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US Wind COP FEIS Program Chief, Office of Renewable Energy Bureau of Ocean Energy Management 45600 Woodland Road, VAM-OREP Sterling, VA 20166 Submitted to Lorena Edenfield at Lorena.Edenfield@BOEM.Gov as the listed contact in the Federal register

Public comments on Final Environmental Impact Statement (FEIS) on Docket BOEM-2024-0033

Dear Program Manager,

The Caesar Rodney Institute opposes the US Wind offshore wind project proposed for installation off the coast of Maryland on grounds that it will adversely affect the human and natural environment; pose unacceptable threats to federally-listed endangered species; cause environmental damage; damage local tourism; interfere with defense-related and other radar potentially leading to increased vessel collisions and allisions; block commercial fisheries providing food security; reduce the ability of the Coast Guard to conduct Search & Rescue operations possibly leading to human deaths; reduce the ability to conduct important scientific research, and end pristine ocean views. We represent thousands of individuals who have expressed concerns about offshore wind development to the Caesar Rodney Institute and through the website Save Our Beach View. While we appreciate the effort that BOEM has put forth, the final product falls well short of what the National Environmental Protection Act (NEPA) requires of an EIS. Below we describe the various deficiencies of the FEIS and identify potential project effects that require new or additional study, disclosure, and mitigation.

Sincerely, David T. Stevenson Director, Center for Energy & Environment Caesar Rodney Institute 420 Corporate Blvd. Newark, DE 19702

1. President Biden's Executive Order 14008 is irrelevant to the purpose and need of the proposed action.

In the "purpose and need" section of the EIS, BOEM contends that the Maryland Offshore Wind project (the "Project") is necessary to achieve compliance with the President's Executive Order 14008, "Tackling the Climate Crisis at Home and Abroad." As the Supreme Court indicated in West Virginia v. EPA, 597 U.S. 697 (2022), the Executive Branch has no authority to regulate carbon dioxide (CO₂) or other greenhouse gases (GHGs) without a law passed by Congress. Furthermore, the Supreme Court in Loper Bright Enterprises v. Raimondo, 603 U.S. (2024) limited BOEM's discretion to interpret regulations. Even without these legal constraints on the federal government, the proposed Project - whether viewed individually or as part of BOEM's overall offshore wind program - has little chance of reducing GHGs or reducing the threat of climate change, something BOEM admits on Page 3-17 of the FEIS ["U.S. offshore wind projects would likely have a limited impact on global emissions and climate change"]. Thus, even if Executive Order 14008 was relevant - which it's not - the Project would not facilitate or advance its fundamental goal of reducing GHGs.

In its Construction & Operations Plan (COP) Volume 1, page 72, Table 5-6, US Wind claims its project will replace fossil fuel generation and save up to about 6.3 million metric tons of CO₂ per year if 2,178 MW of offshore wind are built providing 6.8 million MWh of electricity a year. That works out to 0.94 metric tons/MWh, basically the emission rate for coal-burning power plants. However, offshore wind will not simply replace coal but the full systems mix of the regional grid currently averaging 0.37 metric tons/MWh. Further, the systems mix has been improving by 0.012 metric tons/MWh since 2005 (see graph below), so over the 35 year life of the project, the systems mix may average only 0.16 metric tons/MWh, meaning US Wind is overestimating CO_2 savings six fold.



Source: PJM Systems Mix, https://gats.pjm-eis.com/gats2/PublicReports/PJMSystemMix

However, that is not the end of the emissions story. Two different consultants used by the Maryland Public Service Commission in dockets (see links below) approving the projects definitively state the offshore wind projects will simply replace onshore wind projects. In fact, one consultant goes on to calculate emissions will actually be higher for the offshore projects as they are located near the edge of the regional grid, while onshore projects would be more centrally located, resulting in lower regional transmission losses. The same amount of onshore wind and solar could be built for one-quarter to one-fifth the cost. Emission savings should be shown as zero.

Maryland Public Service Commission Docket search at <u>https://webpsc.psc.state.md.us/DMS/</u>, enter Docket 9666, go to item 33, ICF International "Evaluation and Comparison of Marwin II and Skipjack Wind proposed offshore wind project applications" Exhibits 56 and 59. Then search Docket 9431, item 85, page 159.

2. FEIS concludes that the Project will cause Moderate to Major negative impacts found in the FEIS on commercial fishing, the viewshed, Coast Guard Search & Rescue, vessel traffic, scientific research, and the critically endangered North Atlantic right whale (NARW) that require denial of the proposed action pursuant to the Outer Continental Shelf Lands Act.

The Outer Continental Shelf Lands Act (OCSLA), which governs the Secretary of the Interior's review of offshore wind energy projects, prohibits the Secretary from approving such projects unless they ensure (1) the preservation of the environment, (2) conservation of the natural resources of the outer Continental Shelf, (3) the protection of National Security of the outer Continental Shelf of the United States, and (4) protection against interference with reasonable economic uses of the exclusive economic zone, the

high seas, and the territorial seas. 43 U.S.C. §§ 1337(p)(4)(B), (D), (F), (I), and (J). Absent a demonstration that protections can be assured, the Secretary must deny the offshore wind project in question.

