



**ACK Residents Against Turbines**

**PO Box 3057**

**Nantucket, MA 02584**

**ack** Residents  
Against  
Turbines

[www.ackrats.com](http://www.ackrats.com)

BY U.S Mail and BOEM Portal

April 15, 2023

Program Chief  
Office of Renewable Energy  
Bureau of Ocean Energy Management  
45600 Woodland Road  
Sterling, VA 20166

Dear Program Chief,

The following comments to the SouthCoast (Mayflower) Wind DEIS are hereby submitted on behalf of Nantucket Residents Against Turbines and the private citizens whose signatures are on this document. Direct quotes from the DEIS are shown in blue.

Nantucket Residents Against Turbines is a 501 (c) 3, tax exempt organization. We are comprised entirely of private citizens who are year-round Nantucket Residents, Seasonal Homeowners and residents, and visitors to the island. Nantucket Residents Against Turbines has no paid staff and all donations have been from private citizens. No political group, corporate entity or industry group supports Nantucket Residents Against Turbines. Our efforts include public outreach and education. ACKRATs is wholly committed to defending the North Atlantic Right Whale, as well our island's marine environment.

**1. Document Structure and Overall Issues:**

- A. The document lays out many Impact Producing Factors (IPFs) and attempts to explain them in four different scenarios, a *"no action alternative"*, a *"cumulative no action alternative"*, the *"proposed action"* and the *"cumulative impacts of the proposed action"*. The manner that these scenarios are laid out seems to change from section to section, with an amorphous "future baseline" described as varying between ~900 and ~3000 WTGs depending on the section. The method used to layout cumulative, and no action alternatives is confusing, indecipherable, appears designed to minimize or hide the impacts of the proposed action, and fails at its fundamental purpose of informing the public about the myriad serious environmental consequences of the SouthCoast (Mayflower) Wind project and its additive impact on the wind lease area.
- B. Section ES.4.1 States *"Over the life of the proposed Project, other reasonably foreseeable future impact-producing offshore wind and non-offshore wind activities are expected to occur, which would cause changes to the existing baseline conditions even in the absence of the Proposed Action. The continuation*

*of all other existing and reasonably foreseeable future activities described in Appendix D, Planned Activities Scenario without the Proposed Action serves as the future baseline for the evaluation of cumulative impacts of all alternatives.”*

A future baseline is not that same as the current ocean condition. Current conditions should be considered the baseline, and future conditions considered separately. Therefore, the proposed action alternative fails to analyze the impact of this project on the current ocean environment and the cumulative impacts are also not analyzed based on the current ocean environment . This is procedurally incorrect under NEPA. The public is not being given the opportunity to analyze the impacts of the project against a realistic baseline.

- C. The document repeatedly dismisses IPFs for the proposed action as occurring regardless of whether the action takes place or not. This is simply not true. As of the writing of the document, only 5 WTGs exist in the North Atlantic and these are much smaller than what is being proposed and much closer to shore. The cumulative impacts were not adequately evaluated for either the Vineyard Wind or the South Fork Wind projects and thus including those as already having been built is misleading, confusing, and inaccurate.
- D. “Short-term” is defined in the document as 2-4 years. The construction period is actually 7 years for the proposed action and at least 10 years for the cumulative impacts. However, this document lists all construction impacts as short-term when in fact they should be described as long-term.
- E. Table 2-4 Summary of impacts: This table makes it clear that there is no benefit to air quality. Water quality would have minor adverse impacts that the table dismisses as recovery would take place after decommissioning. That is after 35 years of countless millions of gallons of 90-degree water entering the ocean from multiple substations across many projects.
- F. In Table 2-4, impacts on birds are listed as moderate to major, and then dismissed as the document suggests birds could be attracted to the area. Common sense would tell us that birds attracted to wind turbines most likely would end up dead. The document also does not say how this will be studied or mitigated. It just says these things will happen. This is not the full disclosure that the NEPA requires. If mitigation were to happen by turning turbines off at certain times when birds are present (as is the practice for onshore wind) then the air quality numbers are meaningless as less power would be created by the wind turbines and more single cycle natural gas would need to be burned to balance the turning off the turbines in the presence of various bird species.
- G. The project does not meet the *“The shared goal of the Departments of Interior, Energy, and Commerce to deploy 30 GW of offshore wind in the United States by 2030, while protecting biodiversity and promoting ocean co-use”* because biodiversity is not protected, and ocean co-use is not possible given the navigational hazards being erected.
- H. The proposed action and the cumulative impacts of the other projects laid out, violates the Outer Continental Shelf Land Act as the project(s) are not shown to:
  - 1. Ensure protection of the environment
  - 2. Prevent Waste
  - 3. Conserve Resources
  - 4. Prevent interference with reasonable use such as commercial and for hire fishing and enjoyment of the unobstructed view of the horizon, and the enjoyment of dark skies
  - 5. Protect biodiversity and promote ocean co-use

## **2. Consideration of Alternatives:**

- A. Section ES.4.4 Alternative D – Nantucket Shoals – states: *“Alternative D was developed through the scoping process for the Draft EIS to address potential impacts on protected species in the northeastern portion of the Lease Area. Following installation of foundations, a commenter speculated that the presence of WTGs in the northeastern portion of the Lease Area may alter the foraging habitat associated with the physical hydrodynamic features along the western edge of Nantucket Shoals. However, modeling of the full build out of the entire southern New England lease areas indicates that minor, local changes to the physical hydrodynamic features may occur on the western side of Nantucket Shoals adjacent to the BOEM lease areas. Based on best available science, BOEM believes there is a lack of conclusive evidence that the removal of proposed turbine locations in the northeastern portion of the Lease Area would measurably lessen these minor impacts on the hydrodynamic features. If the potential hydrodynamic effects are consistent with the modeling of the southern New England lease areas and other hydrodynamic studies of wind facilities in the North Sea, the effects would be local to the immediate vicinity of the turbine array and not extend to Nantucket Shoals. If the potential hydrodynamic effects are as extensive as potential wind wakes that could extend tens of kilometers under stable conditions, which has not been demonstrated, then the removal of turbines would not remove this potential range of effects from extending far enough from the turbine array to overlap with Nantucket Shoals. Nonetheless, Nantucket Shoals is an area of high productivity with higher abundances of amphipods, chlorophyll, birds, and North Atlantic right whale (NARW). Nantucket Shoals has high foraging value for several species, including NARW at different times of the year as well as seabirds and seaducks. Consequently, BOEM has developed this alternative to address the environmental concern that wildlife may be subject to increased impacts in this area. Under Alternative D, up to six WTGs (AZ-47, BA-47, BB-47, BC-47, BC-48, and BF-49) in the northeastern portion of the Lease Area would be eliminated to reduce potential impacts on foraging habitat and potential displacement of wildlife from this habitat adjacent to Nantucket Shoals.”*

That statement shows a complete disregard for the concerns of BOEM’s consulting agency, the NMFS, by dismissing the many concerns raised in the May 13, 2022 letter from Sean Hayes, the Chief of Protected Species to Brian Hooker of BOEM. The “commenter” mentioned in the section of Alternative D appears to be a reference to this letter which lays out serious environmental concerns and impacts to NARWs. There is no scientific data presented in the DEIS to support that the impacts mentioned in the Hayes letter will not be realized. Mr. Hayes references 29 scientific studies to back up his concerns yet these concerns are dismissed in favor of “computer modeling” showing minor changes to the ecosystem from the full build out of the Mass/RI lease area. The model assumptions must be provided in a Draft EIS Supplement for the public to review and determine their reasonableness. This is too important of an ecological area, especially as it pertains to NARW feeding and survival to leave out the details about the computer model and how it refutes the actual scientific concerns laid out by Hayes.

- B. Restricting WTG development within 20-kilometer of the Nantucket Shoals 30-meter isobath was not carried forward. It is unacceptable under NEPA to dismiss alternatives that safeguard a federally endangered species. The reasons given for not considering these alternatives were due to timing, power contracts and economic feasibility. This is unacceptable when the impacts on NARW could be mitigated.

