COMMONWEALTH OF MASSACHUSETTS
ENERGY FACILITIES SITING BOARD

Petition of Vineyard Wind LLC Pursuant to G.L. c. 164, § 69J for Approval to Construct, Operate, and Maintain Transmission Facilities in Massachusetts for the Delivery of Energy from an Offshore Wind Energy Facility Located in Federal Waters to an NSTAR Electric (d/b/a Eversource Energy) Substation Located in the Town of Barnstable, Massachusetts.	EFSB 20-01

PETITION OF VINEYARD WIND LLC PURSUANT TO G.L. c. 164, § 69J

I. INTRODUCTION

Vineyard Wind LLC ("Vineyard Wind") hereby petitions the Energy Facilities Siting Board (the "Siting Board") pursuant to G.L. c. 164, § 69J ("Section 69J") for approval to construct, operate, and maintain: (1) a new, approximately 27-mile, 220- or 275-kilovolt ("kV") combined offshore/onshore underground electric transmission line from the boundary with federal waters south of Muskeget Channel to a new substation to be located off Shootflying Hill Road in the Town of Barnstable (the "Onshore Substation"), (2) the Onshore Substation, and (3) a new, approximately 0.7-mile, 345-kV, underground, onshore transmission line between the Onshore Substation and NSTAR Electric Company's existing West Barnstable Substation in Barnstable.[1] Together, these components constitute the "Vineyard Wind Connector 2" or the "Project." They are the

[1] At this time, NSTAR Electric Company ("Eversource") is not a co-petitioner with Vineyard Wind in this proceeding. To interconnect at Eversource's West Barnstable Substation, construction will be necessary at that substation. Vineyard Wind expects that construction would be undertaken by Eversource and will support Eversource in those efforts. Vineyard Wind does not expect to construct, own, operate, or maintain any transmission facilities at West Barnstable Substation. For completeness, Vineyard Wind includes information relating to work at West Barnstable Substation in this petition.

Massachusetts-jurisdictional elements of "Park City Wind" – an approximately 800-megawatt ("MW") wind energy generation facility under development by Vineyard Wind, which includes wind turbine generators ("WTG") located in federal waters within the central portion of Bureau of Ocean Energy Management ("BOEM") Lease Area OCS-A 0501 (the "Lease Area"). The Vineyard Wind Connector 2, as more fully described herein and in "Vineyard Wind Connector 2: Analysis to Support Petition Before the Energy Facilities Siting Board," which is attached hereto as Attachment A (the "Analysis"), is necessary to interconnect the Park City Wind WTGs to the electric grid in New England and will minimize cost and environmental impacts in accordance with Section 69J. In support of this Petition, Vineyard Wind states as follows:

1. Vineyard Wind is a Delaware limited liability company registered in the Commonwealth of Massachusetts. Its principal place of business at 700 Pleasant Street, Suite 510, New Bedford, MA 02740.

2. Pursuant to Section 69J, an "applicant" seeking to construct a "facility," as defined by G.L. c. 164, § 69G, must obtain approval from the Siting Board.

3. Under G.L. c. 164, § 69G, jurisdictional facilities include a "new electric transmission line having a design rating of 69 kilovolts or more and which is one mile or more in length on a new transmission corridor," a "new electric transmission line having a design rating of 115 kilovolts or more which is 10 miles or more in length on an existing transmission corridor," and "an ancillary structure which is an integral part of the operation of any part of a transmission line which is a facility."

4. The approximately 27-mile length of the combined offshore/onshore underground electric transmission line from federal waters to the Onshore Substation

would be greater than 69 kV and would include more than one mile along a new transmission corridor. The Onshore Substation and the line between the Onshore Substation and West Barnstable Substation are integral parts of the operation of the Vineyard Wind Connector 2.

II. PROJECT DESCRIPTION

5. The purpose of the Vineyard Wind Connector 2 is to connect the Park City Wind WTGs to the New England bulk power grid so that approximately 800 MW of offshore wind energy generation from the federally designated Wind Energy Area ("WEA") on the Outer Continental Shelf ("OCS") outside of Massachusetts can be used to meet demand in New England with cost-effective renewable energy.

