COMMONWEALTH OF MASSACHUSETTS
ENERGY FACILITIES SITING BOARD

Petition of Mayflower Wind Energy LLC Pursuant to G.L. c. 164 § 69J for Approval to Construct and Operate Transmission Facilities in Massachusetts for the Delivery of Energy from an Offshore Wind Energy Generation Resource Located in Federal Waters to the Regional Transmission System at Brayton Point in the Town of Somerset, Massachusetts.	)	EFSB 22-04

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

I. INTRODUCTION

Mayflower Wind Energy LLC (Mayflower Wind) hereby petitions the Energy Facilities Siting Board (the EFSB or the Siting Board) pursuant to G.L. c. 164, § 69J (Section 69J) for approval to construct and operate a set of transmission connector facilities with a relatively short and simple route in Massachusetts,[1] as further described below, for the purpose of interconnecting Mayflower Wind's offshore wind energy generation resource located in federal waters (the Clean Energy Resource)[2] and enabling the delivery of energy from up to 1,200 megawatts (MW) of the capacity of the Clean Energy Resource to the New England regional electric grid at a point of

[1] The high voltage direct current (HVDC) export cable route in Massachusetts involves approximately 2.1 miles (3.4 kilometers) offshore in Massachusetts state waters and approximately 0.6 miles (1 kilometer) onshore at Brayton Point in the Town of Somerset. A new Mayflower Wind HVDC converter station is proposed at Brayton Point. From the converter station, the high voltage alternating current (HVAC) underground transmission route is approximately 0.2 miles (0.3 kilometers) to the point of interconnection at the New England Power Company d/b/a National Grid substation at Brayton Point.

[2] Mayflower Wind intends to develop the Clean Energy Resource up to the full capacity of the lease area, currently estimated to be 2,400 MW.

interconnection (POI) at Brayton Point in the Town of Somerset (Somerset), Massachusetts (Section 69J Petition).[3]

The Mayflower Wind offshore and onshore transmission connector facilities interconnecting at Brayton Point in Somerset and subject to the Siting Board's jurisdiction are referred to herein as the "Project." Included with this Section 69J Petition, and incorporated in it by reference, is the "MA Section 69J Analysis" which is attached hereto as Attachment A (Analysis).[4] The Analysis in two volumes provides a detailed description of the Project and an explanation of how this Section 69J Petition meets the Siting Board's standards for approval.

In further support of this Section 69J Petition, Mayflower Wind states as follows:

1. Mayflower Wind is a Delaware limited liability company registered in the Commonwealth of Massachusetts, with a principal place of business at 101 Federal Street, Boston, Massachusetts 02110.

2. Mayflower Wind is represented, for the purposes of this petition, by Eric Runge, Esq., Day Pitney LLP, One Federal Street, 29th Floor, Boston, MA 02110, and Margaret Czepiel, Esq., Day Pitney LLP, 555 11th Street NW, Washington, DC 20004. Ms. Czepiel is the subject of a motion to admit *pro hac vice* filed with the Siting Board contemporaneously with this petition.

3. 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] Concurrently with the filing of the instant Petition, Mayflower has filed: (i) a petition to the Department of Public Utilities (Department) pursuant to G.L. c. 164, § 72 for authority to construct and operate the state-jurisdictional transmission facilities that make up the Project; (ii) a petition to the Department pursuant to G.L. c. 40A, § 3 for certain zoning exemptions; and (iii) motions to refer and consolidate these two petitions and their related dockets in this proceeding. Mayflower is not a co-petitioner with the interconnecting transmission owner, New England Power Company (d/b/a National Grid) in this proceeding. Mayflower expects that National Grid will undertake its own permitting of its facilities constructed for the interconnection of the Project.

[4] The Analysis is contained in two volumes with attachments. Volume 1 contains the narrative text and some figures. Volume 2 contains figures, photographs, and attachments relevant to the Project.