- C. Alternative D “Nantucket Shoals” shows no benefit in any area and should be discarded. Removing just 6 turbines does not address any concerns. The alternatives providing more of a buffer for NARW should be carried forward especially those providing a 20KM buffer from this important ecological area described by Hayes.
- Clearly - the other alternatives, that were dismissed, should have been considered.
  - BOEM “believes”, but no data regarding the computer model inputs are presented.
  - Hayes’s concerns needs to be considered and addressed. BOEM should not dismiss these concerns and has not provided the “model” inputs to substantiate their assumptions
  - This, combined with the rationale for dismissing the other alternatives, shows BOEM is not taking the concerns of NMFS seriously.
- D. In dismissing the alternatives that could protect the important Nantucket Shoals ecosystem and in turn the NARW, BOEM gives the rationale that they would not allow the developer to satisfy contractual offtake obligations. Under the CEQ NEPA rules, instituted by President Biden, an applicant’s interest is no longer paramount. In this case, the approval should be denied. If the alternative that protects the environment cannot be considered....then don’t do it. Another reason given is “It is environmentally infeasible, meaning implementation of the alternative would not be allowed by another agency from which a permit or approval is required, or implementation results in an obvious and substantial increase in impacts on the human environment that outweighs potential benefits”. This should be applied to all Wind Lease Areas in NARW habitat.
- E. 84 turbines were adequate for the Vineyard Wind 1 project, so there is precedent that a smaller scale project is actually feasible
- F. The DEIS states *“First, Mayflower Wind has collected and analyzed full geotechnical data on about two-thirds of their WTG positions, all within the shallower northeast portion of the Lease Area, to support the design and engineering of foundations and other components of their Phase I Project while meeting the schedule for power delivery under their PPAs with Massachusetts. If one-third of their WTG positions were not available for timely development, and 53 out of approximately 100 WTG positions were eliminated by the alternative, far fewer (around 50) WTG positions than the 85 WTG positions needed to produce 1,200 MW would remain for the timely execution of the Massachusetts PPAs. While Mayflower Wind is currently finishing collecting the remaining geotechnical data for the other positions in the lease, Mayflower Wind is not able to analyze and design foundations in time to meet the deadlines in their Massachusetts PPAs. Thus, this alternative is unreasonable because it would be incompatible with the Massachusetts offtake awards which are integral to both the purpose and need for the Project and Mayflower Wind’s primary goals”*. In this instance it appears the rationale is that there is no time to protect NARWs because MA contracted for the energy sooner than whale protection would allow. This is un-acceptable under NEPA, MMA and ESA. There is no basis under our federal system for federal decisions to be bound by state agreements.
- G. Even eliminating 17 turbines was not carried forward with only economic reasons given. However, other projects are proceeding with fewer turbines, so it simply does makes sense that these alternatives were not carried forward. This is unacceptable under NEPA as the NARW would be afforded greater protections.

- H. Common export cables were also not a considered alternative. This is problematic as greater protections would be given to sensitive marine environments, especially the Muskeget Channel. The fact that the various projects are technically unable to share export cables makes it apparent that “the grid” is simply not ready for offshore wind.

**3. Air and Carbon Emissions:**

- A. The public has simply not been educated about the trade-offs and has been mis-led about the project(s) potential benefits regarding climate change. The Vineyard Wind Final EIS and the Ocean Wind Draft EIS say accurately that these projects will have no or negligible effect on climate change. Yet BOEM continues to purport publicly that offshore wind is necessary to prevent damage from climate change. The public is being misled as none of the project documents to date support the claim.
- B. “Clean” energy is not defined in the document.
- C. Air emission data in the SouthCoast COP is redacted and no data is provided to prove a beneficial impact to net air emissions from the project.
- D. The statement “*1200 MW of electricity generated satisfies the need for cost effective and reliable energy in MA*” is not supported by any data pertaining to costs or reliability. In fact, offshore wind has been widely shown to be more expensive and less reliable than natural gas.
- E. Table 2-4 shows a moderate adverse impact and moderate benefit to air quality cancelling each other out. How is it climate goals are met if this is the case?
- F. It is stated “*The proposed Project is anticipated to have a commercial lifespan of 35 years.*” This significantly longer than industry standards with no mention of why. A lifespan of turbines in keeping with historic averages should be used in any analysis of emissions benefits.
- G. The following statement raises concerns about the validity of the emissions analysis “*Some impacts of the Proposed Action may not be measurable at the project level, such as the beneficial impacts on benthic resources due to artificial habitat or climate change due to a reduction in greenhouse gas emissions.*” This appears to state that there are no measurable project level benefits to GHG emissions. Given the overall increase in NOx and SF6 from the project, this makes sense. What is being said here?
- H. On page 3.4.1-6, there is no data to support this statement “*Impacts from fossil-fueled power facilities are expected to be mitigated partially by implementation of other offshore wind projects near the geographic analysis area, including in the regions off New England, New York, New Jersey, Delaware, Maryland, and Virginia to the extent that these wind projects would result in a reduction in emissions from fossil-fueled power facilities*”, or this one “*As wind energy projects come online, power-generation emissions overall could decrease and the region as a whole could realize a net benefit to air quality.*” In fact, regional emissions could increase if wind peaking power is not available to share with another ISO and that ISO needs to crank up fossil fuel sources.
- I. Table ES.2 shows no benefit to air quality, just beneficial and harmful effects that cancel each other out. This is not in keeping with the purpose of the project. Based on this data, the project should be cancelled.
- J. 3.4.1.8 This statement regarding air emissions is misleading “*Offshore wind energy development could help displace emissions from fossil fuels, potentially improving regional air quality and reducing GHG emissions. An analysis by Katzenstein and Apt (2009), for example, estimates that CO2 emissions can be*

*reduced by up to 80 percent and NOX emissions can be reduced up to 50 percent by implementing wind energy projects.*<sup>2</sup> “

The previous statement should read that CO2 emissions can be reduced by up to 80 percent and NOX emissions can be reduced by up to 50 percent **of the emissions generated by a natural gas plant**. The way the document states it, the implication is up to 80 percent and up to 50 percent of regional emissions can be reduced. This is not the case, especially since the wind energy projects will only produce a low percentage of the electricity needed in the region.

The foot note (2) indicates “*Katzenstein and Apt (2009) modeled a system of two types of natural gas generators, four wind farms, and one solar farm. The power output of wind and solar facilities can vary relatively rapidly as meteorological conditions change, and the natural gas generators vary their power output accordingly to meet electrical demand. When gas generators change their power output their emissions rates may increase above their steady-state levels. As a result, the net emissions reductions realized from gas generators reducing their output in response to wind and solar power can be less than the reduction that would be expected based solely on the amount of wind and solar power. The study found that reductions in CO2 emissions would be about 80 percent, and in NOX emissions about 30 to 50 percent, of the emissions reductions expected if the power fluctuations caused no additional emissions.*” It is not that CO2 and NOx are reduced by 80% and 50% by implementing wind; rather the expected reduction in emissions is lower due to the need for balancing power fluctuations with by natural gas.

- K. In the conclusion on page 3.4.1.10 it states that “*additional, higher-emitting, fossil-fueled power facilities could be built, or could be kept in service, to meet future power demand, fired by natural gas, oil, or coal.*” That is simply not the case as the region has easy access to natural gas and clean cycle natural gas is the only type of power plant that would likely be built in the short term. Nuclear is not discussed and if sufficient resources were allocated to this power source, then GHG reductions would actually be significant enough to terminate fossil fuel burning facilities. It is concerning that the underlying analysis is not provided and that the air emissions section of the SouthCoast COP continues to be redacted.
- L. On page, 3.4.1.10-11, the document states: “*Overall, BOEM anticipates the cumulative impacts of the No Action Alternative on air quality from ongoing and planned activities would be moderate, largely driven by emissions from fossil-fueled power facilities, other ongoing and planned non-offshore wind emissions, and emissions from construction and decommissioning of offshore wind projects. Because offshore wind projects likely would lead to reduced emissions from fossil-fueled power facilities, BOEM also anticipates the cumulative impacts of the No Action Alternative would result in minor to moderate beneficial impacts on regional air quality*”. First, there is no data used to support these statements and second, the emissions from fossil fuels in the New England Area ISO has been steadily declining as more electricity is sourced from clean cycle natural gas.
- M. Page 3.4.1-23 states “*The Proposed Action would incrementally contribute to the cumulative air quality impacts from ongoing and planned activities associated with offshore construction, which would be moderate during construction. The Proposed Action would add an average of approximately 22 percent of the total offshore wind project emissions that may generate impacts, depending on pollutant, due to construction activities occurring in the geographic analysis area. This suggests that most of the air quality impacts resulting from offshore wind development would not be due to the Proposed Action, and the addition of the Proposed Action would yield a relatively small contribution to the total air quality impacts.*” This statement is completely erroneous as no other projects have commenced building and

22% of project emissions is not a “*relatively small contribution*”. It is almost of quarter of all the emissions from all the wind farms proposed in the area. That is significant.

