocean Wind project, the planned New Jersey Wind Port, and other actions, New Jersey has made a calculated decision to position itself as a hub of the U.S. offshore wind industry. This strategic positioning has resulted in New Jersey offshore wind projects having higher per-MWh project prices than the Vineyard Wind and Mayflower Wind projects in Massachusetts.

However, in selecting the Vineyard Wind and Mayflower Wind bids, Massachusetts made a deliberate policy decision to prioritize lowest project cost over other considerations, such as supply chain development and in-state investments. By contrast, OWEDA's legislative framework prioritizes economic and environmental benefits to New Jerseyans over a purely lowest price approach. Stakeholders need to better understand this trade-off, and the tremendous in-state economic opportunities that are associated with offshore wind.

Ongoing stakeholder engagement and education is critical to maintaining a high level of public support for offshore wind among New Jerseyans. This support may erode if ratepayers don't fully understand the justifications for the rate increase. Many stakeholders do not understand that offshore wind is undergoing a global gold rush, the industry has proven resilient to COVID, and that New Jersey is positioned at the vanguard of the U.S. market. New Jersey educational institutions, like Rutgers University and Stockton University, are already closely engaged with leading offshore wind developers, and New Jersey boasts one of the most **highly educated workforces in the nation**. Accordingly, although New Jersey offshore wind project per-MWh prices may (at least initially) be higher than offshore wind project prices in other states, New Jersey is in an unparalleled position to be focal point of the rapidly expanding U.S. offshore wind industry. The investments that New Jersey is making today will provide future opportunities for

workers across the economic spectrum – the building trades, vessel captains and deckhands, accountants, dockworkers, economists, welders, divers, aircraft pilots, atmospheric and marine scientists, truck drivers, attorneys, crane operators, project managers, mechanics, and every imaginable engineering discipline, among many other occupations.

New Jerseyans need to understand the tradeoff between purely lowest cost decision making, and the once-in-a-generation strategic opportunity that the state is pursuing for the long-run benefit of the state's economy. Therefore, stakeholder education is a key component to maintaining public support for offshore wind. The Network has developed several products, including Foundation 2 Blade, and Offshore Wind 101. Foundation 2 Blade helps companies understand where they fit into the supply chain. Offshore Wind 101, a public education course that explain offshore wind, its benefits and how to get involved in the stakeholder engagement process. We would be pleased to work with New Jersey on these educational efforts.

Regional Collaboration

Supply Chain

Just as the U.S. OSW industry does not operate in a vacuum globally, New Jersey does not operate in a vacuum nationally. The state has neighbors to the north (New York) and south (Maryland) with offshore wind ambitions (in addition to several other states). As the OSWSP identifies, this means that the New Jersey Wind Port has an opportunity to capture a portion of the supply chain and services markets for OSW projects located not only in New Jersey, but along the East Coast.

By the same token, however, New Jersey should avoid acting in a manner that stifles competition. That is to say – if the New Jersey Wind Port intends to compete to supply offshore wind projects receiving financial mechanisms from other states, then New Jersey should not simultaneously discourage suppliers located outside New Jersey from competitively supplying offshore wind projects receiving New Jersey ORECs. Increasing interstate competition places downward pressure on prices for both New Jersey offshore wind projects as well as regional projects. Decreasing offshore wind project costs will ultimately benefit ratepayers, by providing clean electricity at costs that are competitive with, or lower than, traditional generation.

The Network encourages New Jersey to expand its already-existing collaborative relationship with New York. With a combined goal of 16.5 GWs by 2035, the two states make up the most competitive offshore wind market in the United States. For this reason, it is a virtual certainty that, at some point in the future, one or more lease areas off the New Jersey coast will have offshore wind capacity procured by both New Jersey and New York. From a supply chain perspective, coordination and alignment between the two states regarding future offshore wind capacity procurements could trigger economies of scale, placing downward pressure on project prices and benefitting ratepayers in both states.

One way that New Jersey could create a regional offshore wind economy could be through a market-based cross-project local content certificate mechanism that is conceptually similar to the

Regional Greenhouse Gas Initiative.[2] A local content certificate market would permit participants to meet their local content obligations while still retaining the flexibility of having access to the regional offshore wind market. New Jersey and New York could serve as the cornerstone states, and it could be expanded to encompass all the states that make up the U.S. East Coast offshore wind market.

Whether or not such a local content certificate market policy is pursued, the Network strongly encourages New Jersey to consider a multi-tier flexible preferential supply chain approach for future offshore wind procurements. This is particularly important as the New Jersey Wind Port and manufacturing facilities in other parts of the U.S. begin to come online. In-state New Jersey suppliers should be given first preference. If New Jersey suppliers cannot meet the need (or are not competitive), New Jersey should consider other U.S.-based suppliers, with a preference towards geographically contiguous states, as these are most likely to employ New Jerseyans and/or have economic impacts in New Jersey. Only if no U.S. supplier can meet the need in question should overseas suppliers be considered. This is realistically not an option for New Jersey's first-mover projects because of the lack of adequate offshore wind manufacturing facilities anywhere in the U.S. but is strongly encouraged for future offshore wind procurements.

Another way that New Jersey might consider working to develop the regional economy is through collaboration with Pennsylvania. The two states have deep economic ties extending back hundreds of years. The **PA-NJ Tax Agreement** is just one example of how the states have worked together in an economic sense. This tax policy decision is reflective of modern economic realities – that is, some New Jersey residents work in Pennsylvania, and some Pennsylvania residents work in New Jersey. As correctly noted on page 7 of the draft OSWSP, the offshore wind industry includes "a complex network of global, regional, and local supply chain manufacturers and suppliers." Pennsylvania manufacturing has been involved in iconic American infrastructure projects (including the Golden Gate Bridge and Hoover Dam). These capabilities and resources can be leveraged to benefit New Jersey's offshore wind industry, and the Network is in contact with government and private stakeholders in Pennsylvania who are keenly interested in working with New Jersey to expand the regional supply chain.

As it seeks to play its part in the building of a new American industry from the ground up, New Jersey must not ignore economic realities in the offshore wind context. As noted previously, OWEDA requires New Jersey offshore project proposals to include a cost-benefit analysis demonstrating a net economic and environmental benefit to the state as a result of the project. Net economic benefits can be achieved by local content (in-state manufacturing and job creation) but can also be created by lowering electricity prices.

Local content requirements can **enhance public support** for renewable energy projects/industries by spurring innovation, driving job growth, can help emerging industries achieve scale, and enable local suppliers to compete on the international market. More critical views contend that that local content requirements result in higher retail power prices (at least in the short term) and foster over-reliance on government support. In the mature European offshore wind market, local content

[2] Also known as "RGGI," https://www.state.nj.us/dep/aqes/rggi.html. In addition to New Jersey, the following states participate in RGGI: Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, Vermont, and New Jersey.

requirements continue to be the **subject of debate**. In some cases, out-of-state/international suppliers have considered temporary facilities to meet local content requirements at lowest cost. Such facilities are deployed to support the manufacturing needs of one project and are then demobilized. This would not promote the creation of a long-term offshore wind supply chain for New Jersey.

Transmission

Regional collaboration is also crucial with respect to New Jersey offshore wind transmission considerations. At page 72, the draft OSWSP notes that "opportunities exist to work with adjacent states to leverage significant combined offshore wind commitments in support of development of attractive energy markets and regional investment in shared infrastructure," and acknowledges that the planning and building of this infrastructure takes time.

New Jersey and New York have combined offshore wind goals of 16,500 MWs by 2035. As of August 2020, the two states together intend to procure 4 to 5 additional GWs within the next twelve months. Taking into account Ocean Wind, Empire Wind, Sunrise Wind, the South Fork Wind Farm, and the second-round solicitations of both states, a pipeline of nearly 8 GWs of procured offshore wind projects could exist within a year. At these scales, decisions made in New Jersey will have impacts in New York, and vice versa. The Network encourages New Jersey to engage more directly with its neighbor to the north with respect to transmission to ensure that both states are optimally positioned to achieve their offshore wind goals. This is made all the more crucial because of temporal and geographic uncertainty with respect to **future offshore wind leasing in the New Jersey/New York Bight**.

Encouraging Private Offtake of Offshore Wind-Generated Electricity

One of the key developments in overseas offshore wind markets has been the increasing amount of private sector off-takers of electricity generated by offshore wind facilities. In July 2020, Ørsted announced the world's largest offshore wind corporate offtake deal to **supply 920 MWs** to Taiwanese semiconductor manufacturer TSMC. This is the fourth such deal that Ørsted has executed. Private offtake of offshore wind power is also occurring in Europe. During 2019, Microsoft signed a deal with Dutch utility Eneco to purchase **90 MWs** for its data centers for 15 years.

As corporate entities commit to reducing their carbon footprints, offshore wind is an attractive large-scale renewable generation option for private offtake. Offshore wind, described by the International Energy Agency as **the only variable baseload power generation technology**, has capacity factors around 50% (significantly higher than onshore wind and solar), and a flatter load profile.

One of the key strategic recommendations of the draft OSWSP, found on page 76, is to continue supporting the development of a local offshore wind industry until mechanisms like ORECs are no longer necessary. Although states can serve as early adopters of offshore wind power, governments should not be expected to support the market into perpetuity. New Jersey should consider developing policies that expand offshore wind to private off-takers.

BUSINESS NETWORK for OFFSHORE WIND

New Jersey Wind Port

The state's recent announcement of the New Jersey Wind Port made news in offshore wind publications globally. With no height restrictions, the new facility will be at a massive advantage. Moreover, it is optimally positioned, in a geographic sense, to serve the needs of both New Jersey and regional offshore wind projects.

The Network encourages New Jersey to consider ways it can future proof this strategic waterfront infrastructure investment, both in terms of climate change resiliency and adaptability to future offshore wind technologies such as floating offshore wind. In December 2019, the New Jersey Department of Environmental Protection released a **study** projecting that "sea-level in New Jersey could rise from 2000 levels by up to 1.1 feet by 2030, 2.1 feet by 2050, and 6.3 feet by 2100." Although it is exceedingly challenging to make precise predictions as to how sea level rise will impact any particular location, **the Delaware River is tidal** from the point where the Delaware Bay meets the Atlantic Ocean up to Trenton. The New Jersey Wind Port will be sited along the tidal portion of the Delaware, and, to remain a strategically valuable asset, its design and construction must account for future sea level rise.

The design and construction of the New Jersey Wind Port must also anticipate future offshore wind technology changes. The average capacity of an installed offshore wind turbine is currently around 6 MWs, and it is anticipated to average 11 MWs in the 2023 to 2025 timeframe. Ørsted has selected GE's **12-MW Haliade-X turbine** for the Ocean Wind project, and Dominion Energy has selected Siemens Gamesa's **14-MW SG14-222** for its 2.6 GW project off of Virginia. The National Renewable Energy Laboratory has released a reference offshore wind turbine design rated at **15 MWs**, and individual turbine capacities in the 20+ MWs range have been predicted **within three years**.

As individual turbine capacities increase, a port's design requirements (crane tonnage, soil load-bearing capacities, necessary quayside length, etc.) change. These technological advancements are all but certain at this point, so New Jersey is strongly encouraged to ensure that the New Jersey Wind Port is future proofed in this respect.

The Network applauds the draft OSWSP's recommendation that net-zero carbon technologies should be included in the design of the New Jersey Wind Port. New Jersey is already setting an example in this respect. In August 2020, Red Hook Terminals announced that it will deploy a fleet of **ten all-electric yard tractors** for its intermodal yard in Port Newark, New Jersey. This is the largest fleet of heavy-duty electric trucks operating on the U.S. East Coast. Further south, the Port of Virginia recently received funding to **replace diesel-powered cargo handling equipment**, including yard tractors and ship-to-shore cranes, with electric counterparts.

The United States Environmental Protection Agency's **National Port Strategy Assessment** estimates that millions of Americans live in close proximity to ports. In addition to their climate change impacts, emissions associated with diesel engine usage at ports can contribute to "premature mortality, increased hospital admissions for heart and lung disease, increased cancer risk, and increased respiratory symptoms." The reduction – or, better yet, elimination – of diesel engines at New Jersey port facilities is of key importance.

In the international context, DNV GL recently released a report entitled "**Ports: green gateways to Europe**." The recommendations include electrification of port-connected activities, greater integration of port facilities with offshore wind and the broader energy system and leveraging hydrogen as a feedstock and energy vector. Because the New Jersey Wind Port is a purpose-built facility, it is an unparalleled opportunity to deploy cutting edge technologies, and serve as a model for the offshore wind port of the future.

Finally, although the New Jersey Wind Port is the focus of much attention in the context of New Jersey's offshore wind ambitions, the state does have a multitude of other favorable port facilities, including Paulsboro and the other sites considered in the New Jersey Ports and Harbors Evaluation. New Jersey also has shipyards that have indicated their interested in constructing crew transfer vessels (CTVs) that can be used to maintain New Jersey offshore wind projects. Accordingly, in addition to the New Jersey Wind Port, New Jersey should consider how it can best promote the creation of port clusters/ecosystems.

Additional Miscellaneous Comments

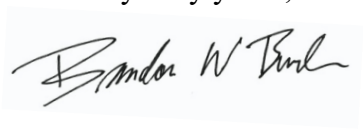
The Network offers the following additional comments regarding the draft OSWSP:

- Offshore wind turbines present an incredible opportunity to gather meteorological, oceanographic, and other data. This can facilitate a better understanding of the impacts of the climate crisis – including extreme weather events - on New Jersey coastal waters, and on the greater New Jersey/New York Bight biome. New Jersey might consider leveraging the experience of in-state research institutions to deploy remote sensing equipment on turbine foundations for this purpose.
- Data standardization and sharing is a means of identifying and closing data gaps, which can also facilitate environmental and natural resource protection, including the climate change study referenced previously.
- Consider reefing associated with offshore wind turbine foundation structures and possible contributions to increased biodiversity. These phenomena have been observed, to varying degrees, at the **Block Island Wind Farm** and **North Sea** offshore wind facilities. Further study will be required to delineate between attraction vs. propagation of marine species around these structures.
- Leverage the metocean data collection capabilities of offshore wind turbines to further understand the unique Cold Pool phenomenon that occurs off the New Jersey coast on an annual basis.
- Consider requirements that onshore interconnection components of offshore wind projects incorporate climate resilient designs, given projections of sea level rise and increasingly frequent and damaging tropical storms and hurricanes.
- Careful consideration must be given to the fact that New Jersey's 500 kV transmission infrastructure is, in some locations, upwards of 40 miles from the coastline. This has considerable implications for later-round New Jersey offshore wind projects, which will be seeking to interconnect after optimal onshore points of interconnection will likely have been utilized.

BUSINESS NETWORK for OFFSHORE WIND

The Business Network for Offshore Wind appreciates this opportunity to provide comments regarding the draft New Jersey Offshore Wind Strategic Plan and looks forward to continuing to work with New Jersey to aid the state in realizing its offshore wind ambitions.

Very truly yours,



Brandon W. Burke
Policy & Outreach Director
Business Network for Offshore Wind

cc: Board.Secretary@bpu.nj.gov

Engineers Labor-Employer Cooperative
The Labor-Management Fund of Operating Engineers Local 825
65 Springfield Avenue, 2nd Floor, Springfield, NJ 07081

August 17, 2020

Joseph L. Fiordaliso
President
Board of Public Utilities
44 South Clinton Ave, 3rd Floor, Suite 314
Trenton, New Jersey 08625-0350

Subject: Offshore Wind Strategic Plan

All New Jersey residents deserve access to clean, reliable and affordable energy and a safe environment for this generation and all that come after. In order to meet the offshore wind goals outlined in the Offshore Wind Strategic Plan, New Jersey's Board of Public Utilities and Department of Environmental Protection must ensure New Jersey businesses and labor have a clear and outlined approach to preparing and adapting to this new industry. In addition, we must address energy and transmission infrastructure and how we can modify our existing grid and infrastructure to accommodate the transmission connectivity necessary for these offshore wind projects. Concurrently, we must be cognizant of the current COVID-19 economic conditions facing our residents and business – those that will be expected to pay for these investments. We urge more clarity and transparency in this process as there is still no clear determination on the cost impact these projects will have on the rate payer, which will likely place an undue burden on the very low-income and environmental justice communities these clean energy projects are striving to help.

We support investments in all types of energy infrastructure that expands capacity, reduces emissions, increases reliability and lowers costs for residents and businesses as these are the principles that our organization respectfully requests consideration for in our State's Offshore Wind Strategic Plan.

The Engineers Labor-Employer Cooperative is a labor-management trust that represents the combined interests of the nearly 7,600 members of International Union of Operating Engineers Local 825, and the signatory union contractors who employ them. As a multi-state organization, ELEC focuses on promoting economic development and advocating for investments in infrastructure -- not only to provide work opportunities but to ensure that our members, contractors and their families, have the quality of life they deserve as residents of New Jersey.

IUOE and contractors invest millions annually, host and operate two state-of-the-art training campuses and are making significant advancements and investments in STEM higher education

for our members to keep up with equipment technology, software and hardware, internal computers, GPS and other advanced features, which will be required to build the energy of the future. As we plan the energy mix of the future, it is critical to keep in mind that organizations like ours have already begun putting the pieces in place to ensure our membership is up-to-date and ready to work.

The Offshore Wind Strategic Plan lacks details pertaining to transmission, labor and workforce training and certification requirements, and overall potential cost to rate payers. It is imperative these topics are addressed before New Jersey moves forward with its Offshore Wind plan – otherwise we run this risk of a multi-billion-dollar boondoggle resulting in decorative pinwheels in the ocean that are not providing the very energy we are striving to generate.

Transmission

In order to achieve the Offshore Wind Goals outlined in the Offshore Wind Strategic Plan, new Jersey must address major challenge of offshore transmission and interconnection to onshore substations. The advanced transmission technology of offshore wind will require adaptation of our current transmission to integrate this energy into our grid. This is not a challenge that can be addressed once the infrastructure is in place. If we can learn anything from the experiences of Germany and the Netherlands, it is that we must address these connectivity issues prior to construction to prevent delays in these projects being operational immediately upon completion. Collaboration between current and potential developers and PJM is imperative to concur that these projects are online and properly distributing energy to the grid.

In addition, New Jersey needs to reconsider diversifying its energy portfolio and keep natural gas, which does not require subsidies, in its mix. Our grid's demand cannot operate solely on wind and solar, as we can learn from the current rolling black outs occurring in California to control demand, which has caused energy prices of electric to surge past $1,000 per megawatt hour. With diversified energy sources, we can prevent New Jersey from experiencing the same demise.

Labor and Workforce Training

Preparing New Jersey's union labor workforce for offshore wind development is critical to the timely delivery of these projects. The development of the New Jersey Offshore Wind Institute is an admirable step towards developing a centralized approach to developing the technical training and certifications needed for this development. However, the credentialing requirements needed to perform this work are still in question. Many of the building trades in New Jersey have established and sophisticated technical training centers that can be utilized to accommodate the training requirements needed to construct these projects. In order for New Jersey's workforce to prepare for this new industry, the skills gaps that may exist, if any, must be identified. To do so,

the Offshore Wind Institute needs to initiate a collaborative channel between the developer and the New Jersey building trades. This recommendation has been discussed in past roundtable discussions without resolve. Based on the offshore wind proposal timeline outlined in this strategic plan, if the training and certification requirements are not addressed in the near future, our local economy will not benefit from these projects as they will be built using foreign labor.

Cost to Rate Payers

It is important to note that the economic impact of the COVID-19 pandemic will have a costly impact on New Jersey's residents and our state budget for years to come. Renewable energy and residential upgrades associated with home electrification will not be an affordable option for families in New Jersey. With pre COVID-19 stats showing nearly 37% of NJ residents not being able to afford basic needs like housing, childcare, food, or healthcare, it is likely in a post-COVID-19 world, that percentage is much higher. Many New Jersey residents will not have the necessary resources to upgrade their homes. With the recent draft report compiled by a consultant for the Board of Public Utilities, estimating that solar power will cost rate payers nearly $1.4 billion by 2030, it is certain that any increases in energy costs to the rate payer from these projects will dramatically impact all New Jersey residents.