In this case, data from the FEIS demonstrate that the Secretary cannot make the showing required by OCSLA (43 U.S.C. §§ 1337(p)(4)(B), (D), (F), (I), and (J)). The following excerpts illustrate the point:

At page 2-48, under the heading "Commercial fishing - Cumulative Impacts of the Proposed Action", the FEIS states: "Overall impacts associated with the Proposed Action when combined with the impacts from ongoing and planned activities, including other offshore wind activities, would result in **major** and long-term impacts because some commercial and for-hire recreational fisheries and fishing operations would experience substantial disruptions indefinitely, even with mitigation." Based on this finding, the Secretary cannot provide the assurances required under 43 U.S.C. §§ 1337(p)(4)(I) and (J) [relating to non-interference with ongoing economic use of the exclusive economic zone, high seas, and territorial seas].

At page 3-466, the FEIS indicates that the presence and layout of large numbers of wind turbines could make it more difficult for Coast Guard Search & Rescue aircraft to perform operations, leading to less effective search patterns or earlier abandonment of searches. This could result in otherwise avoidable loss of life due to maritime incidents. BOEM erroneously rates this as a **minor** impact. A potential increase in human deaths should be characterized as a **major** impact. Moreover, Coast Guard operations are key to the multilayered defense system implemented by the Department of Defense to provide for the national security of the United States. Therefore, the Project's substantial impacts on national security would fundamentally undermine the Secretary's ability to make the assurances required under OCSLA. 43 U.S.C. § 1337(p)(4)(F).

At page PG 2-50, under the heading "Vessel traffic - Cumulative Impacts of the Proposed Action," the FEIS states that overall impacts associated with the Proposed Action when combined with the impacts from ongoing and planned activities, including other offshore wind activities, would result in **moderate** impacts, due primarily to the increased possibility for marine accidents. We pointed out the Ocean Wind 1 DEIS these same risks were categorized as **major**. There is no explanation of why the adverse impact was downgraded in this DEIS. Further, even moderate interference with ongoing vessel traffic would prevent the Secretary from making the assurance finding required under 43 U.S.C. §§ 1337(p)(4)(I) and (J).

At page 3-524, the FEIS states that the Project would introduce features that would have dominant levels of visual prominence. The Project would introduce a visual character that is inconsistent with the character of the region which may have a **major** negative effect. The visibility of the Project would introduce a major level of character change to the view; attract, hold, and dominate the viewer's attention; and have a **moderate** to **major** effect on the viewer's visual experience. The aesthetics of the Maryland and Delaware coast, especially the viewshed from the shoreline out to sea, is a key environmental resource that the Secretary must ensure is protected against substantial degradation. The FEIS's findings regarding the Project's impacts on the shore-to-ocean viewshed show that the Secretary cannot make the determination required under 43 U.S.C. §§ 1337(p)(4)(B) and (D).

At page 3-526, the FEIS states navigation and aviation lighting would add a permanent developed industrial visual element to views that were previously characterized by dark, open ocean. On page 3-161, the FEIS states FAA hazard lighting may be visible at a distance of 40 miles (64.4 kilometer) or more from the viewer. BOEM lists the visual impacts as having a **major** adverse impact in its summary chart. These findings indicate that the Project will directly and substantially interfere with activities related to National Defense and economic uses of the outer Continental Shelf, the high seas, and the territorial waters of the U.S.

The FEIS states on page 2-51 Cumulative Impacts of the Proposed Action will have a **major** impact for scientific research and surveys. Page 3-465 states that the presence of structures, associated cable systems, and associated vessel activity that would present additional navigational obstructions for sea- and air-based scientific studies. Collectively, these developments would prevent NOAA from continuing scientific research surveys or protected species surveys under current vessel capacities, would affect monitoring protocols in the geographic analysis area, could conflict with state and nearshore surveys, and may reduce opportunities for other NOAA scientific research studies in the area.

On page 2-47, the FEIS states that the Proposed Action in combination with the existing environmental trends and ongoing activities would result in overall **major** impacts on NARW. Such impacts disqualify the Project under 43 U.S.C. §§ 1337(p)(4)(B) and (D), as the NARW is a highly-valued and protected natural resource that the Secretary must protect under OCSLA, regardless of the alleged benefits of the project in question. See below for a more thorough review of this issue.

3. The proposed preferred option of burying cables in the Indian River Bay and River should be denied

The Indian River Bay is classified as a Water of Exceptional Recreational Significance and a Harvestable Shellfish Water. Placing cables under Indian River Bay is unacceptable under any circumstances and should be removed from consideration as an option. It is startling that BOEM, in the FEIS, has identified this cable-placement alternative as its first choice. BOEM, with no expertise in this area, has rejected specific recommendations from the US Environmental Protection Agency (Appendix O, PG20), the National Marine Fisheries Service (Appendix O, PG 38), and the Delaware Centers for the Inland Bays, to require U.S. Wind to run the Project's cables on overland routes described as Alternatives C1 and C2 in the COP.

