June 22, 2022 By E-Mail
Bureau of Ocean Energy Management

Re: Comments on Notice of Intent to develop a Draft Environmental Impact Statement (EIS) on US Wind Marwin and Momentum offshore wind Construction & Operations Plan, BOEM 2022-0025

US Wind's proposed offshore wind projects off the coast of Maryland will have direct impacts on Delaware as power is to be brought on shore, and turbines will be visible in Delaware. We represent over 1,400 individuals who have expressed concerns about offshore wind development to the Caesar Rodney Institute, and through the website Save Our Beach View. BOEM has stated they are accepting the Construction & Operations Plan (COP) as complete. We beg to differ and highlight below issues that need to be addressed before the COP is considered complete and before BOEM begins the EIS process.

Sincerely,
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Detailed comments with action steps underlined:

1 US Wind mistakenly claims emissions savings from the project, and emission savings are the core reason to build the project

In the COP Volume 1, page 72, Table 5-6, US Wind claims its project will replace fossil fuel generation and save up to about 126 million metric tons of CO_2 , 11 thousand metric tons of $PM_{2.5}$, 61 thousand metric tons of NO_x , and 95 thousand metric tons of SO_2 over the 20 year projected life of the project. That is 6.3 million metric tons of CO_2 savings per year if 2,178 MW are built. On page 3, Volume 1 US Wind expects the 808 MW Momentum Wind project to produce 2,513,753 MWh/year, so 2,178 MW might generate 6.8 million MWh/year. Dividing expected emission savings by expected generation yields the assumption used in the US Wind emissions savings of 0.93 metric tons/MWh. That means US Wind is expecting its offshore wind generation will always replace only coal generation. Coal generation is down to 21% of the regional grid and falling. What will actually happen is new offshore wind generation will just replace the average regional systems mix that in 2021 was 0.38 metric tons/MWh. Additionally, the average systems mix has been falling steadily since 2005 at 0.012 metric tons/MWh per year. Operations will begin in 2026 and the mid project year will be 2036 when the systems mix may be only 0.20 metric tons/MWh meaning US Wind is overstating emissions savings by almost five times.

However, two different consultants[1] used by the Maryland Public Service Commission in dockets 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-third the cost[2] by the end of 2023 while the COP schedule shows operational dates of 2025 to 2028.

My recent study, "No emission reduction from increasing wind and solar"[3], shows how the regional PJM grid saw a 30% increase in wind and solar power generation from 2019 to 2021, or 8 million MWhs, about the same amount as US Wind expects to generate. The increase merely replaced zero emission nuclear and hydro power and a small increase in regional electric demand. Falling coal generation was replaced one to one with natural gas because of free market fuel price reductions and would have happened if wind and solar didn't exist. US Wind needs to redo Tables 5.5 and 5.6. The underlying reason of emission reduction to build the offshore projects doesn't exist and the project should be denied.

2 BOEM has no suitable study to determine the cost impact of viewshed loss

Three studies exist to form a basis for determining the cost impacts of viewshed loss, and all are out-of-date as they used visualizations of 579' to 600' tall turbines while US Wind is planning to use 18 MW, 938' tall turbines, and states in the COP they will move to bigger turbines if available. The Kitty Hawk North COP is already considering 21 MW, 1042' tall turbines. However, each of the studies shed some light on impacts on tourism from offshore wind towers entering the viewshed.

BOEM primarily used a University of Delaware study[4] to approve the Vineyard 1 project. One of the authors stated the study was no longer applicable in a March, 2021 Delaware Today magazine interview[5] because of the move to taller turbines (UD used 579' tall turbines). The distance from shore of the US Wind project is about 10 statute miles. The UD survey response at 10 miles showed 29% felt the view would be worse, and only 10% felt it would be better for a net 19% choosing worse as shown in Figure 3 below. The study states property values would fall which presumes some calculation of the impact was made but the details were left out of the study.

An alternative study by North Carolina State University[6] interviewed actual recent Outer Banks renters showing visualizations of 600' tall turbines and determined 38% of visitors would not return if there were visible turbines at 5 and 18 miles, and at any density. If night time aviation and navigation warning lights were visible 54% of visitors would not return. Besides the survey respondents that would not return, others stated they would only return if a rent reduction occurred.