4. Under G.L. c. 164, § 69G, jurisdictional facilities include, *inter alia*: 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."

5. The Project is comprised of new electric transmission lines having a design rating in excess of 69 kilovolts (kV) that are more than one mile in length in a new transmission corridor, and a related HVDC converter station and other structures integral to the operation of the transmission lines. The Project facilities, including the offshore export cables in state waters, the onshore export cables, the HVDC converter station, underground 345 HVAC transmission lines from the converter station to the POI, and related ancillary structures, are jurisdictional facilities for Siting Board review and approval.

II. PROJECT DESCRIPTION AND BENEFITS

6. Mayflower Wind is the developer of both the Clean Energy Resource and the Project. Mayflower Wind is a joint venture of Shell New Energies US LLC and OW North America LLC (Ocean Winds) (itself a joint venture of EDP Renewables and ENGIE). As such, Mayflower Wind is backed by the combined capability, experience, commitment to innovation, and financial strength of world-leading offshore wind energy developers with deep experience and capability in working alongside communities and managing the complexities of offshore and onshore energy development projects.

7. The purpose of the Project is to integrate the Clean Energy Resource with the New England regional transmission system administered by ISO New England Inc. (ISO-NE) to deliver renewable clean energy and thereby advance the Commonwealth's and the region's policies and

legislative mandates regarding climate change, clean energy and offshore wind energy generation development. The Clean Energy Resource is a large-scale (estimated at 2,400 MW) wind energy project being developed within federal waters on the Outer Continental Shelf offshore of Massachusetts, approximately 26 nautical miles (48 km) south of the island of Martha's Vineyard, 20 nautical miles (37 km) south of Nantucket, and 51 nautical miles (94 km) southeast of the Rhode Island coast. The development site for the Clean Energy Resource is a federal lease area (OCS-A 0521) (Lease Area) that has been designated by the Bureau of Ocean Energy Management (BOEM) as a Wind Energy Area (WEA). Mayflower holds rights to the 127,388-acre Lease Area as awarded through an auction conducted by BOEM. The Clean Energy Resource includes all wind turbine generators, offshore substation platforms, and inter-array cables in federal waters.

8. The Project is needed to enable the delivery of energy from up to 1,200 MW of the capacity from the Clean Energy Resource that can be used to meet the public policy requirements of Massachusetts and the region. The Project is both consistent with, and directly advances, the Commonwealth's clean energy and climate policies, including legislative requirements to reduce greenhouse gas (GHG) emissions, increase clean energy supply, and procure offshore wind energy through long-term power purchase agreements (PPAs). Notably, the Project satisfies the legislative directives of *An Act Creating a Next-Generation Roadmap for Massachusetts Climate Policy* (St. 2021, c. 8) (*2021 Climate Act*) by providing for the delivery of up to 1,200 MW of offshore wind energy into the Commonwealth. The *2021 Climate Act* further commits and moves Massachusetts forward to a clean energy future. It builds on the Commonwealth's 2008 *Global Warming Solutions Act*, St. 2008, c. 298, which calls for significant reductions in GHG emissions, and sets an ultimate emissions goal of "at least net zero statewide greenhouse gas emissions" by 2050. The *2021 Climate Act* directs the Secretary of the Executive Office of Environmental

Affairs, in consultation with the Massachusetts Department of Energy Resources (DOER), to set GHG emissions limits for 2025, 2030, 2035, 2040, 2045 and 2050. The *2021 Climate Act* also increases the offshore wind procurement authorization under *Green Communities Act*, St. 2008, c. 169, § 83C, as amended by the *Act to Promote Energy Diversity*, St. 2016, c. 188 (Section 83C) to a total of 5,600 MW.[5]

