May 28, 2019

Mr. Edward G. LeBlanc,
Project Officer
Chief of Coast Guard Sector Southeastern New England Waterways Management Division
1 Little Harbor Road
Woods Hole, MA 02543

Re: USCG-2019-0131
Port Access Route Study: The Areas Offshore Massachusetts and Rhode Island

Submitted via www.regulations.gov

Dear Mr. LeBlanc:

The American Wind Energy Association[1] (AWEA) and RENEW Northeast, Inc.[2] (RENEW) appreciate the opportunity to comment on the U.S. Coast Guard's (USCG or Coast Guard) evaluation of the need to establish vessel routing measures via the Massachusetts and Rhode Island Port Access Route Study (MARIPARS).[3] AWEA and RENEW recognize the critical importance of safe navigation for all types of vessels and appreciate the role of the USCG's engagement in the Bureau of Ocean Energy Management's (BOEM) process to ensure adequate consideration of navigation concerns. Fortunately, there is not a trade-off that needs to be made between navigation safety and offshore wind development. In fact, an expanded offshore wind industry in the U.S. is entirely compatible with safe vessel navigation. The ability to balance these interests, without sacrificing either, has already been widely demonstrated in other parts of the world, especially in Europe.

In these comments, AWEA and RENEW provide evidence that given what we know about vessel traffic in the area under consideration and the experience in Europe, where widespread deployment of offshore wind has been consistent with safe vessel navigation without employing

[1] AWEA is a national trade association representing a broad range of entities with a common interest in encouraging the expansion and facilitation of wind energy resources in the United States. AWEA's more than 1,000 member companies include wind turbine manufacturers, component suppliers, project developers, project owners and operators, financiers, researchers, utilities, marketers, customers, and others.

[2] RENEW is a non-profit association uniting environmental advocates and the renewable energy industry whose mission involves coordinating the ideas and resources of its members with the goal of increasing environmentally sustainable energy generation in the Northeast from the region's abundant, indigenous renewable resources. RENEW members own and/or are developing large-scale renewable energy projects, energy storage resources and high-voltage transmission facilities across the Northeast. They are supported by members providing engineering, procurement and construction services in the development of these projects and members that supply them with multi-megawatt class wind turbines.

[3] *Federal Register*, Vol. 84, No. 58, pp. at 11314-19 (Mar. 26, 2019).

route measures similar to the ones under consideration by the Coast Guard, there is no basis for adopting additional and broadly applicable routing measures in the waters of Massachusetts and Rhode Island. Instead, the USCG should work with BOEM and project developers through the National Environmental Policy Act (NEPA) process, and the construction and operations plan (COP) review thereunder of individual projects, during which USCG can propose specific measures to mitigate any potential impacts from a particular project. A balanced, flexible, facility-specific approach to addressing potential impacts will ensure safe navigation while preserving the ability to grow the offshore wind industry in the U.S. and secure the many benefits that will result.

In the case of the Massachusetts and Rhode Island Wind Energy Area (MA/RI WEA) there are multiple contiguous lease areas within the WEA. AWEA and RENEW recognize there will need to be collaboration, so the safety measures deployed in one are not undermined by measures deployed in another. But that does not mean one or more preemptively designated transit corridors are necessary. Rather, the Coast Guard and BOEM can consult with and provide guidance to the individual developers on a project-specific basis, including turbine spacing, turbine layout, uniform markings etc. in a way that still ensures safe navigation through the contiguous lease areas.

Balancing multiple uses of the ocean is supported by congressional and Trump Administration direction

The Coast Guard can balance the multiple uses of the ocean while still protecting navigation safety. Doing so is consistent with statutory requirements, as well as congressional and the direction of this Administration. In enacting the Ports and Waterways Safety Act (PWSA), Congress explicitly contemplated that navigation areas may be subject to multiple reasonable uses. Specifically, the PWSA requires the Coast Guard to: "reconcile the need for safe access routes with the needs of all other reasonable uses of the area[.]"[4] Vessel routing measures that could render proposed offshore wind farms uneconomic by unnecessarily restricting the use of a portion of leased areas does not strike us as a good faith attempt to reconcile the needs of a reasonable use of the area with safe navigation.

