

Ms. Ellen Weitzler,
Supervisor Municipal and Industrial Permits Section Water Division
Environmental Protection Agency, Region 1
5 Post Office Square - Suite 100
Boston, MA 02109-3912

November 6, 2024

**Subject: SouthCoast Wind Energy LLC Comments on EPA Public Notice for NPDES
DRAFT Permit Number MA0006018**

Dear Ms. Weitzler,

Thank you for providing SouthCoast Wind Energy LLC (SouthCoast Wind) the opportunity to review and comment on the Draft National Pollutant Discharge Elimination System (NPDES) Permit for the Project's offshore converter station (OCS), issued for public comment and provided to SouthCoast Wind for review on October 3, 2024. SouthCoast Wind has carefully reviewed the Factsheet, Draft Permit, and Public Notice related to Project details, timelines, and conditions provided by the Environmental Protection Agency (EPA) and considered the basis and feasibility of each as they relate to our proposed Project and OCS-DC-1 (Project). In this response letter, we provide supportive information and rationale for select components of our Project and the EPA Draft permit conditions that have been identified by SouthCoast Wind as requiring consideration, correction, or revision. We respectfully request that EPA consider these comments when reviewing the Draft Permit and any public comments received during the public comment period and developing the Final NPDES Permit for issuance to the SouthCoast Wind Project.

Draft NPDES Permit, Cooling Water Intake Structure (CWIS) (Draft Permit, p. 6, Fact Sheet p. 93 through 99): “2. a. (4) The CWISs must be located at a depth between 10 to 20 meters above pre-construction seafloor grade (32.8 to 65.6 feet), provided the CWISs can be relocated in accordance with requirement (6) below.”

“(5) The CWISs must be located outside the Enhanced Mitigation Area as defined by BOEM’s Final EIS.”

“(6) The CWISs must be located in waters at or greater than 50 meters in depth, away from the benthic ridge feature, to avoid adverse impact on essential fish habitat.”

SCW Comment: 2. a. (4): The OCP location is in waters of 46.25 m in depth. The intake caissons on the CWIS will be located between 30-33 m depth and 16.24 m above pre-construction seafloor grade (46.24 - 30=16.24 m). SouthCoast Wind performed an analysis

on depth of intake caissons per EPA's recommendation of 30 m and were able to confirm that the Project could meet this depth of intake. Based on an initial review of the results of the study performed, SouthCoast Wind does not see any specific barriers to meeting the additionally requested 3 m (for a final depth of 33 m), however, further study will need to be completed prior to final design to confirm any additional depth. Locating the intake caisson at 33 m depth would place the intake caisson at a depth of 13.2 m above pre-construction seafloor.

2. a. (5): The OCP is located outside the Enhanced Mitigation Area (EMA) as defined in the BOEM Draft Environmental Impact Statement (DEIS), located at position BG44, at 40.805045N, -70.324838W (Lat 40 48' 18.16, Long 70 19' 29.41). The OCP location outside of the EMA reduces impacts on species in the highly productive Nantucket Shoals. Impacts from impingement and entrainment would still occur from the HVDC converter station (OCP) location if located in other parts of the Lease Area or moved to an increased depth profile of 50 m.

2. a. (6): The current location of the OCP is 46.25 m in depth. Relocation of the OCP from its current proposed position is not technically or financially feasible for the current design and schedule of the SouthCoast Wind Project. During early-stage Project development, and as part of BOEM's DEIS development, BOEM notified SouthCoast Wind that a 15-km buffer for OCP siting restriction will be carried forward as a mitigation measure to the Nantucket Shoals Habitat Alternative (Alternative D) in SouthCoast Wind's DEIS. Based on this communication and the anticipated regulatory timeline, SouthCoast Wind took steps as required to define the location of the OCP including geotechnical assessments and surveys to support the design and engineering of the OCP.