6. The Vineyard Wind Connector 2 will be a major step in meeting the region's growing demand for cost-effective clean energy. More specifically, the Project will serve the public interest by delivering approximately 800 MW of power generated from offshore wind to the New England electric grid, thus making substantial contributions to meeting individual New England state renewable energy requirements, including those advanced by the Commonwealth's 2008 Global Warming Solutions Act, St. 2008, c. 298, as amended ("GWSA") and Connecticut's Act Concerning Global Warming Solutions, Public Act 08-98, both of which call for significant reductions in greenhouse gas emissions.

7. Vineyard Wind holds rights to the Lease Area, which comprises approximately 261 square miles. The Lease Area is one of the seven lease areas awarded by BOEM for wind energy offshore from Massachusetts and Rhode Island. The Lease Area is a product of a decade-long process that was used to delineate, approve and

auction offshore areas for offshore wind generation led by the federal government with strong state participation.

8. The Lease Area is approximately 10 miles wide and 30 miles long along a northeast to southwest axis, and at its nearest point is approximately 14.4 miles from the southeast corner of Martha's Vineyard and a similar distance from Nantucket. It is approximately 34 miles offshore from the Cape Cod mainland. The northern portion of the Lease Area is being developed as the Vineyard Wind 1 Project.[2]

9. The WTGs for Park City Wind will be centrally located in the Lease Area, immediately south/southwest of the area being developed for the Vineyard Wind 1 Project. This location is the northern part of an area referred to as the Southern Wind Development Area ("SWDA"), which encompasses all of the Lease Area not being used for the Vineyard Wind 1 Project. At its nearest point, the SWDA is just over 19 miles from the southwest corner of Martha's Vineyard, approximately 23 miles from Nantucket, and approximately 41 miles south of the Cape Cod mainland. The SWDA is located entirely in federal waters.

10. Vineyard Wind advanced development of Park City Wind to respond to solicitations for commercial-scale offshore wind projects from, among other entities, the Connecticut Department of Energy and Environmental Protection ("DEEP"). DEEP has authority to solicit offshore wind generation under *An Act Concerning the Procurement of Energy Derived from Offshore Wind*, Public Act 19-71. Similar to Section 83C of the

[2] The "Vineyard Wind 1 Project" refers to the "Vineyard Wind Energy Facility," as described in the Siting Board's Final Decision in EFSB 17-05/D.P.U. 18-18/18-19 (May 10, 2019). To avoid confusion, the "Project" from that previous proceeding is referred to in this Petition as the "Vineyard Wind Connector 1" rather than the "Vineyard Wind Connector."

Green Communities Act (St. 2008, c. 169, § 83C, as amended) in Massachusetts, Public Act 19-71 is intended to ensure a diversified electrical energy portfolio for Connecticut while reducing greenhouse gas emissions and strengthening the region's clean energy economy – in particular, by supporting the development of an offshore wind industry in the region.

11. Public Act 19-71 authorized DEEP, in consultation with the procurement manager of the Connecticut Public Utilities Regulatory Authority ("PURA"), the Connecticut Office of the Attorney General, and the Connecticut Office of Consumer Counsel, to solicit proposals for offshore wind resources. Public Act 19-71 requires DEEP to consider factors including: (1) whether the proposal is in the best interest of ratepayers; (2) whether the proposal promotes electric distribution system reliability, including winter peak demand; (3) any positive impacts on the state's economic development; (4) whether the project is consistent with requirements to reduce greenhouse gas emissions; (5) whether the proposal is consistent with policy goals outlined in the state's Comprehensive Energy Strategy; (6) whether the proposal is consistent with certain state statutes; and (7) whether the proposal uses practices to avoid, minimize, and mitigate impacts to wildlife, natural resources, ecosystems and traditional or existing water-dependent uses. Public Act 19-71 authorized DEEP to direct electric distribution companies to enter into power purchase agreements with successful bidders for energy, capacity, transmission, or any combination thereof on behalf of their customers. Under Public Act 19-71, such power purchase agreements are subject to approval by PURA, which will review whether they: (A) provide for the delivery of adequate and reliable products and services, for which there is a clear public need, at a

just and reasonable price, (B) are prudent and cost effective, and (C) are between an electric distribution company and a respondent to the solicitation that has the technical, financial and managerial capabilities to perform pursuant to such agreement.

