Rockland Electric Company
Response to Request for Comments on
New Jersey Offshore Wind Transmission

December 2, 2019

Rockland Electric Company ("RECO" or "the Company") respectfully submits these comments in response to the New Jersey Board of Public Utilities' ("BPU" or "Board") November 21, 2019 Notice for New Jersey Offshore Wind Transmission Stakeholder Meeting. RECO appreciates the effort by the BPU to engage with stakeholders to inform the cost-effective development of the transmission solutions needed to support New Jersey's offshore wind goal of 7.5 GW by 2035.[1] As discussed below in response to questions provided in the notice, RECO recommends the BPU begin a stakeholder study process, which would include input from PJM and the New Jersey's electric utilities, to evaluate how best to deliver offshore wind to New Jersey customers.

New Jersey, along with other states in the Northeast, has conducted an initial procurement of offshore wind where the offshore wind developer is solely responsible for planning and constructing the transmission facilities required to connect offshore wind generation to the on-shore system. However, the current approach is unlikely to be scalable and cost-effective for meeting the state's expanded goal of 7.5 GW by 2035. Considering each increment of offshore wind separately is likely to result in higher costs than an integrated and comprehensive planning approach that takes the full 7.5 GW goal into account. A coordinated study led by the BPU could evaluate different approaches for connecting and integrating offshore wind into the existing system. In conducting such a study, the BPU should consider the appropriate role for coordination between relevant state and federal agencies, and should include input from PJM and all of the State's electric utilities.

1. **Other Jurisdictions' Efforts to Connect Geographically Remote Generation through Shared Transmission Facilities.**

a. **European efforts to construct shared transmission facilities to bring offshore wind power ashore in a cost-effective manner.**
b. **California's transmission build-out in the Tehachapi region of California**
c. **Texas' Competitive Renewable Energy Zone and whether a similar model would be suitable for offshore wind in New Jersey**
d. **Experience with merchant or competitive transmission models to access geographically limited renewables**
e. **Other models that New Jersey should consider for facilitating offshore wind power.**

RECO's comments to 1(a) through (e) are set out below.

A coordinated study led by the BPU could evaluate different approaches for connecting and integrating offshore wind into the existing system. In conducting such a study, the BPU should

[1] New Jersey Governor Philip D. Murphy Executive Order No. 92 (November 19, 2019).

review the efforts of other jurisdictions to develop and connect geographically remote generation with a focus on the cost impact to the relevant ratepayers. As numerous panelists discussed at the BPU's technical conference, jurisdictions both within and outside of the U.S. have observed demonstrable benefits from the coordination of the construction of transmission facilities that integrates geographically remote resources to the electric grid. Also, some panelists discussed the benefits that resulted from separating construction of transmission from the solicitations for offshore wind generation, including reduced costs for the offshore wind generators and increased competition among resources seeking to interconnect to the system.

Importantly, in most, if not all, of the examples cited by panelists, the needed transmission was identified as part of a coordinated process. Similarly, New Jersey should determine the optimal solution for cost-efficient transmission needed to meet its 7.5 GW offshore wind target, and determine an appropriate process to move forward to procure this needed transmission.

2. Offshore Wind Transmission Framework

a. Discuss the pros and cons of using networked or radial offshore transmission solutions and which might best promote the growth of New Jersey's offshore wind industry

As New Jersey pursues its offshore wind goals, RECO recommends the BPU engage in a coordinated effort to determine how to reliably interconnect offshore wind into New Jersey cost-effectively for customers. The current approach for soliciting offshore wind bids, where the developer is solely responsible for planning and constructing all transmission facilities to come to shore, may not be scalable and cost-effective for meeting the State's expanded goal of 7.5 GW by 2035. Considering each increment of offshore wind separately is likely to result in higher costs than an integrated and comprehensive planning approach that takes the full state goal into account.