In order to consider relocation of the OCP to deeper waters as recommended in the Draft NPDES Permit, SouthCoast Wind has accounted for the additional costs and program impacts for several areas of additional site assessment and cost expenditure that the Project has not included in its financial model. Although the full range of costs are not currently fully defined in detail, the anticipated costs of several aspects of relocation listed below would negatively affect the Project's ability to meet its financial and contractual obligations and schedule committed to in the recently awarded Power Purchase Agreements with Massachusetts and Rhode Island. Just a few of the known costs include approximately \$500k for additional trenching, cable laying, and cable costs. Additionally, surveys and geotechnical work at the site would need to be repeated at any new potential site to conclude suitability (CPTs and boreholes) at a minimum cost of \$1.1M. These costs do not capture the full potential costs of moving the OCP to an alternative location.

Other additional costs are yet to be definitively defined or costed, and so pose an even higher additional risk to the Project at this stage of design, permitting, and contract execution. Some

high-level examples of required effort include additional seabed surveys, additional UXO surveys, re-engineering of foundation design to accommodate additional depth, additional steel costs for additional depth, additional trenching for the inter-array cables, additional cable costs due to required thicker cables, inter-array cable costs and losses (based on layout optimizations), export cable costs (based on increase in cable length with distance from shore), and transmission losses due to the additional distance to shore. Additionally, a change in Energy Yield Assessment would occur from swapping an OCP with a single WTG in the layout (when moving around the OCP), which could affect the financial model. These additional costs and the Project delays these efforts would cause have not been accounted for in our Project program, and therefore could seriously challenge the Project's ability to meet the current target and contractual commitments for delivery. In addition, the delay in the program and schedule that would be triggered by additional surveys, engineering design, and supply chain contracting changes would create significant additional challenges.

Draft NPDES Permit, Biological Monitoring (Draft Permit, p.7): “The Permittee must conduct ichthyoplankton and zooplankton monitoring in accordance with the study design specified in Attachment A to this Permit.”

SCW Comment: SouthCoast Wind notes that zooplankton monitoring was not required for the Sunrise Wind NPDES permit but is included in the NPDES conditions for SouthCoast Wind. Although the SouthCoast Wind Lease Area is adjacent to BOEM's defined Enhanced Mitigation Area, the CWIS is outside of the EMA as defined and mapped by BOEM in the SouthCoast Wind DEIS. As such SouthCoast Wind requests that the NPDES requirements for Biological Monitoring should reflect monitoring for potential impacts specifically related to the CWIS (not nearby areas). **Draft NPDES Permit, Biological Monitoring, I.C(3)(a) (Draft Permit, p. 7):** “At a minimum, monitoring must be conducted over a 48-hour period each quarter at two depth zones: within the estimated Hydraulic Zone of Influence depth of the CWIS and the full water column.”

SCW Comment: It will not be possible to safely sample ichthyoplankton/zooplankton within the Hydraulic Zone of Influence (HZI) as that is within the structure of the OCS-DC1 itself. Therefore, SouthCoast Wind requests that EPA change this text to reflect similar depth zones as the HZI, “as close as possible, but no greater than 500 m laterally from the cooling water intake structure” (similar to language the EPA used in Appendix A, pdf p. 14 of 125).

Draft NPDES Permit, Best Management Practices (Draft Permit, p.8): Best Management Practices.

SCW Comment: SouthCoast Wind requests the following edits to the following BMPs for accuracy:

(4)(b)(2) “All other freshwater system locations subject to leaks and/or spills must be either plugged or connected to the glycol-water contaminated drain system”

SouthCoast Wind recommends revising this statement to the following language which more precisely describes the design: "All freshwater systems that have a risk of being contaminated with Glycol will be collected into plugged drip trays and/or directed to the glycol-water contaminated drain system."

(4)(c)(1) "The OWS must be capable of treating oil and grease to a level of 5 ppm and be maintained to continue its effectiveness, including the regular removal of accumulated oil and solids from the OWS".

SouthCoast Wind has confirmed that the system is designed to treat to a level of 15 ppm with the oil separator. Anything analyzed over 5 ppm will be directed to the closed drains.