12. DEEP issued an RFP under Public Act 19-71 on August 16, 2019. It received more than 30 bid variants from three different developers by the October 30, 2019 deadline for submissions. On December 5, 2019, DEEP announced that Vineyard Wind had been selected to develop Park City Wind. Vineyard Wind has entered into power purchase agreements with Eversource and the United Illuminating Company, Connecticut's electric distribution companies. The electric distribution companies filed those agreements with PURA on May 21, 2020.

13. Although output from Park City Wind will be contracted to the Connecticut electric distribution companies, the electric grid in New England is interconnected, and its operations are coordinated across all six New England states. Injection of renewable energy from Park City Wind into the New England electric grid will displace other power, providing economic and environmental benefits across the region, including in Massachusetts. Further, the development of Park City Wind will advance a regional offshore wind industry, reduce regional greenhouse gas emissions, and deliver diversity and reliability benefits to the regional grid, all objectives of Massachusetts policies such as Section 83C of the Green Communities Act and the GWSA.

14. Park City Wind will be Vineyard Wind's second offshore wind energy generation facility, following the 800-MW Vineyard Wind 1 Project, the Massachusetts-

jurisdictional portions of which (the "Vineyard Wind Connector 1") were approved by the Siting Board in *Vineyard Wind*, EFSB 17-05/D.P.U. 18-18/18-19 (May 10, 2019).

15. Because Park City Wind includes components in federal waters, it is being developed and permitted at the federal level in addition to the state, regional, and local levels. Vineyard Wind will file its Construction and Operations Plan ("COP"), the principal federal approval necessary to build Park City Wind, with BOEM. Vineyard Wind has been engaged with BOEM regarding the COP and has had multiple discussions with the federal agencies with whom BOEM will coordinate and consult during the National Environmental Policy Act ("NEPA") process.

16. As described in more detail in Sections 3.0, 4.0, and 5.0 of the Analysis, Vineyard Wind conducted an assessment of project alternatives and an extensive routing analysis for the transmission resources needed to bring energy from the SWDA to the New England electric grid.

17. Vineyard Wind proposes to construct, operate, and maintain the Vineyard Wind Connector 2, including (a) transmission lines, which would be installed in state waters (including state waters within the Towns of Barnstable, Edgartown, Mashpee, and Nantucket) and onshore in the Town of Barnstable, and (b) the Onshore Substation in Barnstable.

18. Beginning at the SWDA, two offshore export cables will bring the output from the Park City Wind WTGs to the landfall site in Barnstable. The two offshore export cables will be new 220- or 275-kV three-core alternating current ("AC") cables located within an identified Offshore Export Cable Corridor ("OECC"). The OECC is largely the same as the corridor approved for the Vineyard Wind Connector 1 in EFSB

17-05/D.P.U. 18-18/18-19, but has been widened in some locations. It is approximately 63 miles in total length, approximately 7 miles of which occur within the SWDA, and approximately 23 miles of which are located in state waters (the remainder are located in federal waters outside of the SWDA). The offshore export cables will travel north from the SWDA, cross into state waters between Martha's Vineyard and Nantucket, pass through a pocket of federal waters in Nantucket Sound, reenter state waters, and make landfall on the Cape Cod mainland. Vineyard Wind's preferred landfall site is at Craigville Beach in Barnstable. Vineyard Wind also presents a route variation that makes landfall at Covell's Beach in Barnstable.

19. At the landfall site, horizontal directional drilling ("HDD") will be used to complete the offshore-to-onshore transition. The physical connection between the offshore and onshore export cables will be made in underground concrete transition vaults that will be installed within a paved parking lot at either landfall site. At the transition vaults, each three-core offshore export cable system will transition to three separate single-core, 220 or 275 kV cables that will travel from the landfall site to the Onshore Substation in Barnstable within a buried concrete duct bank.

20. The Preferred Route from the landfall site to the Onshore Substation is approximately 4.0 miles long, all within the Town of Barnstable. It is located almost entirely within public roadway layouts, with the possible exception of the approach to the crossing of the Centerville River and the crossing itself, and except for the final approximately 0.2 miles approaching the Onshore Substation, which is within Eversource Right of Way ("ROW") #343. The Noticed Alternative Route from the landfall site to the Onshore Substation is approximately 6.1 miles long, all within public roadway

layouts within the Town of Barnstable, with the possible exception of the approach to the crossing of the Centerville River and the crossing itself. Vineyard Wind proposes three variants to the Preferred Route and two variants to the Noticed Alternative Route, some of which vary the route length.