A coordinated effort led by the BPU could evaluate whether radial or networked solutions provide higher system benefits and lower costs to customers. While RECO believes that the tradeoffs between radial and networked transmission require further study, a coordinated process could be used in either scenario to study the needed transmission and direct its construction, separate from the wind generation. It is vital that New Jersey work with all four transmission-owning utilities and PJM to study efficient interconnection points and transmission upgrades needed to fully integrate the offshore wind and minimize curtailments.

On the other hand, if the BPU were to continue with a generator lead approach, in which each individual lease would plan and construct its own transmission, absent any comprehensive coordination or planning, New Jersey could miss out on significant cost, environmental, and system efficiencies. This current generator lead approach is "piecemeal" and requires each project to develop transmission and interconnection facilities individual to each project. While this approach may make sense for the first one or two projects, it likely will become more challenging for later projects when the BPU seeks to identify interconnection points that minimize energy curtailment or avoid significant ROW challenges. As a result, continuing with the piecemeal approach would potentially increase the future complexity of interconnection,

potentially slow down integration of offshore wind, and result in higher overall costs for the state to meet the 7.5 GW target.

b. Describe the pros and cons of selecting between in-state, regional, or inter-regional shared transmission facilities.

State policies, like those in New Jersey, are driving the development of offshore wind. While inter-regional coordination is a laudable future goal, such projects require significant planning and negotiation between states. Given the projected timing of the New Jersey's offshore wind procurements and overall goal, a more impactful near-term goal should be to focus on the offshore transmission needed to meet the New Jersey's goals.

c. Describe optimal location, or the further analysis necessary to determine optimal location, of recommended transmission solutions.

As noted above, the BPU should begin a stakeholder process, which would include input from PJM and from the State's electric utilities, to evaluate and determine the optimal location of recommended transmission solutions to deliver offshore wind to New Jersey customers. Such a study should look at: potential points of interconnection and associated upgrades; consideration of power flows, system impacts, and land availability; and other issues associated with integrating significant amounts of intermittent generation.

d. How do different transmission development framework ensure competition; i.e. not provide advantage or disadvantage to any particular offshore wind developer or region of the ocean?

As discussed above, a coordinated effort led by the Board can result in increased competition among generation developers and lower costs for customers. Removing the transmission costs from the offshore wind generators' bids will optimize overall costs to customers by reducing the amount of subsidies required for the generation while ensuring an efficiently planned and right-sized transmission buildout. The BPU could conduct a separate solicitation for the needed underwater transmission to provide for lower costs for customers through competition.

New Jersey should include three key elements in a competitive framework. First, the process should include robust stakeholder input on transmission needs and solutions. Second, the evaluation criteria for each solicitation should be specific to the transmission need. Third, in the application of evaluation criteria for needs and solutions, the BPU should work directly with PJM and the State's utilities to evaluate the technical feasibility and reliability impacts of any proposed projects.

e. Describe how different transmission development frameworks could be pursued within the existing state, regional, or interregional regulatory structures. Are new regulatory processes necessary?

New Jersey already has the tools it needs to pursue a coordinated transmission system for offshore wind through the PJM State Agreement Approach. This approach allows the BPU to

identify transmission needed to meet its public policy goals, set selection criteria most aligned with the public interest, and select the entities to construct such transmission. This approach gives the BPU the flexibility to identify the best solution for New Jersey ratepayers.

f. What concrete next steps BPU could pursue to achieve the recommended framework.

The BPU should work with affected federal and state agencies and the State's utilities to conduct a comprehensive study effort to identify the transmission needed, both on-land and offshore, to meet New Jersey's target of 7.5 GW of offshore wind by 2035. The need should then be posted for comments and form the basis for an RFP soliciting specific proposals to meet identified needs. In conducting such an effort, the BPU should leverage the transmission system expertise of PJM and the State's electric utilities.