(4)(C)(5) "The closed drain tank must be emptied prior to all major storm events"

SouthCoast Wind requests modifying this BMP to state that the "OCP operator will assess tank capacity based on the detected levels for reasonable limits to accommodate predicted storm". SouthCoast Wind believes that this more accurately describes the process in that if a de minimis amount of water is detected in the tank, it would not necessarily require emptying, and the operator would make an informed determination on need. Additionally, SouthCoast Wind would request that EPA include language relative to safety precautions and considerations for conditions prior to an unpredicted storm, sea conditions, or winter weather conditions that would need to be considered in decision-making for requiring a vessel to reach the OCP.

Draft NPDES Permit, Best Management Practices (4)(b)(5) (Draft Permit, p. 8): "If glycol is detected in the condensate tank, the entire tank contents must be drained to the closed drain tank for offshore disposal;"

SCW Comment: For accuracy, SouthCoast Wind recommends revising this to read "If glycol is detected in the condensate tank, the outflow must be directed to the closed drain tank for onshore disposal."

Draft NPDES Permit, Appendix A, 1.1 (p. A-1): At each depth regime, the Permittee will collect three pseudo-replicate (sequential) samples, each with a target volume of 300 m³."

SCW Comment: Based on our understanding of standard sample size and precedent relative to data quality and robustness, the standard sample volume would be 100 m³. Additionally, a volume of 300 m³ pseudo-replicate samples would result in 900 m³ total volume, which would significantly increase the cost of analysis. As such SouthCoast Wind proposes that this be clarified to align with entrainment sampling target volumes at other offshore facilities and to clarify the intent as follows: "At each depth regime, the Permittee will collect three pseudo-replicate (sequential) samples, each with a target volume of 100 m³, for a total sample volume target of 300 m³."

Draft NPDES Permit, Appendix A, 1.1 (p. A-1): “Discrete depth sampling at the depth of the intake zone shall be conducted using a tucker trawl...”

“Discrete depth sampling with the tucker trawl will be conducted during daylight and night while full column, bongo net sampling is only required to be completed during daylight hours.”

SCW Comment: SouthCoast Wind requests the first sentence be changed to “...using a tucker trawl or equivalent...” to accommodate emerging technologies such as a Multiple Opening/Closing Net and Environmental Sensing System (MOCNESS). SouthCoast Wind also requests the addition of the following language after the second sentence: Nighttime sampling in the vicinity of the structures presents further logistical and safety concerns, as noted above. SouthCoast Wind suggests an allowance for night and day sampling and additional clarifying language as follows: “...as close to the cooling water intake structure as possible? within reason for logistical and safety purposes.”

Draft NPDES Permit, Fact Sheet (Fact Sheet, p. 1): SouthCoast Wind, LLC address “100 federal street”

SCW Comment: Please update the SouthCoast Wind address to our current address: SouthCoast Wind Energy LLC 3 Center Plaza, Ste 205, Boston, MA 02108

Draft NPDES Permit, Fact Sheet, Section 3.1 (Fact Sheet, p. 15): “SouthCoast Wind (“formally Mayflower Wind”)...”

SCW Comment: Please change “formally” to “formerly”: “SouthCoast Wind (formerly Mayflower Wind) ...”

Draft NPDES Permit, Fact Sheet, Section 3.2 (Fact Sheet, p. 17): “The Facility’s proposed NCCW system includes three separate vertical intake pipes (caissons)....”

SCW Comment: SouthCoast Wind recommends revising “intake pipes (caissons)” to simply “intake caissons” for clarity.

Draft NPDES Permit, Fact Sheet, Section 3.2 (Fact Sheet, p. 17): The strainers are retractable on the seawater lift pump for cleaning.

SCW Comment: SouthCoast Wind recommends the following clarification, as previously provided in SouthCoast Wind’s response to comments to the EPA: “The strainers on the system are not designed to be retractable for regular cleaning. The seawater lift pump strainers are designed to be retractable for major pump overhauls and maintenance on a 5 - 10-year basis, where the strainers will be inspected and replaced as necessary. For regular cleaning, the filter is provided with an automated backwash cleaning system where fouling of the filter generates additional pressure drop over the filter and will start the automatic cleaning cycle of the filter. During the cleaning cycle the maximum capacity of the pump

(when the filter is clean at the end of the cleaning cycle) will have temporarily increased as the filter returns to its normal (clean) pressure drop at the point the backwash cycle has ended, and the temperature control has corrected."