21. The Onshore Substation is necessary to step up the 220 or 275 kV power that comes ashore via the export cables to 345 kV in preparation for interconnection at the West Barnstable Substation. The Onshore Substation is located at an approximately 6.7-acre, privately owned parcel off Shootflying Hill Road in Barnstable southwest of the intersection of Route 6 and Route 132. It is less than one mile from the existing West Barnstable Substation. The northern part of the Onshore Substation site currently contains a motel building. The southern part consists of wooded land. To the west, the site is bordered by residential parcels, to the north it is bordered by Shootflying Hill Road (and further north the Route 6 layout), to the east it is bordered by land owned by the Chamber of Commerce and the Massachusetts Department of Transportation ("MassDOT"), and to the south it is bordered by ROW #343. The Onshore Substation will house two 220/345-kV or 275/345-kV "step-up" transformers, switchgear, and other necessary equipment.[3] Vineyard Wind proposes a gas-insulated substation ("GIS") design for the Onshore Substation and will incorporate a containment system consistent with commitments to the Town of Barnstable, as set forth in Section 1.3.4.1 of the Analysis.

[3] It is possible that some elements of the Onshore Substation will be relocated to a privately owned parcel, Parcel 214-001, adjacent to Eversource's West Barnstable Substation, north of Route 6.

22. From the Onshore Substation, six single-core 345-kV onshore export cables will travel to West Barnstable Substation within a buried duct bank. The Preferred Route from the Onshore Substation to West Barnstable Substation is approximately 0.7 miles long and is located entirely within existing utility ROWs. Vineyard Wind proposes three variants to the Preferred Route from the Onshore Substation to West Barnstable Substation, which vary in length and use different portions of existing utility ROWs and roadway layouts. The Noticed Alternative Route from the Onshore Substation to West Barnstable Substation is approximately 1.8 miles long and is located entirely within public roadway layouts.

23. As described in the Analysis at Section 1.3.5, some modifications to the interconnection point at the West Barnstable Substation will be necessary to interconnect the Vineyard Wind Connector 2. Vineyard Wind expects that any work within the West Barnstable Substation would be designed and performed by Eversource, but for completeness, Vineyard Wind includes information relating to that anticipated work in this petition. Vineyard Wind is consulting with Eversource and working with ISO-NE on the System Impact Study for the interconnection, which will help determine the nature of the modifications.

24. The Vineyard Wind Connector 2 is described in more detail in Section 1.0 of the Analysis.

25. This Section 69J Petition and the Analysis, which is incorporated herein, provide the factual basis for Vineyard Wind's conclusion that the Vineyard Wind Connector 2 is necessary, is superior to alternatives, appropriately balances issues of cost

and environmental impacts, is consistent with Commonwealth policies, and meets the standard of review applicable to proposals under Section 69J.

III. STANDARD OF REVIEW

26. In accordance with Section 69J, before approving a petition to construct a proposed facility, the Siting Board requires an applicant to show that its proposal meets five requirements:

> (1) that additional energy resources are needed . . .; (2) that, on balance, the proposed project is superior to alternative approaches in terms of reliability, cost, and environmental impact, and in its ability to address the identified need . . .; (3) that the applicant has considered a reasonable range of practical facility siting alternatives and that the proposed facilities are sited in locations that minimize costs and environmental impacts . . .; (4) that environmental impacts of the project are minimized and the project achieves an appropriate balance among conflicting environmental concerns as well as among environmental impacts, cost, and reliability. . .; and (5) that plans for construction of the proposed facilities are consistent with the current health, environmental protection and resource use and development policies of the Commonwealth . . . .

*Vineyard Wind LL*C, EFSB 17-05/D.P.U. 18-18/18-19, at 10-11 (2019) ("*Vineyard Wind I*"); NSTAR *Electric Co.*, EFSB 14-2/D.P.U. 14-73/14-74, at 6-7 (2017). In assessing requirements (3) and (4), the Siting Board looks to whether an applicant has used a "reasonable set of criteria for identifying and evaluating alternative routes in a manner that ensures that it has not overlooked or eliminated any routes that, on balance, are clearly superior" and whether the proposed route is superior to a noticed alternative with respect to balancing environmental impact, cost, and reliability. *Vineyard Wind I* at 19; *NSTAR Electric Co.*, EFSB 14-2/D.P.U. 14-73/14-74, at 32, 38-39.