Conclusion

In order to build New Jersey's offshore wind infrastructure while reducing the cost on the state and our most vulnerable residents, we must immediately address the issues surrounding transmission and grid connection while building this infrastructure gradually. The State must also initiate coordinating efforts with New Jersey's labor workforce and industries so these projects are constructed based on the timeline outlined in the plan and to avoid increased costs and significant delays in construction and operation.

Thank you for the opportunity to submit these comments.

August 17, 2020

New Jersey Board of Public Utilities
Mr. Joseph Fiordaliso, President
44 S Clinton Ave
P.O. Box 350
Trenton NJ 08625-0350

RE: New Jersey Offshore Wind Strategic Plan

Dear President Fiordaliso;

On behalf of Garden State Seafood Association GSSA I ask that the following comments be considered regarding the New Jersey Offshore Wind Strategic Plan. We appreciate the BPU providing this opportunity to provide our comments and concerns associated with the plan. Overall the OWSP sounds fine however as the document identifies after 14 years since the first Blue Ribbon Panel Report in 2004, we have seen little to no progress on many the necessary steps identified in this plan to help insure the protection of, and to minimalize impact on the fishing industries of New Jersey. We are hopeful that this process will require and begin true consideration, with follow through, on many of the concept outlined in the plan. The OSWP and BPU must also incorporate the cumulative impacts of all BOEM leases on the Environment and Fishing communities as they consider the development of Offshore Wind off of NJ.

Garden State Seafood Association is a statewide organization of commercial fishermen and fishing companies, land based processors, related businesses and individuals working in common cause to promote the interests of the commercial fishing industry and seafood consumers in New Jersey. The Association's primary goal is to assure that our marine resources are managed responsibly and that all of the people in New Jersey, whether as anglers or as seafood consumers, will be able to enjoy the bounty of New Jersey's rich coastal and offshore waters for generations. It is also worth noting that we are not only concerned about our access to marine fishery resources, however, our land based processing facilities are large consumers of power, and we are equally concerned about the potential cost increases associated with these projects on our operations.

Overview and Areas of Analysis

The GSSA has been on record opposing the continuation of wind energy solicitations in New Jersey as the BOEM process is not adequate to fully understand the impacts and implications of these cumulative projects in the Mid Atlantic. The OWSP first Environmental and Natural resource protection goal is to "prioritize development in areas less sensitive to impacts from offshore wind development." While we agree with this objective the original BOEM process did little to identify areas that would minimize impact on commercial fishermen as the lease areas.

The current process in use by the Bureau of Ocean Energy Management (BOEM), identifies wind energy area sites without consideration of their adverse environmental impact on New Jersey's coastal zone, on the state's historically rich and economically vital commercial fisheries, or on the communities that support and benefit from those fisheries. In turn, the State has yet to fully discharge its mandated duty to assess those impacts under the Coastal Zone Management Act. The NJDEP is required by its own regulations to protect our State's collective interests in the coastal zone by conducting a good faith Federal Consistency review to fully assess those impacts and, as needed here, to petition BOEM to modify proposed actions in federal waters in order to make those actions consistent with New Jersey's coastal zone policies. The potential results of continuing offshore wind solicitation include permanent harm to our environment, diminishment of our industry's ability to produce food from the sea, and increased costs to the consumers who must purchase expensive 'green' power.

The BOEM process has true Environmental Analysis occurring too late in the process as the COP is developed. The BPU through the OSWP should require a full EIS before layout of sites begins. This would allow public input in to the sitting process, and insure that environmental impacts would be identified and minimized, before lengthy and expensive design and layout analysis occurs. If the State's goal is true to minimize impact on our natural resources, then the evaluation must come earlier in the process.

Environmental and Natural Resource Protection

By nature of their reliance on the ocean for their way of life, fishermen must be good stewards of the environment and participate in numerous State, Regional, and Federal meeting that focus on stock assessments and other impacted species. Any proposed opening of fishing grounds or increase in allowable catch requires years of intensive scientific study. By contrast, there have been almost no environmental studies on the impact of offshore wind farms and, thus far, the state has not addressed any major environmental concerns that were raised as a result of the first project solicitation.

The OWSP states in 2.1, "It is important to acknowledge that the potential also exists for natural resources impacts associated with large scale offshore wind projects." While we agree nothing has been done to study or minimize this fact. Just as the Federal government developed industrial dam projects 60 years ago, believing there would be minimal environmental impact, we all know better today, and there is proof that these projects have large environmental consequences.

Section 2.1 goes further, "New Jersey's leadership in environmental stewardship is evidence by more than 16 years of foresight and study in the field of offshore wind." Referencing the 2004 Blue Ribbon Panel on Development of Offshore Wind. It is worth noting that we actively participated in that process realizing then the huge implications this could have on our industry. We supported the creation of a pilot project to realize the effects of these projects on a smaller scale before moving forward with large scale industrial development. The State rejected the plan outlined in the Blue Ribbon Panel, and has since done nothing to address the science needs and stewardship you reference. The citizens of New Jersey need more than words and inaction as the projects continue to move forward. There must be follow through.

The New York off on New Jersey bight is also home to a unique phenomenon called the cold pool. The cold pool is a significant element in the reproduction and migratory patterns of many aquatic species on the east coast and its disruption could be catastrophic to those species. It is as significant to our marine environment as the pine barren and highlands are to our state's drinking water. Though this has been brought to the attention of state officials on several occasions, no research has been done to determine the impacts of offshore wind on this important part of our ecosystem.

Without sound science, these projects will impact our valuable marine environment, including the possibility of harming protected and endangered species. BOEM and developers have agreed to participate in studies on fisheries impacts conducted by Rutgers University researchers. The studies must be completed before any new projects commence construction of future project solicitations.

Commercial and Recreational Fisheries

In addition to a lack of scientific studies about the biological impact of offshore wind siting, there has been little consideration given to the impact of these energy areas on commercial fishing and the potential economic losses that will occur as a result. The goal of "Avoidance where possible of high value fishing grounds," has not yet been implemented and development is well under way. The only factors even considered in the initial locations was visibility from shore and an attempt to minimize bird interactions, not the needs of other ocean users, particularly fishermen. As a result, the site was placed on historic and valuable commercial clamming grounds.

Some of New Jersey largest fisheries include bottom dragging clam and scallop dredges to catch shellfish. At one point nearly 80% of the large U.S. surf clam production came for the Mid Atlantic and specifically New Jersey. Additionally bottom fish like Flounder Black Sea Bass fish are caught by bottom dragged nets. Therefore, it is paramount the BPU have a dialogue with Fishermen to identify the best locations and layout designs to insure minimal impact to our businesses.

The "Continued collection of data to form the basis of a long-term marine monitoring program for assessing potential cumulative impacts…" is a goal we agree with, but the data and study's need to be identified and completed before we can identify the impact on fisheries. Again there has been no movement on the science necessary to support or oppose these large scale projects.

The use of the NJDEP Environmental Working Group and the Wind Innovation and New Development Institute to "engage" the commercial and recreational community has been lacking. The EWG has yet to have meetings looking at true impacts and needs of the fishing communities and instead have focused on process. The WIND institute has no representation from the fishery community and membership focuses on those of developers and labor. Yet again the projects move forward without consideration of the needs of the fishing communities.

To date even the State's Offshore Wind Working Group has made no progress addressing its stated goals of:

> • ***Enhancing communication and coordination*** *between fishing and conservation communities and state and federal agencies;*
> • *Providing a platform for the* ***fishing and conservation communities to have meaningful input to assist the state*** *with its decision making as New Jersey moves forward with its clean energy goals;*
> • *Sharing* ***existing data, research and information sources*** *with fishing and environmental groups;*
> • ***Providing information on current uses of proposed offshore wind areas*** *in order to allow DEP and other agencies to better address, and potentially mitigate, any potential conflicts;*
> • ***Supporting scientific and technical research at state and regional levels*** *to address issues related to offshore wind energy project planning, siting, construction, operation and monitoring.*

Offshore projects of this scope and size have never been developed anywhere in the world and their impacts remain largely unknown. Our state must make certain we move forward in manner that ensures benefits without negative environmental and economic consequences.

A good example of the lack on consideration can be seen in the identified need of transit lanes through proposed projects. There has yet to be any true commitment from the developer with an existing New Jersey procurement to modify design plans in any way to limit impacts on safe fishing near or transit through their site, and neither the State nor BOEM has ever mandated or even encouraged such modifications despite the late stage of the project. Discussions identifying transit lanes or two Nautical miles spacing needs for continued commercial fishing operations within the project have resulted in zero changes. Despite numerous proposals and requests made by the fishing industry, there is no clear plan for transit corridors. These concerns need to be addressed in order to keep our state's fishermen safe at sea and to support the industries this document says it is concerned about.

Supply Chain and Workforce Development

We support the creation of New Jersey jobs proposed in this plan, but given the rate of development we believe the job creation in the State will be missed as the race to develop will prevent the necessary infrastructure to support the projects.

The Federal Government has stated that they will waive requirements under the Jones Act and allow foreign flagged vessels to transport and install turbine components produced overseas. This will significantly decrease the number of jobs created in New Jersey, despite the wind developers promises. A delay in future solicitations could give the industry time to build the necessary infrastructure to support these projects and allow for construction vessels to be built in American shipyards. Without this infrastructure, American wind farms will likely be imported, producing few, if any, local jobs. For example, construction of the recent pilot project off the coast of Virginia included two prefabricated turbines which were shipped from Europe to Nova Scotia and then traveled down the coast to VA on foreign vessels with foreign crews.

Finally, the State has done no cost-benefit analysis on the impact to the fishing industry. We were told at a BPU informational hearing in Atlantic City in early 2019, that a goal of insuring no job losses in New Jersey would be incorporated into planning documents, but we have still yet to see this concept incorporated.

New Jersey promises future job creation with no analysis of how existing jobs and investments will be impacted. Recent studies from Europe do not support the wind energy developer's and the OSWP assertion that thousands of jobs will be created[1]. In fact a 2006 German study found a net loss of jobs from windmill projects[2]. Without a true cost benefit analysis, the State should defer and ensure the protection of existing commercial fishing jobs and the hundreds of millions of dollars in existing infrastructure investments. In 2016[3], a NMFS technical paper ranked New Jersey's seafood industry second on the east coast, and sixth in the U.S in terms of economic value, with sales of $6.2 billion, income of $1.4 billion and value-added of $2.3 billion supporting over 37,000 jobs.

Energy Market and Transmission

The GSSA believes it is important to the BPU to require developers to use a back bone or ocean grid transmission system to shore to minimize the number of cables and the routes in the Atlantic Ocean. This would also allow for a more transparent process on cable location in the ocean and shore based communities. It would also decrease the cost to the ratepayer from each project developing their own transmission infrastructure.

Additionally, all electric transmission cables should be required to follow specific regulations for their design, installation and maintenance similar to those required currently for Trans-Atlantic Telecommunication cables by the NJDEP. This process would allow additional input from interested stakeholders, and could set required burial depths of greater than 10 feet, the need to follow existing telecommunication route corridors, requirements to remove cables at the end of their life or if damaged, and require routine maintenance and a requirement to maintain burial depth along its marine route. This would minimize interaction with fishing gear and insure the protection of fishermen and the power coming to shore.

GSSA believes that the BPU should work closely with the NJDEP and all interested parties to address the transmission challenges and needs prior to moving forward with additional projects. Without this approach

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[1] Wind Power and Job Creation
Luigi Aldieri Department of Economic and Statistical Sciences, University of Salerno, 84084 Fisciano, Italy; cpvinci@unisa.it

[2] Hillebrand, Bernhard & Buttermann, Hans & Behringer, Jean & Bleuel, Michaela. (2006). The expansion of renewable energies and employment effects in Germany. Energy Policy. 34. 3484-3494. 10.1016/j.enpol.2005.06.017.

[3] NMFS. Fisheries Economics of the United States. 2016. NOAA Tech. Mem. NMFS-F/

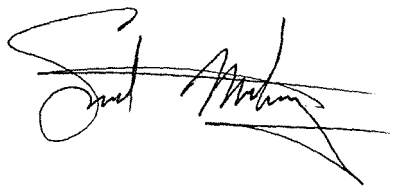
separate transmission infrastructure for each project which will create additional cost to the rate payer and greater potential impact to commercial and recreational fishing grounds. Existing projects have already shown the problems that can arise when cables are only minimally buried. The need for deep cable burial suggests that a transmission backbone is required in order to build these projects with limited impacts on fishing.

Conclusion

We have been active participants in New Jersey economy for generations. The OSWSP states NJ "must develop offshore wind in a manner that maintains and protects robust commercial and recreational fishing" and clarifies that its roadmap for OSW development will "include an ongoing process to incorporate and protect commercial and recreational fishing interests." After 16 years of working with the NJDEP and BPU as the process has 'evolved' we have seen no true commitment or movement to these stated goals. The BPU and State must fairly engage stakeholders in the process. The OSWP has said a lot but we remain concerned that there will be no true follow through and hold these project accountable to our existing industry.

Thank you for considering these comments and I am happy to address any questions stemming from these comments.

Sincerely,



Scot Mackey
Executive Director

Offshore Wind Strategic Plan – Comments 8/17/20 A

This document is a Strategic Plan, not an EIS.

The Plan addresses only the wind turbines, not the entire system which will be constructed. It does not address the land-based facilities.

An Environmental Impact Statement (EIS) has not yet been submitted.
In the US, the EIS is prepared by an independent firm, which has no financial interest in the project (does not play a role in the design, construction, or benefit in any way if the project goes forward).
This ensures an unbiased statement of the impact of the project.

When will the EIS be submitted for public review?

Issues to be addressed on EIS:

- Effect on fisheries and other ocean creatures
- Power cables to transport energy
    - Where are they located?
    - Size of excavation and ROW, depth below ground, access for maintenance?
    - Location and size of power substations – transformers and switching equipment?
- Energy Storage
    - Location and size of energy storage systems. Are batteries to be used? Other forms of energy storage?
    - Safety and fire hazard of energy storage equipment (Lithium-Ion batteries pose a severe fire hazard)?
- Land required to site this equipment
    - How much land will be required?
    - Will condemnation of private property be used?
    - Will real estate taxes be paid to local communities?

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August 17, 2020

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Trenton, New Jersey 08625-0350
OSW.Stakeholder@bpu.nj.gov

Re: New Jersey Offshore Wind Strategic Plan, Docket No. QW18030284

Dear Secretary Camacho-Welch:

Jersey Central Power & Light Company ("JCP&L" or the "Company"), appreciates the opportunity to submit comments in reference to the New Jersey Board of Public Utilities ("BPU" or "Board") New Jersey Offshore Wind Strategic Plan ("OSWSP"), which provides a roadmap towards achieving the Governor's target of 7,500 MW[1] of offshore wind by 2035.

As the OSWSP illustrates, in order for New Jersey to achieve the Governor's target of 7,500 MW of offshore wind by 2035, there needs to be coordination and collaboration among a variety of stakeholders. JCP&L supports New Jersey's offshore wind efforts and should be considered a resource for the State to rely on as it evaluates next steps in the transmission planning process. JCP&L believes that a coordinated and collaborative process involving **all** stakeholders is vital to achieving the Governor's target of 7,500 MW of offshore wind by 2035.

In Section 6 of the OSWSP, the Board discusses the strategic recommendations and next steps for the wholesale energy market development and transmission to meet New Jersey's 7,500 MW goal of offshore wind energy.[2] The transmission buildout to facilitate the development of 7,500MW of offshore wind will be a significant undertaking. The OSWP states that the Board

[1] The Offshore Wind Economic and Development Act ("OWEDA," codified, in relevant part, as N.J.S.A. 48:3-87(d)(4)) requires that the Board "establish an offshore wind renewable energy certificate program . . . to support at least 3,500 megawatts of generation from qualified offshore wind projects." On November 19, 2019, Governor Murphy signed Executive Order 92, which directs the "BPU, the DEP, and all other New Jersey state agencies with responsibilities arising under OWEDA shall take all necessary actions to implement OWEDA in order to promote and realize the development of wind energy off the coast of New Jersey to meet a goal to 7,500 megawatts of offshore wind energy generation by the year 2035."

[2] OSWSP at 76-77.

"will evaluate the potential advantages of offshore energy transmission infrastructure, including radial open, radial closed, and backbone scenarios, as well as ownership structures."[3] JCP&L has previously submitted comments[4] explaining that the backbone scenario does provide significant benefits over a radial line approach that the Board should consider when evaluating the above listed options.[5] In summary, a backbone scenario would not only maximize the utilization of offshore wind resources and the use of existing transmission infrastructure more so than the radial line approach, but it would also reduce environmental impacts. For example, a properly designed offshore grid would enhance and compliment the usability of the existing onshore grid, which could not only reduce the number of points of interconnection, but also reduce the number of rights-of-way ("ROW"), onshore substation expansions, shore crossings, and offshore substations that will be necessary to facilitate offshore wind. This open access approach should also level the playing field for all developers and minimize "at risk" costs in the offshore wind renewable energy certificates ("OREC") bid, thereby lowering the impact on New Jersey ratepayers. The Board should consider these benefits when reviewing the second solicitation for offshore wind in September of this year.

The OSWSP also mentions that the Board will be evaluating the incorporation of 2,000 MW of energy storage by 2030 and the development of smart grid technologies associated with offshore wind–derived energy.[6] As stated in previous comments[7], JCP&L believes that the electric utilities in New Jersey would be a good resource for owning and operating energy storage resources. The Board should look to the New Jersey electric utilities as a resource while it is evaluating the use of energy storage for offshore wind-derived energy.

JCP&L looks forward to continuing collaborative discussions with the Board and other stakeholders to develop and implement a holistic plan to achieve the Governor's goals for offshore wind deployment and storage in New Jersey.

Very truly yours,

Lauren M. Lepkoski
Counsel for Jersey Central Power & Light Company

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[3] OSWSP at 77.
[4] *Id.*
[5] *See* JCP&L Comments on the New Jersey Draft Energy Master Plan submitted September 16, 2019, JCP&L Comments on New Jersey Offshore Wind Transmission Stakeholder Meeting on November 12, 2019 submitted on November 28, 2019 and New Jersey Offshore Wind Transmission Information Gathering, BPU Docket No. QO20060463.
[6] OSWSP at 77.
[7] *See* JCP&L Comments on the New Jersey Draft Energy Master Plan submitted September 16, 2019 and JCP&L Comments on New Jersey Storage Analysis submitted on March 20, 2019,

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August 17, 2020

State of New Jersey
Board of Public Utilities
44 South Clinton Avenue, 9th Floor
Trenton, New Jersey 08625-0350

Re: Draft Offshore Wind Strategic Plan Comments

Submitted electronically to OSW.Stakeholder@bpu.nj.gov and Board.Secretary@bpu.nj.gov

Dear Commissioners,

Thank you for the opportunity to provide comments on the State of New Jersey's Draft Offshore Wind Strategic Plan. The Nature Conservancy in New Jersey supports Governor Murphy's goal of 7,500MW of offshore wind power for the State of New Jersey, and welcomes the opportunity to work with the Governor, the Board of Public Utilities (NJBPU) and Department of Environmental Protection (NJDEP) to ensure that this goal is met in a manner that adequately balances environmental protection with the need for clean, renewable sources of energy.