The USCG has also already determined that the construction and operation of renewable energy facilities in the Atlantic Ocean falls into the category of a reasonable use of waterways.[5] Therefore, when analyzing the need for safe access for navigation, the MARIPARS needs to also consider the potential negative impacts any broadly applicable vessel routing measures could have on offshore wind development, in conjunction with navigation safety, and attempt to reconcile these—not just pick one to the exclusion of the other.

[4] 33 U.S.C. § 1223(c).

[5] Atlantic Coast Port Access Route Study, Final Report, U.S. Coast Guard ACPARS Working Group, p. 2 (July 8, 2015) (ACPARS) ("A primary purpose of this coordination is, to the extent practicable, to reconcile the need for safe access routes with other reasonable waterway uses such as construction and operation of renewable energy facilities and other uses of the Atlantic Ocean in the study area.").

Congress also determined in the Energy Policy Act of 2005[6] (EPAct05) that leases for offshore wind, as well as other uses, should be granted and did not provide any restrictions along the lines being considered by the Coast Guard. In Section 388 of EPAct05, Congress authorized the Secretary of Interior to grant leases, easements or rights-of-way for the purpose of supporting "production, transportation, or transmission of energy from sources other than oil and gas."[7]

In addition, the Trump Administration has taken important steps to advance offshore wind. As former Interior Secretary Ryan Zinke stated, "When the president said energy dominance, it was made without reference to a type of energy, it was making sure as a country we are American energy first and that includes offshore wind. There is enormous opportunity, especially off the East Coast, for wind. I am very bullish."[8]

The Administration has followed those words with action. For example, in October 2018 alone, the Administration announced an auction for lease sales off the coast of Massachusetts, initiated environmental review of the construction and operations plan for the South Fork Wind Farm off the coast of Rhode Island, and announced a call for information and nominations off the coast of California.[9] Indeed, BOEM is currently managing 15 active leases across the outer-continental shelf (OCS) in the Atlantic.[10]

AWEA and RENEW strongly believe that robust deployment of offshore wind is entirely compatible with safe vessel navigation and urges the Coast Guard to find a reasonable balance as directed by statute and consistent with this Administration's goals.

Benefits of U.S. offshore wind and state procurement goals need to be considered when addressing vessel navigation needs

The U.S. offshore wind industry is on the verge of significant growth. The USCG should not unnecessarily hamper this growth and the economic and environmental benefits that will result. A balanced, flexible, project-specific approach to mitigating potential impacts can also better balance the need to ensure safe navigation with state demand for offshore wind.

At the end of 2018, the U.S. had a potential offshore wind pipeline of over 25,700 MW spanning 10 states in the Northeast, Mid-Atlantic and Great Lakes regions. This includes 2,068 MW of capacity at identified projects, and approximately 23,670 MW of potential capacity in federal

[6] 42 USC 15801 (Aug. 2005).
[7] Id.
[8] Josh Siegel, *Administration looks offshore for wind energy boom,* Washington Examiner, https://www.washingtonexaminer.com/policy/energy/administration-looks-offshore-for-wind-energy-boom (June 12, 2018).
[9] See "Trump Administration Delivers Historic Progress for Offshore Wind" press release from the Department of the Interior, available at: https://www.doi.gov/pressreleases/trump-administration-delivers-historic-progress-offshore-wind
[10] See "Bidding Bonanza; Trump Administration smashes record for offshore wind auction with $405 million in winning bids" press release from the Department of Interior, available at: https://www.doi.gov/pressreleases/bidding-bonanza-trump-administration-smashes-record-offshore-wind-auction-405-million. For additional information see: https://www.boem.gov/Lease-and-Grant-Information/.

lease areas issued by the end of last year. Project developers anticipate six offshore wind projects totaling 2,010 MW will be operational by 2023.[11]

States are driving strong demand for offshore wind energy. For example, Connecticut, Maryland, Massachusetts and Rhode Island have completed solicitations for roughly 1,870 MW of offshore wind energy, while New Jersey and New York requested bids for a combined 1,900 MW. More solicitations are planned for the coming years to help states meet their offshore wind energy goals.[12]

The USCG should not put at-risk the ability of states in this area, as well as others, to achieve their public policy goals by putting in place broad, unnecessarily restrictive measures.