9. The Project will enable Mayflower Wind to meet contractual commitments to deliver energy from the Clean Energy Resource to Massachusetts customers. On May 23, 2019, the Massachusetts electric distribution companies (EDCs), in coordination with the Massachusetts DOER, issued a solicitation for Long-term Contracts for Offshore Wind Energy Projects pursuant to Section 83C. The solicitation sought to procure at least 400 MW, and up to 800 MW, of offshore wind energy generation. Following a bid evaluation process, including monitoring and assistance by an Independent Evaluator, the EDCs selected Mayflower Wind's 804 MW Low Cost Energy proposal as the winning bid on October 30, 2019. On January 10, 2020, the EDCs and Mayflower Wind executed the long-term PPAs. On February 10, 2020, the PPAs were filed for approval with the Department in Docket Nos. DPU 20-16, DPU 20-17, and DPU 20-18. By order dated November 5, 2020, the Department approved the PPAs.

10. On September 16, 2021, Mayflower Wind submitted an additional bid in response to the Section 83C III offshore wind solicitation to sell additional capacity from its Clean Energy Resource, thereby providing additional revenue assurance for and financial obligations on Mayflower Wind for the development of the Clean Energy Resource. On December 17, 2021, Mayflower Wind's 400 MW proposal was selected as a winning bid in the 83C III solicitation. On

[5] The Project is also consistent with a bill currently being considered by the Massachusetts legislature: House Bill No. 4524, "*An Act Advancing Offshore Wind and Clean Energy*."

April 15, 2022, Mayflower Wind and the EDCs executed PPAs for the 400 MW 83C III award. Mayflower Wind currently has 1,200 MW of executed PPAs to support the need for the Project. Mayflower Wind intends to deliver energy to meet its commitments under the Section 83C II and III PPAs at Brayton Point via this connector Project. This offshore wind energy solicitation, and others that are expected, provide further strong impetus for Mayflower Wind's full development of its Clean Energy Resource.

11. In conjunction with the state-jurisdictional Project, the Clean Energy Resource is being built in federal waters and is, therefore, being approved and permitted at the federal level. As part of this federal review, Mayflower Wind filed a Construction and Operations Plan (COP) with BOEM on February 15, 2021. On August 30, 2021, October 22, 2021, and March 16, 2022 Mayflower Wind filed revisions and updates to its COP, adding a second POI at Brayton Point, and responding to BOEM environmental and engineering comments. On November 1, 2021, BOEM published a Notice of Intent (NOI) to Prepare an Environmental Impact Statement (EIS) for the review of the Mayflower Wind COP.[6] The NOI commenced the EIS scoping process for the Mayflower Wind COP. Mayflower has been actively engaged with BOEM and remains in close communication with the federal agencies with whom BOEM will coordinate and consult during the National Environmental Policy Act process. BOEM held three virtual public meetings during the scoping period in November 2021 to discuss the COP. BOEM currently expects to issue a notice of availability and request public comments on the draft EIS in January, 2023. After the public comment period, BOEM will review and respond to comments and expects to make the final EIS available to the public in September, 2023.

[6] BOEM published its NOI in the Federal Register on November 1, 2021. See 86 Fed. Reg. 60,270 (published November 1, 2021) https://www.boem.gov/sites/default/files/documents/about-boem/regulations-guidance/86-FR-60270.pdf.

