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Via Email: *demeo.sharon@epa.gov*

Sharon DeMeo
Environmental Protection Agency

Re: Public comments regarding NPDES Permit No. MA000618

Dear Ms. DeMeo:

The following represent public comments from Green Oceans, a citizen group supporting the protection and integrity of oceans and marine life, and its members regarding the above-referenced matter.

Introduction

The Clean Water Act (act) is one of the Nation's first and most important environmental laws. The act aims "to restore and maintain the chemical, physical, and biological diversity of the Nation's waters." 33 U.S.C. § 1261(a). Over the past fifty years, the Environmental Protection Agency (EPA) has promulgated carefully designed regulations and standards to achieve the act's goals. The EPA's permitting reviews under the National Pollutant Discharge Elimination System (NPDES) play a central role in this process. NPDES permits serve the act's purpose by transforming generally applicable regulatory standards into the obligations of the individual dischargers.

Approval of Draft NPDES Permit No. MA6018, for the first of several offshore converter station-direct current components (OCS-DC1) for SouthCoast Wind LLC's offshore wind farm violates the letter and spirit of the act and the EPA's regulations. OCS-DC1, a cooling water intake structure (CWIS), threatens to kill hundreds of millions of aquatic organisms and permanently destroy an essential and sensitive habitat for endangered and threatened species.

The EPA based its review of the Draft Permit on an erroneous standard. Although the EPA carefully crafted regulations applicable to all new CWISs, the EPA concluded that these standards don't apply to offshore wind projects. In declining to use the "new facility" standards, the EPA acknowledged that the regulation's plain language applies to OCS-DC1—i.e., OCS-DC1 qualifies as a "new facility"—but created a sui generis loophole for offshore wind because, according to the EPA, "siting CWIS well offshore in ocean waters… poses distinct issues that were not

considered by EPA when it developed and promulgated the New Facilities Rule." This reasoning finds no support in the act's regulatory history and violates fundamental interpretive principles. The Draft Permit should be rejected in its current form on these grounds alone.

The EPA's legal error will permanently destroy critical marine habitats and essential aquatic organisms. Hundreds of millions of organisms that play a central role in the food chain and nurture dozens of endangered species near the Nantucket Shoals will die. SouthCoast Wind and the EPA admit the organism deaths could reach 174.4 million annually. The applicable standards require the EPA to minimize this devastation to the smallest extent or degree reasonably possible. As the National Oceanic and Atmospheric Administration recommended, the EPA could have accomplished this goal by requiring a closed-cycle cooling facility, which, based on well-established data, would reduce the risk of death by approximately 98%. Instead, without evidentiary support, the EPA concluded that it was too late in the permitting process to change the OCS-DC1 from its currently planned open-loop cooling system. This arbitrary and capricious decision-making is compounded by the EPA's unwillingness to consider the cumulative impacts of additional CWISs expected for the South Coast wind project and other offshore wind projects off the coast of Southern New England.

The EPA also arbitrarily and capriciously concluded that the pollutant discharge from OCS-DC1, including heat, chlorine bleach, and oil, would not materially degrade this sensitive marine environment. In doing so, the EPA based its conclusion on insufficient data and ignored the regulatory criteria designed to carry out the act's purpose of protecting our Nation's waters and resources.

For these reasons, Green Oceans requests that the EPA reject the Draft Permit in its current form.

Background

SouthCoast Wind applied to the EPA for an NPDES permit, authorizing pollutant discharges and cooling water withdrawals at one (OCS-DC1) of possibly several new CWISs. SouthCoast Wind proposes using an open-loop cooling system for OCS-DC1. The system intakes ocean water to cool the system's power components and discharges the heated water back into the ocean. The system will include three vertical intake pipes, heat exchangers, and discharge pipes. Hypochlorite will be

continuously used to prevent marine growth in the intake pipes and discharged into the ocean. Glycols will be used to avoid freezing and corrosion. Oil from the industrial equipment will also be monitored through an oil/water separator.

The depth at SouthCoast's proposed OCS-DC1 location is 47.3 meters, with intake pipes at 24.7 meters. The EPA has recommended moving the area and installing the system at a depth greater than 50 meters, with the intake pipes installed at approximately 30 meters. SouthCoast Wind proposes a maximum thru-screen intake velocity of 0.5 feet per second (fps). Each of the three pumps associated with the system will withdraw a maximum of 4.95 million gallons per day (MGD) of seawater for its cooling operation. Although the Draft Permit seeks to limit the system's actual intake to 9.9 MGD, the design intake exceeds 14 MGD.