Draft NPDES Permit, Fact Sheet, Section 3.2 (Fact Sheet, p. 17): "No chemicals are involved in the cleaning cycles."

SCW Comment: Confirmed that no chemicals will be involved in the cleaning cycles. As a point of clarification, as previously provided in SouthCoast Wind's response to EPA comments, sodium hypochlorite generated from seawater will be used to prevent biological growth in the cooling system. The purpose of the Hypochlorite Generators is to provide the correct amount of hypochlorite in the caissons at the suction side of the seawater lift pumps, in order to protect the caissons and pumps from organic growth.

Draft NPDES Permit, Fact Sheet, Section 3.2 (Fact Sheet, p. 21): "SouthCoast Wind Responses to EPA Comments, attached to email dated March 25, 2024. However, SouthCoast Wind does not yet have information regarding whether there will be discharges from the Facility's seawater pump seals. In some cases, the seal fluid consists of a water and glycol solution that could be discharged during the initial commissioning start-up of the pumps."

SCW Comment: SouthCoast Wind notes that the OCP design intends to utilize typical seawater lift pumps which use a forced oil circulation system for cooling and seal lubrication. There is no glycol present in this system which will be incorporated into the final CWIS design.

Draft NPDES Permit, Fact Sheet, Section 5.1.4 (Fact Sheet, pp. 29-30): "The projected mass of chlorine discharged daily is 63.5 kilograms (kg), assuming a typical flow of 6.81 MGD and 95 kg during a maximum discharge flow of 9.9 MGD."

SCW Comment: SouthCoast Wind recommends changing "chlorine" to "hypochlorite derived from seawater". We also recommend making this clarification throughout the Permit language.

SouthCoast Wind requests the following modification to this description of the Hypochlorite dosing and discharges to more accurately describe this system design and function:

"Hypochlorite is dosed into the main seawater return header via the seawater service pumps. The Hypochlorite Generator Packages produce sodium hypochlorite (NaOCl) by seawater electrolysis. Hypochlorite Generator Packages are designed to achieve a hypochlorite solution flow rate of sufficient concentration, corresponding with a maximum 2 ppm equivalent free chlorine concentration in the seawater intake lines. In the seawater lift pump flow capacity range of 580 to 780 m³/h, the hypochlorite concentration varies from 1.06 to 0.90 ppm."

Draft NPDES Permit, Fact Sheet, Section 5.1.5 (Fact Sheet, p. 34): “Figure 3 below shows the SouthCoast Wind Farm boundary in red...”

SCW Comment: SouthCoast Wind requests changing the sentence to "Figure 3 below shows the SouthCoast Wind Lease Area boundary in black...".

Draft NPDES Permit, Fact Sheet, Section 5.1.5 (Fact Sheet p. 35): “Specifically, the OCS-DC1 location has been designated by NOAA Fisheries as a HAPC for Summer Flounder Submerged Aquatic Vegetation (SAV).”

SCW Comment:

SouthCoast Wind acknowledges that the [NOAA EFH Mapper](#) and [Data Inventory](#) shows the Summer Flounder SAV HAPC layer as overlapping with the location of the Offshore Converter Station. However, as noted in the ‘Data Caveat’ of that layer in the EFH Mapper, discrete areas of summer flounder HAPC are not defined or mapped because SAV presence is dynamic and can vary in scale and location. The EFH Mapper caveat reads specifically: “Due to the dynamic nature of submerged aquatic vegetation and the differences in local mapping, detailed region-wide mapping of this HAPC is not available. Local mapping must be used to determine its presence in a particular project area”. While this HAPC feature as a data layer overlaps with the OCP location in the mapper, SAV must also be present in order for that area to be functional as Summer Flounder SAV HAPC, which there is no evidence of at this location. NOAA Fisheries includes the ‘Data Caveat’ to acknowledge that the location of SAV beds change over time, so while conditions might be favorable within the general area of mapped HAPC, it is only functional as such if SAV is actually present. As any area containing SAV is considered summer flounder HAPC, discrete areas of summer flounder HAPC are not defined or mapped because SAV presence is dynamic and can vary in scale and location. Eelgrass is limited to a maximum 12 m depth in southern New England ([Costa 1997](#)). This is consistent with findings from other regional and Project-specific benthic surveys ([SouthCoast Wind 2021a](#); [SouthCoast Wind 2021b](#)), which demonstrate the extent of SAV is limited to only those nearshore portions of the Export Cable Corridor, as it approaches the Falmouth Landfall ([SouthCoast Wind 2021c](#)). The OCP location does not contain SAV, and thus is not expected to overlap with summer flounder HAPC.