The Nature Conservancy (TNC) is one of the leading conservation organizations in the world, with a presence in all 50 states and over 70 countries worldwide. Our mission is to conserve the land and waters on which all life depends by working in a collaborative, science-based manner with a variety of partners. In New Jersey, TNC has helped to protect over 60,000 acres of open space to protect habitat for biodiversity, restored riverine and coastal habitats, and promoted at the state and local levels the use of nature-based solutions to the impacts of climate change. As NJ experiences the increasing impacts of climate change, we are working to help equitably achieve carbon neutrality by 2050; to ensure that NJ's iconic forests, rivers, and coasts are healthy, resilient and connected; that we have invested in the health of our coastal habitats to benefit millions of NJ residents and visitors; and that our cities are climate-resilient, livable and healthier.

Climate change is the greatest environmental challenge facing humanity in the 21st century. We are already seeing the consequences: chronic droughts, rising seas, record high temperatures, more frequent extreme storms, and significant economic losses. Climate change threatens to undo decades of conservation work and fundamentally alter our future. TNC is committed to helping reduce global greenhouse gas emissions to limit global warming to well below 2° Celsius. This goal cannot be achieved without a rapid transition to a clean energy economy. The ways we generate, store, transport, and use electricity are changing and advancements in renewable technologies—like offshore wind—are leading to a cleaner, cheaper, and more efficient energy future. We are determined to see that future come to fruition as it is critical to the well-being of our economy, our communities, and our planet.

TNC recognizes that on the Atlantic coast of the United States, offshore wind offers incredible potential to generate clean, renewable energy nearby to the cities and communities that need it most. We also understand that in order to achieve our deep decarbonization goals, we will need to deploy significantly more renewable energy than we currently have. TNC supports the rapid deployment of renewable energy resources while also wanting to ensure that these resources are appropriately and sustainably sited, constructed, and operated. Inappropriately sited and operated energy facilities can have adverse impacts on globally significant biodiversity (species and ecosystems) by fragmenting natural habitats, disrupting wildlife behavior and ecological functions, and decreasing fitness and/or increasing mortality rates of vulnerable species. They can also hinder our ability to meet our decarbonization goals by leading to conflict and opposition from stakeholders that can cause delays or cancellations of projects all of which ultimately increase risk to the investment in renewable energy. TNC believes that the offshore wind industry will be critical for setting us on the path toward decarbonization AND that ensuring proper monitoring, mitigation, and environmental protections are in place will enable projects to be developed in a sustainable manner.

Over the past 10 years, TNC has engaged in state, regional and federal offshore renewable energy activities along the Atlantic coast. Our staff across the country has supported state legislation to increase the amount of renewable energy for generating electricity. In addition, our staff serve on every state-led offshore wind environmental working group along the Atlantic coast, including here in New Jersey. We have consistently called for a closer examination of cumulative impacts of coastwide wind development, improvements to the public process and the broad application of the mitigation hierarchy (avoid, minimize, mitigate) for environmental impacts.

TNC greatly appreciates NJPBU's and the Interagency Taskforce on Offshore Wind's investment in completing this draft offshore wind strategic plan and strongly supports the strategies focused on Environmental and Natural Resource Protection Strategies and Commercial and Recreational Fisheries in the draft strategic plan. The focus on prioritizing the development of offshore wind in areas with relatively low conflicts, leveraging and updating research by a variety of stakeholders to inform decision-making, enhancing stakeholder communications, and requiring the use of "best available technologies" to limit environmental effects provides a strong foundation for moving forward with the appropriate development of offshore wind. Additional specifics on how the state will factor in environmental protection provisions into the solicitation process – from project selection ongoing through the terms of conditions of resulting contracts – would further strengthen the strategic plan. In addition, we offer the following recommendations for inclusion in the final plan:

- Strengthen language around updating science and requiring implementation of avoidance and minimization measures
- Reinforce importance of project monitoring and regional research efforts
- Clarify and strengthen stakeholder involvement during implementation of offshore wind projects
- Additional data to support project siting decisions

Strengthen language around updating science and requiring implementation of avoidance and minimization measures. The draft strategic plan includes three different environmental and natural resource protection recommendations that should be revised to include more affirmative language regarding the state's intent at implementation. They are (page 39):

- *"Consider updating the NJDEP 2009 Technical Manual for Evaluating Wildlife Impacts of Wind Turbines to include newly available information, guidance, and trends (e.g., distance from shore, number and size of turbines to meet the 7,500 MW goal).*

- *Consider additional evaluations, studies, or assessments that aim to close data gaps, address comments from stakeholder groups, and evaluate the potential for near-term, long-term, and cumulative environmental effects and that allow for quantifying physical changes to the environment that may result from wind turbines or other environmental changes such as climate change.*
- *Consider implementation of avoidance and minimization measures for each offshore wind project."*

Each of these recommendations should be revised to state that New Jersey:

- will update the NJDEP 2009 Technical Manual for Evaluating Wildlife Impacts for Wind Turbines;
- will conduct additional evaluations, studies, or assessments to address a variety of data gaps and recommendations; and
- will require the implementation of avoidance and minimization measures for each offshore wind project.

TNC supports the extensive list of avoidance and minimization measures provided within the strategic plan (which should be updated as technologies and knowledge advances), as well as the additional recommendation that, as part of the wind energy solicitation process, New Jersey will require the use of "best available technology" within the industry to achieve the goal of limiting environmental effects. However, avoidance and minimization measures must be required by the state (overseen by NJDEP) to ensure effective protection of our natural resources, and developers should be required to monitor their efficacy in a timely fashion in order to adaptively manage the construction and operation of offshore wind farms. In order to meaningfully inform the rapid progression of projects anticipated in New Jersey, the developers should be required to report on and analyze construction monitoring data every six months for the first three years of the project. We recognize that this rapid reporting will be a significant burden for the developer, and there should be a similar commitment of time and resource investment by the state agencies to assess the data and adapt future solicitation and development activities accordingly. However, given the rapid development of offshore projected over the next several years, a process should be in place that the what is learned in the early stages is applied at the later stages of development.

Reinforce importance of project monitoring and regional research efforts. Scientific research and long-term monitoring to advance understanding of the effects of offshore wind development on marine and coastal resources and ocean uses is essential. Science should be conducted in a collaborative and transparent manner, utilizing recognized marine experts, engaging relevant stakeholders, and making results publicly available and shared, as appropriate**.** Developers are already coordinating with the entities that have been, or are being, developed to steer and fund regional research which will contribute to regional-scale analyses needed to address questions related to population-level change and cumulative impacts across the geographic range of the North Atlantic Right Whale and other affected species. TNC has been working closely with state and federal agencies, environmental organizations and offshore wind developers to establish the Regional Wildlife Science Entity[1] (RWSE) to support research and monitoring on wildlife and offshore wind energy. The RWSE will fill a void that has been identified by state and federal agencies, developers, academic researchers, environmental protection advocates, and many other stakeholders.

We strongly support NJBPU's inclusion of strategies focused on regional research in the draft strategic plan. To reinforce the importance of these efforts and ensure effective collaboration on research needs across the northeast, we support New Jersey's continued participation in the RWSE and recommend it

[1] https://www.nyetwg.com/regional-wildlife-science-entity

also commit to the identification financial and technical resources to contribute to the implementation of its regional research vision. For example, in its recent offshore wind solicitation, that State of New York is requiring winning bidders provide financial and technical support to regional monitoring of wildlife and key commercial fish stocks through a minimum contribution of $10,000 per megawatt of operational installed capacity. New Jersey should consider similar ideas within its strategic plan, as well as ensure implementation through current and upcoming solicitations.

Clarify and strengthen stakeholder involvement during implementation of offshore wind projects. TNC strongly supports the establishment of the NJDEP-led Environment Resources Offshore Wind Working Group (EWG). As a member of the EWG, we welcome the opportunity to provide input to the state as it moves forward with implementing the offshore wind strategic plan and achieving it clean energy goals. While the draft strategic plan highlights the state's desire to enhance coordination and collaboration with the EWG with regards to environmental and natural resource protection, as well as commercial and recreation fisheries, TNC recommends that the final plan include more specific, formal opportunities to engage with the EWG, as well as other stakeholders, throughout the implementation of the plan and the evaluation of future offshore wind development projects. The draft plan includes language establishing a connection between recreational and commercial fisheries and the life cycle of a project (page 49); at a minimum TNC recommends that similar language associated with environmental and natural resource protection be included in the final plan.

Additional data to support project siting decisions. TNC strongly supports the state's desire to prioritize wind development within areas with a relatively lower potential for conflict. To supplement that analysis conducted as part of the development of the strategic plan, and recognizing the challenge of sifting through the nearly 10,000 data layers on the Northeast and Mid-Atlantic Data Portals, TNC is developing a wind energy mapping tool to help interested parties query, visualize, synthesize and interpret these data in a simpler, but no less rigorous way. To achieve this goal, we are reviewing, updating and modifying available marine-life, habitat and oceanographic regional data layers; determining the best metrics to characterize the ecosystem, especially given its variability; and analyzing and interpreting data layers in the context of wind-energy development. This tool, which will cover the waters from Maine to North Carolina, is being developed with input from state (including NJDEP), federal and academic partners and is scheduled for completion in winter 2020 for public release.

Thank you again for the opportunity to comment on the Draft New Jersey Offshore Wind Strategic Plan. Please contact Patricia Doerr, our Director of Coastal and Marine Programs, at pdoerr@tnc.org should you like to discuss further.

Yours in conservation,

Barbara Brummer, PhD
State Director

BlueGreen Alliance • Environment New Jersey • GreenFaith • Jersey Renews
National Wildlife Federation • Natural Resources Defense Council • New Jersey Audubon
New Jersey League of Conservation Voters • New Jersey Resource Project • New Jersey
Sustainable Business Council • NJ Work Environment Council • Regional Plan Association

August 17, 2020

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Re: Draft New Jersey Offshore Wind Strategic Plan
Submitted electronically to: OSW.Stakeholder@bpu.nj.gov

Dear President Fiordaliso:

On behalf of the undersigned organizations and the hundreds of thousands of New Jerseyans they represent, we strongly support Governor Murphy's continued leadership to accelerate responsible offshore wind development. We welcome the draft New Jersey Offshore Wind Strategic Plan (the Plan) as a key step in guiding the state's efforts to bring this critical climate solution online responsibly. We applaud the major undertaking by the Board of Public Utilities and the state's Interagency Taskforce on Offshore Wind to develop this vision for navigating the many complex issues involved in positioning New Jersey for success in scaling up this new energy source, which is essential for meeting the state's goal of 100% clean energy by 2050.

With so much at stake, it is an important moment for New Jersey to take a proactive approach to developing offshore wind power in a way that maximizes the many benefits this booming global industry can bring to the state, while also ensuring that our valuable natural resources and coastal communities are protected. This moment also presents a significant opportunity to help actualize Governor Murphy's commitment to "building an inclusive innovation-driven New Jersey that will attract and retain the world's top talent and leading thinkers and make us a magnet for new businesses and opportunities, that will reopen pathways to the middle class, and will once again lead in environmental stewardship, fiscal prudence, and promoting high labor standards."[1]

A strong Offshore Wind Strategic Plan for New Jersey will provide great value in signaling to the industry and interested stakeholders what overarching principles will guide the state's pursuit of offshore wind

[1] https://www.njeda.com/pdfs/StrongerAndFairerNewJerseyEconomyReport.aspx

energy. Any plan is only as strong as its implementation strategy, and ensuring the important concepts articulated in this Plan guide New Jersey's offshore wind decision-making over time is paramount. Effective and meaningful forums for key stakeholder engagement, early and ongoing throughout the process, will be essential for securing and maintaining critical public support for New Jersey's offshore wind efforts.

We appreciate this opportunity to comment on the draft Plan, and offer the following recommendations to ensure the final Plan includes a clear and comprehensive plan of action to successfully launch responsibly developed offshore wind power for New Jersey:

- **Regional Collaboration**: We appreciate that in several places throughout the Plan, there are references to regional initiatives or strategies that the state may consider. We strongly support this approach and recommend New Jersey continue and enhance relevant collaborations with states and partners along the coast, as they are necessary for advancing solutions to key issues that are inherently regional in nature. With such unprecedented momentum along the coast for offshore wind, and New Jersey's leadership at the forefront, many opportunities for achieving our state's goals and efficiently addressing stakeholder concerns are similarly regional. An effective Plan for New Jersey should include further specificity on how the state will bring leadership to regional discussions regarding solutions for environmental resource protection, potential fisheries conflicts, workforce development, ports, and transmission.
- **Equity:** Launching a multi-billion dollar industry in the wake of an economic crisis must be guided by a moral and economic imperative to ensure this new industry lifts up the communities hit hardest by COVID-19 -- the same communities that receive the greatest burdens from pollution and climate change. We must ensure the offshore wind industry brings direct benefit to Black, Indigenous, People of Color (BIPOC) and low-income New Jerseyans, as well as women, disabled people and others that have been left out of the clean energy workforce.
- **Transparency, Oversight and Accountability:** Transparency and oversight is vital to ensure public dollars go to the most public good. There needs to be transparency in the offshore wind bidding process as well as with public spending to advance the offshore wind industry, including the development of the New Jersey Wind Port. Oversight and accountability go hand and hand with transparency
- **Solicitation Schedule**: Our groups have consistently called for clarity regarding the solicitation schedule for reaching New Jersey's offshore wind goals and have applauded the state's actions on this to date. Given that the recently released Draft Solicitation invites proposals for up to 2,400 MW, we suggest the schedule in the draft Plan be updated to reflect this increase.

In addition to these overarching recommendations, we offer the following comments specific to each subject area of the Draft Strategic Plan:

Environmental and Natural Resource Protection

Ensuring the protection of New Jersey's valuable coastal and marine resources as offshore wind energy is developed is essential not only for fulfilling the state's policy mandates through OWEDA and Executive

Order #8, but also for ensuring public support can be secured and maintained throughout the many federal, state, and local permitting and approval processes that each project, port development, and transmission line must go through. Central to achieving this goal is ensuring that all projects built to power New Jersey are sited, built and operated with strong protections in place for wildlife every step of the way - from pre-development surveys to construction of turbines, cables, and onshore interconnections, and on through operations/maintenance and future decommissioning of infrastructure. We appreciate that this section of the Plan includes key principles that are important for advancing wildlife protections, including:

- Prioritizing avoidance of development activities in sensitive areas, both on and offshore;
- Leveraging multi-sector research and underscoring the importance of strong baseline and post-construction monitoring;
- Utilizing the DEP Environmental Resources Working Group to coordinate and communicate with key stakeholders throughout the project selection and permitting process, and
- Requiring the use of best available technology to minimize impacts through the solicitation process.

These and other key concepts in this section are essential for advancing responsible development in concept, and we look forward to seeing further specifics regarding how and where concrete actions by the state will be taken to fulfill them. Additionally, is unclear whether items referenced as considerations are firm components of the Plan. For example, the Plan says the state will consider actions such as updating NJDEP's 2009 Technical Manual for Evaluating Wildlife Impacts of Wind Turbines, working to close data gaps, and implementing avoidance and mitigation measures for each project. Clarifying the specific actions the state will take, including how these environmental protection principles will be factored into the solicitation and permitting processes, is a key opportunity for ensuring they move from concept to reality as projects advance.

As an example, we recommend that New Jersey keep pace with New York in advancing responsible offshore wind development through its procurement process. NYSERDA's recently announced solicitation for 2,500 MW includes several critical protections for wildlife, including an important prohibition on nighttime pile-driving to protect marine mammals (which Maryland has also placed on its awarded projects), as well as a new provision that would require awarded projects to contribute funds for regional research needed to assess and avoid impacts to marine wildlife.[2] This research is critical for helping stakeholders and regulators evaluate project proposals, and for driving innovations within the industry to advance solutions that can avoid or minimize impacts. Looking forward, developers building projects for New York will provide $10,000 per MW for regional wildlife and fisheries research. New York's Environmental Technical Working Group, which includes project developers as well as

[2] New York State Energy Research and Development Authority – 2020 Offshore Wind Solicitation: https://www.nyserda.ny.gov/All-Programs/Programs/Offshore-Wind/Focus-Areas/Offshore-Wind-Solicitations/2020-Solicitation

conservation organizations, supported the inclusion of these measures in the procurement process.[3] This is a major precedent and we sincerely hope that New Jersey, with its major commitment to offshore wind, will similarly step up and help ensure sufficient resources are marshalled to advance the research needed to address regional obstacles that could prevent this critical climate solution from reaching its full potential.

In addition, we suggest that the final Plan include more specific, formal opportunities to engage with the DEP Environmental Resources Working Group, as well as with other stakeholders, throughout the implementation of the Plan and the evaluation of future offshore wind development projects. The draft Plan includes language establishing a connection between recreational and commercial fisheries throughout the life cycle of a project; at a minimum similar language associated with environmental and natural resource protection should be included in the final Plan.[4]

Commercial and Recreational Fisheries

We appreciate that the Plan recognizes the importance of engaging with key fisheries stakeholders to better understand and address potential impacts to species of concern, and that it highlights the need for ongoing research to assess and monitor impacts moving forward. Offshore wind power potentially offers many benefits to recreational fishing, and if developed responsibly can coexist with - and even improve - fishing in the Atlantic waters off of New Jersey. To accomplish these goals, project developers and government agencies should abide by clear principles that include: ensuring recreational fishing around the turbines is permitted, providing meaningful opportunities to engage early in the project planning process, and funding robust research pre-, during, and post-construction to monitor impacts to key species. As noted above, we recommend that the final Plan include clarity regarding how research will be funded and advanced, and suggest using New York's recent solicitation as a model.

Supply Chain and Workforce Development

The only way the US will capture the full economic benefits of the rapidly expanding offshore wind industry up and down the East Coast is if we build out and utilize a domestic, low-carbon supply chain that goes beyond just final fabrication and assembly and prioritizes Buy American provisions. COVID-19 has highlighted the strategic importance of domestic supply chains. Furthermore, building out a domestic offshore wind supply chain would present huge opportunities for workers across the country to supply steel, copper, chemicals, glass, plastics, and components like radiators, bearings, ladders, etc.

The Plan should include actions to support the development of a strong regional supply chain for the offshore wind industry. This development is critical for maximizing the scale of local job creation and sustainable economic activity generated by each project in New Jersey. With a regional approach, New

[3] April 2020 Memo to NY Public Service Commission re: Recommendations of the NY Environmental Technical Working Group: https://a6481a0e-2fbd-460f-b1df-f8ca1504074a.filesusr.com/ugd/4b9f26_54ce70c6cba54158a9ebc3ddcd248a4b.pdf?index=true

[4] New Jersey Draft Offshore Wind Strategic Plan, p.49

Jersey workers could also benefit from workforce development and job opportunities that support neighboring states' offshore wind projects.

Priority should be given to developing a supply chain composed of companies whose business practices most closely reflect the values and principles upon which Governor Murphy's vision of a stronger, fairer economy are based. Those companies whose corporate governance policies and business practices are geared toward creating long-term value for all stakeholders, rather than primarily maximizing shareholder profits, should be recruited and incentivized.

By working with responsible companies and contractors, we can help the working class recover from the economic pain that has been caused by COVID. Companies whose one-dimensional focus on maximizing shareholder profits has led them to pursue a strategy of externalizing risks and costs should be avoided. Specific factors to evaluate include such exploitative business practices as: tax avoidance (no payment of federal income taxes), buying back shares of stock after the 2017 corporate tax cut, CEO/median pay ratio of greater than 30:1, minimum wage of lower than $15/hour, no benefits (or inadequate/unaffordable health benefits), or a history of fines for environmental and/or labor violations. Additionally, the state should actively invest in communities that have been hit hardest by the pandemic -- and historically had the least opportunity to benefit from the clean energy economy -- through equity guarantees that require contracting with a minimum percentage of women and BIPOC-owned businesses.

To ensure that each OSW project solicitation results in the selection of a company that will bring the greatest benefit to the local community, we also recommend the creation of an oversight committee, including labor and community representation, to monitor each bid process. The company selected should be required to commit to paying prevailing wage, to accept union neutrality cards, and to participate in a community benefit agreement that includes a commitment to local hiring, as well as skills training for local people and other workforce development provisions outlined below.