Building on the initial 30 MW deployment of offshore wind in the U.S.[13] will provide a variety of economic, employment, infrastructure, manufacturing, and environmental benefits. Harnessing America's offshore wind resources will create tens of thousands of highly skilled, well-paying U.S. jobs, revitalize ports and coastal communities, improve national security, and deliver vast amounts of reliable energy to America's biggest population centers. Land-based wind supports over 110,000 American jobs already and scaling up offshore wind development holds similar promise for U.S. job growth. A study by the Workforce Development Institute found that 74 different occupations, including electricians, ironworkers, and welders are needed during the various stages of planning, development and operations of offshore wind farms.[14]

Offshore wind is drawing new investment to the United States for infrastructure, workforce development, and manufacturing, and here are some prime examples:

- Vineyard Wind has committed $10 million to invest in projects and initiatives to accelerate the development of the offshore wind supply chain, businesses and infrastructure (including expansion and improvement of ports) in Massachusetts[15];
- Ørsted announced contracts for the construction of two crew transfer vessels to be built in Rhode Island and North Carolina;[16]

[11] U.S. Wind Industry Annual Market Report for the Year Ending 2018. American Wind Energy Association. Pages 20-24. Available at: https://www.awea.org/resources/publications-and-reports/market-reports/2018-u-s-wind-industry-market-reports

[12] Id.

[13] The nation's first commercial offshore wind project the Block Island Wind Farm, came online in December 2016. Developed by Deepwater Wind, now Ørsted US Offshore Wind, the Block Island Wind Farm is a 30 MW project with five turbines located three miles off the coast of Block Island, Rhode Island.

[14] New York and the Jobs of the Offshore Wind Industry (Spring 2017) at 3, available at: https://wdiny.org/Portals/0/New%20York%20State%20and%20The%20Jobs%20Of%20Offshore%20Wind%20Energy%20WDI2017.pdf?ver=2017-05-03-150746-023

[15] Available at: https://www.vineyardwind.com/masswinds

[16] Available at: https://www.workboat.com/news/offshore/orsted-reinauers-windserve-to-build-offshore-wind-crew-vessels/.

- Revolution Wind (Ørsted) has committed $250 million in Rhode Island, "including $40 million in investments in Rhode Island ports and funds for higher education, supply chain development and workforce development;"[17]
- Deepwater Wind (now Ørsted) has announced plans to invest $22.5 million to upgrade the Port of New London in Connecticut;[18]
- U.S. Wind along with Skipjack Offshore Energy, Inc. (Ørsted) are planning to invest a combined $76 million for steel fabrication in Maryland and nearly $40 million for upgrades to the Tradepoint Atlantic shipyard in Baltimore County; and
- A $35 million MHI Vestas turbine gearbox testing facility has been established at Clemson University.[19]

Offshore wind energy around the world has been found compatible with navigation safety

Fortunately, our nation does not need to trade-off the deployment of offshore wind and its associated benefits with navigation safety. We can have both. And, the global experience proves it.

According to the Global Wind Energy Council (GWEC), 4,500 MWs of offshore wind was installed in 2018, bringing the cumulative installations to 23,000 MWs (Exhibit 1). With respect to the installations in that year, 1,800 MWs was installed in China and 1,300 MWs in the United Kingdom bringing their cumulative totals to 4,500 MWs and 7,900 MWs, respectively. Following is a chart from GWEC that details installations in 2017 and 2018 along with a cumulative total for each country that has deployed offshore wind.[20]

Exhibit 1: Global offshore wind installed capacity

[17] Available at: https://www.windpowerengineering.com/projects/revolution-wind-contract-filed-with-rhode-island-regulators/.
[18] Available at: https://www.courant.com/business/hc-biz-state-pier-wind-power-20190309-sxki2foyazhvvhxfirovy6fxx4-story.html.
[19] Available at: http://newsstand.clemson.edu/mediarelations/u-s-leads-the-world-in-offshore-wind-turbine-testing/
[20] Global Wind Energy Council, *Global Wind Energy Report* (Apr. 2019), available at: https://gwec.net/global-wind-report-2018/.