Based on the statements and studies identified above, SouthCoast Wind contests overlap of SAV HAPC with the OCP location and suggests EPA adopt language in the Final Permit that reflects the SouthCoast Wind findings as identified above.

Draft NPDES Permit, Fact Sheet (Fact Sheet, p. 42): Figure 5.

SCW Comment: SouthCoast Wind recommends that EPA clarify that Figure 5 shows a representative design indicating some of the key design features anticipated. The bell mouth design will be aligned with the preliminary construction drawing in Figure 5 (dimensions in

millimeters), the number of slots and their size is indicative, to be optimized during final design.

Draft NPDES Permit, Fact Sheet, Section 5.2.3 (Fact Sheet, p. 45): The Draft Permit proposes to require that the intake screen be constructed with anti-fouling alloys and/or coatings that will inhibit the amount of biological growth.

SCW Comment: Final material selection, including use of any anti-fouling alloys and/or coatings have not been determined at this stage of the Project design. SouthCoast Wind will continue to assess and validate the best approach and Best Available Technology. SouthCoast Wind requests that specific anti-fouling material or anti-fouling approach not be included in the Permit conditions as a final design has not yet been optimized.

The SouthCoast Wind design currently includes an automated backwash cleaning system for regular cleaning of the filter. Fouling of the filter generates additional pressure drop over the filter and will start the automatic cleaning cycle of the filter. During the cleaning cycle the maximum capacity of the pump (when the filter is clean at the end of the cleaning cycle) will have temporarily increased as the filter returns to its normal (clean) pressure drop at the point the backwash cycle has ended and the temperature control has corrected. This, together with the through-screen intake velocity (TSV) maintained at no greater than 0.5 fps, and the optimized spacing of the crash bars, will further reduce impingement and entrainment at the intake.

Draft NPDES Permit, Fact Sheet, Section 5.2.3 (Fact Sheet, p. 45): “Considering that the addition of chlorine will occur upstream of the intake entrance...”

SCW Comment: For clarification, Hypochlorite will be dosed via a chlorination diffuser below the seawater lift pump. SouthCoast Wind also recommends modifying “chlorine” to “hypochlorite derived from seawater”.

Draft NPDES Permit, Fact Sheet, Section 5.2.4 (Fact Sheet, p. 49): “SouthCoast Wind’s current OCS-CD1...”

SCW Comment: Recommend correcting to “SouthCoast Wind’s current OCS-DC1...” (minor edit)

Draft NPDES Permit, Fact Sheet, Section 5.2.4 (Fact Sheet, p. 53): “Compared to the annual mean estimate of larval entrainment using SouthCoast Wind’s design intake flow of 9.9 MGD, the use of VFDs to achieve projected actual intake flows will result in an estimated 48% reduction in entrainment in the vicinity of the wind farm boundary.”

SCW Comment: For greater accuracy, SouthCoast Wind recommends revising “48% reduction in entrainment in the vicinity of the wind farm boundary.” statement to read:

"...48% reduction in entrainment than from SouthCoast Wind's initially proposed VFD operating parameters."

Draft NPDES Permit, Fact Sheet, Section 5.2.4 (Fact Sheet, p. 60): "NOAA Fisheries recommends that the open-loop cooling water intake system of the OCS-DC1 be relocated to a site in water of closer to 50m or greater depths"

SCW Comment: The OCS-DC1 is located at 46.25 m depth. Relocation of the OCS-DC1 is not technically or financially feasible within the Project's current design and schedule. See SCW Comment to Draft NPDES Permit, CWIS (p. 6, p. 93 through 99) for a detailed response regarding the economic and program-level infeasibility of relocating the OCS-DC1 from its proposed location.