Regarding workforce development, we support the initiatives outlined in the Plan, and continue to call for more specificity regarding how the laudable concepts included in the strategic recommendations will be put into action. Specifically, the Plan should explicitly support union apprenticeship programs, entrepreneurship training, and community-based training centers with money for programs across the state to equip under- and unemployed workers with skills for jobs in the offshore wind industry. In addition to developing hard skills for the workforce, a holistic workforce development program must also include "soft" skills development. Soft skills include interpersonal and communication skills, time management, etc. Programs should align literacy, job readiness, occupational training, support services, career coaching, and other resources needed to prepare lower-skilled adults to meet the expectations of employers. Improved access for women, BIPOC, disabled people, and others traditionally left out of the clean energy workforce should be a major policy goal.

But as with any workforce development program, this will only be successful if we connect participants with employers and make sure we remove barriers for entry, including practical considerations such as access to transit. Entry level jobs should be a stepping stone on a pathway to a lifetime career. The Plan

should call for the state to review and assess an incentive program for hiring. In 2013, New Jersey ended its state incentive program that offered funding for companies to hire graduates of green job training programs. If an incentive plan is put in place, there must be strict oversight and accountability to the state. If an employer is found violating the agreement, there should be a claw back provision. These intentional workforce development measures are critical to ensure that the offshore wind industry can play a meaningful role in stimulating New Jersey's economic recovery.

Ports and Harbors

A proactive and strategic approach to responsibly developing New Jersey's port infrastructure is another critical piece of the puzzle for maximizing local economic benefits that can result from reaching New Jersey's offshore wind goals. The recently announced New Jersey Wind Port offers an exciting opportunity for the state to advance a regionally significant marshalling and manufacturing hub, and to do so in a way that's guided by strong labor and community protection values.

The Plan should provide more specifics regarding hiring practices and other equity guarantees, as well as additional details about final implementation of the port (including finance structure, access/transportation plans, etc). The state should also work more closely with the Port Authority of New York and New Jersey and other port operators around the state to identify additional New Jersey ports that could support offshore wind development here, and in neighboring states, including the identified offshore wind port hubs like Paulsboro, Atlantic City and Cape May.

As stated above regarding the supply chain, building the ports should be done with a Buy American approach to maximize investment of state dollars to promote regional manufacturing jobs. For example, the New Jersey Wind Port could support more than just fabrication and assembly. As with any project of this size, there should be transparency, accountability and oversight of how state investments in these and other initiatives will be spent.

Port infrastructure development should also prioritize the electrification of all related transportation in order to reduce carbon emissions and the harmful health impacts of carbon-based fuels. Helping to stimulate demand for EV technology provides a market signal that will attract additional investment and innovation in a mutually reinforcing evolution toward the larger goal of a more modern decarbonized mobility system.

Energy Markets and Transmission

Our organizations support transmission approaches that are most likely to enable responsible development of offshore wind infrastructure, including placement and landing of cables at the lowest possible cost and risk to ratepayers, while ensuring the ongoing protection of sensitive habitats and minimized impact to public amenities. We support a transparent and robust engagement process with communities that builds trust between residents and implementers of these projects. We fully appreciate the complexity of this issue and support the state's efforts to further analyze the potential advantages of radial vs. shared transmission approaches. We also strongly support regional

collaboration that could help maximize efficiencies and cost-effective interconnections across the region.

In conclusion, we appreciate the leadership by the BPU to continually re-evaluate New Jersey's goals on offshore wind, develop further metrics on how to meet them, and work closely with Governor Murphy and his team to raise the bar over the last two and a half years to make our state a national leader in responsible offshore wind development. Offshore wind will be the single most important clean energy technology to allow us to combat climate change and meet New Jersey's Renewable Portfolio Standard of 50% by 2030. It also represents a once-in-a-generation opportunity to have New Jersey become the Houston of the Space Race for offshore wind and establish its leadership bonafides on ecological environmental protections and creating an equitable offshore wind supply chain. New Jersey is known for many things and we hope in the future it will be known as the offshore wind power state that helped to revolutionize how we produce energy along the entire Atlantic seaboard.

Sincerely,

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August 13, 2020

New Jersey Board of Public Utilities
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Trenton, New Jersey 08625

RE: Comments on the Offshore Wind Strategic Plan Draft

To Whom it May Concern:

Anbaric Development Partners (ADP) welcomes this opportunity to offer comments on the draft of the Offshore Wind Strategic Plan released for public comment on July 13, 2020. The New Jersey Board of Utilities, along with all of the departments, agencies, and stakeholders involved in the creation of this document deserve to be commended for vision and expertise in this plan that will keep New Jersey on its path to be the national leader in the offshore wind industry.

These comments presented focus on the topic of transmission as laid out in the draft strategic plan, which is a key threshold issue for New Jersey to meet its goals in a way that is most cost effective, least environmentally impactful, most reliable for the power system, and ready to position itself to meet carbon-free goals. It is clear that New Jersey recognizes the tremendous opportunities that offshore wind presents, but also the challenges that achieving utility scale transmission presents. Key among those challenges is planning for the transmission infrastructure that can efficiently and reliably deliver the power to shore. This document presents a clear overview of the decisions that need to be made, specifically how transmission will be procured and what configuration that transmission should take. It is now known via the release of the draft solicitation language, that New Jersey's second solicitation will follow the same path as the first solicitation. That is, transmission and generation will be procured in a bundled fashion. However this seems to continue the state down a path contrary to the direction the Energy Master Plan suggested. As was stated in the 2020 Energy Master Plan:

"Further, planned transmission to accommodate the state's offshore wind goals provides the opportunity to decrease ratepayer costs and optimize the delivery of offshore wind generation into the state's transmission system. This planning may include strengthening the onshore portions of the transmission system and extending the existing grid into the ocean. Although the transmission component of the Ocean Wind 1,100 MW project, which was bundled with the generation component, has its benefits, this model would likely not lead to efficient growth of the offshore wind industry into the future. Transmission planning is important in order to reach the state's long-term offshore wind goals. Coordinating transmission from multiple projects may lead to considerable ratepayer savings, better environmental outcomes, better grid stability, and may significantly reduce permitting risk."

ADP is hopeful that through this strategic plan and the information gathering process at the NJBPU that subsequent transmission for offshore wind will be procured via a planned process that looks at the totality of the state's offshore wind goal, and allows for future growth. As stated in the Strategic Plan draft, transmission infrastructure scenarios must be evaluated to consider the impact that cables will have on the marine environment, sensitive habitats and historic areas, as well as the impact on the fishing industry. In addition, considerations regarding the future of offshore wind development must continue to evaluate the impact on the ratepayer.

As you know, in New Jersey we have been advocating for planned, open-access transmission as one of the key steps that will ensure New Jersey reaches its 7,500 MW goal while protecting the ratepayer, the environment, the fishing industry, all the while spurring competition and with it the robust growth of the offshore wind sector.

ADP offers the following benefits of planned transmission for consideration:

- Planning to maximize the utilization of each onshore point of interconnection or POI. These POIs are scarce and those that can absorb thousands of megawatts should use the full amount of headroom without leaving any unused capacity.
- Planning can minimize the number of cables necessary to deliver power to shore, therefore reducing disruption to ocean and terrestrial ecosystems and impacts to communities and commercial and recreational fishing.
- Planning can create the infrastructure which enables long-term, predictable procurements for the offshore wind industry, which New Jersey is working so hard to anchor in the state, to eliminate concerns regarding project completion risk, as well as establish a financing structure for the procurement of OSW transmission.
- Finally, planning can increase and focus competition on the both the generation and transmission components which can lead to reduced costs for ratepayers.

ADP thanks the NJBPU for the opportunity to submit these comments on the Offshore Wind Strategic Plan, and we look forward to the continued leadership of Governor Murphy and the NJBPU in the development of the offshore wind industry in New Jersey.

Sincerely,

Janice Fuller
President, New Jersey
Anbaric Development Partners

NEW JERSEY OFFSHORE WIND STRATEGIC PLAN

Public Comments, Submitted by Brick Wenzel T/A Saltys Enterprises LLC. Lavallette, New Jersey. August 18,2020

The OFFSHORE WIND STRATEGIC PLAN is a ROADMAP FOR FAILURE. The draft 2020 document prepared by Ramboll US Corporation Princeton, New Jersey fails to take into consideration the cumulative impacts by the industrial energy development sites listed in this plan. The Supplemental Environmental Impact Statement (SEIS) has also been hastily written and fails to analyze reasonably foreseeable effects from expanded cumulative activities for offshore wind development. Fishing data, safe transit lane alternatives, corralling of threatened and endangered species, formation of "Wind Waves", affects on tourism, quality of life, food security, agricultural impacts, decommissioning projects, known additional infrastructure, the intent to divest, system collapse scenarios, supporting countering documents, public comments, and scientific peer reviewed considerations have been purposely omitted by the developer and representatives party too.
The SEIS required for the Vineyard Wind 1 development site is not reflected in the State of New Jersey Plan. The cumulative impacts are in direct contradiction to the State Plan.

The Army Corps of Engineers (ACOE) assessment of impacts on rivers, streams, and estuaries in the Clean Water Act section 404/Rivers and Harbors Act of 1899 section 10 individual permit will also have to be denied. The delays within the United States standards for Offshore Wind have not been completed due to the Coronavirus. The confine of consideration of the all applications will be broadened by the nascent offshore wind industry. The function of the ACOE is engineer regiment, military construction and civil works. The NJOWSP fails to address the known environmental impacts that the ACOE will have to mitigate. The omission of known cumulative impacts associated with needed ACOE projects that facilitate the offshore wind applicant is a reason that the ACOE should reject such permit. With holding the intended projects environmental impacts that will be placed on the ACOE is a violation of public trust. The ACOE application should be denied.

The policy of the United States to produce clean and safe domestic energy (EO 13783 of March 28, 2017) does not mandate offshore wind development. It does require affordability which is not economically obtainable without large sums of taxpayers money and public utility debt. It mandates reliability which has been proven in other areas of the world and within land base wind industrial build outs to be not obtainable with modern technology. Safety is also a mandate of the policy. A Scientific calculation of an increased mortality rate in the North East of two fatalities per year fails to meet the policy standard. The word clean with in the policy is also questionable when you consider the ocean debris field. The manufacturing of blades that require resin that requires a hardner that is not permitted to be imported into the United States, Underwater construction debris (over two thousand in one application alone). The smelting of copper, creation of CFC plastics for casings, and the intentional abandonment of cables on and under the sea bed on a almost annual basis on a cumulative basis, The lack of industry preparedness to remove debris from the malfunctioning structures, and the well documented increase in oil discharge into the waterways to just name a few is all reasons to say the offshore industrialized energy development sites outdated stationary wind turbines do not meet the EO criteria of clean. Security clearance is needed to address the nations geopolitical security of all the applicants. Just know that there will be a reason some turbines are not located in some areas. The evident road map and other modifications will be outside the purpose the EO.

Major changes exist in New Jersey and the United States since the writing and publication of the draft NJOWSP certainly altering the purpose and need. A world economic shut down and economic depression with reduced co2 emissions along with changes in energy technology that does not require copper cables or anywhere near size of the lease areas being considered for development is a major change. The increased need for protein among the nations increasing food insecure population is

a major change. The civil unrest because of systemic racism in our nations energy policies that affect the environment is a major change that needs to be addressed by all the applicants and within the NJOWSP.

The draft NJOWSP public out reach meetings were held prior to the publics knowledge of what the projects entailed. During those scoping meetings people were provided a base line of what NJ BPU was thinking and the developers would be interested in addressing. Ramboll failed outreach consisted of federal agencies, state, local, tribal governments and is consistent with the systemic racism policies that exist in the United States. The participation of the majority of the participants was to get answers more than comment on the proposal. The participation of individuals is one-sided when there is only a few people in the room that know the true intent of the meeting or the projects. Even today during this comment period the United States Standards are not complete for the cumulative build out proposed. The decision to use AC or DC cables that is so important to the environmental impacts have not been declared. The landing sites of cables have not been disclosed and the states are paying individuals to remain anonymous on docks to try and get information. That is not public participation. The solicitation of input by the developers third party contractor was nothing but a head count. The violent interactions and refusal to place the safety of the men and woman who are the historic industries has not been brought forward within the reports. This type of perceived government police action will only lead to the continued social political unrest we are currently seeing throughout the United States. New Jerseys BPUs culture of systemic racism within the public outreach process is far short of what needs to take place in these times of civil unrest. Without proper retraining of BPU representatives in the process of adoption of the NJOWSP to be inclusive of all effected by the NJOWSP and the applicants employees on how to conduct proper public outreach, this document and any further development will be scrutinized to the

extent unprecedented. The document should not be accepted without proper public participation in a Coronavirus environment.

The assumed 22 gigawatts of Atlantic Offshore Development to determine the cumulative impacts is outrageous. It is not reasonable or foreseeable unless BOEM continues to action off sites to developers who are using the outdated technology of stationary wind turbines. The assumption of what BOEM would like to achieve and the economic costs to facilitate an over zealous build out within 10 years to meet political promises will no longer be the role of BOEM and not be foreseeable. The cumulative impacts of 2000 seafloor foundations and the estimated 9000 other seafloor foundations to be in place within the next 10 years is beyond any ecosystems capacities. BOEM is picking winners and losers in the marine environment. The SEIS falls so far short of addressing the cumulative impacts, All the permitting agency's should disapprove the project. There are so many forceable irreversible impacts to the individual biomasses of many of the two hundred different species of fish found in the development area, the SEIS could not include them in the timeframe the developers are trying to work within for economic self preservation. Look what is not in the NJOWSP. The cumulative impacts to non-game or marketable species, the irreversible impact to the spawning grounds of the fish that lay their eggs at sea and swim to the estuaries, The irreversible impact of the change in salinity of surface water, The irreversible event of collisions by vessels not under command, The irreversible loss of visible sunrises during wind wave events, The irreversible loss of tourism when increased moisture hits the beaches, The irreversible loss of agricultural lands due to less heating degree days and higher salinity, The irreversible loss of life with the increase of shark predation along beaches, (currently happening) the irreversible loss of mental capacity to learn by the youth who come from homes of the food insecure, The irreversible extinction of the right whale, The irreversible extinction of the American Grebe, The irreversible impacts on the razorbill, The irreversible extinction of the Black Capped

Petrel, The irreversible impacts of increased predators like starfish, the secondary irreversible impact to the scallop and clam population. The irreversible impact to the flounder population. The irreversible impact to the horseshoe crab population. The secondary impact of extinction of the red knot. The secondary impact of the needed medical uses of the horseshoe crab, there are a lot more cumulative impacts the NJOWSP fails to address but is willing to study.

Rambold US Corp. has not invested the necessary resources to produce a NJOWSP that meet the requirements for approval. The document should be rejected and a more competent company should be brought in to produce a more thorough strategic plan.

Transfer stations outside of the Industrial Energy Development Zones and their cumulative impacts have also been left out of the public comment opportunities. The applicant and many of the offshore wind industry bidders along with BOEM have purposely left out transfer stations in their presentations and have cut them out of pictures shown. The placement of residences on these platforms and the need to run additional cables and utility lines to the individual stations is an impact that should be documented and contained in all public plans. The mere fact that BOEM and the developers have purposely omitted transfer stations is another reason to reject the NJOWSP. There has not been actions in good faith or within the scope necessary to achieve good will and public trust.

What is not submitted in the NJOWSP is the fact that the cables have a less than ten years shelf life. That the cables will have to be replaced on the average of once every 7 years. That the power outages seen around the world are from the cable malfunctions. That the developer plans on selling the cables and there is an anticipation of a third party utility company to be established to manage the electric distribution and maintenance. What is significant about the lack of transparency is that NJ BPU can have different impacts when operated by a company only Responsible for cable operations. The NJOWSP needs to be

specific in what will be sold. The responsibilities of mitigation and research will need to be transferable, and financially supported within any permit. The request of monetary relief from the financial burden of cable maintenance will expedite the sale of the cables. Money needs to be placed in upfront costs to prevent any act of fiscal irresponsibility. The cost of replacing the cables and the cumulative impact of cable replacement and abandonment times three has not been presented within the NJOWSP. Rambol had the opportunity to include this in the NJOWSP and had chosen not too. The NJOWSP claims are bias and should be rejected. The New Jersey Attorney General should be called into investigate omissions by Rambol.

The need for a SEIS is due to the overzealous leasing schedule of BOEM in the Atlantic. BOAM has not taken into consideration the cumulative impacts of their action of their leasing program and has put the burden on the winning lease holder, other agencies, and the public to work within a regulatory timeframe to bring forward such concern during a world wide epidemic. The need for industrial offshore wind development is only economic for those who have the interests in the industry. The need of electricity by the states from offshore wind is based on public demand fueled by propaganda by the wind industry. There are many alternatives that can be implemented immediately with out removing the nations at sea farm lands from service. There is no need to displace and destroy a supply chain that has been developed to address the need for protein along coastal states. The purpose of the industrial development of the Atlantic Ocean is strictly financial being born by the tax and rate payers. The need to address environmental concerns can easily be immediately addressed by the states with out any offshore industrial wind development at all. The EO from a past president does not require a rapid industrial expansion using out dated technology to displace the nations food supply. It does require the United States to “**promote**” (not develop) the clean and safe development of domestic energy resources. The actions of

BOEM exceeds the EO by using taxpayers monies to develop a industrial offshore wind industry. The use of funds by BOEM to financially support foreign investors in United States waters are extremely questionable. Since BOEM Atlantic officials does not exist and has not formally appointed director there is even greater cause to question the purpose and need for offshore wind development. A immediate investigation by the United States Attorney General into the need and purpose suggested by such few individuals working outside of federal mandates.

The EO besides just being to promote domestic energy resources including renewables (Not Just Industrial Offshore Wind Projects) the nations geopolitical, affordable electricity that is safe, reliable secure and clean without displacing the nations historical industries has all been mandated. The affordability of offshore wind is presumed and is a short sighted capital investment that without taxpayers investments could not exist since the investors would not be guaranteed the rate of return needed to provide the assets for a undertaking. The build out of 2000 wind turbines in ten years is to try and reduce the cost before the other modern forms of electricity generation that is more economically feasibly starts to be deployed. The fact is, the floating technology is already being built and the need for copper cables are within a decade of being obsolete. That the replacement of cables will be cost prohibitive since the modern technology will be displacing the need for electricity purchases from stationary industrial wind sites. BOEM will not need to auction off the additional sites and should again be sanctioned for their actions. The EO order of affordable will not be met. Historically the power outages by industrial wind development zones have been cable related. To date world wide there are consistent power outages. There is no expectation of that changing since the same old out dated technology of stationary wind turbines is being promoted. The cumulative impacts of reliability of a East Coast network will not work with the scenario outside of the financially paid individuals providing such reports. There are other reports paid for by the taxpayers and the

developers and their associates that contradict the presented reliability and economic feasibility that are considered proprietary. Clean energy is not what a industrial wind development zone is. Approximately 9000 debris fields and miles of copper and plastics with insulation will litter the ocean along with all the failed wind turbine parts that will not be retrieved. Oil will be undoubtably will find its way into the water from the 2000 anticipated permanent structures and transfer stations. There is no possible way this any applicant can meet the mis-interpreted EO, thus the NJOWSP should reflect such There are major changes in project specifications since the publication of the draft NJOWSP that alter the purpose and need. These major changes require a new public process inclusive of the new standards and removal of systemic racism contained in the actions previously used.