4. BOEM should deny approval of the project for violating the Outer Continental Shelf Lands Act

Clearly, the proposed project has serious major impacts on historic uses of the outer continental shelf. Some compensating actions are offered, such as reimbursement for lost fishing gear. However, a December 14, 2020 letter, page 12, from the Department of the Interior Solicitor to Interior Secretary David Bernhardt states:

"It is important to observe that any compensation system established by a lease to make users of the lease area whole financially does not negate interference – indeed, the creation of such a system <u>presumes</u> interference. As such, any proposed compensation process should not be viewed as 'curing' any 8(p)(4(I)) interference since the statute does not provide for such a cure."

The letter also discusses the Secretary's duty to prevent interference with reasonable historic uses in federal waters, such as fishing, navigation, and the viewshed, by denying offshore wind projects in accordance with the Outer Continental Shelf Lands Act Subsection 8(p). We note this is in contrast with a new Solicitor General's opinion quoted in the DEIS:

As stated in M-Opinion 37067, "... subsection 8(p)(4) of OCSLA imposes a general duty on the Secretary to act in a manner providing for the subsection's enumerated goals. The subsection does not require the Secretary to ensure that the goals are achieved to a particular degree, and she retains wide discretion to determine the appropriate balance between two or more goals that conflict or are otherwise in tension."

Major impacts to historic ocean uses cannot be overlooked at the discretion of the Secretary. These contrasting opinions are the kind of legal debates to be settled in lawsuits filed against BOEM.

5. A new study is needed to determine the potential economic costs of lost Tourism and Recreation. No Final EIS should be issued for any project until that study is available.

Despite finding visual impacts will be **major**, "BOEM anticipates the overall impacts associated with the Proposed Action when combined with the impacts from ongoing and planned activities including offshore wind would be **moderate**. The main drivers for this impact rating are the visual impacts associated with the presence of structures and lighting; impacts on fishing and other recreational activity from noise, vessel traffic, and cable emplacement during construction." An important assumption in this finding is other nearby offshore wind projects will still be built, so the US Wind projects will simply have only a minor additional impact. However, of 19 Gigawatts of offshore wind projects in BOEM's approval queue, 75% have claimed approved guaranteed premium prices are inadequate to obtain financing, with 30% already canceled despite \$124 million in fines to exit the contracts. In particular, Ørsted, developer of the nearby Skipjack, Garden State, and Ocean Wind projects, have canceled contracts with Maryland and New Jersey to build these projects and have no planned date to begin the approval process with BOEM. BOEM needs to restart the EIS process removing these projects in consideration of the No Action alternative as recommended by NMFS (Appendix O, PG 40)

BOEM is relying on a University of Delaware Study (Parsons and Firestone) to suggest minimal impact on the tourism and recreation industries. The University of Delaware study (https://www.semanticscholar.org/paper/Atlantic-Offshore-Wind-Energy-Development%3A-Values-Parsons-Firestone/91b0ede146b8701cb44d72c58f09b29533df3cdf) did its survey by showing panning photomontages on a computer screen of 579' tall turbines. Respondents were also provided instructions on the distance to the screen from which they should view the images and were asked to view the project at three distances offshore - near, medium and far. After each distance was viewed, respondents were asked whether the presence of the wind power project would have affected their beach experience/enjoyment -making it worse, somewhat worse, neither worse nor better, somewhat better, or better. If they responded worse or somewhat worse, they were then asked a certainty-response question. They used the response to this question to construct certainty-adjusted data. Note no such certainty adjustment was used for those who favored wind turbines. Results from nighttime views were never released. The survey group also included about 35% of respondents who never actually visited the beach. In March 2021, one of the authors (Parsons) stated in a Delaware Today Magazine interview (https://delawaretoday.com/lifestyle/skipjack-wind-farm/) that the study is no longer applicable because turbines used today are so much larger. The Final EIS now recognizes these concerns, but continues to reference the results of the study without adjusting for the much larger sizes of turbines to be used in the US Wind project.

However, even with the study's problems, it has some use. The Table below shows a Trip loss of 14% with turbines visible at 10 miles, as proposed for the US Wind project. The impact of taller towers can be approximated by assuming the towers are 1.61 times closer (the ratio of 579' tall towers to 938' tall towers). That suggests the proposed US Wind project would be equivalent to about 5 miles off the coast, and trip loss might be 24%. The proposed project should then be considered to have a **major** impact on tourism.



BOEM now references a 2017 visual preference study conducted by North Carolina State University that evaluated the impact of offshore wind facilities on vacation rental prices. The study by Lutzeyer et al. (2017), "The Amenity Costs of Offshore Wind Farms: Evidence from a Choice Experiment (https://www.aminer.org/pub/5c8c9f8a4895d9cbc6134d87/the-amenity-costs-of-offshorewind-farms-evidence-from-a-choice-experiment) was quite a contrast to the UD study. The Lutzeyer study worked with beach home rental companies and surveyed only people who had recently rented a house on or near the beach. The study found 38 percent of beach renters would likely not come back to a beach with daytime visible turbines regardless of the distance, as shown in the study quoted below with visualizations showing turbines from 5 miles to 18 miles from shore (not the 8 mile limit stated in the DEIS). In addition, others would return only with a rental discount depending on the distance.