MW, offshore	New installations 2017	Total installations 2017	New installations 2018	Total installations 2018
Total offshore	4,472	18,658	4,496	23,140
Europe	**3,196**	**15,630**	**2,661**	**18,278**
United Kingdom	1,715	6,651	1,312	7,963
Germany	1,253	5,411	969	6,380
Belgium	165	877	309	1,186
Denmark	0	1,268	61	1,329
Netherlands	0	1,118	0	1,118
Other Europe	63	305	0	302
Asia-Pacific	**1,276**	**2,998**	**1,835**	**4,832**
China	1,161	2,788	1,800	4,588
South Korea	3	38	35	73
Other Asia	112	172	0	171
Americas	**0**	**30**	**0**	**30**
USA	0	30	0	30

These existing installations have been done in ways that are compatible with safe navigation. In fact, AWEA and RENEW are not aware of any navigation safety incidents attributable to the transit of vessels through an operational wind farm anywhere in the world. As will be described in more detail in the next section, vessel routing and other safety measures have been developed around the world on a project-by-project basis and that process has been demonstrated to be adequate to protect navigation interests.

Experience in Europe provides lessons learned that should inform the USCG approach

In Europe, navigation regulations and guidance applied to offshore wind farms adopt internationally recognized laws such as the Safety of Life at Sea[21] (SOLAS), International Maritime Organization (IMO) Convention and the IMO Convention on the International Regulations for Preventing Collisions at Sea (COLREG).[22] This approach has kept maritime users safe, while allowing flexibility in the development of offshore wind farms based on a project-level Navigational Safety Risk Assessment (NSRA). The designation of specific transit lanes through a wind farm is not a requirement of any of these laws and regulations. Rather, guidance is provided on appropriate safety distances between projects and distances from designated shipping lanes or routes that reflect dominant transit patterns. European practice has adopted effective mitigation methods to minimize the potential impacts on navigation safety, including when transiting through wind farms. There same approach can work here.

While countries differ in the specifics of their approaches, only one country, Germany, requires a designated traffic separation scheme (TSS) before project-specific layouts are available. This is

[21] Summary available at: http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-for-the-Safety-of-Life-at-Sea-(SOLAS),-1974.aspx.
[22] Summary available at: http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/COLREG.aspx

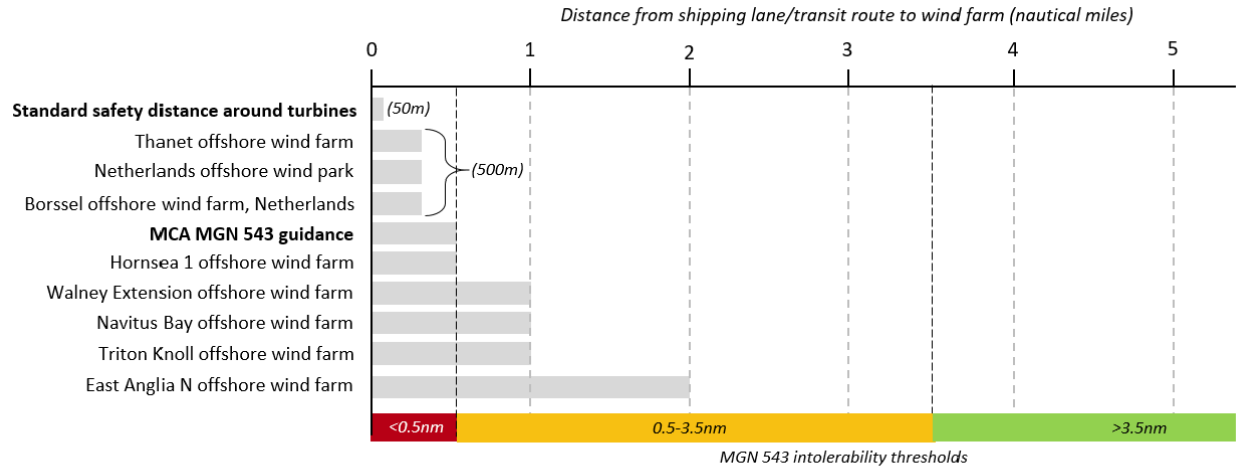
because Germany has extremely high commercial vessel volumes, which far exceeds those in the U.S. but are managed using International Maritime Organization (IMO) recognized TSSs.