"It is difficult to predict" is not how you go about approving expenditures or granting permits. If the applicants can not provide or are not willing to provide science driven documentation on the proposed project, the permit needs to be denied. NJOWSP acknowledges that the industry is looking at larger turbines. It is not an assumption, it is fact that the cables being submitted for installation do not meet the life span of the upgraded turbine size. The cumulative impacts of abandonment needs to be included in the NJOWSP. The mitigation of removal of obsolete cables is currently cost prohibitive and was not included to avoid the need for development of a system to remove cables without additional seafloor disturbances that affect the many ocean users inclusive of marine life. The NJOWSP impacts are not based on repeated installations or removals. In fact the NJOWSP looks to the shortened displacement of marine life disturbances. That is not accurate and is a falsification of the facts. Ramboll knows the life span of the cables and the intra-conductivity of the demands on the cables at the time of installation. The only reason some items are assumptions is the lack of completeness by the applicant to preserve capital. NJOWSP should be acknowledging the

accountable parties for facilitating the financial needs of the application to preserve capital by the lease. If the leasee is not in the financial position to see the application is submitted in a complete form, what make the NJ BPU think they can sustain the industrial zone without liquidation. It is reasonable and foreseeable and not an assumption since Ramboll knows that the leases of many of the sites are looking to divest. This need to be part of the application process, requiring full disclosure of the parties posturing to purchase the utility lines and the investors of such a new utility. The New Jersey Attorney General needs to do a deep dive into the money behind the foreseeable sale of the utility lines and whom will be financially benefiting inclusive of money being used to influence the different states, whom have guaranteed a rate of return to the yet to be solidified cable utility company.

There is **no** reasonably foreseeable build-out plan to supply the required substantial number of specialized vessels needed. There should be no assumptions made on vessel availability. The specialized vessels that comply with the Jones Act will need to be contracted and built. The time constraints and current economic environment will not meet the proposed time frames needed to make this and other industrial offshore energy development sites meet the criteria of affordable. The lack of affordability will put pressure on the developing United States supply chain and certain components will not be provided without additional large investments of capital from tax or rate payers above what has already been committed. These costs need to be released to the consumers and taxpayers as a whole picture of capital investment in the energy industrialization of our ocean.

BOEMs' assumption that all the states will not adhere to their own written mandates of only procurement if determined that that it is in the public interest and the best interest of the ratepayers is outlandish. BOEM has all the economic information it needs to know that there is no basis to assume states will

purchase electric at a higher cost than what is currently available. BOEMs assumption that contradicts the current information it possess is suspect. BOEM states “If **any** offshore wind agreements are not awarded, fewer projects will be developed than BOEM foresees”. BOEM knows that and has in writing that these agreements will not be awarded because they do not meet the terms of the agreements. It is foreseeable that the supply chain will not be robust and the vessels need will not be available under the current proposal. These facts should be included in the NJOWSP. Ramboll knows that some states currently include technical, economic, and environmental stipulations in their offshore wind solicitations that are too financially burdensome for prospective developers; Ramboll knows that these stipulations will reduce the cumulative viability of the offshore wind industry to comply with the EO.

BOEM also states that the current infrastructures do not exist to handle interconnection points and transmission for 22 GW of Atlantic Offshore wind current. BOEM also know that the current state of the world economy does not support such an upgrade of infrastructure that is excessively priced and only meets short term political goal by current Administrations. Modern technologies will require upgrades to the electrical grid contradicting the need of the offshore wind energies need for wheeling large amount of current. Offshore (~~wind~~) independent transmission proposals do exist and BOEM is currently being solicited for assistance in the approval process.

BOEM states that “Environmental impacts would be reduced for most resources” if there is a regional transmission line is an assumption! This is NOT a fact. Their is no basis to make such a statement and this statement has no place in this any section of the NJOWSP.

The fact that New Jersey has announced procurements for which there are currently no COPs with available capacity and with New York poised to announce additional procurements towards its state goal, both New York and New Jersey will have

more announced procurements than available lease capacity within the New York Bight. Currently New York has already planned 4.7 GW solicitations and New Jersey 4 GW beyond the current lease sites in the New York Bight area. This informative fact changes the entire NJOWSP. The plan should be rejected based on this information alone.

The (Musical et al. 2016) scenario that the Industrial Offshore Wind lease sites will produce more energy than can be procured should be contained in the NJOWSP. It is important to note that Musical is the chairman of AWEA currently engaged in writing the standards for the United States Offshore Wind Industry. Any reasonable person (who has not been manipulated) would not discard his work as "unfeasible". The EO says there has to be a need. The NJOWSP fails to show a compelling need. This lack of inclusion in the NJOWSP proves there is unacceptable gaps in the NJOWSP and it should be rejected in its entirety.

BOEM has done the State of New Jersey and the country a great disservice by not properly vetting some of the call areas. The greed by BOEM Atlantic and the potential leases to construct a supply chain that has a short lifespan is nothing but a money grab. The lease sites originally based on sea depth, bottom make up, wind and proximity to end users was the motivating factors. BOEMs failure to conduct appropriate outreach and by setting aside the Department Of Interiors mandate to select sites that have the fewest Environmental impacts and interactions with other Ocean users is evident. At one of the tribal outreach listing sessions. A comment was made "that where there is smoke there is fire". The NJBPU should also be calling on the United States Attorney General and be cooperative with the investigation on how BOEM Atlantic has misrepresented the opportunity for Offshore wind Development.

A research set aside lease site is inconsistent with the EO as is uses to validate the actions of lease sales such as the Coast Guard whom is as a group eliminating potential uses within the leased area, when in fact it is military concerns that dictate many

of the exclusion sites pre-determined. The cumulative impacts of these sites will have a great impact on many air and sea operations that can not be discussed.

BOEM is quick to use their relationship with the oil and gas industry and how the technical capacity is consistent. The fact is BOEM Atlantic is not consistent with their technical capacity calculations when it comes to shipping lanes. BOEM and the applicant has misrepresented the need of the other Ocean Users and have falsified public comments. There is no doubt, it is scientifically proven that an increased mortality rate in high traffic areas will occur and that the applicant and the individuals whom have portrayed this failure of necessary public comment are liable. The reduction of a lease site is costly. The applicant, BOEM have knowledge of the increased mortality rate and the Coast Guard have full knowledge and have documented the loss of life of two individuals on January 1, 2019. The Ocean users request for the same separation zones for shipping lanes and structures placed around said lanes has been purposely removed from consideration due to the loss of economic feasibility. This is in direct violation of the EO and any other development of an industry. You can not build a industrial site with a known and proven human mortality rate. The shipping lane configuration is about life and death. A calculated percentage rate of how many live and die. You would think that what ever the fishers and ocean users requested would be granted. Instead the individuals who's lives are not at risk are counting the financial costs in making their determination. The NJOWSP is a inconsistent evaluation suspect of violating some of the oldest laws in the world. Maritime law protects those at sea from the individuals on land who knowingly and willingly ask people to work in a job that has a mortality rate that can be mitigated. The United States Attorney General needs to investigate and rule on the side of the men and women who make their lives on the water, which will significantly change the NJOWSP.

The technology available to meet future procurements look quite different today and will look even more different 10 or more

years from now. The sale of lease sites by BOEM Atlantic have already stalled as has the financial capacity of consumers, tax payers, rate payers, and government to support a short lived nascent industry creating additional food insecurity with its cumulative impacts will not be tolerated. We currently have public unrest through out the United States because of the systemic racist procedures by government organizations such a BOEM. New Jerseys' capacity to address the financial impacts of energy industrialization of United States waters and the cumulative impacts and systematic knowledge of extinction of the right whale should force New Jersey to rethink their energy options and place more on the consumer to curb its appetite.

The NJOWSP is a farce on investors to support a proposed guaranteed rate of return. BOEM has documentation that the overall build out is not feasible because it has no need and exceeds the cost of reasonable fiscal responsibility which exceeds the EO. In fact this is just a self preservation action by BOEM to site the request for energy and using the request to move forward in solicitation of more energy development that is only needed because of a call for more undeliverable procurements. The states have already out stated their capacity and will not meet their procurement promises creating a cumulative failure of economic feasibility assessed within SEIS. The NJOWSP knowingly misleads the electorate in New Jersey whom has announced procurements for which there are currently no COPs with available capacity. New Jersey is 4 GW beyond the current lease sites in the New York Bight area. Since when does the government allow utility companies to miss-represent plans of action to the rate payers and support such action. The United States Attorney General should look into the relationship between BOEM, Ramboll, and the NJBPU whom is promoting projects on their websites.

The NJOWSP fails to provide is the historical evaluation of the geographical area. If you are looking at cumulative impacts, the historical movements are a key component of not just marine life but also the contour of the land and the directions of the wind.

There is plenty of data that shows West decades ago is not the same as it is today. Mariners of the past are familiar with deviation and a slide ruler. Ramboll and NJBPU are obviously not and did not included the shifts in bottom contour, wind direction and currents that are available from Rutgers University. The fact that the data to provide a complete review of cumulative geographical impacts exists within the means of a partner that authors praise as a partner suggests that the writer neither has the time, money, or public interest to be invested into the welfare of the states residents. If the NJBPU does not have the means to provide a complete OWSP and has to continue to rely on the developers to do the work for them, the plan is destined to fail.

The NJOWSP acknowledgment of the impacts of GHG on coastal fauna is NOT stated and fails to quantify the increased GHG the manufacturing of the components, installation, maintenance, of the industrial offshore wind Development site will generate. The NJOWSP has also failed to address the sale of the carbon credits or the deductions of carbon output by investors in the project. By not including the cumulative impact of GHG on the fauna it leaves the door open to increase the value of the sale of GHG carbon credits. By reducing the value of the GHG carbon credits, the economic valuation of the industrial wind development zone may not be economically feasible and in direct violation of the EO, used to further the need of a NJOWSP.

The cumulative impact of oil spills on the beaches and affecting coast is also amiss. Although mitigation response plans will be implemented, there is a scientifically proven statistical calculation that can be attributed to the impacts on the coastal communities, based on wind, tide, the amount of oil contained by each vessel. This information is available by the applicants partners at Rutgers and Monmouth Universities. Compiling the information and providing the scenario within the NJOWSP an economic consideration. Intentionally omitting and falsification of the impacts in the NJOWSP is criminal. The NJBPU are Ramboll are fully aware of the information on oil spills from the wind turbine industry and the potential impacts. The omission of such

information in this NJOWSP should result in the immediate denial of the draft NJOWSP and the New Jersey Attorney General should be brought in to investigate the actions of omission as a violation of public trust.

The NJOWSP has taken the time to highlight some of the other ocean and estuary users All the Ocean related industries referenced are and continue to upgrade their foot prints to come into greater compliance within the environmental regulations and many go beyond the regulations because they are the small businesses and people whom live work and play on the ocean. The industrialization of the Atlantic ocean by foreign owned and managed companies has been publicly and regulatorialy removed over the years. The cumulative lease and development of the ocean will have significant coastal impacts and must be highlighted within the NJOWSP.

Accidental releases of fuel, fluid, hazmat that will cause contamination of New Jerseys Beaches are inevitable. The history of land based wind turbines can be easily transformed to the future experiences of wind turbines at sea and multiplied since the response time to at sea accidents have delays associated with wind and sea conditions. There is also the statistically known collisions that will take place creating greater degradation to the environment and loss of life.

The cumulative loss of anchoring sites by other seabed users forcing Anchorage in alternative sites was not and should have been addressed in the NJOWSP. As an example, heavy matting in the estuary to mitigate the high mortality rate to the blue claw crab population will remove a calculable number of acres of seabed for anchorage. With multiple cables and the questionable reference to (33 feet apart, type 0) apart, the amount of Anchorage loss will substantial. The secondary impacts that is required to be addresses in a EIS / SEIS on anchorage displacement is the impacts to, recreational and commercial fishing, eel & widgeon grass beds and other marine that rely on these grasses such as grass shrimp. The point is that when you start removing the base of the eco-system such as

the grasses you affect everything including food security. It is simple, the less fish, the more the coastal source of protein costs, the more fish costs, the more food insecure people we have in the coastal communities. There is plenty of information that discusses the “Food Desert” in coastal New Jersey communities of which impacts of anchorage can be placed into a calculation on an increase in the amount malnutrition and child mental development. Food security needs a place in the NJOWSP.

The discussion of EMFs and their impacts is an intentional omission of the facts. The cables from each stationary tower has to have slack. There is exposed cable from the tower and the cable is at a shallop depth until it reaches its desired burial depth. There is a known amount of cable that becomes unburied after installation because of sediment drift. After installation if not during additional rocks will one requested by the applicant to reduce the movement of the cable and rebury the exposed cable. The omission of the impacts of the additional debris and the cumulative impacts of changing the marine eco-system by the depositing non-native structure is needed in the NJOWSP. The EMF from the cables will limit and have an impact on the marine life around each tower and the cumulative impact will change much of the the entire East Casts marine life distribution patterns. Like all the stationary artificial reefs, there is a biological negative net some of marine life. Fisheries will undoubtedly have to figure out what that reduction in the biomasses will be and how it will ultimately affect the fisheries management plans and food security. The EMF science of fish disturbance, specifically with sharks in the applicants application and as a cumulative impact would prove a scenario where there will be a increase of shark attack along beaches. Changing the large shark species feeding grounds nearshore will certainly bring back a admiration of the movie Jaws, but the loss of life to increased shark attacks is a serious matter when it comes not to the human cost but the economics to many of the coastal states.

National Geographic is currently reporting the increase of sounding by research vessels looking to developed the energy development zones as a leading cause for shark attacks from North Carolina to New York the last two years.

The cumulative impact of EMFs on horseshoe crabs is significant. The Skip Jack Site is the wintering grounds for the Delaware Bay population. If that body of crabs are displaced by the development of that site, the smaller impacts of other sites will have a greater impact. The horseshoe crab population is already threatened by the removal of sandy beach sites that are needed for reproduction. The cumulative impact of additional beach locations being removed is significant. The horseshoe crab is significant since multiple federal and threatened endangered species rely on their eggs. The cumulative mortality rate of the horseshoe crab due to EMF and sediment temperatures associated with the cables needs to part of the NJOWSP and mitigated to the fullest extent.

Cable replacement and maintenance will not only increase the mortality rate on horseshoes crabs during hibernation along with other bottom dwelling species, but will create a under the ground debris field of cables. The cumulative affect of cable replacement without removal is unacceptable. The industry needs to develop and expend the funds to move and replace the cables at the same time. Equipment that does not meet the Jones act requirements is available but will not meet the rapid cumulative need that will develop. The permit should not be granted without the placement of such a vessel in United States waters into service. The majority of the power outages around the world are associated with cable failure. The rapid response teams needed address these cable failures must be repaired for cumulative impacts and the need to meet cable removal requirements at the times of emergency repairs. By not having the proper equipment in place during startup, any application will be automatically be out of compliance of permits. The cumulative environmental impact of seafloor disturbance by installation and then removal at a later date is unacceptable and

mitigable by having the equipment. The economic cost to comply with the Jones act and have such equipment on hand during regular operations needs to be included in the NJOWSP.

The cumulative presence of additional structures creates a significant change in the ecosystem. The additional structures also will have an artificial reef effect creating a biological decrease in marine life. The secondary impacts will be overwhelmingly creating greater food insecurity in the already designated food deserts that exist in the coastal communities. The economic impact of these structures and an increase in mortality rate associated with all the secondary cumulative impacts should be addressed in the NJOWSP. The failure to quantify the amount of bottom that will be hardened and changed permanently without any bonded removal requirements is a misrepresentation of the true costs any project and is needed in the NJOWSP.

The depth of the cable has significant affects on coastal habitat. It is scientifically known and proven that the increased sediment temperature around the cables has significant impacts on the invertebrates, that affect the feeding habits and distribution of marine resources that rely on them. The omission of the cumulative impact of the individual species that will be affected and secondarily is needed in the NJOWSP.

The fact is that the areas where there is no development, like state parks are the areas that the different developers are looking to make land fall. This is a farce by the NJOWSP does not address the EIS on open space and the rules that pertain to their use. For example, a president has been set in New Jersey for every acre of dedicated open space disturbed a seven acres of comparable space must be secured. Most of the coastal communities are already built out and the cost of multiple acres could run into the millions, making the cost of entire applications non-compliant with the Presidents EO. I am sure the disturbance of United Nations Environmental Heritage Sites such as the proposed Mud hole location where the cable array must transit will be at a significant cost also adding to the developers overall

cumulative financial impact and feasibility. Financial feasibility is a prerequisite in the NJOWSP that should not be that the rates payers and tax payers will bear the cost if the developers can not meet the financial obligations to mitigate.

When dredging is used there will be long lasting impacts that will take decades to mitigate after operations cease to exist. The NJOWSP fails to address the requirements found in the German standards that require mitigation of sediment temperature changes of greater than two degrees. Heat rises. It doesn't matter how deep you bury the cables, there is always an environmental affect. Also the applicant is failing to discuss the cumulative impacts of cable failures from webbing within cables if they are buried too deep. This has become a consistent cause of cable failure around the world because of the intent to mitigate marine life damages by burring the cables deeper than the manufacturer intended. The cost of changing the cable manufacturers designs and splicing them together to account different environments, Rivers, Streams, Estuaries, Bays, Coastal, state, territorial, and federal waters and the sediments associated with them make the cable more susceptible to failure and massive power outages. The east Coast of the United States and the contour of the continent shelf makes the commutative Development of the east coast significantly higher than around the world and has greater anticipation of failure. The NJOWSP needs to address seabed alterations" on coastal habitat.

The burial of cables along the shore will have considerably coasts to the environment and the tourism industry. It has been scientifically proven that an object burred along the coast creates scarring along the beach and puts ocean front homes, and communities nearby at greater risk from storm damage. Ramboll should be familiar with the science and needs to include it in the NJOWSP. Mitigation of the damages that will be created by the cables and their landfall are a significant part of NJOWSP public outreach process committed. The excessive buildout in the coastal communities and to financial try and mitigate the damages will place the entire project outside of EO mandates.

To be in the NJOWSP is the Refusal to be in a financially secure position to fulfill requirements set forth within any application is a reason for denial of the application.

Future offshore wind activities in the geographic analysis area will have significant eco-system, supply chain, economic, and marine life extinctions, that will not be reversible. The continual Cables replacement, plow dredging below any traditional depth, the corralling and relocation of marine life, the changes of predatory and prey with the additional 9000 artificial non-native structures and the 100s of tones of debris to stabilize the cables. Will all be no reversible environmental industrial waste from a out dated energy development industry without the means to stay in business with out huge financial subsidies. Offshore wind development will have the most significant negative impact on the coastal habitats including economic devastating impacts on tourism and food security resulting in double dining increases in food security. NJBPU is to release the negative economic studies for publication in the OWSP.

The draft NJOWSP will create significant impacts on coastal habitats and change the overall character of the coastal habitat within the geographical analysis area. Sound waves cumulatively will have noticeable impacts that will take decades to recover with the repetitive work being conducted over thousands of miles. A base stock for reproduction will be so adversely affected that it could take a century before the slower growing invertebrates are to pre-offshore wind energy industrialization zones. The introduction of non-native sedate cap on top of the cable will create native marine life displacement and create new acceptable habituate for non-native species like the Chinese green mussel and Chinese mitten crab. Recognition of a permanent impact is significant. The NJOWSP fails to talk about the cumulative impact of having the compacted non-native soils replicated side by side for hundreds of miles repeated multiple times during the life span of the project. This will change the eco-systems and the available food source for the most valuable fin fish in the north east. The cumulative impact is noted to be

for cables. The cumulative impacts should also be considered for the import cable to the many transfer stations that will be hotels at sea for the crews.

The effects of the EMFs will be significant on a variety of marine life. There is enough scientific evidence that would suggest that the cumulative impacts will change the feeding habits of large sharks and push them closer to the beaches. The proposed burial depth of the cables leaves an anticipated amount of cable with free suspension and at a non-desired depth since the cables are not installed with 90 degree connections. The sediment drift has and continues to be a constant maintenance requirement since cables come unburied subjecting them to marine mammal interactions and fishing snags. The coast of maintaining the integrity of the cables by cutting fishing gear is a significant responsibility off the company maintaining the facility. The cumulative EMF from cables close to each other around each structure will be counter productive to the anticipated recruitment of marine life. The coastal impacts of sediment warming with be significant in the areas of recruitment in the rivers, streams and estuaries. Excessive matting will remove anchorage areas and cumulatively be forcing vessel traffic into non traditional area, creating greater degradation to the economy and the marine trades.