Overall, the willingness to accept estimates for the Never View class implies that these respondents would likely exit the local rental market if turbines were present rather than make intensive margin tradeoffs among rental price and characteristics of the viewshed.

The Lutzeyer study also showed nighttime visualizations of red flashing aircraft warning lights, and respondents stated even higher rates of objection, with 54 percent not likely to return to a beach with nighttime visible turbines. The visualizations showed 5 to 7 MW turbines about the same size as the UD study. Again, this study confirms visible turbines in the proposed project will have a **major** impact on tourism and should be shown as such.

Also not referenced by BOEM in the DEIS is a 2015 BOEM study about a viewshed analysis it did for the New York Outer Continental Shelf Area (Renewable Energy Viewshed Analysis and Visual Simulation for the New York Outer Continental Shelf Call Area: Compendium Report OCS Study, BOEM 2015- 044) (https://www.boem.gov/sites/default/files/renewable-energy-program/StateActivities/NY/Visual-Simulations/Compendium-Report.pdf). It simulated the visual impact of one hundred and fifty-two 6.2 MW wind turbines from 16 observation points in New York and New Jersey. The simulation most relevant to US Wind is the Jones Beach observation point because the turbine array was roughly parallel to that shore. The closest point of the turbine array to Jones Beach was 15 miles, farther from shore than the proposed Project. The study ranked the visible impact on a scale from 1 to 6. The visual impact from Jones Beach scored a 6, its highest rating. A 6 rating was defined as; "Dominates the view because the study subject fills most of the field for views in its general direction. Strong contrast in form, line, color, texture, luminance, or motion may contribute to view dominance".

Since the height of a 6.2 MW turbine is two-thirds that of the proposed Project turbines, the visual impact of 152 6.2 MW turbines would be equivalent to the Project's turbines at 23 miles. So, the proposed Project would still register a **major** visual impact based on the BOEM study. We note, based on this study, officials in New York and BOEM determined that the proposed offshore wind turbine lease area off the Hamptons is too close and ruins the serene ocean viewshed, and created a 20 mile exclusion zone (https://www.governor.ny.gov/sites/default/files/atoms/files/NYS_BOEM_NY_Bight_Call_Comments.pdf). They also noted it is a threat to navigation, fishing, and endangered marine mammals. The Fairway lease area sat as close as 12 miles off the Long Island coast near the Hamptons. This, then, begs the question: Why is an exclusion zone OK for the Hamptons but not Delaware and Maryland Beaches?

All the currently available studies on the impact of visible turbines on tourism are out-of-date as the turbine size has increased dramatically. Existing studies used turbine heights of 579' to 600'. The proposed project uses 938' and 1050' turbines (14MW to 18MW). A new study is needed that focuses on the economic impact of taller turbines on tourism, similar to the NC State study. We note BOEM paid the University of Delaware only \$350,000 for its study, a small price considering hundreds of billions of dollars may be invested in planned offshore wind projects. The Delaware and Maryland beach economies are estimated to total \$3 billion a year, so trip losses of 24% to 54% might cost \$0.7 to \$1.6 billion a year or \$14 to \$32 billion over 20 years. The beach might look like they did during COVID lockdowns. As federal taxpayers, state residents will pay \$1.3 billion for federal tax credits for turbine construction. In addition, Maryland electric customers will pay \$5.2 billion in premiums over 20 years or more if US Wind applies for added guaranteed premiums as authorized in 2024 by the Maryland legislature. The University of Delaware study also admits property values will fall but provides no estimates of how much.

BOEM repeatedly states the night time view of flashing red lights will be mitigated by a voluntary commitment from US Wind to use an Aircraft Detection Lighting System (ADLS) that only turns the aircraft hazard warning lights on when radar detection shows aircraft are in the area. US Wind actually states they will use the system if it is commercially and technical feasible, and they obtain permits for use from the Federal Aviation Administration, the US Corp of Army Engineers, and the Coast Guard. BOEM states on PG 3-535 the extent to which other offshore wind projects would implement ADLS is unknown. US Wind admits it has no experience in building offshore wind projects. More experienced firms have not committed to ADLS. There is no evidence US Wind has applied for the required permits. Without a solid commitment to using ADLS, the FEIS should assume the system will not be used and define the nighttime impact on the viewshed as **major** and/or specify the use of ADLS as mandatory.

6. FEIS Underestimates Project Impacts on Radar.

According to the FEIS, "Proximity to the turbines is the primary factor that determines the degree of radar signal degradation. Smaller vessels operating in the vicinity of the Project may experience radar cluttering and shadowing." The impacts on the radar are currently listed as **minor**.

Following is a summary of the key issues of radar interference by offshore wind turbines. There are major unknowns exacerbated by the fact the largest installed turbines are only about 600' tall, while the turbine proposed for US Wind ranges between 938' and 1,050' with equivalently larger blade diameters. Study titles are underlined with quotation marks for direct quotes.