In addition to its proximity to the Nantucket Shoals, the project area is located within an area recommended by the New England Fishery Management Council as a Habitat Area of Particular Concern for cod spawning and complex habitats. At all life stages, several endangered and threatened species inhabit the area, including Atlantic cod, Atlantic sea scallop, windowpane flounder, winter flounder, and yellowtail flounder. This area has also been identified as having high foraging value for the endangered North Atlantic right whale, particularly during winter and spring. This area is a designated Essential Fish Habitat for 44 fish species and invertebrates.

The project area is also productive for commercial and recreational fisheries. The highest revenue commercial fisheries in the project area include summer flounder, scup, black sea bass, mackerel, squid, butterfish, small-mesh multispecies, and monkfish. The top ten species with the highest economic importance in the area include Jonah crab, longfin squid, summer flounder, scup, silver hake, monkfish, golden tilefish, American lobster, sea scallop, and skates.

At daily intake flows of 9.9 MGD, SouthCoast Wind estimates a mean annual "entrainment" of 83.2 million larvae from the system. This figure does not include an evaluation of *Calanus finmarchius*, an important copepod species for the North Atlantic right whale. Nor does this figure incorporate egg destruction, which can be 5 to 15 times higher than larval densities.

The EPA has concluded that "entrainment" in CWISs results in a 100% chance of death. 79 FR 48300-01. Consistent with these findings, the EPA concluded that

entrainment "is an adverse environmental impact associated with the operation of OCS-DC1." Nevertheless, the Draft Permit fails to consider the best available technology to reduce the severe adverse impacts: closed-cycle cooling systems. The EPA's analysis during the regulatory process indicates that closed-cycle cooling systems would reduce organism entrainment and, therefore, death by 96-98% at saltwater facilities.

The EPA erred by failing to apply the 'new facilities' rule.

The act requires the EPA to establish CWIS standards to minimize their well-known adverse environmental impacts:

> Any standard established pursuant to section 1311 of this title or section 1316 of this title and applicable to a point source shall require that the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact.

33 U.S.C. § 1326(b). The EPA first promulgated CWIS standards in 1976; however, the courts vacated those standards for procedural reasons, and they were withdrawn. Following litigation by citizen groups, the EPA entered a consent decree setting a timetable for the EPA to promulgate final CWIS regulations. *See generally, Entergy Corp. v. Riverkeeper, Inc.,* 556 U.S. 208, 214-216 (2009). For three decades before the consent decree, the EPA employed a variety of "best technology" standards for reviewing CWISs on a case-by-case basis.

In the first phase of the post-consent decree regulations, the EPA promulgated standards for "new facilities." The rules apply to all new facilities with over 2 MGD design intake flows. 40 C.F.R. §§ 125.81 & 83. More specifically, facilities with intake flows exceeding 10 MGD must restrict inflow to a level that a closed-cycle cooling water system can attain. § 125.84(b)(1). Facilities with intake flows between 2 and 10 MGD may alternatively comply by, among other things, reducing the volume and velocity of water removal to certain levels and taking other precautions to protect marine organisms from entrainment and death. § 125.84(c). All new facilities may alternatively comply by demonstrating "that the technologies employed will reduce the level of adverse environmental impact… to a comparable level" to what would be achieved by a closed-cycle system. § 125.84(d).

Per the regulations, "new facility" means a standalone facility discharging pollutants. § 125.83. Examples include "[a] new facility is constructed on a site that has never been used for industrial or commercial activity. It has a new cooling water intake structure for its own use." *Id.* OCS-DC1 satisfies the criteria for a new facility.

The EPA concedes that OCS-DC1 "satisfy[ies] these basic terms" but decided not to apply them because the EPA had never discussed offshore wind projects during the rulemaking process. To support this conclusion, the EPA points to the express exclusion of offshore oil and gas facilities from the new facilities rule as evidence that offshore wind was similarly excluded. *See* § 125.81(d). This reasoning fails for many reasons:

1. Plain language. The rule's plain language governs. The EPA designed its regulations to be widely understood and to provide predictability for potential users. As the EPA concedes, nothing in the rule's text supports an alternative interpretation.

2. Background. The rule's background and history support a broad interpretation. The rule applies to facilities based on water intake (i.e., 2 MGD), not location. Only new facilities under the 2 MGD threshold will fall under the "best professional judgment" used by the EPA to review OCS-CD1. 40 C.F.R. § 125.80(c). The rule also applies to "water withdrawn from rivers, streams, lakes, reservoirs, estuaries, oceans or other waters of the United States for cooling purposes," so there are no legitimate grounds to suggest the regulations failed to consider ocean development. 66 FR 65256-01 (underlining supplied). Moreover, the list of industries identified by the EPA during the 2001 regulatory process was "not intended to be exhaustive." *Id.*

3. *Expressio unius*. The negative implication canon means the specification of one implies excluding the other. The EPA's exclusion of offshore oil and gas from the new facilities rule but not offshore wind means that offshore wind facilities were not excluded.

