



State Agreement Approach

Joe DeLosa
Board of Public Utilities Staff
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November 18, 2020 Board Order

- New Jersey has a goal of 7,500 MW of offshore wind before 2035
 - › Executive Order 92
- Legislation found potential benefits of shared approach to transmission & authorizes “transmission first approach:
 - › Allows approval of an “open access offshore wind transmission facility ... located either in the Atlantic Ocean or onshore, used to facilitate the collection of offshore wind energy or its delivery to the electric transmission system in this State.” N.J.S.A. 48:3-51. See *also* N.J.S.A. 48:3-87.1(e).
 - › See *also* Energy Master Plan Goal 2.2.1, NJ OSW Strategic Plan, and November, 2019 BPU Offshore Wind technical conference.
- On November 18, the Board formally requested that PJM incorporate New Jersey’s offshore wind goals into PJM’s RTEP.



PJM State Agreement Approach (“SAA”) Collaboration

- The SAA set forth in PJM’s Operating Agreement provides a vehicle for states to propose a state public policy project to PJM for inclusion in the RTEP.
 - › PJM to post Public Policy Assumptions, pursuant to OA, Schedule 6, §§ 1.5.6(b) and 1.5.8(b).
 - › PJM to convene a project proposal window pursuant to OA, Schedule 6, § 1.5.8(c).
- New Jersey is the first state to take advantage of the PJM SAA process.
- BPU Staff collaborated with PJM on preliminary analyses.
 - › Screening Analysis
 - » Provided information to rank potential injection locations.
 - › Scenario Analysis
 - » Comprehensive evaluation of scenarios created resulting from Phase 1 Screening Analysis.



SAA Safeguards

1. November 18 Order is not authorization to proceed with any particular project, but to incorporate Public Policy Requirements into an RTEP planning window.
 - › Any future authorization stemming out of this SAA window would occur consistent with PJM's RTEP approval milestones in 4q 2021.
2. Cost containment provisions in PJM's tariff allow PJM to consider and make recommendations based on voluntarily-submitted binding cost and delivery-date commitments, which will be critical for any evaluation.
3. Allocation of commercial risk between windfarm and transmission developers remains a critical issue; eased by the voluntary submission of binding cost and delivery date commitments from transmission developers.
4. Board is not changing any solicitation requirements for the first or second offshore wind solicitation.



General Scope

Charts are for illustration only and not intended to suggest specific outcomes or designs.

- At the injection locations recommended, the Order contemplates that the Public Policy Requirement include three inter-related components of an open access offshore wind transmission facility.
- Detailed scoping discussions will occur as competitive window preparations continue, as directed by the Order.

Green:

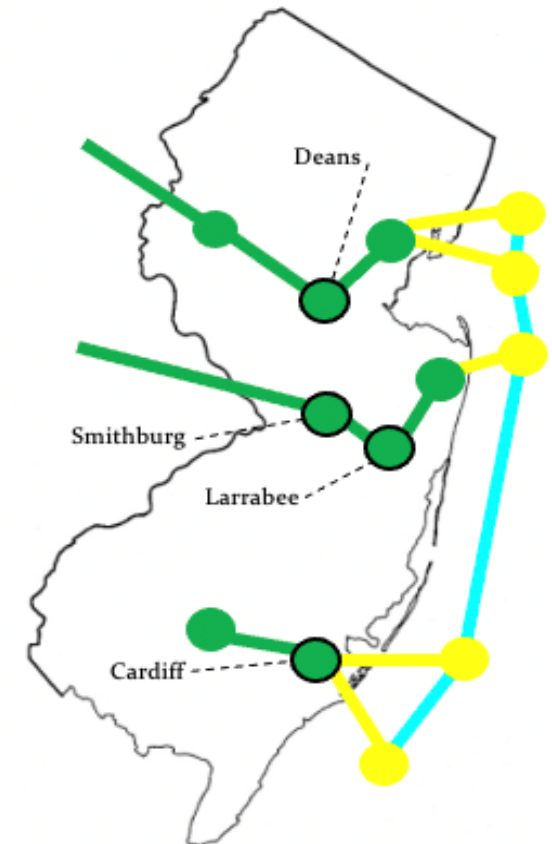
- Option 1 – Upgrade PJM Transmission system to Shore substations
- Black Outline indicates substations targeted for injections as described below.

Yellow:

- Option 2 – From Upgraded Shore Substations over Beach crossing to New (wet) collector Stations.

Blue:

- Option 3 – Interconnecting collector stations in a “network” or “backbone” to facilitate network delivery of Offshore Wind.





Injection Locations

- Based on PJM and Staff initial analysis, the Board has approved the following injection locations to underlie the SAA window:
 - › 900 MW at the Cardiff 230 kV substation in Southern New Jersey;
 - › 1,200 MW at the Larrabee 230 kV substation in Central New Jersey;
 - › 1,200 MW at the Smithburg 500 kV substation in Central New Jersey; and
 - › 3,100 MW at the Deans 500 kV substation in Northern New Jersey.
- Developers are invited to “propose particularly cost-effective alternatives that may still meet the State’s immediate policy goals, while deferring less cost-effective elements of the transmission expansion until a future transmission solicitation.” (Order at 8)



Onshore Scope – Option 1

- Upgrade the onshore PJM regional transmission system to accommodate the increased power flows from the offshore wind facilities.
- Under this option, offshore wind developers would continue to be responsible for getting the power from the lease areas to the newly constructed or existing on-shore substations.
- Solutions may include coordinated on-shore “power corridors” that would bring electricity to already-existing high-voltage transmission facilities.