United States Coast Guard, Port Access Route Study: Northern New York Bight https://nap.nationalacademies.org/read/26430/chapter/2

- a. "Conducting this study, three recurring themes were raised that were determined to fall outside the scope of this study. Specifically, potential Offshore Renewable Energy Installations (OREI) impacts on Coast Guard Search and Rescue (SAR)
- b. Operations, the impacts of Wind Turbine Generators on the efficacy of marine vessel radar, and potential impacts to vessels fishing in Wind Energy Areas."

Wind Turbine Generator (WTG) Impacts to Marine Vessel Radar (MVR) (2022) https://nap.nationalacademies.org/read/26430/chapter/2

- a. "WTGs are large structures predominantly constructed of steel. As a result, they generally have significant electromagnetic reflectivity and the capacity to interfere with radar systems in their vicinity. Additionally, the rotating blades can return large and numerous Doppler-shifted reflections as the blades move relative to a receiving radar system. The installation of WTGs towering hundreds of meters above the sea surface across the U.S. OCS, therefore, poses potential conflicts with a number of radar missions supporting air traffic control, weather forecasting, homeland security, national defense, maritime commerce, and other activities relying on this technology for surveillance, navigation, and situational awareness. Upcoming COPs include WTGs with hub heights and rotor diameters approaching 175 m and 250 m, respectively."
- b. "Due to their size, structure, and proposed placement offshore, the maritime community expressed concern that WTGs may cast radar shadows, obfuscating smaller vessels exiting wind facilities in the vicinity of deep draft vessels in Traffic Separation Schemes. Other possible forms of radar interference that may preclude safe navigation within an offshore wind facility such as radar clutter and mirror effects (false signaling). WTGs may produce strong reflected, multiple, and side lobe echoes that can mask or complicate the identification of real targets. A loss of contact with smaller vessels due to the various forms of MVR interference could complicate MTS operations and is therefore particularly consequential when conducting maritime surface SAR operations in and adjacent to an offshore wind farm."
- c. "MVRs are not optimized to operate in the complex environments of a fully populated, continental shelf wind farm. There is no simple MVR modification resulting in a robust WTG operating mode. Additionally, in contrast to investments by developers and operators of air traffic control and military radar systems, compelling WTG mitigation techniques for MVR have not been substantially investigated, implemented, matured, or deployed."
- d. "Conclusion 1: Wind turbines in the maritime environment affect marine vessel radar in a situation-dependent manner, with the most common impact being a substantial increase in strong, reflected energy cluttering the operator's display, leading to complications in navigation decisionmaking."

"Finding 5.2: WTGs lead to interference in MVR, including strong stationary returns from the wind turbine tower, the potential for a strong blade flash return for certain geometries, and Doppler spread clutter generated along the radial extent of the WTG blade, which could obfuscate smaller watercraft or stationary objects such as buoys. Additionally, own vessel platform multipath is a significant challenge for returns from WTGs, leading to ambiguous detections and a potentially confusing operator picture." "Finding 5.3: When conducting maritime surface SAR operations in and adjacent to an offshore wind farm, use of MVR could be challenging because wind turbines can cause significant interference and shadowing that suppress the detection of small contacts."

"Finding 5.4: There is no currently available "WTG mode" for MVRs, and operator control of detection threshold to mitigate strong returns will frequently lead to the unintended consequence of suppressing detections of small targets."

"Finding 5.5: There is a paucity of field-collected data to understand and evaluate the impacts of WTGs on currently deployed MVR models and support the comprehensive development of ameliorating methods. Similarly, the impact of anomalous propagation and returns from range ambiguous regions on MVR is poorly understood due to lack of experimental data."

"Finding 6.1: In contrast to investments by developers and operators of air traffic control and military radar systems, compelling WTG mitigation techniques for MVR have not been substantially investigated, implemented, matured, or deployed."

The following figures consist of actual radar screens with false images:



FIGURE 1.3 Photograph of the display of a shipboard radar operated in a U.K. wind farm.



Marico **FIGURE 2.10** Illustrative plan position indicator display for magnetron-based radar from the Kentish Flats experiments, where the points A, B, and C highlight the phenomena of multiple target echoes due to wind turbine generator–radar interaction, and Radar screen near 5 turbine Block Island RI 5 turbine project.

Military Aviation and Installation Assurance Siting Clearinghouse coordinated within the Department of Defense (DOD) a review of the New York Bight Offshore Call Areas.

"Encroachment is often irreversible, and as the New York Bight continues to see increased density of offshore wind energy development, few areas will remain free and clear to support DON training activities. Therefore, the DOD requests BOEM defer leasing all remaining unleased portions of W-107B/C as well as lease blocks in W-107A within 30 nautical miles of the New Jersey coastline if BOEM moves forward with leasing in the Hudson South Call Area. Any vertical obstructions in these areas would foreclose the DON's ability to safely conduct training missions in the region such as low-level rotary wing aircraft operations."

Comments from Seafreeze, LTD. On Vineyard Wind Supplement to Draft Environmental Impact Statement.