- N. Another erroneous statement can be found on page 3.4.1-24. It states, “*A net improvement in air quality is expected on a regional scale as wind projects begin operation and displace emissions from fossil-fueled sources*”. There is no back-up data given for this statement. The Air Emissions data in the COP remains redacted. Specifically what fossil fuel sources will be displaced. There are no plans in the New England ISO to remove gas fired plants from the grid. The wind power will continue to need to be balanced with the single combustion gas process which is less “clean” than dual combustion which is less responsive to power fluctuations and therefore cannot be used. No evidence is provided to support the claim made. This follows with a statement on page 3.4.1-25 “*The Proposed Action would result in a net decrease in overall emissions over the region compared to the installation of a traditional fossil-fueled power facility.*” There is no support for this statement. The only fair comparison would be from a new dual cycle natural gas facility – however, this analysis is not provided. On the same page, this statement is also not supported with any facts: “*Considering all of the IPFs together, **minor** air quality impacts would be anticipated for a limited time during construction, maintenance, and decommissioning, but there would be a **minor beneficial** impact on air quality near the Wind Farm Area and the surrounding region overall to the extent that energy produced by the Proposed Action would displace energy produced by fossil-fueled power facilities*”. The what, where and when for displacing fossil-fueled power are simply not shown in the DEIS or the COP.
- O. On page 3.4.2-11 Sulfur Hexafluoride is mentioned as being present in the wind turbines. This harmful greenhouse gas which has an atmospheric heat retention property that is exponential to CO2 is never quantified. This makes the air quality benefit analysis of the DEIS incomplete.
- P. In Section 2.1.2.2 it states, “*Mayflower Wind would use vessels, remote-sensing equipment, vehicles, and aircraft during the O&M activities described above. The Project would use a variety of vessels to support O&M including crew-transfer vessels, service operation vessels, anchor-handling tugs, and jack-up vessels. In a year, the Proposed Action would generate a maximum of 100 crew-transfer vessel trips, 1 jack-up vessel trip, and 24 supply vessel trips; and a maximum of 250 helicopter trips (Mayflower COP Volume 1, Section 3.3.14.2, Table 3-23; Mayflower Wind 2022).*” Later in 3.4.2.5 the document calls for seven times more vessel traffic: “*Mayflower Wind expects substantially less vessel use during routine O&M than during construction. Vessel use would consist of scheduled inspection and maintenance activities, with corrective maintenance as needed. In a year, the Proposed Action would generate a maximum of 700 crew vessel trips, 30 jack-up vessel trips, 100 heavy transport vessel trips, 280 airplane trips, and 2,080 helicopter trips (COP Volume 1, Section 3.3.14.1, Table 3-21; Mayflower Wind 2022).*” Two very different estimates of vessel and helicopter trips are offered. This does not make sense. Which is it?

#### **4. Whales, Marine Mammals and NARWs:**

- A. The mitigation measures for the North Atlantic Right Whale are not realistic. These critically endangered marine mammals are often below the surface and quiet for hours. Especially mother and calf pairs. Both PSO and PAM will be inadequate in this common occurrence.
- B. The NARW and other whales, if successfully moved away from the area by pile driving noises, will be moved away from their food source, expending much needed energy and potentially into areas with heavier vessel traffic.
- C. There is no time of year NARW and other whales are not present. The January 1<sup>st</sup> to April 30<sup>th</sup> exclusion for pile driving unacceptable. Just this March there have been over 60 sightings of NARW in the area.

- D. Speed restrictions should include ALL vessels related to the project.
- E. Take authorizations and Letters of Authorization are not warranted given the survival basis of the species is less than one harmed per year by human involvement.
- F. Some impacts to NARW listed are underwater noise from O&M, UXO detonations, pile driving and vessel strikes. The mitigations suggested to prevent this are inadequate.
- G. 8-16 hours per day of pile driving is too much for NARWs.
- H. NMFS received a request for authorization under the MMPA to take marine mammals incidental to construction activities related to the Project. NMFS's issuance of an MMPA incidental take authorization would be a major federal action. This action is not warranted under the DEIS. Instead, greater protections for NARW should be ensured.
- I. Figure 2-7 makes it clear that this project (and others) are poorly sighted with regard to NARWs. The data showing the only know year round habitat for Right Whales and the only winter foraging grounds for Right Whales has been known to BOEM for some time and yet they have not acted to ensure the appropriate Critical Habitat Boundaries are in place for NARWs. By not expanding the Critical Habitat Boundary, BOEM is negligent under the MMA and ESA.
- J. Page 3.5.6-4 begins the section on endangered marine mammals, including the North Atlantic Right Whale. It is made clear, the MA/RI wind lease area is home to NARWs year-round and that the unique ocean characteristics in this area create an abundance of prey year-round. The presence of utility scale wind power plants in this area will undoubtedly put the species at greater peril. From increased vessel traffic, disbursement of prey, changes to the water column and mixing, pile driving and future operating noise, the NARW will no longer be able to use these waters in the same productive manner.
- K. The pages 3.5.6-5&6 indicate that *"the physical oceanographic and bathymetric features provide for year-round high phytoplankton biomass, likely contributing to increased availability of zooplankton prey for NARWs (Quintana-Rizzo et al. 2021). Waters from the Gulf of Maine, the Great South Channel, and Nantucket Sound mix in the shallow dune-like Nantucket Shoals. The convergence of these waters creates a well-mixed water column throughout the year (Limeburner and Beardsley 1982), making the Nantucket Shoals the only known winter foraging ground for NARWs."* That the area has not been designated a "critical habitat" for the NARW underscores the negligence in protecting the species. It has been known for some time that the area is the only year round habitat area and the only winter foraging ground.
- L. The "Habitat-based Marine Mammal Density Models for the U.S. Atlantic: Latest Versions" are provided by a collaboration led by the Marine Geospatial Ecology Laboratory at Duke University whose collaborators include: Northeast Fisheries Science Center/NOAA Fisheries, Southeast Fisheries Science Center/NOAA Fisheries, Dept. of Biology and Marine Biology, UNC Wilmington, Virginia Aquarium & Marine Science Center, Virginia Coastal Zone Management Program, Maryland Dept. of Natural Resources, Riverhead Foundation for Marine Research and Preservation, New Jersey Dept. of Environmental Protection, Woods Hole Oceanographic Institute, Center for Coastal Studies, Florida Fish and Wildlife Conservation Commission, New England Aquarium, Massachusetts Clean Energy Center, Bureau of Ocean Energy Management, Clearwater Marine Aquarium Research Institute, Georgia Dept. of Natural Resources, New York Dept. of Environmental Conservation, Tetra Tech, and HDR. **The models show that the year-round presence of NARW and other large cetaceans has been known for some time. There are NO months in which NARWs and Humpback Whales are not present it the MA/RI WEAs.**

The area around Nantucket Shoals was described by Andrew Lipsky, in a March 9, 2022 presentation as part of the NOAA Ecosystem Based Management & Ecosystem Based Fisheries Management Seminar Series as being the “only winter foraging habitat on earth for NARWs which co-occurs with Southern New England WEAs”.

As also shown in a presentation from a May 2021 Duke University to the Marine Mammal Subcommittee, it has been known for some time that the MA/RI wind lease area is the only known year-round foraging ground for NARWs. This critically endangered species is present in all months. They have been visually sighted at times when PAM devices did not identify them. This underscores the ineffectiveness of PAM tools for identifying the presence of NARW. PSOs may see NARW at the surface in calm waters and in good light, but they will not be able to detect them in rough seas or when they are under water. The NARW, especially mother and calf pairs are often, out of sight and are quiet for hours at a time.