12. As described in detail in Section 4 of the Analysis, the offshore route in state waters includes passing through Mount Hope Bay and the mouth of the Lee River to landfall on the west side of Brayton Point for the proposed route (Preferred Route); or passing through Mount Hope Bay into the mouth of the Taunton River to landfall on the east side of Brayton Point for the alternative route (Noticed Alternative Route). Transition to landfall will be made via horizontal directional drilling (HDD). Mayflower Wind's Preferred Route onshore begins with landfall from the mouth of the Lee River on the west side of Brayton Point and travels underground along an existing private access road for approximately 0.6 miles (1.0 kilometer) to the proposed Mayflower Wind HVDC converter station site in the central part of the Brayton Point site. The converter station will convert the energy from +/-320 kV (nominal voltage) HVDC to +/-345 kV (nominal voltage) HVAC. From the converter station, +/-345 kV HVAC underground transmission lines will proceed approximately 0.2 miles (0.3 kilometers) to the POI at the 345 kV Brayton Point Substation, owned and operated by National Grid. The Noticed Alternative onshore route begins with landfall from the mouth of the Taunton River on the east side of Brayton Point and proceeds underground from there for approximately 0.4 miles (0.6 kilometers) to the proposed Mayflower Wind HVDC converter station site. After conversion to +/-345 kV HVAC, the underground transmission lines will proceed approximately 0.2 miles (0.3 kilometers) to the POI at National Grid's 345 kV Brayton Point Substation.

13. For state permitting purposes, the Project includes the following main elements:

a. Two (2) HVDC offshore export power cables rated at +/-320 kV (nominal voltage) and associated communications cabling installed beneath State waters, including in Mount Hope Bay;

b. A landfall location at Brayton Point with underground transition vaults where the offshore export cables will connect to the onshore export cables, access to which will be arrived at through the use of HDD to minimize environmental impacts;

c. Two (2) underground HVDC onshore export power cables rated at +/-320 kV (nominal voltage) that will transmit the energy from the landfall location to a new Mayflower Wind-developed HVDC converter station;

d. The new Mayflower Wind HVDC converter station located in the central portion of the Brayton Point site (the Mayflower Wind Converter Station) to convert the Project's +/-320 kV HVDC power to +/-345 kV HVAC for transmission to the Brayton Point POI;

e. The Mayflower Wind underground +/-345 kV HVAC transmission lines that, as further described below, will interconnect the Mayflower Wind Converter Station with the transmission facilities of National Grid and the ISO-NE regional transmission system at the POI, the Brayton Point Substation; and

f. The Noticed Variation as described herein.

14. Mayflower Wind also offers for the Siting Board's consideration a design variation to the Project intended to minimize impacts to the community and environment and provide

flexibility for the future expansion of the electric system in the Brayton Point area to accommodate the likely need to connect additional new renewable energy generation (the "Noticed Variation"). This Noticed Variation would facilitate the delivery of up to an additional 1,200 MW of renewable clean energy by "right-sizing" certain facilities (primarily increased trenching and additional conduits for onshore underground export cables) to minimize any likely siting, cost, community and environmental impacts. The Noticed Variation would involve sizing underground infrastructure for the HVDC export cables to include spare conduits at landfall and onshore that would be capable of accommodating an additional 1,200 MW HVDC circuit consisting of an additional two (2) power cables and associated communications cabling. Two (2) additional (spare) HDD conduits would be constructed at landfall, which would require two (2) additional exit pits. No change to the environmental criteria scoring was identified during the routing analysis when compared to the Project's 1,200 MW design. The primary difference in the Project and Noticed Variation is the physical size of the underground infrastructure. The Noticed Variation applies to the landfall and onshore portion of both the Preferred Route and the Noticed Alternative.

15. While the costs of the Noticed Variation are somewhat higher to install relative to the Project, it will have similar environmental impacts, while providing potential synergy for future interconnection of renewable clean energy. Developing the Project in this way would mean only one disturbance to the natural and developed environment, rather than a second time when a second 1,200 MW connector project might be needed in the future for export cables. To the extent that Mayflower Wind seeks to fully develop a second 1,200 MW connector facility interconnecting at or near Brayton Point, and make use of the increased trenching and spare conduits, Mayflower Wind would file a separate petition with the Siting Board for approval to do so. The Noticed Variation is consistent with emerging policies at the state and federal level to "right-size"

transmission; specifically, to design transmission upgrades to anticipate future needs, especially the public policy needs for a clean energy grid and low-cost energy.

16. The interconnecting transmission owner will be responsible for permitting its interconnection facilities and network upgrades to enable the Project's interconnection at Brayton Point.