On pages 67 to 73, Seafreeze explained how offshore wind projects affect/interfere with military exclusion & restriction zones.



As these data indicate, the FEIS must identify project-related interference with radar as a **major** adverse impact and develop alternatives or mitigation measures to address it. Further, the Project's substantial interference with radar fatally undermines the Secretary's ability to make the assurances required under OCSLA, specifically 43 U.S.C. § 1337(p)(4)(F) [interferences with national security of the United States].

7. The FEIS fails to provide an adequate assessment of project-related impacts on the federally-listed endangered North Atlantic Right Whale (NARW).

The federally-listed endangered NARW is generally considered the most imperiled marine mammal native to North America. Indeed, the total NARW population rests at approximately 330 individuals, and that number has dropped by 29% between 2011 and 2020 (FEIS, p.3-191) due to human-caused mortality, low calving rates, highly extended calving intervals, loss of prey species and access to foraging habitat, low and diminishing physical fitness, lack of genetic diversity, and extreme low abundance of reproductive females. Most whale experts agree that unless human-caused mortalities are immediately curtailed to zero, the NARW will become extinct in the next 30 to 60 years. For these reasons, it is imperative that BOEM, through the FEIS, examine closely, carefully, and comprehensively the US Wind project's potential to adversely affect NARW and exacerbate existing threats to the species. Unfortunately, the FEIS fails this basic task, leaving many impacts undisclosed, unstudied, and unmitigated.

a. Construction-related impacts

The FEIS fails to adequately disclose and analyze the Project's construction-related impacts on NARW. For example, while the FEIS addresses the Project's pile-driving activities and their potential to adversely affect NARW hearing and behavior, the FEIS fails to mention, much less evaluate, what happens to those NARW which, upon being bombarded with pile-driving noise, decide to leave or avoid the Project's construction zone, even though, but for the noise, they would prefer to stay put. Such whales will be forced out of waters they deem safe into less-desirable areas where they may encounter

increased threats, such as vessel collisions and entanglement in fishing gear. In addition, to avoid the noise from project-related pile driving, the whales will have to swim further for food and increase the overall length of their migration route, all which burn energy and calories, something NARWs – especially reproductive females, mothers, and calves – cannot afford. Recent studies have shown that NARW females exhibit comparatively poor physical fitness when compared to other cetaceans. This, in turn, likely contributes to low birth rate and elongated calving intervals for this species. This is both a project-specific and a cumulative impact, as the same cohort of migrating NARWs will have to negotiate the construction impacts of this Project, along with the construction and operational impacts of the other 30 offshore wind projects approved or planned for the Atlantic coasts. That is, the same NARW individuals will have to navigate around the impacts, both construction and operational, of every offshore wind project along the eastern seaboard, resulting in cumulative threats (e.g., vessel collisions and fishing gear entanglement) and loss of energy and physical fitness. This impact is not mentioned or analyzed in the FEIS.

In addition, the Project will require hundreds of vessel trips, many made in boats that will be allowed to travel in excess of 10 knots per hour. As BOEM and NMFS know, studies indicate that a whale struck by a boat traveling in excess of 10 knots per hour will almost always suffer severe injury, and that a whale struck by a boat traveling in excess of 15 knots per hour will die nearly 100 percent of the time. The FEIS, however, does not provide an adequate analysis of this impact; nor does it recommend the kind of mitigation measures – such as a mandatory 10-knot per hour speed limit for all vessels, at all times, without exception – that would provide NARW a sufficient margin of safety from vessel collisions.

b. Operational Impacts

According to the FEIS Appendix B, PG 13, "additional data is needed to fully understand the effects of size, foundation type properties (e.g., structural rigidity and strength), and drive type on the amount of sound produced during turbine operation". BOEM, however, is not free to live in ignorance and approve a project just because the data necessary to assess that project's impacts have not yet been developed by others. BOEM has a responsibility under NEPA to perform that work itself, with the help of other federal agencies if necessary. What is clear is that the operational noise of the wind turbines – and the wind array as a whole – will generate Level A and Level B harassment contours significantly larger than what BOEM original anticipated and reported. This is largely because BOEM and the acoustical experts who analyzed this Project (and similar offshore wind projects in the Atlantic) have miscalculated the applicable noise attenuation rate, grossly overestimating how quickly the wind array's noise levels will decrease with distance. As a result, far more marine mammals, including NARW, will be adversely affected by high levels of project-related noise than what the FEIS indicates. For a full discussion of BOEM's and NMFS's failure to properly calculate noise attenuation at offshore wind facilities, see the comments provided by Save Long Beach Island on the Environmental Impact Statement and Letter of Authorization for the Atlantic Shore Offshore Wind Project, proposed off the coast of New Jersey.

New studies show connections between seismic studies and whale deaths, and construction noise levels above LOA allowed levels

Recent real-time acoustic tests of project construction noise and seismic testing reveal noise levels far exceeding those that result in whale mortality. Furthermore, we now have scientific evidence that connects seismic testing used in seabed exploration with the increased whale deaths, which federal agencies describe as "<u>unusual mortality events</u>." Even the noise from the operating turbines may exceed safe levels, posing an ongoing threat to the whales.