- M. No mitigation measures have been put forth that eliminate the possibility for NARW to be present during pile driving. And while bubble curtains and soft starts to pile driving may drive them from this important foraging area, that will cause an unnecessary expenditure of energy, especially for females of birthing age who tend to be under weight to begin with. On pages 3.5.6-5&6 it is discussed that the lease areas do not directly overlap critical and core habitat areas. However, given the breadth and depth of studies indicating this is the only year-round foraging areas for the NARW, this merely underscores that NOAA has been negligent in not establishing these Southern New England waters as critical habitat for NARWs.
- N. While the DEIS seems to imply that NARW are newly spending time in the waters south of Nantucket, historically this is incorrect. “The earliest English settlers observed that every autumn, hundreds of right whales converged to the south of the island and remained until the early spring. Right whales—so named because they were “the right whale to kill”—grazed the waters off Nantucket as if they were seagoing cattle, straining the nutrient-rich surface of the ocean through the bushy plates of baleen in their perpetually grinning mouths. This is how whaling on Nantucket, an integral part of the island’s history, began. As early as the 1690s, whales were hunted in small boats launched from Nantucket’s south shores.” The MA/RI wind lease area has been home to the NARW for hundreds of years. While they may have been observed here more frequently in recent years, their presence is not new.
- O. The follow paragraph on page 3.5.6-14: *“Global climate change is an ongoing risk for marine mammal species in the geographic analysis area. Warming and sea level rise could affect marine mammals through increased storm frequency and severity, altered habitat/ecology, altered migration patterns, increased disease incidence, and increased erosion and sediment deposition (Evans and Bjørge 2013; Evans and Waggitt 2020; Learmonth et al. 2006). Increased temperatures can alter habitat, modify species’ use of existing habitats, change precipitation patterns, and increase storm intensity (USEPA 2016; NASA 2019; Love et al. 2013). Increase of the ocean’s acidity has numerous effects on ecosystems including reducing available carbon that organisms use to build shells and causing a shift in food webs offshore (USEPA 2016; NASA 2019; Love et al. 2013). This has the potential to affect the distribution and abundance of marine mammal prey. Warming is also expected to influence the frequency of marine mammal diseases, particularly for pinnipeds. Warming and sea level rise, with their associated consequences, and ocean acidification could lead to long-term, high-consequence, population-level impacts on marine mammals, especially mammal populations already stressed by other factors (e.g., NARWs).”* These statements are not related to the current conditions being described. Climate change is not an immediate threat to the marine mammals in the wind lease area, although it may be a longer-term threat. Further, the role that large whales play in moderating CO<sub>2</sub> in the atmosphere and acidity in the ocean is not described. Whales are known to play a vital role in ocean health and biodiversity. They sequester carbon in their large

bodies, they release fecal plumes that are rich in nutrients that phytoplankton need to grow, and through their migrations from nutrient-rich feeding grounds to nutrient-poor breeding grounds, they move nutrients around the ocean. The presence of whales in the proposed project area, and in the broader wind lease areas is more scientifically important and concrete than the idea that the project may have a minor benefit to carbon emissions. In addition, the DEIS never shows data explaining how the presence of wind turbines will moderate the climate or improve ocean acidification in the near or long term.

- P. The second paragraph on page 3.5.6-15 goes on to state that vessel collisions have been a risk factor for whales. However, G&G survey work has been ongoing since 2016. The ITAs issued for this work certainly allow for whales to become disoriented. There is no mention or explanation for how the increased noise could make it more likely for disoriented whales to be victims of vessel strikes.
- Q. The document clearly states that 10 knot speed limits for all vessels improve outcomes for whales, however, crew transfer vessels and vessels under 65 feet will not be subject to this limit. This is not acceptable.
- R. This paragraph on page 3.5.6-15 illustrates the confusion and misrepresentation created by the document structure. *“Ongoing offshore wind activities, including site assessments for future offshore wind projects, would affect marine mammals primarily through the IPFs of noise, presence of structures, and vessel traffic. Ongoing offshore wind activities would have the same types of impacts that are described in Cumulative Impacts of the No Action Alternative for ongoing and planned offshore wind activities, but the impacts would be of lower intensity.”* That whales are already being harmed (as evidenced by increase mortality of humpback whales in Massachusetts since G&G survey work began) from existing project activity, is not the correct analysis for which to gauge this project’s impact on whales and especially NARWs. It seems that the format is intended to sow confusion. However, the fact remains that NARWs will be put in harm’s way and no mitigation measures have been put forth that can prevent that.
- S. The next section states that: *“Underwater noise associated with offshore wind activities has the potential to generate underwater noise that could result in the following adverse effects on marine mammals.*
- *Physiological effects, such as injury and mortality, TTS, and PTS.*
  - *Disturbance (behavioral effects).*
  - *Acoustic masking.* “

Any of the above harms to NARW are unacceptable and the only proven way to eliminate these is to NOT build the project directly in the only year-round habitat known to this critically endangered whale.

- T. The document describes level B harassment as *“Any act of pursuit, torment, or annoyance that has the potential to disturb a marine mammal or marine mammal stock in the wild by causing a disruption of behavioral patterns including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering but that does not have the potential to injure a marine mammal or marine mammal stock in the wild (16 USC 1362).”* To date, dozens of level B ITA have been issued to developers of the east coast wind lease areas. These ITAs directly overlap the unusual mortality event for both NARW and Humpback Whales. However, no analysis is provided for how this extensive survey work has affected marine mammals’ ability to navigate and stay safely away from vessels. The data exists and should be provided as part of the DEIS. That these ITAs have been issued since beginning in at least 2017 and that they coincide with the UMEs is contrary to NOAA’s public statements on the unusual number of whales and dolphins washing ashore in the NY/NJ area this winter. In 2020 for instance, Massachusetts saw 34 dead whales at a time when survey work for Vineyard Wind and other projects was active. Data for timing of

surveys and whale deaths has not been provided for the MA/RI lease area. How can the public believe that BOEM, NOAA and NMFS will stop work or change course to protect NARWs and other whale species if they have not done so to date and have not been forthcoming with data regarding the G&G survey work to date.

- U. Responses to underwater noise by marine mammals described in the document include this statement *“Behavioral responses can ultimately cause disruption in foraging patterns, increases in physiological stress and alertness, reduced breeding opportunities, increased swim speed and dive times, and changes to group association patterns (e.g., tighter groups).”* Interestingly, just this March, two unusually large groups of NARWs were spotted just south of Nantucket and Martha’s Vineyard just as Vineyard Wind 1 was beginning its cable laying work south of the islands.
- V. The document describes pile driving activities taking place over a period of 8 years often for multiple days. The impacts to marine mammals are described as *“The short-term consequences of masking from pile-driving activities range from temporary changes in vocal patterns to avoidance of important areas. Longer-term consequences include permanent changes to vocal patterns; reductions in fitness, survivorship, and recruitment; and abandonment of important habitat areas.”* With regard to the NARW, an 8 year construction period is not “short-term” and will lead to the extinction of this important species.
- W. Regarding the thousands of helicopter trips – will the helicopters have PSOs to avoid harassment of NARWs?
- X. Regarding noise from turbine operations, the document states that *“Mechanical noise associated with the operating WTG is transmitted into the water as vibration through the foundation and subsea cable. Both airfoil sound and mechanical vibration may result in long-term, continuous noise in the offshore environment.”* It then goes on to refer to studies of turbines that are not close to the 14MW size being proposed for either the SouthCoast wind or other projects in the MA/RI wind lease area. The DEIS does not disclose the underwater noise impacts of the much higher operational noise levels from the proposed larger turbines. It has been shown that elevated noise levels will extend many miles from the turbines disturbing NARW and other marine mammal behavior, potentially disrupting its feeding and essential migration. This is a fatal, and seeming intentional omission by BOEM to downplay a very serious problem, because it would expose BOEM’s flawed decision to site this project in this area to begin with. It must address this in a draft supplement to the DEIS.
- Y. The conclusion that *“Based on the current available data, underwater noise from turbine operations is unlikely to cause PTS or TTS in marine mammals but could cause behavioral and masking effects.”* does not address the effects of that behavior disturbance which is the key impact. Given the size of the turbines and the vast area encompassing the MA/RI wind lease area, that conclusion itself is not supported by the current science. Should the NARW be displaced from its only known year-round foraging ground the consequences could be extinction. A supplemental DEIS is needed before proceeding with any further offshore wind projects in NARW habitat.
- Z. The following summary statement on noise is troubling *“If marine mammal populations are subjected to multiple anthropogenic noise stressors throughout their lifetimes that disrupt critical life stages (e.g., feeding, breeding, calving) and throughout their ranges, then additional impacts from noise from ongoing non-offshore wind activities could be major. However, there is no evidence ocean noise would result in population declines in the geographic analysis area for any marine mammal species. Additionally, all projects are expected to comply with a suite of mitigation measures (e.g., exclusion zones, protected species observers) that would avoid and minimize underwater noise impacts on marine mammals.”* No mitigation measures have been proposed that will eliminate the presence of NARW or other whales during construction activities or turbines operation. The whales are often under water and silent. If they

are encouraged to vacate the area with soft starts, they will use valuable energy to find a safe area. The correct conclusion is that the impacts from projects activities could be major. Therefore, unless proven mitigation procedures can be implemented, the project should not be approved.

AA. The document states: *“Considering all the IPFs together, BOEM anticipates that the cumulative impacts of the No Action Alternative would result in moderate impacts on marine mammals, with the exception of the NARW, on which impacts could be major. Impacts are magnified in severity for the NARW due to low population numbers and the potential to compromise the viability of the species from the loss of a single individual.”* This makes it clear that the MA/RI lease area was poorly sited and that the continued survival of the NARW should prevent the area from being built-out with utility scale power plants.