In Europe, a site-specific NSRA is typically undertaken to fully evaluate the potential navigational risks posed by a specific offshore wind farm. Based on the findings of the NSRA, risks, if any, to navigation from a specific proposed wind farm can be evaluated and addressed, and potential mitigation measures implemented. In the U.S., an NSRA is also required during the project-specific construction and operations plan process. Further, in Europe, the mitigation measures are generally based on baseline data collection to obtain information on the vessel activities in the vicinity of the proposed project, comprising seasonal AIS data, radar data, visual surveys, desk-based information and consultation with local stakeholders/experts. This allows the mitigation measures to be tailored to the specific projects and types of vessels in the area.

Distance between wind turbines and shipping lanes/transit routes has been demonstrated to be safe for vessel navigation

As shown in the graphic below prepared by the Renewables Consulting Group (RCG) for AWEA (Exhibit 2), the most common distance between a wind farm and shipping lane or transit route is approximately 1 nautical mile (nm).[23] These measures were put in place via project-specific discussions.

Exhibit 2: Distance from shipping lane/transit route to wind farm (nautical miles)



Source: RCG

To provide further detail and an example, the 640 MW Thanet offshore wind farm in the United Kingdom shown above has 0.3 nm (500 m) between turbines and the nearest vessel route. This distance was accepted by master mariners upon consultation once the wind farm layout, turbine spacing, and agreed mitigation measures were decided.

[23] The outlier here, the East Anglican Wind Farm has a large distance because the wind farm was located close to the Off Botney Ground Traffic Separation Scheme (TSS).

Distance between wind turbines has been demonstrated to support safe vessel navigation

With respect to navigation within wind farms in Europe, wind turbine spacing varies between projects; but it has generally been on the order of 0.5 nm to 0.75 nm (1.0 to 1.5 kilometers).[24] This is consistent with the expectations in the U.S. as described in the NSRAs for the South Fork Wind Farm[25] and the Vineyard Wind Farm.[26]

For context, NYSERDA recently published[27] an illustration of a 120 ft clam dredger, with gear deployed, on turbine spacings of 0.78 nm. It is clear from this illustration that the vessel still has adequate sea room to maneuver safely between turbines.

As noted above, AWEA and RENEW are not aware of any navigation safety incidents attributable to the transit of vessels through an operational wind farm anywhere in the world. The experience in Europe demonstrates that vessel navigation through a wind farm can be done safely via project-specific review and mitigation rather than designating transit corridors that limit developer's flexibility to optimize turbine layout early on.

Vessel navigation was already considered in establishing Wind Energy Areas (WEAs) and lease areas

Pursuant to the 2011 memorandum of understanding[28] between the USCG and BOEM, USCG's expertise on maritime safety, security, mobility, national defense, and protection of the marine environment is utilized by BOEM in establishing WEAs and lease areas therein.[29] The USCG is

[24] NY Offshore Wind Master Plan: Shipping and Navigation Study,p. 46 NYSERDA (Dec. 2017), available at: https://www.nyserda.ny.gov/-/media/Files/Publications/Research/Biomass-Solar-Wind/Master-Plan/17-25g-Shipping-and-Navigation.pdf

[25] *Draft South Fork Wind Farm Navigational Safety Risk Assessment*, DNVGL, p. 3 (Oct. 2, 2018) ("On average, each WTG will be spaced 0.8 to 1.0 miles (1.3 to 1.6 km) apart, with more than 0.65 NM (0.75 miles) of sea room between the WTGs. For this purpose of this NSRA, the smallest spacing between any two WTGs is assumed to be 0.6 NM (1.1 km) to assure minor changes in layout do not affect the future validity of the study."), available at: https://www.boem.gov/Appendix-X/