To understand how these noise levels are generated, it's important to look at the technology used in offshore wind surveys. Offshore wind survey vessels utilize high-energy "sparkers" to map geological features of the seabed. The sparkers emit acoustic pulses that travel into the ocean floor and are then reflected back to receivers on the vessels.

In 2023, Robert Rand, an acoustic consultant, conducted a study of the sonar noise generated by the Miss Emma McCall survey vessel off the coast of New Jersey. He discovered that the sound at the source was 224 decibels. As sound waves travel away from the source, their strength decreases. But half a nautical mile away, Rand recorded peak sound levels at 151.6 decibels.

These findings are alarming and have significant implications for marine life, particularly whales. The *National Marine Fisheries Service* (NMFS), a division of the *National Oceanic & Atmospheric Administration* (NOAA), states that whales and other marine mammals can temporarily lose hearing at 152 decibels of continuous sound (or root-mean-square levels) and permanently lose hearing at 173 decibels (NOAA Fisheries, 2018; NOAA Fisheries, 2020). Loss of hearing leads to death as whales travel, communicate, and find prey through echolocation.

NOTE: Each 10-decibel increase is ten times louder, so 130-decibels is ten times louder than a music concert (120-decibels), and 152-decibels is over 1,000 times louder than a concert.

Rand also <u>measured sound levels</u> during the construction of the Vineyard Wind project off Nantucket Island by the vessel Orion. Even with advanced noise-mitigation techniques, Pile driving noise had impulsive peak noise levels measured up to 180 decibels over 1 kilometer away and root-mean-square levels over 160 decibels at over 3.3 kilometers. The continuous noise generated by vessel propulsion and dynamic positioning thrusters significantly surpassed the <u>federal threshold</u> for behavioral harassment, with noise levels exceeding 120 decibels out to over 6 kilometers. These levels cause hearing impairment or loss. The NMFS issues Letters of Authorization for Incidental Take of whales and other marine animals for offshore wind construction projects. The detected noise levels exceed the allowed noise caps.

Apostolos Gerasoulis, a Rutgers professor emeritus of computer science, is quoted in both <u>Climate</u> <u>Change Dispatch</u> and the <u>Daily Mail</u> saying, "*Absolutely 100 percent offshore wind kills whales*." In these publications, he highlights a direct correlation between the increase in whale deaths and the increase in offshore wind project seabed testing.

For example (*see Table 1*), in January and February 2022, survey vessels covered 4,213 miles off the New York and New Jersey coasts, and one whale died. During the same months in 2023, vessels covered 11,977 miles, and seven whales died. In August 2022, vessels covered 5,469 miles, and no whales died. In August 2023, vessels covered 16,812 miles, and six whales died.

Gerasoulis divided his data into two samples and subjected the samples to two sophisticated statistical tests. Both indicated that the difference in whale deaths before and after offshore wind surveys started was statistically significant and not random.

Some posit that increased container ship traffic may have caused the increase in whale deaths. However, Gerasoulis found that in 2020-2021 (*see Table 2*), container ship traffic was up 18 percent, and whale deaths were down 92 percent. However, in 2022-2023, container ship traffic was down 18 percent, and whale deaths were up 162%. There is no correlation between container ship traffic and whale deaths.



8. Other issues

- a. US Wind states that scour protection on inter-array and transmission cables will only be used as needed, and estimates that may be only 10% of the time, and the minimum depth of burial of transmission cables could be as small as 3'. Transmission cables from the Block Island offshore wind project became exposed several years ago despite the burial of 6' or more, including on a recreational beach. Scour protection should be required on all cables.
- b. No studies have been conducted on the impacts of turbines and cables on the horseshoe crab. The lease area sits atop the horseshoe crab reserve. Project approval should be withheld until studies of the impact on horseshoe crabs are complete.
- c. Each offshore wind turbine and substation carries many gallons of lubricating oil and diesel oil listed in Appendix H of the COP. The total stored offshore is 508,078 gallons. A massive hurricane could threaten a major spill. The oil response plan seems inadequate to handle a major release and needs to be improved.

- **d.** This project has been approved by Maryland, however, there is no specification land filled material such as turbine blades that will be placed in Maryland.
- e. A catastrophic failure a turbine blade on the Vineyard Wind 1 project off Nantucket brings into question the potential durability of previously unused large turbines. BOEM has granted long delays in developers establishing financial security for project decommissioning cost in BOEM 2022-0019 "<u>Rule to Streamline and Modernize Offshore Renewable Energy Development</u>". Given recent events and US Wind's lack of experience building offshore wind, pre-construction financial assurances should be required.