BOEM conducted a study showing visualizations of 600' tall turbines to survey respondents from 16 points on beaches expected to have future turbines[7]. It ranked the visible impact on a scale from 1 to 6. The visual impact from Jones Beach scored a 6, its worst rating. A 6 rating was defined as; "Dominates the view because the study subject fills most of the field of view in its general direction. Strong contrast in form, line, color, texture, luminance, or motion may contribute to view dominance". Based on that study New York State recommended no turbines be built within 20 miles of the coast, and BOEM agreed even canceling a lease area 12 miles off the Hamptons[8]. Further supporting exclusion zones BOEM agreed with the National Park Service turbines should be at least 28 miles from Kitty Hawk National Park so they wouldn't be seen. Also, lease areas were moved 27 miles off the Virginia coast because of potential radar and navigation interference for the Navy port in Hampton Roads.

Clearly, the disruption of the viewshed will be affected in a major way with losses in the $3 billion/year Delaware, and $5 billion/year Maryland tourism industry. Property values will also fall. A new study of viewshed effects is needed focused on potential economic impacts of much larger turbines.

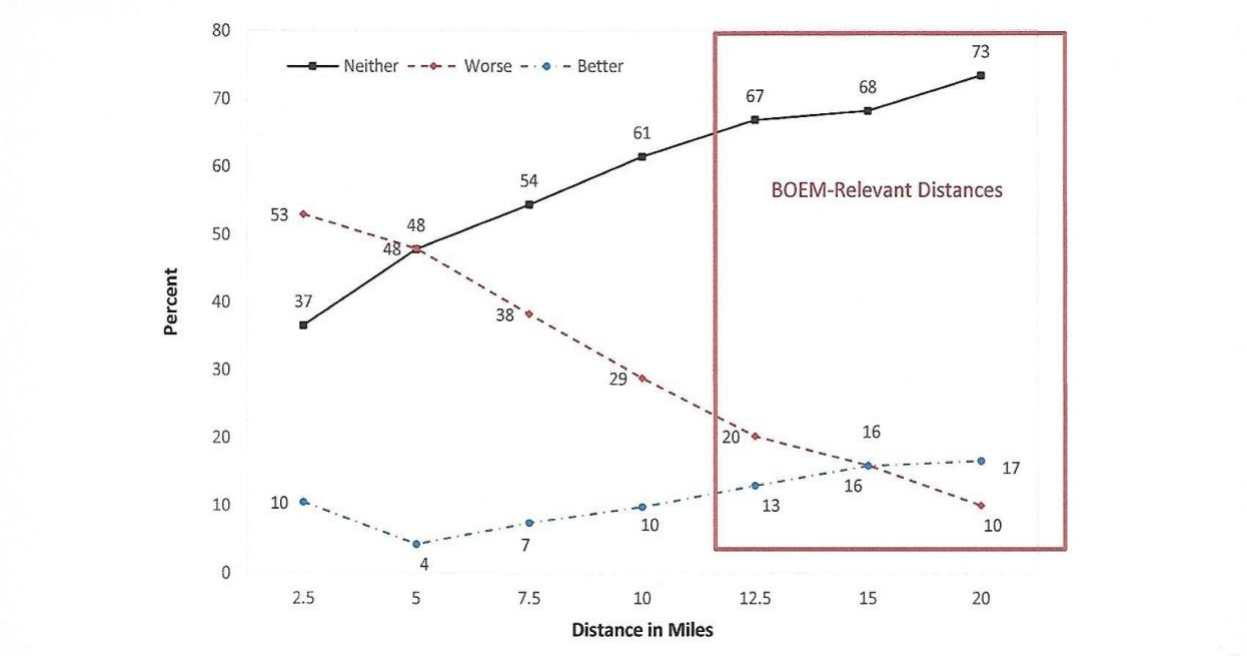

Figure 3 Effect of wind power projects on experience/enjoyment on recreational beach trips

3 Maryland shifts costs to, and interferes with interstate tourism in Delaware in violation of Interstate Commerce provisions of the US Constitution