17. Offshore wind projects such as Mayflower Wind's Project support and are driven by important public policies of the Commonwealth, including those policies pertaining to climate change, energy, the environment, public health and the economy, and carry out legislative mandates, as further described in Sections 2 and 6 of the Analysis. Mayflower Wind's Project and the associated Clean Energy Resource will provide multiple benefits to the Commonwealth and New England as further described in Section 1 of the Analysis.

18. This Section 69J Petition and the Analysis, which is incorporated herein by reference, provide the factual basis for Mayflower Wind's conclusion that the Project is necessary, 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

19. 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 LLC, EFSB 17-05/D.P.U. 18-18/18-19, at 10-11 (2019) (Vineyard Wind 1); NSTAR Electric Co., EFSB 14-2/D.P.U. 14-73/14-74, at 6-7 (2017) (NSTAR Electric Co.). 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, in assessing requirements (3) and (4). Vineyard Wind 1 at 19; NSTAR Electric Co. at 32, 38-39.

20. As demonstrated in the Analysis, the Project meets the Siting Board's standards, satisfies the applicable requirements and is consistent with Siting Board precedent. The Analysis directly addresses the Siting Board's five requirements: Section 2 of the Analysis explains the need for the Project; Section 3 of the Analysis considers Project alternatives; Section 4 of the Analysis explains route selection and the comparison of the Preferred Route to alternatives, including the Noticed Alternative; Section 5 of the Analysis compares the Preferred Route and Noticed Alternative and discusses environmental impacts, costs, and reliability matters, and shows how the Project will minimize environmental impacts and costs; and Section 6 of the Analysis addresses the Project's consistency with current health, environmental protection, and resource use and development policies of the Commonwealth, and shows how approval of the Petition would be consistent with those policies.

A. The Project is Needed.

21. In Cape Wind Associates, LLC, EFSB 02-2, at 17 (2005) (Cape Wind), the Siting Board articulated its standard for determining whether a proposed transmission facility is needed to interconnect a new or expanded generation facility:

> [T]he Siting Board will require an applicant seeking to construct a transmission line 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.

The Siting Board affirmed this standard in its decision in Vineyard Wind 1. Vineyard Wind 1 at 11. If the subject 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." Cape Wind at 17; Vineyard Wind 1 at 12.

22. The primary purpose of the Project is to deliver energy from the offshore wind Clean Energy Resource to Massachusetts and New England, consistent with the policies and legislative mandates of the Commonwealth of Massachusetts, including Section 83C. The Project will enable Mayflower Wind to meet its commitments under existing executed PPAs in the amount of approximately 1,200 MW.

23. As described more fully in Section 2 of the Analysis, the existing transmission system is inadequate to connect the Clean Energy Resource to the electric grid in New England. The Project will address that need by providing a reliable means to bring electricity from the Clean Energy Resource in the federally-designated WEA to the New England electric grid. Without the connector Project, the Clean Energy Resource would not be able to interconnect with the regional transmission system and deliver its clean energy to Massachusetts and the rest of New England.

24. As described in Sections 2 and 6 of the Analysis, strong public policy of the Commonwealth and specific legislative directives regarding climate change and GHG emissions reductions, clean energy and offshore wind procurement support and drive the need for the Project.

25. As described in Sections 1 and 2 of the Analysis, the Clean Energy Resource itself is being developed in federal waters and is not subject to the Siting Board's jurisdiction.

26. As described in Section 2 of the Analysis, there are numerous and substantial indicators of development progress that demonstrate that the proposed Clean Energy Resource is likely to be available to contribute to the regional energy supply.

27. These indicators of progress, together with the strong public policy and legislative mandates supporting the development of the Clean Energy Resource, make it highly likely that the Clean Energy Resource will be available to contribute to the regional energy supply and meet the Siting Board's standard for a demonstration of Project need.