Conclusion

The FEIS, as currently written, is legally inadequate:

- A) BOEM is following the President's Executive Order 14008, "Tackling the Climate Crisis at Home and Abroad", but admits on PG 3-17 offshore wind projects would likely have a limited impact on global emissions and climate change. If all the 30 to 50 gigawatts targeted by the President will have limited impact, this single project's impact will be insignificant, especially given Maryland PSC consultant's expectation that offshore wind to simply replace onshore wind projects. The entire FEIS is based on a false premise this project is needed to address climate change
- B) BOEM ignores the technically sound advice from the National Marine Fisheries Service, The Environmental Protection Agency, and the Delaware Center for the Inland Bays to deny Alternative B which buries transmission cables in the Indian River and Bay, and to adopt Alternative C. While BOEM can't require US Wind to use existing transmission lines instead of burying the lines in Rights of Way, US Wind can logically arrange the use of existing transmission lines as a less expensive option, as Ørsted did in its application for PJM grid interconnection permission in the identical area.
- C) Moderate to Major negative impacts found in the FEIS on commercial fishing, the viewshed, Coast Guard Search & Rescue, vessel traffic, scientific research, and the critically endangered North Atlantic right whale (NARW) that require denial of the proposed action.
- D) A new study is needed to determine the potential economic costs of lost Tourism and Recreation as existing studies are out of date and are based on much smaller turbines. No Final EIS should be issued for any project until that study is available. Also, BOEM needs to restart the EIS process removing the No Action assumption other wind turbine projects will be built nearby thus minimizing the economic impact of the US Wind project.
- E) BOEM needs to drop the assumption US Wind will use Aircraft Detection Lighting Systems. US Wind states in its COP use is dependent on the system being commercially and technically feasible, which it isn't, and requires various permits. As stated in the EIS, no other experienced developer plans to use this system as it is impractical. US Wind has no experience building offshore wind projects.
- F) Actual sound level measurements during construction of the Vineyard Wind 1 project show the levels, despite mitigation actions, were in excess of the maximum levels allowed by its Letter of Authorization for Incidental Take. Also, NMFS has failed to consider the cumulative impacts of the many other projects on NARWs. Until mitigations can be devised for excessive construction noise, and cumulative impacts from other projects are considered no further offshore wind projects should be approved.
- G) No projects should be approved until the impacts on radar can be mitigated and adequately demonstrated.
- H) Given US Wind's inexperience in constructing offshore wind projects, combined with a catastrophic failure of a Vineyard Wind turbine during start up, BOEM should require the purchase of financial security for decommissioning before construction begins.

Co-Signers

Roy Zatcoff – President, Sea Colony – Bethany Beach, DE signing on behalf of the people of our entire 2,200 home community Roy Zatcoff - as individual resident - Bethany Beach, DE Keith B. McCutcheon – Bethany Beach, DE (Sea Colony) Maria S. McCutcheon – Bethany Beach, DE (Sea Colony) Dianna P. Harris - Ocean City, MD Thomas Berray - Bethany Beach, DE Earl E. Ihle, Jr - Ocean City, MD Marianne Picinich – Bethany Beach, DE (Sea Colony) Patricia Breger - Lewes, DE Tom Kane – Bethany Beach, DE (Bayberry Dunes Community) Laurie Kane – Bethany Beach, DE (Bayberry Dunes Community) Clark Cochran - Bethany Beach, DE (Sea Colony) Monica Cochran - Bethany Beach, DE (Sea Colony) Robert Picinich - Bethany Beach, DE (Sea Colony) Caryn Abbott - Worcester County Commissioner - Pocomoke, MD Linda Drake Ozycz - Bethany Beach, DE (Sea Colony) Stuart Law - Bethany Beach, DE (Sea Colony) Vincent Ramunno - Rehoboth Beach, DE (North Shores) Chester & Jannell Dudick - Bethany Beach, DE (Sea Colony) Debra L.Birenbaum, MD - Bethany Beach, DE Captain Shawn Moore - Waterman - Lewes, DE Tricia McAdams – Bethany Beach, DE (Tower Shores) Michelle Parsons – Fenwick Island, DE Patrick Waring – Bethany Beach, DE (Sea Colony) Philip M. Drew – Bethany Beach, DE Lizbeth F. Lear - Fenwick Island, DE Basil J. Hanlon - Fenwick Island, DE Glen Urquhart – Rehoboth Beach, DE (North Shores Community) Carol M. Frazier - Berlin, MD Janet D. Eshbach - Fenwick Island, DE Joseph E. Eshbach - Fenwick Island, DE Alan Talpalar – North Bethany Beach, DE (The Preserve) Brenda Benna - Rehoboth Beach, DE (The Chancellery) Arthur R. Oberhofer III - Bethany Breach, DE (Sussex Shores) Thomas L. Higdon, Jr.- Berlin, MD Karen R. Higdon – Berlin, MD Benson Forman – Fenwick Island, DE Jim Simpson - Fenwick Island, DE Lauri E. Brown – Bethany Beach, DE Lori Ann Meighan – Ocean View, DE Colleen L. Wilson - Fenwick Island, DE Carroll Knott McGill - Bethany Beach, DE (Gulls Nest) Ella E. Ennis – Port Republic, MD Alison J. Iavarone – Rehoboth Beach, DE Susan Ostrowski – Ocean Pines, MD Genevieve L. Delcher - Berlin, MD

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