The U.S. Constitution (Article1, Section 8) authorizes Congress to regulate interstate commerce. The Supreme Court has interpreted this, through the "Dormant Commerce Clause", to exclude state laws and regulations that interfere with, or discriminate against, interstate commerce. The Maryland Public Service Commission followed Maryland state law in approving the US Wind offshore wind projects. The projects are visible from Delaware coastal towns that rely on out-of-state tourists for their $3 billion a year tourism economy. Numerous studies discussed above provide evidence fewer tourists may come if wind turbines are visible. BOEM is prepared to offer new lease areas as soon as the fourth quarter of this year further off the Delaware and Maryland coast that would provide sites where turbines would not be visible from the Delaware coast. Maryland, and this COP have ignored these alternative sites.

Further, US Wind has only considered Delaware sites to bring power ashore, and to expand transmission infrastructure in Delaware. In the past the cost of expanded transmission has fallen on the state where the expansion occurs. The COP does not address who will pay for transmission upgrades. Beyond transmission upgrades in Delaware, the Maryland Public Service Commission approved the US Wind projects after a consultant review[1]. A key finding of the consultant was moving power west from the project into the PJM grid would require transmission line upgrades costing up to $450 million. They stated the assumption a project called the Transource Independence Energy Connection near York, PA would be approved. Last May the Pennsylvania Public Utility Commission rejected the project. How will the transmission be accomplished in the absence of that project, how much will it cost, and will Delaware electric customers have to pay for the upgrade?

<u>US Wind needs to revise the COP to bring power ashore in Maryland, and needs to consider alternate lease areas further from shore to protect Delaware beach tourism.</u>

4 US Wind left several mitigation plans undefined and incomplete

To mitigate the viewshed impact of aircraft warning lights US Wind states on page 23 of Volume 2 it will use Aircraft Detection Lighting Systems (ADLS) if "commercially feasible". These systems only turn on the aviation warning lights if aircraft are in the area. US Wind does not define the terms or conditions of what would make the systems commercially feasible. Without a solid commitment to use ADLS the EIS should assume the system will not be used and define the nighttime impact on the viewshed as major.

US Wind states scour protection on inter array and transmission cables will only be used as needed, and estimates that may be only 10% of the time on page 54 of Volume 2. On page 125 of Volume 2 there is a statement the minimum depth of burial of transmission cables could be as small as 3.2'. Transmission cables from the Block Island offshore wind project became exposed several years ago despite burial of 6' or more, and are still exposed including on a recreational beach. Scour protection should be required on all cables.

Decommissioning is discussed throughout the document but it is not clear scour protection mats and rocks will be removed. The seabed should be returned to its original state with scour protection removed. Also turbine blades and other turbine components are not recyclable and are currently placed in landfills. Because of the size of the blades they will take up an extraordinary amount of space. US Wind must commit to dispose of turbine blades in Maryland landfills, or obtain approval now from the Delaware Solid Waste Authority.

The risk of allision, vessel collision with wind turbine structures, is discussed starting on page 226 of Volume 2. Estimates for the frequency of larger vessel impacts are shown, and would be rare. However the total allision rate shown in Appendix K indicates an increased rate of about one impact every three years. Allision should be considered a potential major impact as defined in the EIS.

Summaries in the sections on potential impacts on the military, commercial aviation, radar, and the Coast Guard covered on pages 226 to 255 of Volume 2 are all stated as awaiting review by those agencies. The EIS should not be started until those reports are complete. Of special concern is the statement on Page 230, "Numerous factors may impact marine radar and post-construction analysis may be conducted to identify effects on marine radar and to assess mitigation methods". We already know the impacts are disastrous from the serious interference with marine radar occurring from just five turbines off the coast of Block Island. Up to 30 phantom turbines are visible on radar images from actual ships navigating near Block Island with no way to tell where the real turbines are. Serious radar interference is known now and mitigation plans need to be complete before anymore offshore wind projects are approved by BOEM.

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.

The Indian River Bay is classified as a Water of Exceptional Recreational Significance, and a Harvestable Shellfish Water according to the COP. Placing cables in the bay should be viewed as unacceptable instead of the first choice as listed in the COP.