27. As demonstrated throughout the Analysis, the Vineyard Wind Connector 2 meets the Siting Board's standards, satisfies the applicable requirements, and is

consistent with Siting Board precedent. Certain sections of the Analysis relate directly to the Siting Board's five requirements:

- Section 2.0 of the Analysis addresses the need for the Vineyard Wind Connector 2.
- Section 3.0 of the Analysis addresses project alternatives.
- Sections 4.0 and 5.0 of the Analysis address route selection and the comparison of the Preferred Route to alternatives.
- Section 6.0 of the Analysis addresses consistency with the policies of the Commonwealth.

a. <u>The Project is Needed.</u>

28. With respect to determining whether a proposed facility is needed,

> The Siting Board requires an applicant seeking to construct [transmission facilities to interconnect a new or expanded generating facility] to show: (1) that the existing transmission system is inadequate to interconnect the new or expanded generator; and (2) that the new or expanded generator is likely to be available to contribute to the regional energy supply.

Vineyard Wind I at 11.

> If the new or expanded generator exists, or is under construction, the availability showing will be deemed to have been made. . . . If the generator is planned, and not subject to the Siting Board's jurisdiction, the showing may be made on a case-by-case basis based on indicators of project progress (e.g., progress in permitting or in obtaining project financing).

Id. at 12 (quoting *Cape Wind Associates, LLC,* EFSB 02-2, at 16-17); *accord Russell Biomass, LLC,* EFSB 07-4/DPU 07-35/07-36, at 7.

29. The primary purpose of the Vineyard Wind Connector 2 is to bring offshore wind generation from the federally designated WEA to the New England electric grid.

30. As described more fully in Section 2.0 of the Analysis, the existing transmission system is inadequate to connect Park City Wind to the electric grid in New England. The Vineyard Wind Connector 2 would address that need by providing a reliable means to bring electricity from Park City Wind to the New England electric grid.

31. As described in Sections 1.0 and 2.0 of the Analysis, the generation component of Park City Wind is planned and not subject to the Siting Board's jurisdiction. *See Vineyard Wind I* at 12. As further described in Section 2.0 of the Analysis, multiple indicators of project progress establish and will establish that the generation component of Park City Wind is likely to be available to contribute to the regional energy supply. For instance, Park City Wind is consistent with and supported by state and federal policies, and it is being developed in response to and in conjunction with those policies – including BOEM's lease of the Lease Area and Connecticut Public Act 19-71. In particular, Public Act 19-71 embodies a legislative determination that facilities such as Park City Wind are needed, provide significant benefits, and must be constructed. DEEP's selection of Park City Wind pursuant to a solicitation under Public Act 19-71 indicates that the State of Connecticut supports the construction of Park City Wind, specifically, pursuant to that Act. Vineyard Wind has entered into PPAs with the Connecticut electric distribution companies consistent with Public Act 19-71 and those PPAs have been filed with PURA. By legislative design and purpose, projects selected and contracted for under this process are likely to be developed and to contribute to the regional energy supply. Once Vineyard Wind has obtained approved PPAs that commit the Connecticut electric distribution companies to known prices for the output of Park

City Wind, that price certainty provides a further economic basis for concluding that Park City Wind is likely to be built and put into operation.

32. As further described in Section 2.0 of the Analysis, other indicators of project progress that further establish and will establish that the generation component of Park City Wind is likely to be available to contribute to the regional energy supply include the valuable nature of the wind resource in the Lease Area, permitting milestones that have been or will be achieved in the near future, progress towards an amendment to the existing host community agreement with the Town of Barnstable, effective and extensive project outreach, and the broad support by Massachusetts, Connecticut and other northeastern states for the development of large quantities of offshore wind generation.

33. For these reasons, the generating component of Park City Wind is likely to be available to contribute to the regional energy supply.

b. <u>Vineyard Wind Properly Considered Alternatives to the Project.</u>

34. Section 69J requires that a petition include "a description of alternatives to the facility." G.L. c. 164, § 69J. Such alternatives "may include: (1) other methods of transmitting or storing energy; (2) other sources of electrical power; or (3) a reduction of requirements through load management." *Vineyard Wind I* at 16.

