18 April 2023

Ms. Karen J. Baker, Chief
Office of Renewable Energy Programs
Bureau of Ocean Energy Management
45600 Woodland Road
Sterling, Virginia 20166

Dear Ms. Baker:

The Marine Mammal Commission (the Commission), in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the Bureau of Ocean Energy Management's (BOEM) 17 February 2023 and 4 April 2023 notices (88 Fed. Reg. 10377 and 88 Fed. Reg. 19986, respectively) and draft environmental impact statement (DEIS) for construction and operation of the SouthCoast Wind Energy, LLC (SouthCoast)[1] project and other associated activities located in BOEM lease area OCS-A 0521.

The proposed SouthCoast wind energy facility would be located in southern New England, in BOEM lease area OCS-A 0521 at the southern portion of the Rhode Island/Massachusetts wind energy areas (RI/MA WEAs). The RI/MA WEAs, and adjacent areas encompassing the western edge of Nantucket Shoals, have become increasingly important foraging habitat in the winter and spring months for endangered North Atlantic right whales (Quintana-Rizzo et al. 2021, Meyer-Gutbrod et al. 2022, O'Brien et al. 2022) and other marine mammals[2]. Right whales, in particular, have experienced a significant decline in the past decade due to a number of factors. These include a shift in foraging during the summer months from the Gulf of Maine and the western Scotian Shelf to more northerly feeding grounds in the Gulf of St. Lawrence (Sorochan et al. 2019, Record et al. 2020, Brennan et al. 2021, Meyer-Gutbrod et al. 2021) and increased mortality resulting from vessel strikes and entanglements in fishing gear (Pettis et al. 2023, Pirotta et al. 2023). The dire conservation status of right whales means that strong measures are needed to reduce the direct impacts of human-related activities throughout their range (O'Brien et al. 2022, Pettis et al. 2023).

BOEM outlined several measures in the SouthCoast DEIS to monitor and mitigate potentially adverse impacts on right whales and other large whales from sound generated by pile driving and other types of disturbance associated with the construction of the SouthCoast wind energy facility, and the additional sound and potential for vessel strikes from increased vessel traffic during wind farm construction and operations. The Commission is in support of the proposed mitigation and monitoring measures, and anticipates that the National Marine Fisheries Service (NMFS) will require additional measures under rulemaking needed to authorize the taking of marine mammals incidental to construction and operations of the SouthCoast wind energy facility.[3]

[1] SouthCoast Wind Energy changed its name from Mayflower Wind Energy LLC in February 2023, immediately prior to the release of the DEIS. Therefore, the DEIS still refers to the project as Mayflower Wind.
[2] https://www.masscec.com/resources/marine-mammal-and-sea-turtle-surveys
[3] See section 101(a)(5)(A) of the Marine Mammal Protection Act.

BOEM included an alternative in the DEIS that would eliminate up to six wind turbines in the northeastern portion of the lease area (Alternative D). This alternative addresses, in part, the high degree of uncertainty regarding the nature, extent, and severity of hydrodynamic changes that could result from placing wind turbines adjacent to Nantucket Shoals (Hayes 2022). Changes in hydrodynamics from the installation of large wind turbines off southern New England, and their potential effect on the biological productivity of Nantucket Shoals, have yet to be fully investigated. It has been suggested that primary productivity could be impacted through increased turbulence and turbidity, decreased stratification, changes in salinity and temperature, and wind-wake effects (Christiansen et al. 2020, van Berkel et al. 2020). Changes in hydrodynamics that might decrease important foraging habitat in southern New England could be disastrous for a species already experiencing poor health due to changes in prey availability and other anthropogenic stressors in other parts of its range.

In its analysis of Alternative D, BOEM noted that modeling the effects of the full buildout of 149 turbines predicted only minor, local changes to the physical hydrodynamics, and stated that there was a lack of conclusive evidence that removing the six turbines under this alternative would measurably lessen those impacts. BOEM also considered an alternative to eliminate up to 53 wind turbines within a 20-km buffer of the Nantucket Shoals 30-m isobath to reduce potential impacts on this important foraging habitat, but determined that eliminating that many turbines was not a reasonable alternative under the National Environmental Policy Act because it was neither consistent with the purpose and need of the proposed action, nor economically feasible or practicable.

The Commission is concerned that BOEM may be discounting prematurely the potential for hydrodynamic changes from the installation and operation of wind turbines in southern New England, the potential effects on primary productivity, and, in turn, the availability of prey species (*Calanus* spp.) for right whales. More research is needed on the hydrodynamic changes expected to result from the installation of large turbines in southern New England, and how these changes may affect the distribution and/or availability of *Calanus* spp. The Commission understands that the National Academies of Sciences, Engineering, and Medicine (NASEM) has undertaken an "Evaluation of Hydrodynamic Modeling and Implications for Offshore Wind Development: Nantucket Shoals" to "assess potential impacts from offshore windfarms in the Nantucket Shoals region on marine hydrodynamics and resulting impacts on marine mammals, specifically on the availability of North Atlantic right whale prey."[4] The Commission fully supports such an evaluation as a means for reviewing the available literature on hydrodynamic effects, determining whether the models being used by BOEM to assess such effects are appropriate, and whether other models should be considered.

The Commission recommends that BOEM continue to work with NMFS and other partners to conduct research and modeling to investigate the hydrodynamic effects of wind turbine installation in southern New England and other Atlantic Ocean WEAs, and particularly the question of cumulative effects of large-scale wind farms on primary productivity and in turn the availability of prey to North Atlantic right whales and other marine species. In the interim, while the NASEM conducts its evaluation of the hydrodynamic models being used by BOEM, the Commission recommends that BOEM consider expanding Alternative D, or adding a new alternative, to delay or

[4] https://www.nationalacademies.org/our-work/evaluation-of-hydrodynamic-modeling-and-implications-for-offshore-wind-development-nantucket-shoals

avoid the installation of wind turbines in the eastern portion of the SouthCoast lease area until the NASEM study is completed and BOEM has updated its analyses and models regarding the cumulative effects of large-scale wind farms on the hydrodynamics of Nantucket Shoals and its implications for seasonal foraging habitat for North Atlantic right whales.

Please contact me if you have questions regarding the Commission's recommendations.

Sincerely,

Peter O. Thomas, Ph.D.,
Executive Director

cc: Mr. Nick Sisson, Marine Resources Management Specialist, NMFS Greater Atlantic Regional Office
Dr. Sean Hayes, Protected Species Branch Chief, NMFS Northeast Fisheries Science Center

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