Draft NPDES Permit, Fact Sheet, Section 5.2.4 (Fact Sheet, p. 60): EPA will however consider any information provided during the public comment period that provides information, including detailed engineering and/or cost information, demonstrating that the converter station cannot or should not be relocated. If ultimately, EPA determines, for the Final Permit, that the converter station cannot be relocated to a location closer to the 50 m isobath or greater, the Final Permit will include additional monitoring for Atlantic cod early life stages (i.e., eggs, larvae, and juvenile stages (less than 25 mm)) to be conducted twice per month from December through April.

SCW Comment: SouthCoast Wind refers EPA to its previous responses to detail the infeasibility of moving the OCP at this stage of the Project (SCW Comment to Draft NPDES Permit, CWIS, p. 6, p. 93 through 99). SouthCoast Wind will conduct ichthyoplankton and zooplankton monitoring as required: within the estimated Hydraulic Zone of Influence depth of the CWIS and the full water column. This monitoring effort would include early life stages for Atlantic cod. Increasing the frequency of ichthyoplankton monitoring frequency to twice per month is not economically feasible and is unlikely to change the understanding of presence/absence of Atlantic cod early life stages compared to the quarterly rate. SouthCoast Wind requests that the sampling period begin during commissioning and clarifying that, "sampling may begin prior to full-scale operation, and the Permittee may request a reduction in monitoring frequency."

Draft NPDES Permit, Fact Sheet, Section 5.2.5 (Fact Sheet p. 68): "As a surrogate for actual impingement monitoring at the intake screens, continuous monitoring of the through-screen velocity at point of entry through the screen is needed to confirm compliance with the permit limitation of 0.5 fps under all conditions. Such monitoring would also be used to indicate whether any fouling or obstructions at the intake are resulting in exceedances of 0.5 fps. Indeed, the TSV limit of 0.5 fps is the key permit limit for ensuring that adverse environmental impacts from impingement are minimized."

SCW Comment: SouthCoast Wind has communicated to the EPA that the through screen velocity (TSV) at the caisson inlets cannot be measured directly. The Project as proposed utilizes the pump curves calculations in conjunction with flowrate and pressure measurements at the discharge of each pump to assess the operational speed compared with expected speed. SouthCoast Wind will provide a summary of any exceedance events to the EPA in the subsequent monthly Discharge Monitoring Report (DMR).

Draft NPDES Permit, Fact Sheet, Section 5.2.5 (Fact Sheet, pp. 67-68): “Furthermore, NOAA recommends that the monitoring plan be provided to the NMFS Habitat and Ecosystems Services Division (HESD) “for review and comment prior to finalizing requirements of the NPDES permit to determine if increased sampling frequency and/or additional recommendations are necessary.” Id., EFH CR #13.”

SCW Comment: SouthCoast Wind is clarifying that a final monitoring plan will not be finalized prior to Final NPDES Permit issuance. SouthCoast Wind recommends that EPA add the following clarifying statement: "However, SouthCoast Wind has stated that they will submit the monitoring plan to NMFS HESD for review and comment after the final NPDES Permit is issued (expected March 27, 2025).

Draft NPDES Permit, Fact Sheet, Section 6.1 (Fact Sheet, pp. 76-77): Section-7 Consultation

SCW Comment: SouthCoast Wind notes that some language in this section refers to construction activities. We suggest that where the Project construction and WTG operation (collision) impacts discussed are not related to the operation of the CWIS and cannot be changed by any changes to the CWIS, it is not appropriate to restate those impacts in the permit document.

In closing, SouthCoast Wind appreciates the opportunity to review and provide comments on the Draft NPDES Permit and Project Factsheet. We welcome further discussion as necessary or applicable to support EPA in preparation of the SouthCoast Wind Final Permit. If you have any questions, please contact SouthCoast Wind’s Federal Permitting Manager, Kori Ktona, at kori.ktona@southcoastwind.com. We look forward to our continued collaboration during this process.

Sincerely,



Jennifer Flood
Permitting Director
SouthCoast Wind Energy LLC