[26] *Revised Navigational Risk Assessment Prepared for Vineyard Wind*, Clarendon Hill Consulting, p. 2 (Oct. 22, 2018) ("The typical spacing of turbines within the grid is from 1.4-1.85 km (0.76-1 nautical miles ['nm']) between nearest turbines. The maximum distance between nearest turbines is no more than 2.1 km (1.14 nm), and the average spacing between turbines is 1.6 km (0.86 nm). The closet distance between nearest turbines is no less than 1.2 km (0.64 nm), however this spacing is proposed only for turbines located along the northern edges of the WDA (edge of the grid orientation)."), available at: https://www.boem.gov/Vineyard-Wind-COP-Volume-III-Appendix-III-I/.

[27] NY Offshore Wind Master Plan: Fish and Fisheries Study, NYSERDA, p. 5, Appendix B (Dec. 2017), available at: https://www.nyserda.ny.gov/-/media/Files/Publications/Research/Biomass-Solar-Wind/Master-Plan/17-25j-Fish-and-Fisheries-Study.pdf.

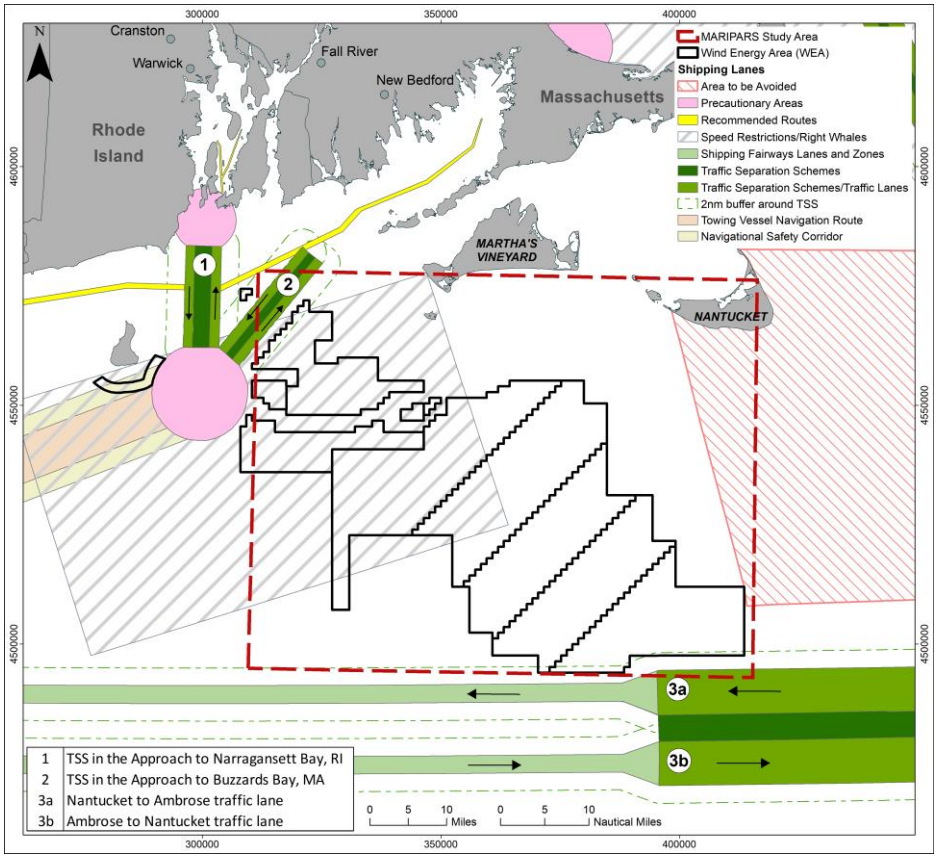
[28] Available at: https://www.boem.gov/MOA-USCG-BOEMRE/.