5 Cumulative impacts are missing from the COP

The National Environmental Policy Act (NEPA) requires cumulative impacts be considered in developing an EIS. The COP ignores the neighboring lease off the Delaware Coast leased by developer Orsted. It will include up to 200 turbines, or 2.2 GW of offshore wind comprised of 966 MW from Skipjack 1 and 2 approved by the Maryland PSC, and the 1.2 GW Garden State project working through approvals in New Jersey. Orsted is considering the same sites to bring power ashore and the same routes for onshore transmission lines basically doubling impacts from the US Wind project. These cumulative impacts need to be added to the COP before the EIS review begins.

6 Discussions of impacts on marine life are incomplete

Effects of Electro Magnetic Fields on marine species are unknown. On pages14-15 of Volume 1 the COP states, "A site specific study of potential impacts, if any, on species such as the horseshoe crab and finfish is needed". US Wind states a study is planned but there are no specifics on timing or how the study will be done. The project is being built on top of the Carl N. Shuster Jr. Horseshoe Crab Sanctuary. The blood from these creatures is the only material suitable for finding antigens in vaccines. The EIS cannot start without this EMF sensitivity study being completed.

Each 18 MW turbine will sweep an area the size of 10 football fields with blade tip speeds up to 180 MPH. Hundreds of thousands of migrating birds stop in the Delaware Bay to feed on horseshoe crab eggs over about a six week period in the spring including the endangered Red Knot[9], and return in the fall migration. It is difficult to count dead birds and bats that fall in the ocean, but it is known onshore turbines kill large numbers of birds and bats each year and it appears likely offshore turbines will also kill birds and bats according to the COP. Since the COP admits bird kills are unknowable the only appropriate mitigation is to stop the turbines during the migration season.

According to the COP, sightings of the critically endangered North Atlantic right whale, and other endangered species are common in the lease area. A recently published study in the Journal of the Acoustical Society shows operational noise levels increase dramatically with turbine size and 10MW turbines have been measured at 170 decibels and do not fall below a recommended NOAA level B harassment requirement of 120 decibels for marine mammals for 0.9 miles[10]. Operating noise increases with the size of the turbine so the 18 MW turbines will be even louder. With planned spacing for the projects set on a 0.9 by 1.2 mile grid overlapping noise shadows will be at unacceptable levels in the entire lease area. To complete the COP and begin the EIS US Wind needs to measure the underwater sound levels of 18 MW turbines and determine a mitigation strategy to meet NOAA level B harassment levels.

7 Commercial fishing will be abandoned in the lease area

The Record of Decision[11] for the Vineyard 1 offshore wind project in Massachusetts concludes commercial fisherman will likely abandon areas filled with turbines. Concerns over potential damage to fishing gear, increased vessel collisions and the higher cost of insurance are the driving factors. So is a federal government determination Coast Guard Search & Rescue operations will be compromised adding to safety concerns. Turbines also eliminate the ability to do estimates on the population of commercial seafood species to establish "take" limits. BOEM decided finding a new population estimate procedure would take too long so ignored this in approving the Vineyard Wind project. Timing on a solution was left indeterminate, if ever. The cumulative impact of 23 existing lease areas covers prime fishing grounds in an area the size of Connecticut. US Wind understates the impacts of commercial fisherman in the COP as lost fishing gear. The COP needs to be altered to add the information learned in the Vineyard Wind EIS, and needs to consider the cumulative impact of lost commercial fishing revenue,

and the impact on US seafood stocks. A solution needs to be found for Coast Guard concerns about Search and Rescue limitations, and a solution is needed to how to determine "take" limits before the EIS process can begin.

Conclusion

BOEM has a clear duty to protect historic and future users of the lease area from interference from industrial-sized wind turbines. Major negative impacts will be inflicted especially on commercial and for-hire fisheries, tourist viewshed enjoyment, vessel traffic, Coast Guard search and rescue operations, scientific research, and the endangered Northern Right Whale and other marine mammals. Fisheries face not only a direct loss of gear, but also increased risk of collision damage to their vessels, loss of life from hampered search and rescue operations, and loss of the scientific data needed to protect fisheries. Potential loses in tourism will exacerbate social injustice as losses will disproportionately impact lower-wage service workers in restaurants, hotels, and fishing tourism. The COP is missing key information and requires serious modification before BOEM can begin an Environmental Impact Statement.

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