35. "In implementing its statutory mandate, the Siting Board requires a petitioner to show that, on balance, its proposed project is superior to such alternative approaches in terms of cost, environmental impact, and ability to meet the identified need." *Id.* "In addition, the Siting Board requires a petitioner to consider reliability of supply as part of its showing that the proposed project is superior to alternative project approaches." *Id.*

36. Vineyard Wind comprehensively identified and analyzed various alternatives to address the identified need. To determine the approach that best balances reliability, cost, and environmental impact, and in accordance with Section 69J and Siting Board precedent, Vineyard Wind evaluated a series of project approach alternatives for their potential to address the identified need. Sections 3.0 and 4.0 of the Analysis describe the detailed analyses Vineyard Wind used to identify and evaluate alternative means to address the identified need, including: (1) a no-build alternative and non-transmission alternatives; (2) alternative cable technologies; and (3) alternative interconnection locations and transmission routes, including the possibility of pursuing multiple interconnection points.

37. Vineyard Wind rejected the no-build alternative and non-transmission alternatives because they would not meet the identified need.

38. Vineyard Wind considered multiple cable technologies and determined that a high-voltage alternating current ("HVAC") technology was superior to a high-voltage direct current ("HVDC") technology based on, among other factors, reliability, cost, and flexibility. *See* Analysis Section 3.0. Vineyard Wind also determined that 220 or 275 kV cables were superior to higher or lower voltage cables because 220 kV cables have been the standard operating voltage for offshore projects in Europe for some time, are available in the market, would not require a lengthy type-testing process, and would require fewer offshore and onshore cables than would be necessary if cables were operated at a lower voltage, while 275 kV cables are an emerging technology that merit further consideration as the Vineyard Wind Connector 2 progresses. The Project has been designed to accommodate either 220 kV or 275 kV cables. Vineyard Wind

considered alternatives to cross-linked polyethylene insulation ("XLPE") for the Offshore Export Cable and the Onshore Export Cable. It determined that XLPE is the state-of-the-art technology for offshore transmission worldwide and is superior to alternatives because it is more reliable and more easily handled and constructed than alternatives. *See* Analysis Section 3.0.

39. Vineyard Wind assessed multiple transmission alternatives, including multiple transmission routes, potential interconnection locations, and potential landfall sites as part of its routing analysis. *See* Analysis Sections 3.0 and 4.0. After eliminating route concepts with excessive length, Vineyard Wind assessed multiple potential interconnection points for connecting the Vineyard Wind Connector 2 to the New England electric grid, landing sites, locations for the Onshore Substation, and onshore and offshore cable routes. *See* Analysis Sections 3.0 and 4.0.

40. Vineyard Wind's analysis demonstrates that 220 or 275 kV, HVAC, XPLE cables for the Offshore Export Cable, an interconnection point at the West Barnstable Substation, and a substation location at the identified parcel off Shootflying Hill Road are superior to the alternatives studied on the basis of reliability, cost, environmental impact, and ability to meet the identified need. Accordingly, Vineyard Wind advanced two candidate routes for linking the landfall site to the Onshore Substation (along with three variants to the preferred route and two variants to the alternative route) and five candidate routes for linking the Onshore Substation to West Barnstable Substation (three of which Vineyard Wind classified as variants to the Preferred Route) to the detailed stages of a transmission routing analysis presented in

Section 4.0 of the Analysis. All of the candidate routes include the same location for the Onshore Substation.

41. Vineyard Wind also analyzed potential offshore export cable corridors, using extensive information collected through multiple surveys and by other means to select the OECC. *See, e.g.*, Section 4.6 of the Analysis.

c. <u>Vineyard Wind Properly Considered Alternative Routes and Locations.</u>

42. Section 69J "requires a petition to construct to include a description of alternatives to the facility, including 'other site locations.'" *Vineyard Wind I* at 19. The Siting Board "requires an applicant to demonstrate that it has considered a reasonable range of practical siting alternatives and that the proposed facilities are sited at locations that minimize costs and environmental impacts." *Id.* The Siting Board applies a two-pronged test to implement this requirement.