[29] Provision 2(a): "BOEMRE will utilize the USCG's expertise during the NEPA process and invite the USCG to be a cooperating agency during the preparation of NEPA documentation. The USCG will participate in the NEPA process as a subject matter expert for maritime safety, maritime security, maritime mobility (management of maritime traffic, commerce, and navigation), national defense, and protection of the marine environment. During BOEMRE's preparation of NEPA documentation, the USCG should participate at the earliest possible time, particularly during the scoping process (see 40 CFR 1501.7)."

encouraged to participate at the earliest possible time, including during the NEPA scoping process, and "during the development of any Request for Interest (RFI), Call for Information and Nominations (Call), other planning notices," which are prepared by BOEM, or through BOEM's review of any unsolicited lease or grant requests. The MOU also specifically considers how navigation safety issues are to be deliberated.[30]

The USCG's expertise has been influential in BOEM's consideration of EA's and leases related to offshore wind. For example, as demonstrated in the graphic below by RCG (Exhibit 5), the lease areas BOEM selected (the areas outlined in black) in MA/RI were selected based on their limited interference with vessel traffic/safety measures (the green/pink areas), among other factors.

Exhibit 5: MARIPARS study area



[30] Section 2(c): "The USCG and BOEMRE recognize the important role that risk management strategies play in ensuring the safe, secure, and environmentally responsible construction and operation of a renewable energy facility. Vessel, facility, and waterway navigational safety and security assessments are a key component of the risk management process. Accordingly, the USCG and BOEMRE have agreed to collaborate in assessing the navigational risks that may be posed by renewable energy development. This includes collaboration on the use of navigational safety risk assessments for evaluating renewable energy development activities on the OCS. Such assessments may provide useful information for assessing navigation and maritime concerns associated with renewable energy development on the OCS."

Ports and Waterways Safety Act protects rights granted under leases and permits

It is important to keep in mind that the PWSA states that the Secretary should "not deprive any person of the effective exercise of a right granted by a lease or permit."[31] Consistent with this statutory requirement and the fact that USCG input is already considered by BOEM in establishing the MA/RI WEA and determination of subsequent individual lease areas therein, the USCG should very carefully consider whether any broadly applicable corridors that could cut through existing lease areas are truly necessary to ensure navigational safety. In particular, the USCG should consider whether corridors that differ from illustrative corridors that were in the final sale notice, and thus available prior to developers bidding, are consistent with its statutory obligations.

Analysis of vessel traffic in the MA/RI WEA demonstrates additional routing measures are not needed

AWEA also commissioned RCG to analyze vessel traffic within the study area. RCG did two types of analysis to understand vessel traffic: AIS track plotting and unique vessel analysis. The two should be considered together, the AIS track plotting is a first step that assists in the identification of main navigation routes (as detailed below, none were identified within the MA/RI WEA), and the unique vessel analysis is a second step to understand exactly how many vessels are found in or transiting through the WEA.

The following data sources were used by RCG in this analysis:

- AIS Data: AIS data from MarineCadastre.gov, BOEM and NOAA 2017, marinecadastre.gov. Design, development, and processing provided by: The Baldwin Group Inc. and RPS Group Inc.
- Shipping Lanes: NOAA Office of Coast Survey;[32]
- Towing vessel navigation route and navigational safety corridors: Atlantic Coast Port Access Route Study;[33] and
- Commercial fishing vessel data –
    - Vessel Monitoring System (VMS) fisheries observation data obtained from NOAA's Northeast Fisheries Science Center (NEFSC); and
    - Vessel Trip Report (VTR) data. Original data provided by NOAA NMFS Northeast Fisheries Science Center; data processed by the Grant F. Walton Center for Remote Sensing and Spatial Analysis (CRSSA), Rutgers, the State University of New Jersey.

An important distinction is made in this analysis between vessels transiting the broader MARIPARS study area and vessels specifically transiting the MA/RI WEA. This is key because the

[31] 33 U.S.C. § 1223(c), available at: https://www.law.cornell.edu/uscode/text/33/1223.
[32] Available at: https://inport.nmfs.noaa.gov/inport/item/39986.
[33] Available at: https://www.regulations.gov/contentStreamer?documentId=USCG-2011-0351-0144&contentType=pdf.

data outside the WEA but within the broader study area may show higher numbers of vessels than those transiting through the WEA, but the latter is the most important traffic vessels regarding when assessing navigational risk with respect to offshore wind installations. The numbers to follow, therefore, focus solely on vessels transiting through the MA/RI WEA.