4. Absurd results. It defies logic to suggest that some of the most significant and impactful offshore projects in United States history

> remain subject to a case-by-case, unpredictable regulatory analysis after fifty years of statutory and regulatory history.

The EPA's interpretation of the new facilities rule lacks merit. The rule applies to OCS-DC1 and should have guided the EPA's review process. If the EPA had used the new facilities rule, it would have been compelled to mandate a cold-cycle cooling system or substantially reduce the anticipated entrainment and mortality levels of essential aquatic organisms through other means. Either way, the Draft Permit cannot be approved because a clear legal error infected the process. *See N. Carolina Fisheries Ass'n, Inc. v. Gutierrez*, 550 F.3d 16, 20 (D.C. Cir. 2008) ("Under settled principles of administrative law, when a court reviewing agency action determines that an agency made an error of law, the court's inquiry is at an end: the case must be remanded to the agency for further action consistent with the corrected legal standards.").

Even assuming the new facilities rule does not apply to OCS-CD1, the EPA's failure to minimize environmental harm is arbitrary, capricious, and unsupported by substantial evidence.

For decades, the EPA has studied the impacts of CWIS cooling systems on aquatic ecosystems. *See* 79 FR 48300-01. The results are firmly established and well-understood by the EPA: open-loop cooling systems pose a severe risk of environmental harm, including losses of large numbers of fish and other organisms such as benthic invertebrates, phytoplankton, zooplankton, and other aquatic taxa (e.g., sea turtles). These losses immediately impact population size and cascade through food webs, threatening harm and even extinction to threatened or endangered species. Cumulative effects associated with multiple CWISs can further compound the environmental damage and destroy ecosystem resistance and resilience.

SouthCoast Wind and the EPA agree that OCS-CD1 will kill hundreds of millions of aquatic organisms in a critical marine habitat near the Nantucket Shoals. These losses threaten dozens of essential, endangered, or threatened species and could permanently alter the ecosystem.

Given the availability of modern cooling technologies, the EPA could prevent these devastating losses by utilizing "best professional judgment" in this context. Closed-cycle cooling systems would potentially reduce these harms by 98%. The EPA's

regulations contemplated using closed-cycle cooling more than two decades ago. Since then, closed-cycle technology has become available and widely used in offshore wind worldwide. In 2020, the German government promulgated regulations requiring closed-cycle cooling for all offshore CWIS. Even in reviewing the SouthCoast Wind project, the EPA recognized the availability of closed-cycle technology for offshore wind projects. Based on the substantial evidence, there is no doubt that closed-cycle technology represents the "best professional judgment" for minimizing environmental harm from OCS-DC1.

Despite the existence of available substantially less harmful alternatives, the EPA rubber-stamped OCS-DC1 because SouthCoast Wind "explained that the design and schedule for [its] OCS-DC1 is too far advanced to revise the current converter station design to utilize a closed-loop cooling system at this time." In other words, the applicant claimed it was too inconvenient to change its plans.

Under the substantial evidence test, the applicant's preferences do not represent evidence that properly supports an agency decision. *See Kline v. Tennessee Valley Authority,* 805 F.Supp. 545, 547 (6th Cir.1992) (defining "substantial evidence" as requiring "such relevant evidence as one might reasonably accept as adequate to support a conclusion"). There needs to be a substantial showing of infeasibility. Therefore, even assuming the new facility rule is inapplicable, the EPA would still need to determine that the costs to comply with less harmful alternatives substantially outweigh the environmental harm or were substantially out of the proportion of expected project revenues. Without such an analysis based on substantial evidence, the statutory and regulatory directive to minimize ecological damage to the smallest extent or degree reasonably possible would be meaningless. Without substantially more evidence and analysis, the applicant's preferences cannot serve as the basis for approving a decision that will degrade the environment when feasible alternatives exist. The EPA's justification falls well short of such evidence here.

The EPA's pollutant discharge determinations are speculative and based on inadequate data.

The EPA must abstain from issuing an NPDES permit authorizing pollutant discharge into the Nation's water that would cause "unreasonable degradation of the marine environment." 40 C.F.R. § 125.123(b). Unreasonable degradation means:

1. Significant adverse changes in ecosystem diversity, productivity, and stability of the biological community within the area of discharge and surrounding biological communities;
2. Threat to human health through direct exposure to pollutants or through consumption of exposed aquatic organisms; or
3. Loss of esthetic, recreational, scientific, or economic values, which is unreasonable in relation to the benefit derived from the discharge.