3. Technical Considerations for Offshore Transmission Facilities.

a. Describe technical considerations that could lead to efficient build-out of transmission to facilitate the mandated solicitations;
b. Describe technical (PJM Tariff, FERC Orders, or engineering) considerations that would allow for eventual shared use of interconnection facilities initially meant for radial use. Assess efficiency of this option relative to a planned shared transmission grid
c. Should state or regional standards be set to encourage efficient growth?
d. Should any shared offshore transmission facilities operate as a Direct Current or Alternating Current facilities?
e. Describe any additional challenges (for ratepayers or industry) for developing inter-regional shared transmission.

RECO's comments to 3(a) through (e) are set out below.

The technical considerations for offshore transmission facilities should be studied as part of a comprehensive and coordinated study effort facilitated by the BPU with the input of stakeholders, including the electric utilities and PJM. Such an effort could examine issues such as the benefits and tradeoffs of radial versus networked transmission, AC or DC facilities, and future system conditions with 7.5 GW of offshore wind. A comprehensive effort that considers New Jersey's 7.5 GW goal holistically could be used to identify the common transmission facilities needed both to interconnect offshore wind and integrate it into the existing transmission system. Factors that should be considered include the locations of current and future offshore wind leases, cost and environmental impacts of multiple underwater transmission lines, and the capability of the current system to accommodate future offshore wind injections. Including a review of technical considerations as part of a coordinated study effort allows for a simultaneous analysis of the cost impact to ratepayers of all studied alternatives.

4. Cost Responsibility and Business Model Considerations.

a. **How would costs and benefits of any shared offshore transmission facilities be allocated and assigned?**
b. **How should costs be assigned to parties interconnecting to the offshore wind facility, including requests by projects under contract to other states or regional grids?**
c. **Should a new planning authority be developed to design engineering and cost allocation standards specifically for Offshore Wind transmission?**
d. **Describe existing regulations related to costs assigned for shared use of attachment facilities initially meant for radial use. Would additional BPU guidance be appropriate?**
e. **How should BPU evaluate 1) utility (rate-base), 2) non-utility (merchant), and 3) bundled (OREC) proposals in terms of feasibility and risk to captive New Jersey customers? Should BPU issue further guidance on ownership structure?**

RECO's comments to 4(a) through (e) are set out below.

As a statewide policy, the costs of infrastructure to support offshore wind should be shared statewide on a load-ratio basis. This type of sharing is supported by the statewide clean energy benefits envisioned by Governor Phil Murphy with the expansion of the scale and development of offshore wind. As stated in the Governor's November 19, 2019 Executive Order increasing the State's offshore wind goal to 7.5 MW by 2035, offshore wind "has the potential to meet the State's goals of 50 percent renewable energy by 2030, and 100 percent clean energy by 2050." [2]

As explained above, a coordinated study led by the BPU could evaluate different approaches for connecting and integrating offshore wind into the existing transmission system. As part of the study, the BPU should evaluate and implement the appropriate coordination between relevant state and federal agencies, and should include input from PJM and the State's utilities to determine how to interconnect offshore wind in a way that is the most cost-effective for New Jersey ratepayers.

f. **How could the BPU solicitation process be altered to accommodate the transmission frameworks recommended? Is existing legislative authority sufficient to accommodate the recommendations?**

As New Jersey pursues its offshore wind goals, RECO recommends the BPU engage in a coordinated study effort to determine how to reliably interconnect offshore wind into New Jersey in a way that is cost-effective for New Jersey ratepayers. Once the necessary transmission is identified, the state could achieve the development of the needed transmission under the PJM State Agreement approach, which is currently possible under the PJM tariff. Alternatively, the state could develop a process for separating the bids for offshore generation and transmission as part of its offshore wind solicitation process. Either approach would need to consider the relevant state or federal regulations and authorities. Regardless of which approach is elected by New

[2] New Jersey Governor Philip D. Murphy Executive Order No. 92 (November 19, 2019).

Jersey, RECO emphasizes that a comprehensive, coordinated process will result in a more efficient buildout and more optimal outcome for New Jersey ratepayers.