To:	Massachusetts Distribution Companies and Department of Energy Resources
From:	Peter Shattuck, Anbaric
Date:	February 25, 2021
RE:	Draft Request for Proposals for Long-Term Contracts for Offshore Wind Energy Projects

---

Anbaric Development Partners (Anbaric) appreciates the opportunity to provide comments on the draft RFP for the third offshore wind energy solicitation by the Electric Distribution Companies (EDCs) and Department of Energy Resource (DOER). Anbaric develops clean energy projects that supply renewable energy to customers and projects that optimize the power grid using energy storage. Anbaric is developing multiple projects in the Northeast, including offshore wind transmission and energy storage projects in Massachusetts.

Anbaric's supports the increased focus on energy deliverability and reducing impacts of transmission and offers recommendations for optimizing the development of paired energy storage systems to cost-effectively meet the Commonwealth's energy, climate, and air quality goals.

Energy Deliverability

Getting the greatest value from offshore wind depends on minimizing curtailment and ensuring that preferred resources are able to operate simultaneously. Under current ISO-NE rules interconnection studies will not identify upgrades needed to ensure deliverability. ISO-NE interconnection studies only assume Capacity Capability Interconnection Standard (CCIS) for projects that have cleared a capacity auction and received a Capacity Supply Obligation (CSO). Since no offshore wind projects have received CSOs, ISO-NE studies will assume that new offshore wind interconnections can be accommodated by dispatching down (i.e. curtailing) higher queued projects, even if these projects have received contracts from states. For Elective Transmission Upgrades (ETUs) not connecting to another balancing area – such as Anbaric's Brayton Point interconnection (QP 837) – ISO-NE's study process does not allow a project proponent to seek CCIS. Because ISO-NE studies are unable to provide information needed to determine deliverability and any transmission upgrades to enable deliverability, utilizing third party studies as provided in Section 2.2.1.7.b. is the only way to gather necessary information. Additionally, the Deliverability Study required in Section 2.2.1.8.1 and Appendix I will provide a sound mechanism for Massachusetts to fill information gaps from ISO-NE's studies and evaluate the deliverability profiles of different projects.

Optimizing Interconnection

To achieve Massachusetts' and other states' offshore wind goals most cost-effectively, strategic points of interconnection (POIs) and cable approach routes must be utilized to their fullest value. ISO-NE's Economic Study carried out for Massachusetts and other members of the New England States' Committee on Electricity (NESCOE) found that POIs proximate to the offshore Wind Energy Areas have limited capacities to receive offshore wind injections before major upgrades (new 345kV circuits in new rights of way) are required (see Figures 1 and 2).[i]

Figure 1: ISO-NE Identification of Injection Capabilities of Nearshore POIs

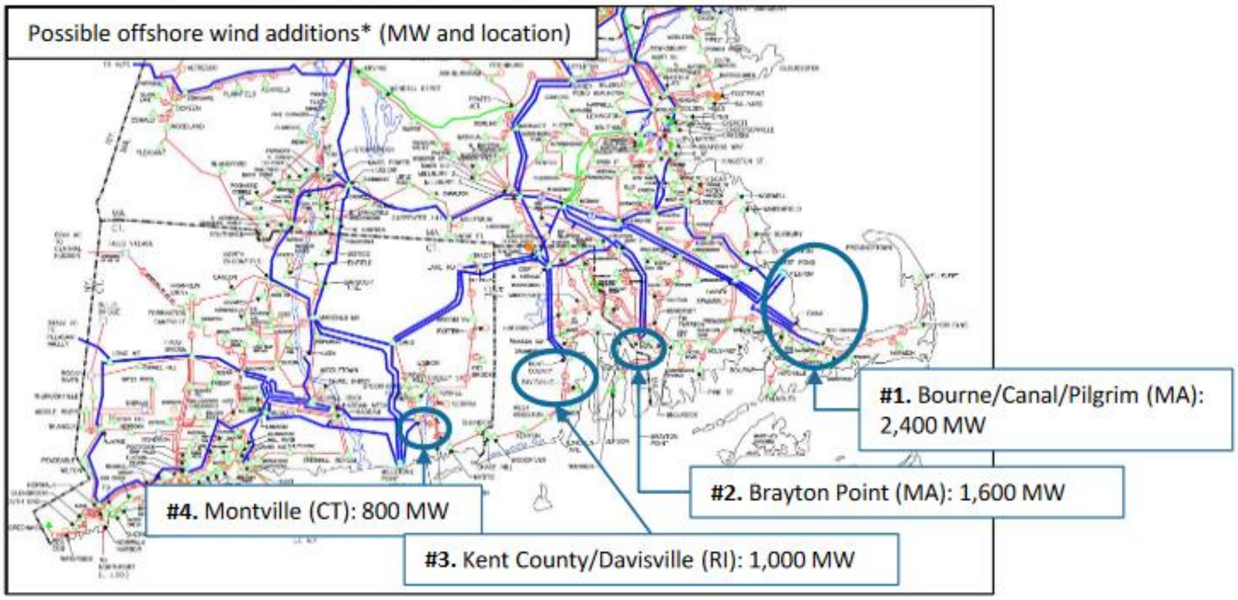
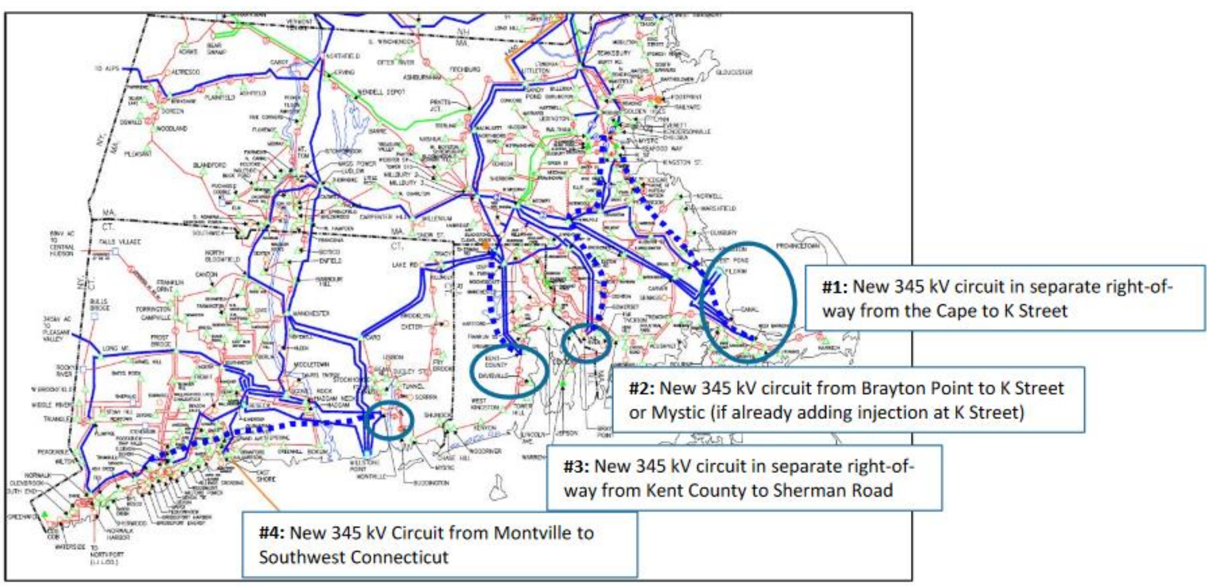