The NJOWSP fails to identify the cumulative impact of noice on the individuals whom work at sea. There has been a repeated portion of the developer sales pitch, that fishing restriction within the Industrial zone will not be curtailed or the impacts would be minimal. If that is the case and fishers choose to fish in the zone, (because that is where the fish are before the wind turbine installation) there will be a cumulative impact of noise from the turbines on the individuals fishing in the area. There are plenty of studies that identify the medical impacts in regards to hearing loss. If the ocean users who choose not to risk being affected are now displaced the cumulative impact is the removal of over a thousand square miles of the North Easts' most productive fishing grounds accounting for nearly three quarters of all fish

caught. The cumulative impact to the nations food Security, international trade, coastal economy, the over two hundred year old supply chain will all be lost and the amount of people food insecure will see double digit growth. The NJOWSP has an obligation to include the impact of noice on other sea users.

Sediment deposition and burial will have major impacts on coastal habitats and require action. Decrease in eel grass populations. Studies have proven at an extreme cost that eelgrass cultivation and relocation has over a ninety percent failure rate. The NJOWSP should note that eelgrass bed will be affected. The eel grass is important too many economically valuable species in the coastal states. Grass shrimp, snails and crabs all rely on not just the eel grass, but waterfowl rely on the widgeon grass that will also be impacted. The American CanvasBack who relies on the eel grass and widgeon grass for cover for their food source will be adversely affected. The one item that became evident during beach replenishment was the flosem that carries the bacteria into bathing areas, closing down beaches. The cumulative impact of sediment deposition will have a server economic impact to the shore tourism industry. Beach closures will be part of the everyday beach experience since normal maintenance will be consistent for decades. There is plenty of science that describes the relationship between sediment drift and beach closings due to fecal coliform. The NJOWSP has chosen not to include this Cumulative impact of beach closures. The health and safety of the other sea users should take president over the establishment of nascent industry. There will be long term cumulative impacts from sediment deposition. The use of non-native sediments will entice the development and growth of non-native species. The impacts to the foundation of the eco-system in

the estuaries and tidal waters will stagnate growth of a already fragile system.

The reference to Climate change does not but should be in regards to the cumulative impact of the mixing of the three stratus of air by the turbines during slack tide in the New York Bight area. Wind wave development will take place and is scientifically proven to do so. This additional moisture coming to land during the sea breeze after a tide change in the mornings will have significant impacts on tourism. Even if the wind waves don't make it to land, How much is seeing the sum rise worth? Agricultural impacts will be felt. There is already a study being conducted to identify what farms will be affected and the reduction in crop selection. Depending on the additional moisture levels and the salinity, a buy out program maybe required by the developer for properties. A precident has already been established in the courts where properties around cogeneration plants had to be purchased because the increased moisture levels and reduction in sunlight increased the mold count on the properties. A closer analysis of the cumulative impacts on land based tourism, animals, and agriculture from wind waves needs to be conducted and included in the NJOWSP.

The land based coastal habitat for many seabirds are dependent on the New York Bight area for food. The bird studies from satellites are filled with incomplete data. The proposed vibration sensory will not be adequate for the smaller bids that frequent the area. The fact is that if the New York Bight Area inclusive of the applicant accountants for 50 % of all fish harvested on the east coast of the United States; where do you think the seabird population gets it food? The suggestion of having limited sensory on each wind turbine is also unacceptable. The bird follow the tide lines when

feeding that run through the applicants leased area. So one tubing might have 10 bird strikes one day and none the next. I also take exception to the premise that the birds relocate after a few die. I guess that is the same theory has with the fishers. The fact is after a few die the count goes down because there be fewer to kill. The bird sensory and cumulative impact and requirement to shut down the entire industrial zone during heavy migration periods should be mandatory. When birds are feeding, that is when they are most vulnerable to predation and wind turbine accidents.

I know fish can hear as do whales. The cumulative noise from the wind turbines and the affect on migration of the marine mammals is of serious concern. The NJOWSP fails to address the corralling of marine life into the deeper water on the outskirts of the leased areas. Even though the animals are not in the leased area, forcing them to take the more dangerous route within the shipping lanes will be significant. We already average ten whale strikes a year in the New York Bight area. The endangered marine mammals whom will seek refuge from the vibrations of the 2000 wind turbines on the east coast will create more of a environmental loss. A marine mammal take permit should NOT be issued to a nascent industry. The statistical calculations of mortality rate are above the threshold for preexisting marine users. A nascent industry should not be entitled to any benefit and actually be held to higher standards. Because there is a scientifically calculated mortality rate associated with the cumulative energy industrialization plan, inclusion of this information should be contained in the NJOWSP.

There has already been impacts on benthic resources. The secondary cumulative impact on a large variety of valuable species during surveys have been adversely affected during

spawning. The cumulative impacts of lack of benthic resources have decreased the survival rate of this years classes of mackerel, bluefish, squid, and monkfish. Other species will need to be mitigated. The process of destroying fish stocks by killing the bottom of the food chain to provide data for a nascent industry is criminal. A immediate cease and desist order must be imposed to stop the depletion of future fish stocks. The United States Attorney General should be required to investigate the over reaching BOEM permit process into other agencies responsibilities. The NJOWSP must acknowledge the environmental destruction for an energy solution resulting in questionable economic gain.

The cumulative port utilization and need for expansion to accommodate the development of a nascent industry on the financial backs of tax payers and rate payers is in direct violation of the EO. The NJOWSP should call upon The United States Attorney General to investigate the actions by states. The short term economic development and port expansion for just a decade of need that is solely to save the developers money by creating a short lived supply chain is financially and socially not in the best interest of the United States. Across the world, we have seen offshore wind Development promise economic benefits to communities whom after a few years find vacant waterfronts with the previous marine industries no longer viable with the destruction of their own supply chain. The cumulative impacts to the east coast ports will be similar to those after world war two of which many still have not recovered from.

The impacts associated with the presence of structures will be adverse. The decrease in benthic resources resulting from the presence of structure will be permanent with the non-

removal of all structures. The impact will be over decades, permanently changing the eco-system. The lack of presence of structure that exceed one foot in height from Montauk to Marthas Vineyard is significant. The addition of hundreds of structures within a mile of each other will create a new eco-system that will displace the current. There will be cumulative impacts. There is no random placement of the structures. The cumulative impact will be over a thousand square miles. No industry should have the right to change an entire ecosystem that supplies a viable economic benefit and food security in a ten year period of time with tax payers and rate payers money. The use of a report from 1997, 1998 entitled "The potential effects of wind farms on offshore ecosystem functioning" that used simulators calibrated with field observations is the basis for acceptance of the cumulative impacts is absurd. The NJOWSP should ask the United States Attorney General to investigate BOEMs and their actions that have exceed their authority and the EO.

The total benthic resource mortality impact is outrageous.
2,493 acres by pile driving
250 acres by capping cables
56 acres by anchorage
1269 acres by cable placement
3807 acres by cable maintenance
Plus, Plus, Plus,

The NJOWSP fails to mention the Over 8000 acres of micro to small organisms that many fit on a spoon, that is the basis of the seafood industry will be destroyed for decades and will not recover. because the "Benthic communities forming after disturbances will be of different species than disturbance".

The NJOWSP should highlight the overwhelming amount of scientific studies that show marine diversity around new hard structure as being diverse but to only become “low-diversity” areas dominated by blue mussels and the habitat. This is significant because the blue mussels increase the amount of star fish, an upper food chain predator that feasts on all shell fish including the east coasts top fisheries, scallops and clams. The scallop and clam industries will loosing over a third of the fishing grounds if the offshore industrial energy sites are permitted to be built. The additional impact of creating 9000 rookeries for starfish development will contribute to the devastation of the industry and possibly collapse the stocks. NOAA has concerns on its ability to do stocks analysis within the industrial zones and if the stocks decline do too predation, will not have the authority to have the wind turbines removed. If the turbines are removed, the rubble placed on top of cables to prevent drift and becoming unburied will most likely still exist and and continue the changes in the ecosystem destroying the economic base of the seafood industry, the supply chain, and the food security protein source.

The mussel meat is being considered to be the base for ultra processed computer generated food equipment (3-D food processors). This technology is not yet seen as a solution to food insecurity but can develop if costs can come down and the international aquaculture community can shift the wild fisheries dominance of the sea floor to aquaculture use. The nascent offshore wind industry is the perfect scenario for such an action to take place. Taking 1000s of square miles of non rocky bottom, displacing the traditional fish that require sandy bottoms for reproduction and forage, and placing 9000 or more blue mussel rookeries in that are

within a ten year time frame will accelerate the need for alternatives to the high priced seafood created by its intentional scarcity. The current presidential executive order furthers the known expansion of aquaculture into the oceans. The expansion of aquaculture into the oceans industrial energy zones has been part of the plans to offset the food security issues, the question is is how much is BOEM going to permit since a recent court ruling said it will not be NMFS. And even more of a question is how come the long term goals are not part of the NJOWSP. Is the answer Economic racism, to intentionally create food insecurity and then produce a lesser quality product to answer the concerns of those who you've made insecure and physically and mentally incapable.

The NJOWSP needs to address the impacts on benthic resources that will be permanent impacts, with negligible beneficial impacts in isolated areas. The action will utilize ports that will need to be upgraded and secondarily create a moderate impact on benthic resources in the port areas, having secondary permanent impacts on marine ecosystems in the estuaries.

The benthic resource mortality assumed of 9.7 acres around each of 2000 stationary turbines is a excessive and permanent impact when done in the short timeframe established by the offshore wind industry as a whole. The impact will be permanent.

The impact of invasive species will be moderate to permanent by the cumulative changes in using non-native materials creating habitat for invasive species by the applicant.

The displacement of the fishing activity by the energy industrialization of the ocean as a equal trade off on benthic

resource mortality is not founded. The co-existence intrusion banter by the partially foreigner country owned companies whom also have financial interest in seafood and aquaculture are misleading. There is no evidence to support the claim by the applicant on the cumulative impacts of the commercial fishing industry on benthic resource and the information that does exist should not and can not be part of the application. The applicants application and the cumins impacts that are documented must stand alone as permanent impacts that are not mitigable by displacement of the commercial fishing industry.

Sediment deposition cumulative impacts are known within the multiple scientific reports that can be used to do computer generated calculations. The applicant is aware of the impacts and that the maintenance of the cables requirements. The cumulative constant reburial process will have permanent impacts. The fNJOWSP needs to include all impacts to the state, not just what they envision as positive.

Industrial energy offshore sites will contribute to climate change, contrary to those whom are advocates for the industrialization. Impacts to climate change of the cumulative energy industrialization of the Atlantic to be minor too moderate. This is unacceptable. The NJOWSP needs to clearly state that is anyone is found to be paying individuals or companies to advocate inclusive of multi-media campaigns the need for offshore wind turbine industrialization zones to reduce climate change the New Jersey Attourney General will prosecute and have their application denied on the premiss of violation of the public trust for misleading advertisements. The United States Attorney General and the FCC should also investigate the claims to the rate payers and the tax payers made by the industry as a whole.

Marine impacts broken down into zones to avoid is a land based equation being implemented in a marine environment. Avoiding a couple area on a chart that humpbacks are know to be does not take into account how the whale get there. They swim! When whale swim to the area of concern they will transit the many areas being leased. The cumulative impacts to interference with migration patterns is speculative and can be easily adopted to a permanent impact when corralling is considered. Even if the whales avoid the shipping lanes, any change in migration patterns will have significant I'm pact on the fishing industry. The fishing industry is at a zero take threshold and will not be able to engage in activities if the migration patterns of whales and other protected marine species are changed. The decrease in the supply of seafood has already been recognized as a permanent impact, any additional impacts will add to the catastrophic collapse of the economically valuable industry and its contributions to food security in the country.

The collapse of entire eco-systems will not be avoided by removing a couple areas of the chart where species like horseshoe crabs congregate. If the EMF around each tower changes the migration patterns and where the crabs hibernate during the winter (Skip Jack) the prehistoric ecosystem foundation will collapse in multiple scenarios. The crabs changes like with the change of migration to any marine life caused by the cumulative impacts of the Industrial energy development zones will be catastrophic, because of the changes in interactions by other marine users. The applicant has failed to acknowledge the potential changes in the 200 species likely effected by the cumulative impacts including the secondary impacts, like a increase in food security in the coastal communities.

The suggestion that the recreational fishing industry will benefit from the additional 9000 artificial sites is one of the systemic raciest components contained in the application and within BOEM as a whole. The 9000 sites will have a negative biological inventory affect. The economic and sites that could provide a source of seafood will be economically dependent. The increased cost of seafood with a simple supply and demand chart will show the additional costs to the consumers. The USDA has the calculations on the price increase / decrease ratio on a ten cent basis on how many people can afford a nutritional meal. The NJOWSP, should address the cost of seafood and the impacts to the countries people whom are already in need. The comments that only the wealthy can afford fish was not true in the coastal communities, but will be with the lack of inclusion and understanding of the impacts if not included in the NJOWSP.

The NJOWSP analysis of level of cumulative impacts is bias, not representative of what is stated, is riddled with purposely omitted science, uses the elimination of other marine users to support its position in direct violation to the EO, and is financially self serving. and supports the expansion of a nascent industry that violates multiple sections of the EO.

The NJOWSP use of current ocean users and their cumulative impacts should not be considered in the evaluation of the overall cumulative impacts of the industrial energy development zones. The Offshore wind industries impacts need to stand alone and should not be considered reduced by displacement of current marine uses. Under the applicants own submission, the environmental impacts without using the displacement of commercial fishing operations will be excessive. Therefore it should be easy to

conclude based on the intent of the EO and common sense that the nations food security and infrastructure should take precedence over the needs of a short lived response to a artificial political need for energy development at sea.

The model used by BOEM on accidental releases of fuel, oil, and hazmat from 2013 is outdated. The current sizes of the proposed WTGs will double the 13 million gallons to 26 million gallons. With the estimated 4000 gallons of accidental discharge risk assessment increasing doubling every five years, at the end of the life span of over 2000 WTGs there will be leaking a estimated 800 - 1000 gallons each of oil the five years of operation and 1000-2000 gallons per year during decommissioning. It is easy to rationalize; 2000 20 year old leaky car engines suspended over the ocean for ten years waiting to be towed away to the dump. Which in fact is not considered accidental. If your car leaks oil, we have laws on land that makes the owner responsible for the dripping on to the land and into the water. If the owners refuse to address the leak immediately, the act is not a accident. It is negligence. BOEM is quick to defend the application with the unfounded self-serving statement that 'The likelihood of a oil spill occurring from multiple WTGs and ESPs at the same time is very low". It should also be noted that the estimate does not include the support vessels pre, post, and during decommissioning. BOEMs suggestion that the cumulative damages from fuel, oil, and hazmat are within the normal ranges of acceptability is ludicrous since there is none of this discharge occurring with any legal acceptability within the maritime industry and that the industrial Energy development zones impacts would be in addition to anything that currently exists. It is unconscionable to not include this impact in the NJOWSP. The acknowledgment of invasive

species and the creation of nontraditional habitats resulting in the expansion of invasive for cumulative area exceeding a thousand square miles should result in the application being denied.

Biologically significant impacts on fin fish, invertebrates, and EFH have been documented. The impacts of EMFs on a variety of species including spiders is of extreme importance. It is alarming that studies that exist have not been reflected in this section. Such as the changes it feeding habitat and range of large coastal sharks. The impacts of burrowing sea life like crabs, and the ecosystem dependent horseshoe crab. The studies also seem to always leave out the EMFs before the cable reaches its burial depth. Especially because the impacts on the habitat creation that the industry claims is so beneficial has a even higher rate of biomass removal than artificial reefs. Unfortunately many of theses studies are considered proprietary by the industry. I would suggest by not releasing the studies that may prove to be in contradiction to the success of the applicant is in violation of the application as a whole and that is a criminal offense that the United States Attorney General should be investigating.

The distance between cables during installation is misrepresented. Installers try to keep the cables close together and the need for replacement of the cables occurring on the average of two times during the life span of the industrial zone would suggest that need exists. The web of cables hanging from structures and lining the seafloor ever football field for a thousand acres emitting a EMF and the heat associated with it would have some affect. Such as the benthic resources which is the foundation of the many fish

species found in all the oceans including the endangered humpback whale.

The noise from the cumulative installation of over 2000 structures is estimated to result in a mortality radius of 300 feet for 4-6 hours a day for close to 10 years is unacceptable. The permit should be denied. There is a estimated mortality rate for whales since the overall reach of the noice over the time period is a 5.5 miles radius. The extended noise level has been know to create deafness in the whale, rendering the unable to feed. While every other marine industry is at a zero tolerance mandate for whale interaction, it is not consistent to allow a new nascent industry with a known mortality rate enter the marine trades. NO marine mammal take permit should be afforded and the anticipated litigation should be anticipated. Whale interaction is the reduction of forage. Ten years of mortality of the squid population will devastate not only the whales but many of the commercially harvested fin fish. The killing area for squid is close 2-3 miles from the impact zone. Squid is the most consumed seafood in the world and the one of the most economic viable fisheries. During the corona virus, squid is one of the fisheries that became extremely important because of the shelf life through freezing processes. Another secondary impact on a multitude of fish that will be effected by noice is the avian population who relies on a large spawning body of fish. There is a overwhelming amount of primary and secondary cumulative impacts with the industrial energy construction sites and their location to the most fertile reproduction area for over 200 spices of fish. Frankly, there is so much information on the

impacts on the variety of fish and the mortality rate for each species, it is callous of Ramboll not to do a deep dive and include more negative impacts in the NJOWSP. There is overwhelming information on the ecosystem collapse of so many fisheries, avians, endangered species, and marine mammals, with a secondary collapse of economic components to coastal communities, and food security by the direct use of pile driving equipment over the cumulative impacted area occurring in multiple locations a day. That Ramboll has chosen to limit the negative impacts of the proposal by one looking at a select group of species. This choice of economic salvation in the NJOWSP process is not acceptable. The marine species are interdependent and each species has its own reason to exist. The permanent impact on one species can easily create permanent impacts on another. The information exists in multiple government libraries. The BPU just chose not to expend the finances to complete the NJOWSP properly.

The cold water pool that so many fish are dependent on will be adversely affected. The wind energy is to increase the water temperature creating greater hurricane strength when traditionally storms are reduced in strength before hitting the coastal sates. The change in salinity will have a significant impact on a variety of species during their marvel stage. The creation of “wind waves’ affecting tourism, agriculture, and the ability to see the sun rise will all be significant impacts that the applicant has failed to include in detail in the application and the cumulative impacts associated. The representation that the warmer water temperatures impacts “are expected to be localized” is unsupported. The Industrial

energy offshore wind zone is over 1500 square miles. I guess if you consider the size of the Atlantic Ocean, 1500 square miles could be consider localized; but not in this application. This is an outrageous avoidance of the overwhelming impacts to so many states and industries by foreign investors of an outdated dying industry grasping at any last dollar before they go bankrupt. There are so many environmental, economic and social impacts that the NJOWSP fails to include, as a whole it needs to be rewritten.

Considering all the IPFs together BOEM should anticipate permanent adverse impacts and potentially minor beneficial impacts if the desire is to change the entire ecosystem. The offshore wind industry will be responsible for the majority of the impacts related to cables and pile driving. BOEMs position that the permanent impact to the ecosystem with regards to finish is strictly bias. The current impacts to the large variety of marine life is highly regulated and sustainable with opportunities built into the management plans to address and unanticipated impacts. The cumulative impact to Fisheries by the cumulative development of the industrial energy development zones has no programs in place to stop the collapse of any fish species or ecosystem once the projects begin. In fact it is anticipated that the sandy bottoms will be littered with hardened no native soils, rubble and and 9000 super structures that will change the ecosystem and the variety of biomasses that use the over 1500 square mile development zone. Further moderate to permanent impacts to inshore and nearshore ecosystems will also occur. The ongoing and future surveys of the potential impacts of offshore wind on finish, invertebrates and EFH will have to continue before OWSP can be fully vetted.