Per 40 C.F.R. § 125.122, factors to consider in the analysis include:

1. The quantities, composition and potential for bioaccumulation or persistence of the pollutants to be discharged;
2. The potential transport of such pollutants by biological, physical, or chemical processes;
3. The composition and vulnerability of the biological communities that may be exposed to such pollutants, including the presence of unique species or communities of species, the presence of species identified as endangered or threatened pursuant to the Endangered Species Act, or the presence of those species critical to the structure or function of the ecosystem, such as those important for the food chain;
4. The importance of the receiving water area to the surrounding biological community, including the presence of spawning sites, nursery/forage areas, migratory pathways, or areas necessary for other functions or critical stages in the life cycle of an organism.
5. The existence of special aquatic sites including, but not limited to marine sanctuaries and refuges, parks, national and historic monuments, national seashores, wilderness areas and coral reefs;
6. The potential impacts on human health through direct and indirect pathways;
7. Existing or potential recreational and commercial fishing, including finfishing and shellfishing;
8. Any applicable requirements of an approved Coastal Zone Management plan;
9. Such other factors relating to the effects of the discharge as may be appropriate; and
10. Marine water quality criteria developed pursuant to section 304(a)(1).

The EPA knows, and SouthCoast Wind's application supports, that pollutant discharge from CWISs can result in the unreasonable degradation of the marine environment. Causes include thermal effects, like heat, and chemical effects, like anti-corrosion and anti-fouling agents. Thermal effects can increase species' mortality rates and impact spawning and migration patterns. 79 FR 48300-01. Chemical effects, even at low levels, can adversely affect the marine environment, especially when combined with discharges from other industrial activities and CWISs and the loss of organism life from entrainment.

The EPA has failed to point to a scientific basis for asserting that the OCS-DC1's expected pollutant discharge will not unreasonably degrade the natural environment. Instead, the EPA relies on perceived mitigation or creating an altered state in the wind farm area that may or may not benefit the system's natural ecology. Vague descriptors like "insignificant " or "temporary" fail to satisfy the detailed analysis required by the regulations.

Examples of inadequate evidence or insufficient environmental protection contained in the Draft Permit and the EPA's rationale include:

- Thermal impact—It is unclear what the maximum temperature of discharged effluent will be. Rapid changes in ambient temperature affect marine life since the solubility of water decreases as the temperature increases. This can impact the speed of egg development, offspring growth, and many other adverse impacts.

- Oil—Stormwater that encounters equipment will be contaminated with oil and grease, which is supposed to fall into outdoor drip trays directed to a hazardous drain header and eventually to a passive oil/ water separator (OWS) that will detect the presence of oil over 5 ppm. It is unknown what quantity of water under 5 ppm of oil will be discharged into the ocean or what amount may be discharged during storms or other unplanned but predictable events.

- Chlorine bleach—Chlorine bleach will be discharged from OCS-DC1 in quantities estimated to be between 64 and 95 kilograms per day. In-line analyzers are supposed to monitor the discharge's hypochlorite concentration continuously. However, the system will require regular

cleaning, maintenance, and recalibration. The Draft Permit should not be issued without mandated maintenance and recalibration requirements.

- Total residual oxidants (TRO)—The Draft Permit proposes water quality-based TRO limits of 7.5 µg/L (0.0075 mg/L) as an average monthly value and 13 µg/L (0.013 mg/L) as a daily maximum value at the outfall. However, the EPA acknowledges that currently available analytical methods cannot detect TRO at the level of the water quality criteria. Given this lack of specific analytical methods, additional sampling must be mandated in the Draft Permit, especially given the need for the analyzers' regular recalibration, as mentioned above.

- Chlorination by-products (CBPs)—Amongst these, trihalomethanes (THMs) are more predominant, relatively long-lived, and toxic to organisms. The Draft Permit must require an analysis of possible concentration levels of THMs at various points in the cooling water system.

Given the unreliable data or reliance on unreliable systems, anticipated malfunctions, and accidents, the Draft Permit fails to protect against unreasonable degradation as mandated by the act and the applicable regulations. *See* 40 CFR § 125.122(a)(1)—(10). Further analysis and precautions should be considered before approving the pollutant discharges identified in the Draft Permit.

Conclusion

Thus far, the EPA's review of SouthCoast Wind's OCS-DC1 violates the letter and spirit of the act and the applicable regulations designed to preserve the Nation's waters and aquatic environments. Suppose the EPA approves the Draft Permit before performing the proper analysis or demanding the appropriate evidence supporting its conclusions. In that case, it will be legally erroneous, based on arbitrary and capricious rationale unsupported by substantial evidence, and subject to being vacated in court. The EPA should revisit and revise the conclusions outlined in the Draft Permit or reject the permit in its current form.

Sincerely,

Robert W. Stetson
RWS/ar

cc: Lisa Knight
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