Figure 1: ISO-NE Depiction of New High Voltage Transmission Rights of Way Needed to Connect Over 5,800MW of Offshore Wind to Nearshore Locations



Access routes to the valuable POIs are also limited. For example, in the November 8th, 2018 meeting of the Cable Hazards Working Group for the Bay State Wind project it was acknowledged that using the preferred project route for the cable would likely exclude other companies from routing a cable up the Sakonnet River due to space limitations. With limited access routes to a robust POI, it is critical that projects "maximize cost-effective use of the interconnection point(s) and minimize the footprint of transmission cabling" as stipulated in footnote 15 of Section 2.2.1.2 of the RFP.

Minimizing Environmental Impacts

Efficient transmission development is also critical for minimizing environmental impacts. High voltage direct current (HVDC) transmission circuits can carry 1,200MW or more capacity, in comparison to high voltage direct current (HVAC) cables that typically carry 400MW of capacity. Utilizing HVDC projects can minimize the number of transmission cables used, reduce cable landfalls, and reduce the area of seafloor and shoreline disturbance. In consideration of the differential environmental impacts of transmission technologies and configurations, and in light of the increasing number of offshore wind projects, Anbaric supports the inclusion Appendix J: Environmental and Socioeconomic Impact Criteria.

Efficient Pairing of Energy Storage Projects

Encouraging offshore wind generators to find synergies with Qualified Energy Storage Systems will help achieve the Commonwealth's goals to develop clean resources that meet peak demand, to avoid GHG and hazardous emissions and to reduce electricity prices. Offshore wind production profiles are well matched to Massachusetts' load, but there will be times when shifting offshore wind from periods of lower demand to periods of higher demand will be beneficial. Energy storage is the key resource to achieve this shift, and accordingly may merit higher contract prices to achieve commensurate benefits.

Optimizing the development and operation of paired energy storage systems to create the greatest benefits requires: 1) enabling bidders to own Clean Peak Energy Certificates (CPECs) generated by the paired energy storage system, 2) enabling bidders to operate the paired energy storage system to achieve Clean Peak Standard requirements, and 3) avoiding negative pricing by storing offshore wind. Enabling bidders to own CPECs generated by paired energy storage systems and to operate paired energy systems to maximize generation of CPECs will increase the supply of CPECs and reduce consumer costs. In Section 2.2.1.3. the RFP should stipulate that bidders retain ownership of CPECs generated by paired energy storage systems. Encouraging bidders to store offshore wind during periods of negative (or low) pricing will balance electricity supply and demand and enable stored offshore wind energy to displace more expensive and higher emitting generation when discharged from the energy storage system. To enable this outcome the end of Section 2.2.1.4. of the RFP should stipulate that the Seller shall only be required to credit the Buyer for Offshore Wind Energy Generation exported to the grid during periods of negative pricing. Seller shall not be required to credit the buyer for Offshore Wind Energy Generation stored in a paired energy storage device and withheld from the grid during periods of negative pricing. At all other times the bidder should maintain control of the paired energy storage system in order to charge at periods of low prices and discharge at periods of higher prices.

Cost-effective deployment of paired energy storage systems can additionally be promoted by authorizing contingent bids for paired energy storage systems bidding into the 83C procurement and EDC procurement for CPECs. This would enable paired energy storage systems to access revenue streams appropriate to services provided: 83C procurement revenue for pairing with offshore wind specifically, and CPEC procurement revenue for optimizing operation to clean the peak. As with multi-state coordination, the RFP should enable bidders to make bids for paired energy storage systems contingent on selection in the CPEC procurement planned for Q3 2021.

Thank you for you time and attention to these comments.

-Peter Shattuck
President, New England

Anbaric
401 Edgewater Pl, Ste 680
Wakefield, MA 01880
anbaric.com
O: 781-708-0446
M: 857-636-2502

[i] Available at: https://www.iso-ne.com/static-assets/documents/2020/06/a4_2019_economic_study_offshore_wind_transmission_interconnection_analysis.pdf