The proposed action and other future actions will have directly influenced fishing activities. This is a permanent impact to the seafood industry and the nations food security.

Seabed alterations from sediment shift will have permanent impact of the ecosystem.

The contribution of the industrial energy zones will contribute to climate change and can not be considered as having no impact.

The 10 year build out referred to within the Industrial Energy development zones will have over lapping impacts, multiplying the anticipated mortality rate among many of the species of concern.

The reference to the endangered species, the American sturgeon and the migration habits is a good example why the NJOWSP is incomplete.

The changing of an ecosystem by adding 9000 structures where none existed before is a permanent impact, and should not be considered a moderate beneficial impact.

There will be significant impacts to the fishing industry with the loss of 1500 square miles of the most diverse fishing grounds on the east coast. The applicant has been misled by the fishing liaison as to the willingness of fishers to fish in shipping lanes. Plus it should be anticipated that with the reduction of open waters to transit that vessel traffic in the shipping lanes will place vessel at closer proximity especially during the construction phase of any of the development sites. This reduction in fishing grounds and the increased vessel traffic will have a direct negative impact of fishing effort effecting t
New Jerseys economy beyond what is reflected in the NJOWSP.

The impact of EMF on marine mammals are significant. Marine mammals change direction and take larger detours around the industrial energy zones. The probability of corralling the marine mammals into the shipping lanes is extremely high since placement of towers that have exposed cables releasing High EMFs before burial and close to the source of generation are impaling the mammals magnetic threshold. The placement of towers cumulatively are anticipated to be .5 to 1 nautical of separation. This cumulative impact of EMFs will have a permanent impact on the mammals migration patterns. The applicants use of marine mammal detergents such a sonic devices (Pingers) in and around the shipping lanes have been found to be to costly to maintain and unreliable due to other ocean users interactions. Plus the intentional harassment of marine mammals is prohibited. The fact that the EMFs inhibit free movement of the marine mammals constitutes harassment of the marine mammals. Perhaps an exemption certificate should be replaced with notices of violation for the intentional deployment of EMFs harassment devices in the known and documented migration patterns. Especially since cables that are suspended can insulated below the impact threshold at great expense. This economic burden should be contained in the NJOWSP.

During the anticipated build out of the cumulative development zones, there is anticipated to be 125 to 230 vessels in operation at one time. If all these vessels are to be using the shipping lanes, the chances of whale strikes will increase 300%.

The presence of hard structure calculations of 2,944 acres of non-native scour protection as a cumulative impact is incorrect and should be tippled (9000 acres) for the

anticipated replacement and repairs during the life of the industrial energy zones.

The NJOWSP has intense adverse impacts on marine mammals. The current marine users marine mammal impacts have no bearing on the decision to grant the a permit to the applicant. The applicant and the cumulative impacts from the industrialization and development of industrial energy zones must stand alone. No nascent marine industry with permanent marine mammal impacts should be granted a permit. Considering all the IPFs together NJOWSP should be anticipating permanent adverse impacts to the marine mammal population inclusive of possible extinction of the right whale. The anticipated change of the ecosystem from a sand bottom to a bottom with 9000 plus structures, 9000 acres of compacted non native sediments, and over 4000 piles of non native rubble, the impacts should be considered permanent and adverse. The NJOWSP needs to include corralling as a impact of migration patterns in the EMF section. With the intentional poisoning and corralling of the mammals while starving them, all the while intentionally harassing them with boat, helicopters, bubble machines, and numerous defining audio devices. NJOWSP should recognize no applicant should be able to get a marine mammal exemption permit and will be issued a notice of violation if they proceed.

Sea turtle are susceptible to EMFs. Similar to the marine mammal impacts, Sea turtles will be corralled into the shipping lanes and experience a increased mortality rate creating a scenario of a permanent impact on the threatened species.

Intentional discharge of fuel, oil, and hazmat at the anticipated cumulative impact as the industrial energy site age, will have a permanent impact.

The cumulative impact on turtles will result in long term and permanent impacts including auditory injuries, stress, disturbance, harassment, and behavior responses.

The EMFs from exposed wires as previously reported scientifically will be a deterrent for the turtles from coming to the stations to rest or feed.

The NJOWSP will have permanent impacts on sea turtles. The co-existence of the sea turtle with the offshore wind industry is questionable at best. The secondary impacts threatens the very existence of some species.

The NJOWSP will have potentially permanent adverse impacts on sea turtles. The presence of structures, pile driving, and EMFs will all have adverse impacts that will be permanent when considering the cumulative impact. The secondary impacts of corralling, intentional poisoning, harassment, and starvation by the Industrial energy Development zones will have a significant biological impact.

Respectfully submitted,

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North Atlantic Clam Association

David H. Wallace

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August 10, 2020

Re: Comments from North Atlantic Clam Association for New Jersey BPS on

NJ Wind Energy Strategic Plan

Offshore Wind Solicitation Guidance Document

Governor Murphy's comments on Offshore Renewable Energy

"The development of New Jersey's offshore wind infrastructure will create thousands of high-quality jobs, bring millions of investment dollars to our state, and make our state a global leader in offshore wind development and deployment. The Offshore Wind Strategic Plan is a critical blueprint that will guide us toward our goal of 7,500 megawatts of offshore wind power by 2035 and help us achieve 100 percent clean energy by 2050."

North Atlantic Comments:

The surfclam and ocean quahog along with the rest of the offshore fishing industry are not being treated fairly in the development of off shore wind. In both the New Jersey Wind Energy Strategic Plan and the second Offshore Wind Solicitation documents fishing is addressed but in such general terms that the developers only give the fishing industry lip service and then do as they please. **Neither the federal nor state governments do anything to protect the offshore fisheries by implementing two times two NM turbine spacing and transit zones requirements in their power purchase agreements**.

Because the states do not want the offshore wind near land the leases are being placed in the offshore fishing grounds. The fishing industry has been supported verbally by Governor Murphy but the requirements on the wind farm developers is so lax that they are taking thousands of square miles of fishing grounds from the fishermen. This document is to comment on the proposed Strategic Plan and the Offshore Wind Solicitation Document. They both have the same problem, they do not protect the fishing industry and the New Jersey fisheries will be badly hurt. The surfclam and ocean quahog fishery will be hurt the worst. That is because the leases are placed in the areas that the fishery actively works. It is also, where in most years, there are good sets of young clams. Clams unlike finfish do not move, so they cannot swim out of the area in which they live. However, the developers want to place their turbines close to each other making it difficult if not impossible to work safely once the wind farm (s) are built. The clam fishery has asked the developers many times to spread out their turbines, but they always say that it is too expensive and it would reduce their income. The developers could care less that they are cutting out those boats that fish for clams, which provide their income in the lease area. It is outrageous to have European companies take over U.S. fishing grounds and put American vessel owners and crews out of business in their own country with no consideration.

The developers do not want boats or fishermen in their wind arrays, as they have in Europe where in most cases no boats of any kind are allowed within their array except their vessels. All of the developers are working to make sure that they get the same outcome here. If the facts were known, they would not want any vessels working in their array or transiting through it.

The 7500 MW of wind energy is a miss representation of the facts to the ratepayers of New Jersey (NJ). Since ocean wind turbines are at best less than 40 percent efficient, the obvious conclusion is unless the state want to be in darkness, there must have other power sources to keep the states operating for the other 60 percent of the time when wind turbines are down. One power source that may not be helpful is solar, it produces power about 50 percent of the time, and it is more predictable than wind, but still short of being a base power supplier. There are two options to deal with the wind and solar down times. They are a storage system or on line power generator such as nuclear power plants that can carry the load 24/7 when necessary. It may be possible to import nuclear power from outside sources or build more nuclear power plants. The reality is that if NJ were to contemplate that a storage plan like pumping water up hill and then releasing it through a turbine when to wind and solar cannot carry the load, they need more than 200 percent of the turbine/solar capacity to power the grid and at the same time recharge the storage source. No one would design a system that is so inefficient as to require 200 plus percent of the electric power demand because wind and solar only function less than 50 percent of the time. The fact is that conventional power plants must be on line all the time. Plus, in most cases system must have surplus capacity above maximum demand so when one power source is down the other sources can carry the load. The state and grid operator understand the situation, why do not they say it. **Windmills and solar arrays are not the solution, they are the problem**.

According to the Strategic Plan, the chart found on page 73, Figure 6-2 the estimated power demand for the next 30 years is as follows:

FIGURE 6-2: ELECTRICITY GENERATION, LEAST COST SCENARIO, sources of electric supply and demand for 2020 at about 75 TWh, then 120 TWh by 2035 and 160TWh by 2050, where is the power going to come from?

For 2020 Demand 75TWh

Nuclear 33%
Fossil Fuels 62%
All others 5%

For 2036 Estimated Demand 120TWh

Nuclear 24%
Fossil 26%
NJ Solar 25%

Off shore wind 10%
PJM Grid Imported 15%

For 2050 Estimated Demand 160TWh

Nuclear 15%
Bio Fuels and Misc. 5%
NJ Solar 30%
Off shore wind 30%
PJM Grip Imported 20%

According to the chart, in 2020 nuclear makes up about 33%, fossil fuels make up over 62% with 7% to other sources for about 75TWh demand. Nuclear is estimated to be flat at about 25 TWh until 2050 which means that the lights will be out often when the solar is off in the dark and the wind drops out there will not be enough production to keep the state supplied without importing large amounts of electric. If the chart on page 73 is correct in 2050 the demand will be about 160+TWh with a constant supply of about 25 TWhs from nuclear and a few TWh from bio fuels. All the rest is scheduled to be provided by solar and wind production, which is high variable. The additional requirements must be imported wind, solar and other sources of power from other areas and possibility from fossil fuel power plants. The lack of rules on wind developers is not going to solve this problem but it surely will affect negatively on the fishing industry if something is not done.

The point is that except for nuclear power plants, there is no other available carbon free power source at this time that can carry one hundred percent of the electric load 24/7. All of the power companies including the ocean wind developers know this, but they will not say it because the developers cannot justify their policy of harming all of the other ocean users. Climate change is a problem, wind turbine farms and solar arrays are not the solution.

The fishing industry has met with the wind developers for years. They take our names and put them on a list, of who they have talked too. They do not report to BOEM or the states what the fishing industry is stating that the fisheries need to maintain reasonable access to their fishing grounds. There is not one thing that the developers have done to help protect the fishing industry. **Governor Murphy said that the wind farm developers and the other users of the ocean need to coexist, that is not happening**. Therefore, the wind developers should not be issued a power purchase agreement until they have transparently put fourth an acceptable agreement with the fishing industry and other ocean users. Here are U.S. companies with their crews and other employees, which are Americans. The developers are all from Europe and most of their key people are Europeans. Therefore, the ratepayers from New Jersey get huge increased electric bills and the fishing industry get shut out of the fishing their grounds. And, because the developers will not agree to transit zone all of the U.S. vessels must steam miles out of their way to avoid thousands of wind turbines put so close together that vessels cannot safely transit through the arrays so the developers can get the most power out of their lease. The developers say about their concession, “we moved the turbines out from .6 to 1.0 NM because the fishing industry want room to

fish and transit lanes." What they do not say is they moved the turbines further apart because they now are installing much larger turbines than originally planned. The larger the turbines have longer wakes therefore they need to spread the turbines out to be efficient. The other thing they do not say is that with the larger turbines that can produce more power from the lease than they had originally planned. It had nothing to do with make concessions to the other users. The fishing industry demanded having the turbines, two miles apart, in straight lines and set into the tide, which would allow fishing within the wind farm. This would be enough space to safely fish and navigate through the array in good weather. The developers are greedy and their deceitful actions regarding the fishing industry are dishonest, outrageous and unfair. Therefore, all Americans including the electric ratepayers, fishermen, shipping operators are the losers in this ill thought out concept of 100 percent renewable energy.

This section below was taken directly out of the Proposed Strategic Plan to show that the fishing is not being protected. These wind farms development should not be allowed until the other industries and fisheries, habitat and ocean science studies are done and analyzed. There are no base line studies, but it is suggested that studies be made after construction of the wind farm. However, good science have a preconstruction base line and then the monitoring to see the changes. Without the preconstruction data collection and analyzation the monitoring is for the most part worthless because there is no way to know what changed.

Commercial and recreational fishing in New Jersey constitute a significant part of the economy and are a cultural heritage. Offshore wind represents a once-in-a-generation opportunity to embark on a new industry that is poised to create jobs and economic growth for decades to come as well as address important environmental challenges by offsetting emissions through the creation of clean energy. The commercial and recreational fishing industries are critical, and offshore wind development should consider methods to minimize conflicts while enhancing both industries.

Meeting New Jersey's goal for offshore wind development will help mitigate the impacts of climate change, which threatens New Jersey's fisheries. Strategic recommendations and next steps related to commercial and recreational fisheries include:

• Ensure continuation of data collection efforts off the East Coast in support of New Jersey state and regional fisheries management decisions and to form the basis of a long-term marine monitoring program for assessing potential cumulative impacts associated with offshore wind development. Determine what survey methodology changes and/or project siting recommendations could be implemented to maintain the continuity and long-term consistency of assessment programs.

• Collaborate with other states, academic, and environmental entities, and use regional, multistate, and multisector collaborations to develop and conduct regional fisheries monitoring and data sharing.

• Leverage existing commercial and recreational fisheries that currently provide valuable information on existing conditions to conduct ecological monitoring in support of construction and operations of offshore wind farms.

• Utilize the New Jersey Offshore Wind Environmental Resources Working Group to continue engagement between the state and the commercial and recreational fishing community throughout each project's life cycle and request that developers and the state identify fishing industry liaisons. Establish cooperative research initiatives to provide a means for commercial and recreational fishers to become involved in the collection of important fisheries information to support the development and

evaluation of fisheries management. COMMERCIAL AND RECREATIONAL FISHERIES STRATEGIC RECOMMENDATIONS NEW JERSEY OFFSHORE WIND STRATEGIC PLAN 50

• Implement harbor management plans24 for facilities located in areas with significant commercial fishing operations to determine any impacts on dock access, fuel access, or other activities that may interact with fishing operations.

• Enhance communication and coordination between fishing communities and state and federal agencies through the Offshore Wind Environmental Resources Working Group.

• During project design and layout, assess the need for one or more fairways in lease areas for commercial and recreational fishing vessels.

• To the extent practicable, make choices that maintain access to and transit through wind energy areas by the users who currently rely on them, including fishing and transit without compromising project safety and efficiency.

• Ensure that interconnect and transmission cables are buried to a depth sufficient to avoid interaction with benthic fishing gear and inspect them regularly to ensure adequate cover.

• To the extent practicable, incorporate habitat enhancements to attract commercially targeted species and provide long-term benefits to commercial and recreational fisheries.

As you can see there is nothing in this section that helps or supports the fishing industry.

Thank you for considering the North Atlantic Clam Association's comments.

Sincerely,

David H, Wallace,

For,

North Atlantic Clam fishery,

State of New Jersey
DIVISION OF RATE COUNSEL
140 EAST FRONT STREET, 4TH FL
P.O. BOX 003
TRENTON, NEW JERSEY 08625

PHIL MURPHY
Governor

SHEILA OLIVER
Lt. Governor

STEFANIE A. BRAND
Director

August 17, 2020

Via Electronic Email
Aida Camacho-Welch, Secretary
New Jersey Board of Public Utilities
44 South Clinton Avenue, 9th Floor
Trenton, New Jersey 08625-0350

Re: In the Matter of the New Jersey Draft Offshore Wind Strategic Plan
BPU Docket # QW18030284

Dear Secretary Camacho-Welch:

Please accept for filing the enclosed comments being submitted on behalf of the New Jersey Division of Rate Counsel ("Rate Counsel") in connection with the above-captioned matter. Copies of Rate Counsel's comments are being provided to all parties on the service list by electronic mail and hard copies will be provided upon request to our office.

Thank you for our consideration and attention to this matter.

Respectfully submitted,

By: /S/ *Stefanie A. Brand*
Stefanie A. Brand, Esq.
Director, Division of Rate Counsel

SAB
Enclosure

cc: Osw.Stakeholder@bpu.nj.gov
Board.Secretary@bpu.nj.gov
Abe Silverman, Chief Counsel
Kelly Mooij, Director – Clean Energy
Jim Ferris, BPU
Pamela Owen, SDAG
Aida Comacho-Welch, BPU Secretary

STATE OF NEW JERSEY

BEFORE THE BOARD OF PUBLIC UTILITIES

In re: Draft Offshore Wind Strategic Plan	**)**
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	)

COMMENTS OF THE NEW JERSEY DIVISON OF RATE COUNSEL ON THE NEW JERSEY DRAFT OFFSHORE WIND STRATEGIC PLAN

August 17, 2020

Introduction

The Division of Rate Counsel ("Rate Counsel") thanks the Board of Public Utilities ("Board" or "BPU") for the opportunity to provide comments on the draft New Jersey Offshore Wind Strategic Plan, released on July 13, 2020. A public meeting to discuss the draft was held on August 3, 2020. The meeting consisted of a brief presentation by BPU Staff recapping the State of New Jersey offshore wind ("OSW") goals and activities to date, as well as background on the requirements of the Offshore Wind Economic Development Act ("OWEDA") and Executive Orders No. 8 ("EO8") and No. 92 ("EO92"). [1] A presentation with the content of the draft OSW Strategic Plan ("OSWSP") was also given. Stakeholders and members of the public were also invited to participate.

On November 19, 2019, Governor Murphy signed Executive Order No. 92, which more than doubled New Jersey's previous offshore wind energy generation goal from 3,500 megawatts (MW) to 7,500 MW by 2035. The OSWSP is intended to serve as a roadmap to meet this goal. This significant amount of capacity development can only be successfully realized with a plan that is focused on cost-effective implementation as well as the creation of economic benefits and the protection of natural resources. Overall, Rate Counsel is supportive of the draft OSWSP and its efforts to facilitate this development as well as the achievement of New Jersey's goal of 100 percent clean energy by 2050.

The draft OSWSP focuses on five key subject areas for OSW development. These are: (1) environmental and natural resource protection; (2) commercial and recreational fisheries; (3) supply chain and workforce development; (4) ports and harbors; and (5) energy markets and

[1] 2010, P.L. 2010, c 57, as amended N.J.S,A, 48:3-57 to -87.2; State of New Jersey. 2018. Executive Order No. 8. Office of the Governor, Trenton, NJ. Available at: https://nj.gov/infobank/eo/056murphy/pdf/EO-8.pdf; and State of New Jersey. 2019. Executive Order No. 92. Office of the Governor, Trenton, NJ. Available at: https://nj.gov/infobank/eo/056murphy/pdf/EO-92.pdf

transmission.[2] While Rate Counsel recognizes the importance of each of these subject areas, the remainder of our comments will focus on the energy markets and transmission section.

To meet the state's offshore wind goal, OWEDA establishes that a percentage of New Jersey's electricity must be purchased from OSW projects through the offshore wind renewable energy certificate ("OREC") program. The price of an OREC ($/MWh) is the all-in cost of the offshore wind project (i.e., the total project capital and operating costs offset by any tax or production credits and other subsidies or grants). The OREC price is a 20-year fixed price. The price paid by ratepayers is the OREC price less any non-OREC revenues generated by the offshore wind project including from the wholesale energy or capacity markets.[3]

The OSWSP notes that OSW technology is rapidly evolving, while capacity development increases. It also notes that "[t]houghtful reevaluation of the changing landscape and interdependencies of this industry on the energy markets and infrastructure is necessary."[4] Rate Counsel finds this statement key to ensuring the most cost-effective and efficient development of this capacity resource. Thoughtful and reoccurring evaluation must be at the forefront of this strategic plan. This includes evaluating technologies, competitive bidding strategies and solicitation, and transmission planning.