BB. The following paragraphs on page 3.5.6-48 make it clear that the risks to NARW are quite high and further study is needed BEFORE the project area is built out: *“Impacts from Proposed Action structures on hydrodynamic patterns in the nearby Nantucket Shoals are an important consideration for marine mammals and especially NARWs, which are known to forage in Nantucket Shoals. O’Brien et al. (2021) found that NARWs occurred in the greatest numbers in southern New England between December and February although they also occur in other months in lower numbers. The tidal currents on Nantucket Shoals are intense and the water column remains well mixed throughout the year (O’Brien et al. 2021), preventing the formation of thin, vertically compressed layers of copepods that allow for efficient NARW feeding (Baumgartner and Mate 2003; Baumgartner et al. 2017). NARWs do feed on copepods in well-mixed waters during winter, but during other times of the year when the larger and more nutritious Calanus finmarchicus is available, NARWs need to maximize their energy intake. To explain NARW presence near Nantucket Shoals when their preferred prey may be available elsewhere in more stratified waters, O’Brien et al. (2021) speculated NARWs are either feeding inefficiently on smaller copepod species or that they are feeding on a different non-copepod prey species that are more nutritious or can be ingested efficiently despite the strong tidal currents (e.g., a large-bodied bottom associated/clinging amphipod). Gammarid amphipods occur in abundant patches on the western edge of Nantucket Shoals where NARWs are also found (White and Veit 2020).*

*Presence of structures could theoretically cause indirect effects on marine mammals by changing the distribution and abundance of preferred prey and forage species, which has been noted as a particular concern for NARWs; but as the research in southern New England waters shows, NARWs are currently feeding at what is generally considered sub-optimal times in terms of prey type and prey density. This research makes it difficult to draw conclusions about how downstream turbulence from wind turbines may affect prey densities year-round, but especially in the winter when the water column is well mixed. In addition, conclusions are difficult to draw because those studies are based in different geographic regions, use differing offshore wind development scenarios, and the individual studies use varying methodology and models. Further research is required, including validation through field observations, to determine the significance of impacts to hydrodynamics due to offshore wind facilities in the United States. The presence of offshore wind facility structures could result in avoidance and displacement of marine mammals, which could potentially move marine mammals into areas with lower habitat value or with higher risk of vessel collision or fisheries interactions. The presence of structures could also displace commercial or recreational fishing vessels to areas outside of wind energy facilities or result in gear shifts. Gear shifts that result in an increased number of vertical lines in the water would increase the risk of marine mammal interaction with fishing gear, which is a significant threat to some species.”*

CC. Page 3.5.6-50 states *“The incremental impacts from vessel traffic and accidental releases contributed by the Proposed Action would be small when compared to the number of vessel trips associated with*

*offshore wind development and existing vessel traffic in the region*". In essence the document is making the argument that there will be increased vessel traffic from other projects and therefore there is only a little impact from the SouthCoast project. This makes no sense and again illustrates that the structure of the document, which tries to say that significant offshore wind development is happening anyway so this project will not incrementally add to stresses on the environment, is flawed. The increased vessel traffic is problematic across the MA/RI and entire east coast wind lease areas.

- DD. The conclusion of the marine mammal section on the proposed action indicated the project cannot be safely implemented with regards to NARW. It states "**Cumulative Impacts of the Proposed Action: Considering all of the IPFs together, the cumulative impact on marine mammals would range from negligible to major and could include minor beneficial impacts. BOEM anticipates that the overall impacts from the Proposed Action when combined with ongoing and planned activities would be moderate on marine mammals in the geographic analysis area, with the exception of NARW, on which impacts could be major. Impacts are magnified in severity for NARW due to low population numbers and the potential to compromise the viability of the species from the loss of a single individual. Although a measurable impact is anticipated, most other marine mammals would likely recover completely when IPF stressors are removed or remedial or mitigating actions are taken.**" The purpose of an EIS is to present environmental impacts, not conclusions, especially unsupported ones. The DEIS presents no marine mammal "take" assessments to support these conclusions. It should secure such from the NMFS and place them in a draft supplement to the DEIS for public review.
- EE. On page 3.5.2-14 it states that noise from G&G surveys will rarely overlap. This is simply false and this exact situation is currently happening in the NY/NJ area. No historical data for timing of surveys and whale deaths has been provided for the MA/RI lease area.

## **5. Water Quality:**

- A. The pages 3.5.6-5&6 indicate that "*the physical oceanographic and bathymetric features provide for year-round high phytoplankton biomass, likely contributing to increased availability of zooplankton prey for NARWs (Quintana-Rizzo et al. 2021). Waters from the Gulf of Maine, the Great South Channel, and Nantucket Sound mix in the shallow dune-like Nantucket Shoals. The convergence of these waters creates a well-mixed water column throughout the year (Limeburner and Beardsley 1982), making the Nantucket Shoals the only known winter foraging ground for NARWs.*" This same water is carried into Nantucket Sound and thus Nantucket Harbor with each tide cycle. The water then washes around Nantucket and thru Muskegat Channel. The hydrodynamic effects of thousands of wind turbines on water quality in Nantucket Harbor have not been analyzed as part of the DEIS or the COP. It is not enough to say that the ecosystem wide impacts are unknown. Clearly more study is needed before a project of this scale gets built.
- B. The document describes using ocean water to cool the massive electric substations (OSP). This project will have up to 5 OSPs and other lease areas will have similar numbers. Yet, 10 million gallons per day of ocean water from just one OSP, that has been warmed to 90-degrees, is dismissed as negligible. There is no analysis for the multitude of additional substations that are sure to be built for the various projects. The impacts from cooling water from the OSPs is not explained in a clear manner and does not account for all the OSPs in the lease area. How many total gallons of warm water are we to expect. How do we know this will not impact overall water temperature around Nantucket and through tidal activity, in Nantucket Harbor. There is no analysis of the cumulative impact of this.
- C. Invasive species such as mussels will change the makeup of phytoplankton and could cause ecosystem wide impacts.

- D. Impacts to water quality is summarized as minor, however, sediment resuspension, discharges and accidental releases seem major.
- E. On page 3.4.1-10, the DEIS attempts to state that accidental spills as if from a strong storm are less likely than from the many tankers and vessels that transit the vicinity. This does not make sense; tankers are only present intermittently and can move out of the way of storms. That is not the case for the wind turbines, which are fixed structures and cannot move out of the way a storm.
- F. In section 3.4.2.1 the impacts on water quality are discussed. However, there is no mention of the tidal nature of the water. The water in the Nantucket Shoals areas is transferred readily with each tide cycle through Nantucket Sound and through the Muskegat Channel. This tidal flow directly impacts the water in Nantucket Harbor. Yet there is not mention of how the changes to the stratifications of the water column and disbursement of phytoplankton and other microorganisms and nutrients will impact the waters around Nantucket, especially Nantucket Harbor.
- G. In Figure 3.4.2-1. *“Water Quality geographic analysis area”* the full area around Nantucket Shoals does not appear to be included. The full 20km buffer area suggested by Sean Hayes of NMFS should be considered. This figure also makes it clear that the tidal patterns around Nantucket have not been considered. In a 2005 report on the water movements in the area, the Center for Coastal Studies provided a clear analysis that this DEIS should take into consideration.
- H. On page 3.4.2-13 the impacts from the thousands of structures are dealt with. However, the analysis is incomplete and favors computer modeling, for which no inputs are explained over real world examples. Data from Europe is mentioned, however, there are not windfarms in Europe on the scale of what is being proposed here as these will be the largest, and highest capacity turbines ever installed. This section does acknowledge the tidally dominant currents, underscoring the fact that these currents were left out of the geographic analysis area.
- I. This paragraph, on page 3.4.2-14 is especially problematic: *“Results from a recent Johnson et al. (2021) hydrodynamic model of four different WTG build-out scenarios of the offshore Rhode Island and Massachusetts lease areas found that offshore wind projects have the potential to alter local and regional physical oceanic processes (e.g., currents, temperature stratification) via their influence on currents from WTG foundations and by extracting energy from the wind. The results of the hydrodynamic model study show that introduction of the offshore wind structures into the offshore WEA modifies the oceanic responses of current magnitude, temperature, and wave heights by (1) reducing the current magnitude through added flow resistance, (2) influencing the temperature stratification by introducing additional mixing, and (3) reducing current magnitude and wave height by extracting of energy from the wind by the offshore wind turbines. Alterations in currents and mixing would affect water quality parameters such as temperature, DO, and salinity, but would vary seasonally and regionally. WTGs and the OSPs associated with reasonably foreseeable offshore wind projects would be placed in average water depths of 100 to 200 feet (30 to 60 meters) where current speeds are relatively low, and offshore cables would be buried where possible. Cable armoring would be used where burial is not possible, such as in hard-bottomed areas. BOEM anticipates that developers would implement BMPs to minimize seabed disturbance from foundations, scour, and cable installation. Adverse impacts on offshore water quality would be localized, short term, and minor. Presence of structures would not be expected to appreciably contribute to overall impacts on water quality.”* After acknowledging impacts to currents, water temperature, wave heights, and mixing, the conclusion is simply made that these impacts will be minor with no data to support that. These are in fact significant issues that will impact the water quality, and food sources for the critically endangered NARW and have the potential to have ecosystem wide impacts including the water around Nantucket and Nantucket Harbor. More information is clearly needed here.