28. While the Project fully meets the Siting Board's existing standard for a demonstration of Project need, which was developed by the EFSB in the Cape Wind decision seventeen years ago, *the standard itself could appropriately be refined and improved by expressly taking into account public policy requirements and legislative directives driving the need for transmission infrastructure to integrate public policy generation resources*, especially offshore wind, into the regional grid. Such refinement of the standard would be appropriate and timely given the various important legislative changes, including decarbonization mandates and requirements to add substantial amounts of offshore wind energy into the supply mix that have occurred since the development of the Cape Wind standard in 2005.[7]

[7] See Cape Wind at 16 (explaining that legislative changes make a revised standard for need appropriate).

B. Mayflower Wind Properly Considered Alternatives to the Project.

29. 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 1 at 16; NSTAR Electric Co. at 17.

30. As the Siting Board has stated, 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." NSTAR Electric Co. at 17; accord Cape Wind at 21. 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." NSTAR Electric Co., at 17; accord Cape Wind at 21.

31. Mayflower Wind comprehensively identified and analyzed various alternatives to address the identified need. In order to determine the approach that best balances reliability, cost, and environmental impact, and in accordance with Section 69J and Siting Board precedent, Mayflower Wind evaluated a series of project approach alternatives for their potential to address the identified need.

32. As described in Section 3 of the Analysis, no other alternative to the Project and the Clean Energy Resource would meet the legislative mandate to develop substantial offshore wind energy resources for the Commonwealth. No other alternative to the Project would enable delivery of the energy from the Clean Energy Resource to the regional electric grid, consistent with the policies and laws of the Commonwealth.

33. Mayflower Wind evaluated a reasonable range of alternative potential POIs and routes for this connector Project and selected Brayton Point as the POI and the proposed route as the Preferred Route for the reasons discussed in Sections 3 through 5 of the Analysis. Brayton

Point is an ideal location because it provides robust 345 kV regional transmission infrastructure, is a brownfields site that is ideal for this type of energy infrastructure development, its waterfront location, its lack of residential abutters, and because Mayflower Wind's queue position in the ISO-NE interconnection queue will enable Mayflower Wind to interconnect more quickly and with less cost. The route selected to the POI as the Preferred Route best balances feasibility, constructability, and minimization of environmental impacts and costs.

34. Mayflower considered multiple cable technologies and determined that HVDC technology is the preferred technology for the Project with an interconnection at Brayton Point, based on distance of the POI from the Clean Energy Resource. Mayflower Wind will convert the Project's HVDC power to 345 kV HVAC for interconnection with the Brayton Point POI. See Analysis, Section 3.

35. Mayflower determined that, in order to bring the Project's power to shore, a nominal voltage of +/-320 kV is most suitable for the HVDC export cables. Higher voltages would not significantly change the size of the export cable or result in material reductions in the area of potential impact to the seafloor associated with installation. Voltages lower than the proposed +/-320 kV would require more cables to be placed along the seafloor, which would enlarge the impact area in the offshore environment and may increase the overall energy loss through transmission. The Project has been designed to accommodate +/-320 kV (nominal voltage) export cables. See Analysis, Section 3.

C. Mayflower Wind Properly Considered Alternative Routes and Locations.

36. Section 69J "requires a petition to construct to include a description of alternatives to the facility, including other site locations.'" Vineyard Wind 1 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.

NSTAR Electric Co. at 32; accord Cape Wind at 33.

37. Section 4 of the Analysis demonstrates that Mayflower Wind conducted a comprehensive and thorough 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.

38. As detailed in Analysis Sections 3 and 4, Mayflower Wind evaluated a wide range of potential POIs, and determined that Brayton Point provided the best available POI based on factors such as the significant injection capacity, the strength of the regional transmission system at that location, the previously disturbed brownfield nature of the location, the waterfront location, and its lack of residential abutters.