For instance, a unified, well-coordinated approach to transmission planning for OSW generation is imperative. Rate Counsel understands that a transmission stakeholder group has been convened to identify and evaluate transmission options for anticipated OSW development. Several types of transmission models currently used in the U.S. and around the world should continue to be evaluated for potential use in New Jersey and the eastern seaboard. The BPU will

[2] Draft Strategic Plan, pp. 8-10.
[3] State of New Jersey. 2010. Offshore Wind Economic Development Act. Available at: ftp://www.njleg.state.nj.us/20102011/S2500/2036_R2.PDF.
[4] Draft Strategic Plan, p. 72

need to continue the stakeholder process in order to develop the appropriate framework that will work best for New Jersey and its ratepayers. Coordination efforts may also need to be made with PJM or other regional transmission operators as well as state and federal government agencies in order to ensure a workable framework for all entities that are necessary to grow the potential for offshore wind capacity in the state.

Rate Counsel encourages the continued evaluation and detailed study of various transmission policy scenarios. Any multi-state, multi-participant OSW transmission project being considered should evaluate the ratepayer impacts and include a thorough cost-benefit analysis ("CBA"). For instance, when considering a regional or multi-party OSW transmission project Rate Counsel believes that the Board needs to address several important cost allocation questions. These cost allocation questions include, but are not limited to:

(i) Any OSW transmission project that is approved by the Board needs to assure that costs are allocated appropriately across all states and all participants in the project. For instance, while an OSW transmission project could involve several states, they could also include several OSW projects (and their developers) on a stand-alone, participant only basis (hence the use of the term "multi-participant"). Developers, particularly those that are engaged in projects that may be speculative in nature, need to assure they are paying their fair share of the costs of the system.

(ii) Any potential OSW transmission project needs to include a full CBA that considers cost-allocation issues since the rate impact burden of a regional or multi-participant OSW transmission project could impact various states, and their regulatory customer rate classes differently.

(iii) Any regional or multi-participant OSW transmission project that is considered and ultimately approved by the Board needs to assure that project risks are borne by the appropriate parties. The Board will likely not have jurisdiction on approving an OSW transmission project, particularly one that includes multiple state participants and or crosses into federal and state waters since such a project

will be involved in interstate commerce and will likely be FERC-regulated. It is likely, but still not assured, that the Board may have approval authority over electric distribution company ("EDC") participation in any offshore OSW transmission project either directly or through an OWEDA-approved contract. The Board must assure that overly generous ROEs and other incentives are not included in the approval of such contracts/projects and are not allocated to New Jersey ratepayers. OSWEDA affords developers a unique and robust method of assured cost recovery that does not require any additional incentives or bonuses.

(iv) The Board needs to completely explore the relationship between OWEDA and any regional and/or multi-participant OSW project, not just as it related to cost allocation, but a host of other legal, regulatory and other ratemaking issues.

(v) Cost allocation methods must also assure that any revenues that are generated in excess of those required to cover the costs of an OSW transmission project are used to reduce overall ratepayer cost obligations. The Board should cautiously review any regional or multi-participant OSW transmission proposals to create any opportunities for unnecessary gains on sale that could be used to enrich one set of market participants over ratepayers.

Similarly, as technologies evolve and costs decline, the rate impacts of each and every policy decision need to be evaluated and analyzed. And while OSW is instrumental to the State achieving its clean energy goals, it should be noted that the costs and rate impacts of the New Jersey 2019 Energy Master Plan have yet to be released. Rate Counsel believes that cost-effective development should be the most important consideration guiding each and every policy decision regarding the future development of offshore wind and transmission development.[5] With the ongoing pandemic and impeding economic decline, ratepayers should be protected from any potential for rate increase. Public policy factors such as affordability, rate continuity

[5] N.J.A.C14:8:6.5. (a).11

and the public policy goals of the asset development, which are primarily associated with the development of clean energy resources to benefit the environment, must be considered.

The OSWSP discusses the importance of evaluating and modeling the levelized cost of energy ("LCOE").[6] Rate Counsel agrees that this is imperative in determining the effect of OSW capacity development on New Jersey ratepayers. However, as highlighted by the OSWSP, varying assumptions can lead to notably different results in the estimated LCOE. Thus, the most important factor in ensuring cost-effective and efficient development of OSW capacity will be through an open and transparent competitively-bid solicitation process. Competitive processes must be used and rate impact and cost-benefit analyses should be instrumental in informing all policy decisions moving forward.

[6] Draft Strategic Plan, pp. 74-75.

Responsible Offshore Development Alliance

August 17th, 2020

Mr. Joseph Fiordaliso, President
State of New Jersey Board of Public Utilities
44 South Clinton Avenue, 9th Floor
Port Office Box 350
Trenton, New Jersey 08625-0305

Re: OSWSP Comments

Dear Mr. Fiordaliso,

The Responsible Offshore Development Alliance (RODA) submits the following comments regarding the New Jersey Offshore Wind Strategic Plan (July 2020 draft) (OSWSP). RODA is a membership-based coalition of fishery-dependent companies and associations committed to improving the compatibility of new offshore development with their businesses. Our approximately 170 members are comprised of major fishing community groups, individual vessels, and shoreside dealers operating in New England, Mid-Atlantic, and Pacific federal and state waters, and a significant number are located in New Jersey.

The OSWSP states NJ "must develop offshore wind in a manner that maintains and protects robust commercial and recreational fishing" and clarifies that its roadmap for OSW development will "include an ongoing process to incorporate and protect commercial and recreational fishing interests." Despite these stated good intentions, its content provides no clearly delineated means by which to achieve these goals.[1] This limits RODA's, and the rest of the public's, ability to provide substantive comments.

As the state's Administration is well aware, fishermen have repeatedly raised concerns about the ineffectiveness of the current OSW planning and regulatory processes and the lack of any meaningful effort to balance this new offshore use with existing ones. Instead of a comprehensive, thoughtful, and responsible approach to OSW development, the process both in NJ and at the federal level has instead consisted of approaching OSW decisions in isolation and then flooding fishermen with requests for feedback on innumerable small matters rather than treating them as respected partners in working to develop a holistic approach. *To be clear, the issue is not with insufficient opportunities to comment, but rather the utility of those comment periods and the absence of any tangible results from those efforts to date.*

In this two-month period alone, NJ fishermen have been asked to provide substantive comments or feedback on a huge number of federal and state wind-related matters that have direct bearing on

[1] This is perhaps unsurprising given that the catalyst for its development is Executive Order 8 (Jan. 31, 2018), which states that the OSWSP "shall ensure that natural resources are protected throughout the development and operational stages of offshore wind energy production" but fails to provide any consideration of NJ's robust fishing economy and its importance to coastal communities.

their businesses and livelihoods. While many of these are important efforts that RODA members do appreciate, they require significant time and attention. They include:

NJ/DE Port Access Route Study	July 6th
Vineyard Wind Supplemental Environmental Impact Statement	July 27th
New Jersey Offshore Wind Transmission Information Gathering	August 14th
NYSERDA Mariners Opportunities Report	August 14th
NJ OSWSP (this notice)	August 17th
2020 Offshore Wind Renewable Energy Credits Solicitation	August 19th
NJ PACT land use rules revisions	August 25th
Northern NY Bight Port Access Route Study	August 28th

In addition to these formal comment periods, in these same 60 days alone NJ fishermen have been actively engaged as a matter of necessity in direct conversations with developers on the following projects through RODA or public meetings:

- Empire Wind (Equinor)
- Ocean Wind (Ørsted)
- Atlantic Shores Offshore Wind
- Joint Industry Task Force (non-project specific topics including aids to navigation recommendations and educational seminars)

That's not all. There are also significant demands on fishermen to participate in scientific efforts, which they have gone above and beyond to meet. These include a half-dozen plus studies in which the fishing industry are project partners with entities such as the Bureau of Ocean Energy Management, the regional ocean data portals, the NY State Energy Research and Development Authority, the National Marine Fisheries Service, the Science Center for Marine Fisheries, and academic institutions, providing input on project-specific fisheries monitoring plans, efforts to launch the Responsible Offshore Science Alliance (ROSA), and more. This is all in addition to their constant participation in the regulatory processes for their fisheries, mostly through the fishery management councils.

Please bear in mind these efforts impose enormous time and informational demands on fishing businesses for matters *only* related to the rampant and poorly planned OSW development process. This is also a period of significant management and science challenges in federal and state fisheries oversight and unprecedented economic, employment, and welfare uncertainty for fishing businesses associated with the ongoing public health pandemic. Let us not forget that summer is also the most active season for most fisheries.

Despite the time spent on these efforts and the integrity with which the fishing industry has come to the table each time it is asked, *they have seen no tangible improvements in a broken system*. Instead, they are asked the same questions over and over, there is no transparency regarding the fate of their input, and not one element of lease siting, the regulatory process, project design,[2] or anything else

[2] Notably, Equinor is working directly with fishermen to directly and transparently incorporate their recommendations into innovative layouts for the Empire Wind project. Although this process is not complete,

has improved in any identifiable way. There is simply an ever-increasing number of meetings and comment letters.

RODA does have substantive concerns with some elements of the OSWSP. For example, its recommendation to "incorporate habitat enhancements to attract commercially targeted species and provide long-term benefits to commercial and recreational fisheries" (p. 50) is not supported by evidence nor opinion. Characterizations in the draft plan regarding supply chain and workforce development are troubling and similarly unsupported. However, our members are largely unable to devote additional time commenting on guidance documents, particularly those that provide no clear commitments or solutions toward preserving sustainable fisheries.

The fishing industry no longer takes heart in commitments to "engage" them or to increase "stakeholder outreach." Instead, we respectfully ask: what will change? What commitments will NJ make to ensure that these good faith efforts from an entire industry are not in vain? This is a historic industry that is providing a sustainable and strategic food supply from the sea, to the benefit of the entire state of NJ and America's seafood consumers, and it deserves to be taken seriously.

Sincerely,

Annie Hawkins, Executive Director

Fiona Hogan, Research Director
Responsible Offshore Development Alliance

and it does not address many foundational concerns, we commend this effort and are optimistic for an improved outcome compared to less collaborative approaches.

UNITED STEELWORKERS
USW
UNITY AND STRENGTH FOR WORKERS

District 4

Del Vitale
District Director
David M. Wasiura
Assistant to the Director

August 17, 2020

President Joe Fiordaliso
New Jersey Board of Public Utilities
44 South Clinton Avenue, 9th Floor
Post Office Box 350
Trenton, NJ 08625

Re: Draft New Jersey Offshore Wind Strategic Plan
Submitted electronically to: OSW.Stakeholder@bpu.nj.gov

Dear President Fiordaliso:

I write to you on behalf of the members of the United Steelworkers District 4, which represents workers in manufacturing, healthcare, energy, service sector, education, and public sector jobs across the northeast United States and Puerto Rico. Offshore wind poses a significant economic and environmental opportunity for the United States. Our union has long known and fought to ensure that we have both good jobs and a clean environment.

Governor Murphy and his administration have shown leadership to make early commitments to both megawatts and the infrastructure to sustain the offshore wind industry. We appreciate the ability to comment on this draft offshore wind strategic plan, and we urge the Administration to continue to seek public input and to actively engage with community members and worker organizations to ensure that the growth of this industry occurs in an equitable and economically beneficial manner.

To that end, our comments specifically focus on the Supply Chain and Workforce Development and the Ports and Harbors sections of the Draft NJ Offshore Wind Strategic Plan.

Supply Chain and Workforce Development

The potential for large-scale offshore wind development in the northeast United States provides the opportunity for significant economic benefit to the state and the region. The vast majority of jobs created as part of a wind energy project are in the manufacturing supply chain, and New Jersey has the opportunity to lead in creating jobs in this sector.

The United States will only capture the full economic benefits of the offshore wind industry if policymakers ensure that the industry build out and utilize a domestic, low-carbon supply chain deeper than the final fabrication and assembly. This presents huge opportunities for workers across the region and the nation as a whole to supply steel, copper, chemicals, glass, plastics, and more fully built components like bearings, ladders, etc.

COVID-19 has laid bare the need to domestically manufacture key products and to onshore supply chains. Meanwhile, the Economic Policy Institute reports that the economic consequences of the COVID-19 pandemic have resulted in 740,000 lost manufacturing jobs across the country since February.[1] The necessary economic recovery underscores the need for strong policy to support domestic manufacturers and the need to build new industries – like offshore wind – in the United States.

Therefore, we urge the Administration to be careful about using the terms "balanced approach" in its recommendations in the strategic plan. In our experience, this term errs on the side of developers and corporations, and against the benefits to the public and workers. There is no question that the offshore wind industry is growing and that New Jersey is a leader. We urge the state to push developers and manufacturers to maximize the local and regional economic benefit of this new industry, rather than capitulating to developers' empty threats to take business elsewhere.

One of the recommendations surrounds existing work that New Jersey has begun on the Supply Chain Registry and Supply Chain Technical Assistance Program. While this program has proven a successful starting point, we urge the state to take this registry and supply chain work deeper into the supply chain. In reviewing the current entries, the vast majority of businesses registered are close to the end of the supply chain and not deep enough to supply the component parts. Developing this deeper supply chain should be a regional effort that seeks to identify domestic suppliers for critical materials and components to build turbines and their associated infrastructure. Our union stands ready and eager to work with the Administration to identify and conduct outreach to companies who would fit into the supply chain for this growing industry.

We applaud the recommendation that the state to engage with companies that could develop manufacturing facilities in New Jersey. However, we would recommend some changes to this recommendation. Of course, the state must engage with industry, but should also engage with manufacturing unions and communities to ensure that the potential manufacturers commit to operate in a manner that respects workers and communities, and reflects the values and principles for equitable economic development in New Jersey. We strongly urge the requirement of a community benefits agreement that requires manufacturers to negotiate with key stakeholders that cover, among other things, union neutrality, domestic procurement, local hiring targeting women and historically economically disadvantaged communities, skills training, health and safety, infrastructure, and other community interests.

[1] https://www.epi.org/publication/reshoring-manufacturing-jobs/

Finally, we urge the Murphy Administration to ensure that the support and incentives in the recommendations are connected to strong transparency and requirements to uphold the values of the Murphy Administration. If the state is going to provide significant financial resources to developers, manufacturers, and other companies, those recipients must be held accountable for their commitments to the workforce, community, and the environment. We urge the Administration to set up an oversight panel made up of a diverse group of stakeholders to ensure that recipients of state assistance (from tax dollars) are transparent about the way they use the assistance and that they live up to the commitments they make. And, just as importantly, we urge the Administration to claw back assistance, or ensure that some penalties exist for recipients of assistance who violate their commitments.

Ports and Harbors

Our union applauds the foresight to have a section on ports and harbors to drive strategy in the other infrastructure investments that will be necessary to support the growing offshore wind industry. Indeed, there will need to be massive investment in ports, and we applaud the announcement of the purpose-build Wind Port.

We are eager to learn more about financing, bidding, recruitment, and contracting both for the buildout of port infrastructure and the on-site manufacturing that New Jersey plans to locate at port sites.

New Jersey must prioritize enforcing Buy American, a.k.a. domestic preference in procurement, for the materials required for port construction.

Buy American is a long-standing policy that is well understood by contracting officers and companies for many infrastructure projects built by states and the federal government. It is strongly bipartisan, gathering support from over 80 percent of registered voters.[2]

New Jersey has a long history with Buy America, which was originally enacted in the state after the Great Depression. In fact, the New Jersey statutes currently contain several Buy America provisions:

- N.J.S.A.52:32-l – Provides that the specifications for "state work" or work paid for, in whole or part, by the State shall require the use of manufactured and farm products of the United States "whenever available." Longstanding practice has applied this to construction projects.
- N.J.S.A.4oA:ll-18; l8A:l8A-20 – Similar provisions in the "Local Public Contracts Law" and the "Public School Contracts Law" apply respectively to work paid for, in whole or part, by a county or municipality or by a school district.

[2] http://s3-us-west-2.amazonaws.com/aamweb/2019_Slide_Deck_-_Infrastructure_and_Buy_America_FINAL.pdf

- N.J.S.A.52:33-l et seq. – Requires the use of "domestic materials" in connection with public works at all levels of government, unless inconsistent with the public interest or if United States products in sufficient quantity and of satisfactory quality are unavailable.
- N.J.S.A.52:34-13.2 – Enacted in 2005, provides that any State contract "primarily for the performance of services" must include provisions requiring services under the contract, or under any subcontract thereof, to be performed within the United States. This requirement does not apply whenever the service cannot be provided by a contractor or subcontractor within the United States or if application of the law's provisions to a particular contract would jeopardize the receipt of federal funds.

More recently, the Legislature passed Buy American legislation specifically for surface road and bridge projects, which was vetoed by former Governor Christie. Buy American legislation was again introduced in the legislature this session.

We urge this Administration to uphold this longstanding value of New Jersey and promote the economic recovery from COVID-19 by ensuring that Buy American is applied to the proposed port projects in this strategic plan. And we urge the Administration to prevent opportunities to evade Buy American by segmenting public funding or using other tactics.

We also strongly support the recommendation for community and workforce engagement during the port and harbor infrastructure buildout process. Public engagement and transparency is critical to ensure that hundreds of millions of dollars in development of ports and other infrastructure occurs in ways that support communities and create good jobs.

Again, we thank you for the opportunity to comment on this draft Offshore Wind Strategic Plan. We are available to answer any questions related to these comments, and look forward to continuing to work with you in the future in ensuring that the growth of the offshore wind industry maximizes economic benefit, and equity for workers and communities, while protecting the environment.

Sincerely,

Del Vitale

Del Vitale
Director, District 4

DV:edh

From: Meghan Mertyris
To: Stakeholder, Osw
Subject: [EXTERNAL] We need a say in how Wind Energy affects our communities!
Date: Friday, August 14, 2020 2:13:30 PM

Board of Public Utilities,

Dear Secretary Aida Camacho-Welch:

We are glad offshore wind is happening in NJ, and appreciate the state's leadership. It will provide jobs and new industry for New Jersey. Greater movement toward renewable energy resources like offshore wind is what New Jersey's communities, which face flooding and sea level rise, will need to stay safe and sustainable.

As New Jersey moves forward in reaching its offshore wind goals, it is crucial that we have a clear path forward for ensuring that development is fair to the greatest extent possible, minimizes impact on our wildlife, and creates new opportunities for work and business which are needed more than ever amidst the devastation of COVID.

So our natural resources are protected as we stand up this critical climate solution, New Jersey must ensure that all projects built to power the state are developed with strong, science-based measures in place to avoid and mitigate effects to coastal and marine wildlife. We must also be prepared to fund interventions to assist our wildlife as the projects move forward, and to fairly compensate industries connected to our wildlife which may be adversely impacted.

To maximize economic benefits for the state as outlined in the plan, specific provisions to guarantee equity in hiring and contracting, prevailing wage, support for domestic products, community benefit agreements, and local hiring are essential. We are excited to see that so much of this will be built by union workers, and also hope this is an opportunity to get more of our community members trained and on pathways into these unions.

We would also like to see the DEP and EDA collaborate to figure out how to support what we are calling the community level supply chain. How can the local diner be ready for more business - from construction or wind tourism? How can local businesses and charter boat owners collaborate to offer engaging ecotours? We would like to provide opportunities in communities for this kind of economic development as well.

To accomplish all of this, New Jersey should continue to hear and include views of community members who could gain opportunities or be affected as these projects move forward. We also need to keep investing in research and regional collaboration as this plan is finalized and put into action.

Sincerely,

Meghan Mertyris

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89 Johanna Farms Road
Ringoes, New Jersey 08551