- J. This statement on page 3.5.2-26 is false. *“Once construction is complete, the presence of the WTG and OSP foundations could result in some alteration of local water currents, which could produce sediment scouring and alter benthic habitat. Local changes in scour and sediment transport close to a foundation may alter sediment grain sizes and benthic community structure (Lefaible et al. 2019), though this impact is expected to be minimal due to the use of scour protection for each foundation. These effects, if present, would exist for the duration of the Proposed Action and would be reversed only after the Project has been decommissioned, although they may be permanent if scour protection is left in place.”* The DEIS and COP both clearly layout that the intention is leave the foundations in the seabed and thus scour protection would continue to be needed.
- K. One maintenance trip per year per turbine is not enough to know if turbines are leaking oil in enough time to cure the situation.

## **6. Bats and Birds:**

- A. The document states birds will be attracted to the area. With spinning blades the size of football fields there is no way that is beneficial. The turbines will be bird blenders.
- B. There is no acknowledgement that the wind turbines are in the flight paths of various bat species.
- C. How will dead bats and birds be monitored in the water? This is omitted.
- D. The impact to birds has simply not been laid out. The document makes many statements about potential peril to birds, including those listed through the ESA such as Piping Plovers. We read that at nighttime, some species use the aircraft lighting to avoid turbines, however, ADLS is proposed. We read that birds can be attracted to the turbine areas as more prey “may” be available. However, collisions seem to be a bigger problem. This statement is particularly egregious *“It is generally assumed that inclement weather and reduced visibility cause changes to migration altitudes (Ainley et al. 2015) and could potentially lead to large-scale mortality events.”* The DEIS promises only to monitor for bird impacts providing very little detail on said monitoring or potential mitigation. Since mitigation procedures involve shutting off turbines when migrating birds are present, the greenhouse gas analysis cannot possibly be correct or thorough.
- E. After explaining how the proposed action “B” would impact birds, the document states *“The cumulative impacts on birds would likely be moderate because, although bird abundance on the OCS is low, there could be unavoidable impacts offshore and onshore; however, BOEM does not anticipate the impacts to result in population-level effects or threaten overall habitat function. In the context of reasonably foreseeable environmental trends, the Proposed Action would contribute an undetectable increment to the cumulative impacts on birds.”* This statement makes no sense. The impact is moderate or undetectable - it can't be both and it seems moderate is the correct answer.
- F. As far as birds covered by the ESA, the DEIS states that the analysis for impacts to these three species has not yet been conducted. This is unacceptable and is in violation of NEPA and ESA.

## **7. Visual Impacts:**

- A. Nantucket is the largest and one of the oldest US National Historic Landmarks. The section 106 process requires federal permitting agencies to take into account the effects of their permitting activities on historic properties. Section 110 (f) requires federal agencies to require all possible planning to minimize National Historic Landmarks.

- B. The visual impacts to Nantucket are MAJOR. In no instance are they moderate or minor as document suggests.
- C. An unobstructed view of the horizon and ocean is a “balm to the soul” and central to the expectations that Nantucketer’s and visitors have when viewing the water. This will be gone forever. Anything other than placing the WTGs 43 miles offshore is unacceptable from a visual standpoint.
- D. The document is presenting the cumulative impacts of the no action alternative in a confusing manner. There is a “no action alternative” for which the visual impacts are moderate and a “cumulative no action alternative” in which the visual impacts are major. Regarding Nantucket, even one project, the existing VW1 for instance, has major visual impacts. The reader needs to read four separate sections on impacts, the fourth of which always implies the SouthCoast/Mayflower project, in the context of all the other projects that are not yet approved, has only a minor impact. This seems intentionally confusing and inaccurate.
- E. Table 3.6.2-2 makes it clear that the risks to Nantucket are high and the change of its ocean views from unobstructed to industrial places Nantucket’s listing on the NRHP at risk.
- F. Nantucket is a cultural resource for which unobstructed ocean views or a setting free of modern visual elements is a contributing element to its historical integrity. The document states that the proposed Project may have moderate visual impacts on the Nantucket Historic District NHL. The impact will in fact be major. In describing the “no action alternative”, it states that other construction is likely to happen. This makes no sense. Nantucket’s Historic Landmark status affords it strong protections under NEPA from not only SouthCoast Wind, but any other projects in its viewshed. It is simply not acceptable to assume this that Nantucket’s would have impacts from other projects regardless of the proposed action. The only approved project impacting Nantucket in this regard is in dispute.
- G. The document correctly states that the WTGs would adversely impact the Nantucket Historic District NHL and that the presence of visible WTGs from the Proposed Action alone would have long-term, continuous, widespread, impacts on these resources. However, the document states that these impacts would be moderate and there is no basis for that claim. The impacts are clearly major.
- H. After stating that the Nantucket Historic District NHL would be subject to viewshed impacts, with portions of up to 743 WTGs theoretically be visible from the southern shores of the district and the closest WTG approximately 14.8 miles (23.8 kilometers) away from the resource, the document states that the intensity of cumulative visual impacts on these historic properties would be limited by distance and environmental and atmospheric factors such as meteorological conditions like low cloud cover, fog, or haze. However, clear calm days are when the viewshed is most likely to be enjoyed. Therefore, the impacts are major.
- I. The document goes back and forth between describing the impacts to Nantucket as both moderate and major. Finally, it admits *“However, mitigation of both physical and visual adverse effects on historic properties would still be needed under the Proposed Action. Therefore, the overall impacts on historic properties from the Proposed Action would likely qualify as **major** because a notable and measurable impact requiring mitigation is anticipated.”* The only mitigating factor that could reduce the impact from major would be to move any WTGs out to a distance where they cannot be seen. In the case of 1066 ft turbines, that distance is likely 45 miles.
- J. In appendix H, table H-1, when describing levels of impacts, i.e. moderate versus major, it is stated: *“If the value, susceptibility, and viewer concern for change is high, then evaluate the nature of the sensitivity to determine if elevating the impact to the next level is justified.”* Nantucket’s economy is based entirely

on tourism. People come for the unobstructed views of the ocean and the integrity of the natural environment. These projects will severely impact the natural environment and will be jarring to visitors expecting to see the unobstructed view of the horizon. In Nantucket's Historic Landmark Application, it states that this unobstructed view provides "a balm to the soul". Given Nantucket's NHL status and the concerns of its residents and visitors, the impacts to the viewshed is major.

- K. Another problem with the description of "viewer concern" relating to the impacts, is that very few people on Nantucket have been shown the visual renderings or have any understanding of what is to come. The developer should be required to have a readily available display with all the various images for people on Nantucket to view at their convenience. This could be accomplished at a public place such as the town hall, the Atheneum (library), the high school, Dreamland Theater, Whaling Museum just to name a few public spaces that might accommodate an exhibit. It is unacceptable that this has not happened.
- L. Reflective paint for the turbines will make them even more visible when hit by sunlight.
- M. *"The WTGs and OSPs would be lit and marked in accordance with Federal Aviation Administration (FAA) and U.S. Coast Guard (USCG) lighting standards and consistent with BOEM best practices. Mayflower Wind would implement an Aircraft Detection Lighting System (ADLS) to automatically activate lights when aircraft approach. Lighting would be placed on all structures and would be visible throughout a 360-degree arc from the surface of the water. Tower marking would include unique rows and columns of letters and numbers to maximize charting effectiveness. Reflective paint and lettering materials would be used to provide visibility at night."* USCG lighting standards are on at all times, and this is not mitigated in anyway. This is a problem for Nantucket where there is a tradition of viewing and studying dark skies.
- N. The no action alternative is described as *"Development of future offshore wind projects would increase the amount of offshore anthropogenic light from vessels, area lighting during construction and decommissioning of projects (to the degree that construction occurs at night), and use of aircraft and vessel hazard/warning lighting on WTGs and OSPs during operation. Up to 901 WTGs, associated with other offshore wind projects excluding the Proposed Action, with a maximum blade tip height of 1,171 feet (357 meters) would be added within the geographic analysis area for cumulative visual effects on historic properties between 2023 and 2030 (Appendix D, Table D2-1)."* Again, these projects have for the most part not been approved. This is not an accurate picture of a "no action alternative".
- O. Regarding construction lighting, the impacts are described as short term. However, the construction time frame for this project is 7 years and at least 10 years for the cumulative projects. This does not equate to short-term.
- P. Once again, ADLS is promised, but there are no instances in the US where it has been successfully implemented near a major airport.
- Q. Regarding construction lighting, the document state the impacts will minor. This is supported by claims that the construction will be short term when in fact the duration has been increased from 4 to 7 years. It also states that lighting impacts will be reduced by atmospheric and environmental conditions such as clouds, fog, and waves that could partially or completely obscure or diffuse sources of light. However, clear calm evenings are when the dark skies of Nantucket are most often enjoyed. The dark nighttime sky is a character-defining feature that contributes to the historic significance and integrity of Nantucket. The impacts to Nantucket's nighttime skies will clearly be major.
- R. Once again, the claim that since other projects will have lighting, the contribution from this project is negligible is misleading, confusing, and erroneous since none of these other projects have been built.