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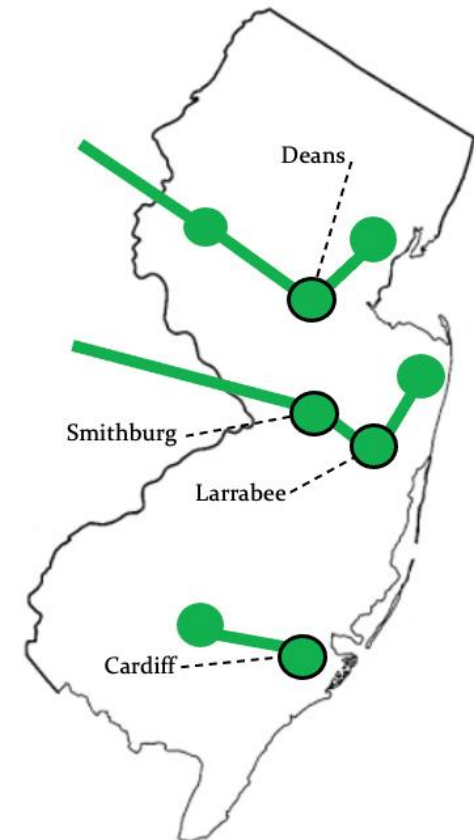
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Beach Crossing Scope – Option 2

- This option would involve soliciting bids from transmission developers to permit and construct the beach crossings and connect the (new or existing) on-shore substations to new (wet) offshore collector stations.
- If selected, it would be possible that this option could be selected in addition to Option #1, and offshore wind developers would be responsible for interconnection to the offshore collector platforms.

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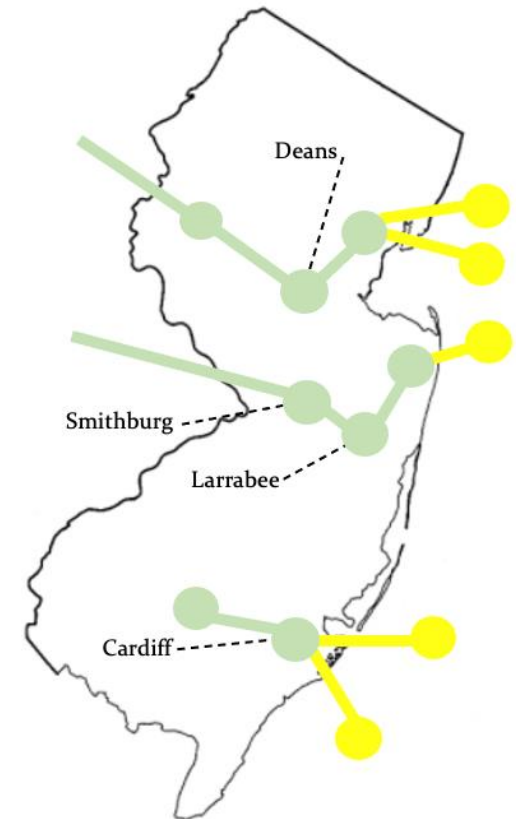
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Offshore Backbone Scope – Option 3

- Connect different collector stations, serving various lease areas, in an effort to network the offshore wind lease areas.
- This option could result in network interties between offshore wind collector stations, potentially improving availability, and could also involve bids that include Options #1 or #2.

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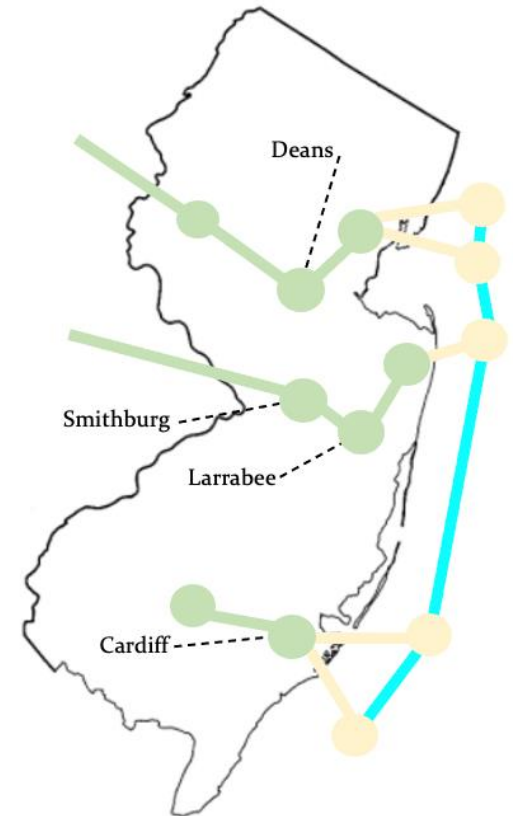
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Next Steps

- Order directed Staff to continue collaboration with PJM.
- Transmission Study Agreement.
- Problem Statement for SAA Window.
 - › Environmental Requirements / Constructability
 - › Standardization requirements for future expansion
 - › Cost Cap request
- Transfer of Commercial Risk Discussions – Potential work session TBD.
- Term Sheet.
 - › Cost of future use and expansion
 - › Assignment of capacity rights
 - › Transparent price signal for other states seeking to utilize SAA project
 - › Protection of New Jersey against free-riders



Contact:

- Joe DeLosa
 - › Joseph.DeLosa@bpu.nj.gov

- Hannah Thonet
 - › Hannah.Thonet@bpu.nj.gov