> First, the applicant must establish that it developed and applied a reasonable set of criteria for identifying and evaluating alternative routes in a manner that ensures that it has not overlooked or eliminated any routes that, on balance, are clearly superior to the proposed route. Second, the applicant generally must establish that it identified at least two noticed sites or routes with some measure of geographic diversity.

Id.

43. Vineyard Wind conducted a comprehensive route selection process to determine the best routes that contribute to a reliable energy supply at the lowest possible cost and that result in the least environmental impact. The route selection process, which resulted in the selection of a Preferred Route (with three variants) and a Noticed Alternative Route (with two variants) for linking the landfall site to the Onshore Substation and a Preferred Route (with three variants) and a Noticed Alternative Route for linking the Onshore Substation to West Barnstable Substation, is described in Section

4.0 of the Analysis. The variants to these routes include options to avoid use of ROW or use alternative sections of ROW, to make landfall at an alternative location (Covell's Beach rather than Craigville Beach), and to use alternative roadways.

d. <u>The Environmental Impacts, Cost, and Reliability of the Project, the Noticed Variations, and the Noticed Alternative Route Have Been Appropriately Evaluated.</u>

44. Under G.L. c. 164, Sections 69H and 69J,

> the Siting Board requires a petitioner to show that its proposed facility is sited at a location that minimizes costs and environmental impacts while ensuring a reliable energy supply. To determine whether such a showing is made, the Siting Board requires a petitioner to demonstrate that the proposed route for the facility is superior to the alternative route on the basis of balancing environmental impact, cost, and reliability of supply.

Vineyard Wind I at 35.

> The Siting Board first determines whether the Petitioner has provided sufficient information regarding environmental impacts and potential mitigation measures to enable the Siting Board to make such a determination. The Siting Board then examines the environmental impacts of the proposed facilities along the Primary and Noticed Alternative Routes and determines: (1) whether environmental impacts would be minimized; and (2) whether an appropriate balance would be achieved among conflicting environmental impacts as well as among environmental impacts, cost, and reliability. Finally, the Siting Board compares the Primary Route and the Noticed Alternative Route to determine which is superior with respect to providing a reliable energy supply for the Commonwealth with a minimum impact on the environment at the lowest possible cost.

Id.

45. Vineyard Wind conducted a comprehensive analysis of the environmental impacts of the Vineyard Wind Connector 2 and has appropriately minimized and mitigated the environmental impacts associated with the construction of the Project. The Vineyard Wind Connector 2 will also achieve an appropriate balance among conflicting environmental concerns as well as among environmental impacts, reliability, and cost.

Section 5.0 of the Analysis sets forth analyses of the environmental impacts, cost, and reliability.

e. <u>The Project Meets the Siting Board's Consistency Standards in Accordance with Precedent.</u>

46. Section 69J "requires the Siting Board to determine whether plans for construction of the applicant's new facilities are consistent with current health, environmental protection, and resource use and development policies as adopted by the Commonwealth." *Vineyard Wind I* at 127.

47. The Vineyard Wind Connector 2 is not only consistent with the Commonwealth's current policies, it is critical to effectuating the Commonwealth's goals, as set forth in legislative and regulatory policies, regarding the development of offshore wind resources and reducing the environmental impacts associated with global climate change. Section 6.0 of the Analysis demonstrates that the construction and operation of the Vineyard Wind Connector 2 is consistent with current health, environmental protection, and resource use and development policies as adopted by the Commonwealth.

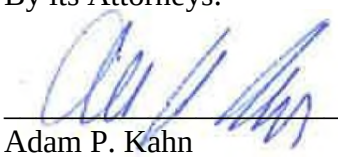
WHEREFORE, Vineyard Wind respectfully requests that, pursuant to G.L. c. 164, § 69J, the Siting Board conduct a public hearing on this Petition (and on any matters referred to the Siting Board from the Department) and take such action as necessary to: (1) grant the authority to construct the Vineyard Wind Connector 2 as more particularly described in the Analysis; (2) find that such construction is required in order to provide a necessary energy supply for the Commonwealth with a minimum impact on the environment at the lowest possible cost; and (3) find that the construction of the Vineyard Wind Connector 2 is consistent with current health, environmental protection, and

resource use and development policies as adopted by the Commonwealth and with the policies stated in G.L. c. 164, § 69H.

Respectfully Submitted,

VINEYARD WIND LLC

By its Attorneys:



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