- S. The claims about ADLS are unsubstantiated, the system has not been implemented in the US near any busy airport and marine lighting will be always present.
- T. In section 3.6.8 the following statement is made and it adds significant confusion with regard to lighting as no mention of ADLS is made. Perhaps this the true scenario Nantucket should expect. *“Lighting: Construction-related nighttime vessel lighting would be used if offshore wind development projects include nighttime, dusk, or early morning construction or material transport. In a maximum- case scenario, lights could be active throughout nighttime hours for other offshore wind projects in the geographic analysis area simultaneously under active construction (Appendix D). Vessel lighting would enable recreational boaters to safely avoid nighttime construction areas. The impact on recreational boaters would be localized, sporadic, short term, and minimized by the limited offshore recreational activities that occur at night.*

*In the geographic analysis area, permanent aviation warning lighting required on the WTGs would be visible from beaches and coastlines of Martha’s Vineyard and Nantucket and could have impacts on recreation and tourism in certain locations if the lighting influences visitor decisions in selecting coastal locations to visit. FAA hazard lighting systems would be in use for the duration of O&M for up to 901 WTGs. The amassing of these WTGs and associated synchronized flashing strobe lights affixed with a minimum of three red flashing lights at the mid-section of each tower and one at the top of each WTG nacelle in the offshore wind lease areas would have long-term impacts on sensitive onshore and offshore viewing locations, based on viewer distance and angle of view and assuming no obstructions. Atmospheric and environmental factors, such as haze and fog would influence visibility and perception of hazard lighting from sensitive viewing locations (Section 3.6.9, Visual Resources).”* Once again, haze and fog are introduced as mitigating, but it is on clear nights that the environment is usually enjoyed by the public.

- U. Table 3.6.9-14 indicates that two areas, KOP-8-N Tom Nevers Field-Nighttime and KOP-12-N Cisco Beach-Nighttime, would result in “major’ impacts.

The following areas are listed as moderate:

- KOP-8-N Tom Nevers Field-Daytime
- KOP-10-N Nobadeer Beach
- KOP-11-N Miacomet Beach and Pond
- KOP-12-N Cisco Beach-Daytime
- KOP-13-N Hummock Pond Road Bike Path
- KOP-16-N Head of Plains
- KOP-17-N Bartlett’s Farm
- KOP-18-N Ladies Beach
- KOP-20-N Madequecham
- KOP-22-N Madaket Beach at Sunset.

However, given the importance of these area to visitors and residents of Nantucket, the historic nature of the unobstructed viewshed, and the simulations provided in Attachment H, these areas should also be listed as major. The next group which is listed in this chart as impacted in a “minor’ way should be moved to “moderate” impacts. It is unclear if any residents or visitors to Nantucket have been consulted in this is matter .

- V. In addition, the DEIS needs to assess the discomfort of watching blades rotate, reduced breeze, higher air temperature and audible noise to humans at the shore from turbine operations.

**8. Socioeconomic Factors:**

- A. The socio-economic impacts to Nantucket are grossly understated and further study is needed. The document correctly states that 100 % of Nantucket's economy is based on tourism, but it fails to acknowledge the impact to low wage, seasonal workers who tend to be from underrepresented groups such as immigrants and people of color. Independent study and research are clearly needed to understand the impact to this fragile, island tourism economy.
- B. On Nantucket there will not be any benefit to employment – only loss of tourism related jobs. The insinuation that there may be some increase in tourism as some vacationers or day trippers may come solely to see the wind turbines is unfounded. Based on the plan laid out, WTGs will be ubiquitous on the east coast. The time and expense of getting to Nantucket to see them would not be worth it. However, if there are no turbines in view, visitors would continue to come to Nantucket for the natural unobstructed views of nature.
- C. On page 3.6.8-10 the following statement is made *“As a result, although lighting on WTGs would have a continuous, long-term, adverse impact on recreation and tourism, the impact in the geographic analysis area is likely to be limited to individual decisions by visitors to the shorefronts of Martha's Vineyard and Nantucket and elevated areas, with less impact on the recreation and tourism industry as a whole.”* It appears that Nantucket will be bearing most of the impacts on tourism with none of the purported economic benefits.
- D. Additional impacts to recreational impacts are discussed on page 3.6.8-13 with the statement *“**Presence of structures:** The placement of 901 WTGs (excluding the Proposed Action) in the geographic analysis area would contribute to impacts on recreational fishing and boating. The offshore structures would have long-term, adverse impacts on recreational boating and fishing through the risk of allision; risk of gear entanglement, damage, or loss; navigational hazards; space use conflicts; presence of cable infrastructure; and visual impacts.”*

For hire recreational fishing is a major attraction on Nantucket. There is no analysis the DEIS as to how this industry, especially regarding how deep-sea fishing (Tuna) would be impacted. It appears that some fishing grounds would be inaccessible, and others would require re-routing significant distances to reach.

- E. The DEIS attempts to make correlations to studies on much smaller turbines in Europe, smaller wind farms such as Block Island (only 5 turbines close to shore), and studies where visual simulations have not been provided, to the impacts to tourism on Nantucket. It is known that visitors to Nantucket are there for the natural setting, including unencumbered views of the ocean. In the same section, a University of Delaware Study is mentioned. It is our understanding that this study has been discrediting for referencing much smaller turbines and for not asking follow-up questions. A NC study that shows greater impact is not mentioned. Given the importance of Nantucket as a NHL, a study unique to Nantucket should be independently conducted.
- F. The document also states generally that *“WTGs visible from some shoreline locations in the geographic analysis area would have adverse impacts on visual resources when discernable due to the introduction of industrial elements in previously undeveloped views. Based on the relationship between visual impacts and impacts on recreational experience, the impact of visible WTGs on recreation would be moderate, long term, continuous, and adverse.”* However, for Nantucket, where tourism is based on the natural environment, the impact is undoubtedly major.