39. With a POI at Brayton Point, Mayflower Wind determined the best feasible landfall site and HVDC converter site option and determined the best routes from landfall to the Mayflower Wind Converter Station. The landfall locations are on either side of the Brayton Point peninsula, making landfall either from the west via the Lee River (for the Preferred Route) or from the east via the Taunton River (for the Noticed Alternative). As described in Section 4 of the Analysis, Mayflower Wind used a weighted scoring analysis of potential routes and determined that the Preferred Route from the Lee River to the HVDC converter station scored best.

40. With the limited space and feasible landfall options at Brayton Point, and given the need to avoid legacy contamination at that property, Mayflower Wind was able to develop two feasible alternative routes with geographically distinct landfall locations and routes to the Mayflower Wind HVDC Converter Station. Given the circumstances of a POI at Brayton Point, constricted space in the area, and Mayflower Wind's intent to avoid legacy contamination at the site, these geographically distinct routes, though close to one another, provide a measure of geographic diversity in accordance with the Siting Board's standards and precedent.

D. Mayflower Wind Properly Evaluated Environmental Impacts, Costs, and Reliability of the Project and Will Seek to Minimize Costs and Environmental Impacts while Ensuring a Reliable Energy Supply.

41. Under G.L. c. 164, § 69H and § 69J,

> [T]he 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.
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> Vineyard Wind 1 at 35; NSTAR Electric Co. at 38-39; Cape Wind at 33.
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> 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.
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> Vineyard Wind 1 at 35; NSTAR Electric Co. at 39.

42. Mayflower Wind conducted a comprehensive analysis of the environmental impacts of the Project and will appropriately avoid or minimize and mitigate the environmental

impacts associated with it. The Mayflower Wind Project will also achieve an appropriate balance among conflicting environmental concerns as well as among environmental impacts, reliability, and cost. Section 5 of the Analysis sets forth analyses of the environmental impacts, cost, and reliability and the comparison of route alternatives. Mayflower Wind also analyzed the Noticed Variation, which would involve the design and conditional construction of certain right-sized transmission facilities (primarily trenching and conduit for the onshore export cables) along the same onshore routes to enable the delivery of up to an additional 1,200 MW of renewable clean energy to a POI at or near Brayton Point. Mayflower Wind's Analysis demonstrates that the Noticed Variation will cost more than the Project, but will have minimal incremental environmental impacts, while providing prudent and efficient development of infrastructure in a way that seeks to minimize potential future impacts and meet anticipated need. Overall, Mayflower Wind's Analysis demonstrates that the Project will achieve an appropriate balance among conflicting environmental concerns as well as among environmental impacts, reliability and cost. Mayflower Wind's Analysis also provides a sufficient basis for the Siting Board to approve the Noticed Variation. The cost, reliability and environmental impacts analysis are set forth in Section 5 of the Analysis.

E. The Project Meets the Siting Board's Consistency Standards.

43. 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 1 at 127; NSTAR Electric Co. at 87.

44. Section 6 of the Analysis explains in detail how the development of the Project and the related Clean Energy Resource are not only consistent with the Commonwealth's current

relevant policies, including environmental justice policies, they are also critical to effectuating certain of the Commonwealth's public policy requirements. These policies include, among others, those advancing the development of offshore wind generation resources and their necessary connector facilities to meet the Commonwealth's clean energy needs, while reducing GHG emissions and the environmental impacts associated with climate change.

WHEREFORE, Mayflower Wind respectfully requests that, pursuant to G.L. c. 164, Section 69J, the Siting Board conduct a public hearing on this Section 69J Petition (and on any matters referred to the Siting Board from the Department) and take such action as may be necessary to: (1) grant the authority to construct and operate the Project as more particularly described in the Analysis; (2) find that such construction and operation is required to connect the Clean Energy Resource to the regional transmission grid in order to provide a necessary clean 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 Project 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 and 69J.

Respectfully Submitted,

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