- G. The following statement on page 3.6.8-21 makes it apparent that no attempt has been made to understand the reason for tourism to Nantucket, whose natural environment draws visitors from the throughout the United States and the world. For example, *“beaches with views of WTGs could gain trips from the estimated 2.5 percent of beach visitors for whom viewing the WTGs would be a positive result, offsetting some lost trips from visitors who consider views of WTGs to be negative (Parsons and Firestone 2018).”* That 2.5% of beach visitors would like to take a sightseeing trip to see turbines is preposterous to state as a benefit. In fact, that means 97.5% do not want to take such a trip.
- H. After providing no data or studies to show how for hire recreational fishing on Nantucket might be impacted, the document states on page 3.6.3-26 *“across the Massachusetts and Rhode Island lease areas, up to 1,069 offshore structures, 149 of which would be attributable to the Proposed Action, would affect employment and economics by affecting marine-based businesses. Presence of structures would have both beneficial impacts, such as by providing sightseeing opportunities and fish aggregation that benefit recreational businesses, and adverse effects, such as by causing fishing gear loss, navigational hazards, and viewshed impacts that could affect business operations and income”*. The implication that people would incur the time and expense to travel to Nantucket, a place where repeat business to enjoy the natural environment is the norm, to take a one-off sightseeing trip to see WTGs is just silly. Without the data to back this up there is no basis to make the claim. Perhaps at least interview local business and maybe the Chamber of Commerce. This entire section shows no attempt to understand the unique tourism economy that encompasses Nantucket.
- I. It is clear from the document that Nantucket will incur the greatest visual impacts, the greatest negative impacts to tourism and no economic benefit from “offshore wind related employment”. Further study of impacts to Nantucket’s economy is needed before any permits are issued.
- J. In section 3.6.8 Nantucket tourism on Nantucket is summarized as follows: *“Nantucket County is south of Cape Cod and encompasses approximately 44.97 square miles of land (U.S. Census Bureau 2021d). It is 14 miles long and 3.5 miles wide (Town & County of Nantucket, MA 2022a). The county consists of the Island of , which is an extremely popular summer tourist destination. In the summer months, the population of the Island of Nantucket increases by a factor of five due to tourists and seasonal residents (COP Volume 2, Section 10.3.1.1.1; Mayflower Wind 2022). The county is home to many beaches, such as Brant Point Beach, which is home to the Brant Point Lighthouse. One of the most popular beaches on the island is Jetties Beach, which has a café, restaurant, and tourist shop during the summer (Town and County of Nantucket 2022b).”* The statement makes no mention of the island’s popular South Shore beaches, such as Surfside, Cisco, Madaket and Ladies, some of which have been named to leading travel publications “Most beautiful beaches in the world”. There is also no mention of the sunsets on the West side of the island. It is convenient for BOEM and misleading to readersto only mention beaches with views to the North.
- K. Table 3.6.2-1. This table that covers significant historical events, makes no mention of Nantucket, its whaling history, or its importance as the largest National Historic Landmark. The impacts to tourism on Nantucket do not seem to be a consideration at all. From a social justice standpoint, many lower paying tourism jobs are what will be lost. Nantucket’s economy will be severely impacted, and this is not addressed.
- L. The idea that wind turbines would generate tourism interest in Nantucket is a fairy tale. Especially if one agrees with the premise of the document that wind turbines will be widespread off the coast of MA and RI. The type of repeat tourism that Nantucket experiences, and that its economy depends upon is related to the natural beauty and the “unobstructed view of the ocean that is a balm to the soul” (from NHL document) Occasional trips to view wind farms could never come close to replacing what will be lost.

- M. An independent study of lost tourism dollars is necessary to protect Nantucket's economy.
- N. Considering the importance of the view shed to Nantucketer's and its visitors, all scenic impacts to the NHL are MAJOR. The visual analysis explains that a criterion for assessing the impact to viewshed is the concern to the audience. The views on Nantucket are of utmost importance to Nantucketer's and its visitors.
- O. On page 3.4.2-22 the following statement is made *"In a year, the Proposed Action would generate a maximum of 700 crew vessel trips, 30 jack-up vessel trips, 100 heavy transport vessel trips, 280 airplane trips, and 2,080 helicopter trips"* These number are outrageously high considering that the crew transfer vessels will not be required to keep safe speeds for NARWs and that the impact to peaceful enjoyment of Nantucket will be greatly diminished by nearby constant flying of helicopters.

**9. Misc:**

- A. Inter-array cables only buried 3-8 feet. Not much given shifting nature of sandy bottom. Un acceptable that cables will not be removed at decommissioning. Sand shifts too much.
- B. Unacceptable for foundations to remain 15 feet below seabed in areas for shifting sands and prone to eventual rusting.
- C. Why is it assumed that new structures in an otherwise sandy environment are beneficial?
- D. Invasive and atypical species will be colonized. This includes filter feeders which will alter the micro-organisms in the water.
- E. From cable placement, noise and presence of structures, impact on fish and invertebrates is listed as moderate. That is too great.
- F. Fishing impacts are listed as a major disruption, this is not acceptable.

**10. Chapter 4 :**

- A. In Chapter 4 ,the following statement is made in introducing Table 4.1-1 *"All impacts from planned activities are still expected to occur as described in the No Action Alternative analysis in this EIS, regardless of whether the Proposed Action is approved."* This is once again a questionable statement as the only approved projects are in dispute and construction has not commenced on any projects other than the near shore Block Island Wind.
- B. In Table 4.1-1 the impacts in the categories of "Demographics, Employment, and Economics" do not include the loss of tourism revenues and jobs on Nantucket.
- C. Table 4.1-1 shows that the impacts to Nantucket's ecosystem and economy will be significant.
- D. This statement is never backed up with data *"To the extent that the Proposed Action displaces fossil-fuel energy generation, overall improvement of air quality would be expected."* Specifically, which forms of fossil-fuel burning will be displaced? Are there any planned shutdowns of fossil fuel plants in the New England ISO?

E. Table 4.1-1 also admits, even while it labels the impacts as not irreversible, *“Irreversible impacts on marine mammal populations could occur if one or more individuals of an ESA-listed species were injured or killed or if those populations experienced behavioral effects of high severity. With implementation of mitigation measures, developed in consultation with NMFS (e.g., timing windows, vessel speed restrictions, safety zones), the potential for an ESA-listed species to experience high-severity behavioral effects or be injured or killed would be reduced or eliminated. No irreversible high-severity behavioral effects from Project activities are anticipated; however, due to the uncertainties from lack of information, these effects are still possible. Irretrievable impacts could occur if individuals or populations grow more slowly as a result of displacement from the Project area.”* The chart should label the impacts as they are shown in the document as “irreversible”. In addition the mitigation measures will not be effective as:

- Timing windows do not eliminate the presence of NARWs.
- Vessel speed restrictions do not apply to the majority of vessel trips (crew transfer vessels).
- PSOs cannot see whales that are under water and PAM devices cannot hear whales that are silent for hours at a time.
- Pile driving, including soft start warnings, could send whales out of important foraging areas and into more traveled shipping lanes.
- There has been put forth NO mitigations that guarantee the safety of NARWs.

F. Table 4.1-1 attempts to address social justice but fails to address the loss of tourism jobs on Nantucket, which will impact low-income people as well as people of color and other disadvantaged workers.

G. Section 4.3 discusses the long-term benefits of the offshore wind projects; both the project being analyzed and the cumulative impacts.

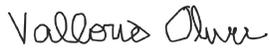
- The first benefit is *“Promotion of clean and safe development of domestic energy sources and clean energy job creation.”* The document provides no back up for “clean” or “safe”. The sourcing of rare earths is never discussed nor is reliance on US adversaries needed to secure them. Nor are the tons of steel, fiberglass, and concrete needed to build the wind power plants discussed in terms of environmental impacts. The millions of gallons of diesel fuel, oil, firefighting foam, and other substances are not put into context of how they will impact the environment. It is not enough to “state” that this is a clean source of energy. It must be shown and the DEIS does not have the data to support that this is a clean energy source, especially when compared to dual cycle natural gas that is delivered via pipeline.
- The next bullet *“Promotion of renewable energy to help ensure geopolitical security, reduce GHG emissions to combat climate change, and provide electricity that is affordable, reliable, safe, secure, and clean.”* Is also not supported when compared to domestically sourced natural gas. The US will be dependent on adversaries to secure the necessary parts and rare earths to build and repair the WTGs.
- This statement is not a benefit. *“Delivery of power to the Massachusetts (and broader northeast U.S.) energy grid to contribute to the state’s renewable energy requirements.”* This is merely a political statement with no data to back up that offshore wind will be “renewable”. In fact, offshore wind turbines have not been shown to last the 35 years provided for in the DEIS.
- The last bullet, *“Increased habitat for certain fish species”* is a minor/trivial benefit that does nothing to offset the harm to many more species of birds, bats, marine mammals including NARWs, invertebrates and fish.

**11. : Closing Statement:**

For the reasons set forth above, the DEIS for the SouthCoast(Mayflower) project is deficient and does not meet the minimum analytical standards of NEPA. . The method used to layout cumulative, and no action alternatives is confusing, indecipherable, appears designed to minimize or hide the impacts of the proposed action, and fails at its fundamental purpose of informing the public about the myriad serious environmental consequences of the SouthCoast (Mayflower) Wind project and its additive impact on the wind lease area.

BOEM must address each issue described herein and release a new draft of the document, thereby providing the public with a proper opportunity to understand and judge the Project on its true merits.

Thank you for your consideration of these comments.



Vallorie Oliver  
President  
Nantucket Residents Against Turbines  
And Life-Long, Year-Round Nantucket Resident



Amy DiSibio  
Nantucket Homeowner



Ellen Mayo  
Life-Long, Year-Round Nantucket Resident



Veronica Bonnet  
Nantucket Homeowner

CC: David Hubbard, Gatzke Dillon & Ballance LLP  
Lauren Sinatra, Town of Nantucket