AWEA and RENEW recognize the waters of the MA/RI region are economically important for commercial shipping, with the Port of Providence and New Bedford and traffic from the Port of New York and New Jersey transiting to the south of the study area identified in this docket in dedicated fairways. Four TSSs are in place to ensure the safe passage of large commercial shipping vessels inbound or outbound from Providence, New Bedford, New York and New Jersey. However, when considering vessel traffic plots within the MA/RI WEA, it shows limited use, demonstrating there are no main vessel traffic routes through the WEA:[34]

- Cargo: Cargo vessel traffic is primarily concentrated in the TSSs located around the WEA, including the Approach to Narragansett Bay, Approach to Buzzard Bay, Nantucket-to-Ambrose, and Ambrose-to-Nantucket TSSs. There is a cargo density of less than five vessels a year on any single route.

- Tankers: Tanker vessel traffic is less than five vessels a year on any single route and is relegated to the various surrounding TSSs.

- Tug and Towing: There is less than five vessels a year on any single route for tug and towing vessel traffic in the WEA; these vessels keep nearer to the mainland and run in very consistent east-west patterns well to the north of the WEA.

- Passenger: There is less than five vessels a year on any single route for passenger vessels. The only areas with high passenger vessel traffic are routes that connect the various islands (Nantucket, Martha's Vineyard, Block Island) with the mainland.

- Recreational: There is less than five vessels a year on any single route from recreational vessels within the WEA. Recreational boaters appear to only transit in noteworthy numbers between the various islands to the north of the WEA, and between those islands and the mainland.

- Commercial fishing: Except for one area in the far western portion of the study area, there are less than five vessels a year on any single route from commercial fishing vessels within the WEA.

[34] The United Kingdom's Maritime and Coastguard Agency (MCA) has issued a guidance note on navigating offshore renewable energy installations that defines a main vessel traffic route as one having more than 20 vessels a year. The guidance is available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/502021/MGN_543.pdf.

This low volume of vessel traffic for these vessel types suggests a low navigational risk of collision with another vessel or allision with offshore wind turbines.

RCG further analyzed the data to focus on the unique number of vessels transiting anywhere within the WEA during peak traffic summer months (July-August), including commercial fishing vessels. This type of analysis provides insights on the volume of vessel traffic within the WEA. The analysis (Exhibit 6) showed the following number of unique vessels transiting the WEA during a two-month peak period.

Exhibit 6: List of AIS-enabled vessel types and unique vessels within the study area and the MA/RI WEA in 2017

Vessel type	Description	Unique vessels transiting the WEA	Length (m)
Cargo	Bulk carriers, container vessels, general cargo	38	74-336
Tanker	Bulk/oil carriers, chemical tankers, liquefied gas, oil tankers	18	133-186
Tug and towing	Barges, tugs, towing	5	9-37
Passenger	Cruise Vessels, ferries, high speed ferries	29	13-294
Fishing	Fishing vessels, fish processing	201	9-45
Recreational	Sailing and pleasure craft	179	25-48
Source: RCG			

As shown in the chart above, of the traffic crossing the MA/RI WEA, commercial fishing vessels comprised 43% of overall voyages, recreational vessels comprised 38%, cargo and passenger vessels comprised only 8% and 6%, respectively, followed by tankers at 4%--and only 1% were tug and towing vessels. Given the limited number of large vessels (cargo, tankers, passenger, etc.) transiting through the WEA, it is likely not a major concern to reroute those around the WEA. With respect to potentially rerouting traffic, a peer-reviewed article[35] in the *Journal of Environmental Management* found limited cost to ships from rerouting, but significant savings in terms of the cost of offshore wind energy development from avoiding deeper water development.

When looking over the two-month time frame, a maximum of 30 vessels a day of any kind were recorded in the peak summer period (July-August) transiting the entire MA/RI WEA. Of these, a maximum of 16 were commercial fishing vessels. Such a limited volume can be accommodated through project-specific discussions, measures and mitigation.

[35] Samoteskul, K., Firestone, J., Corbett, J., Callahan, J., Analysis of Vessel Rerouting Scenarios to Open Areas for Offshore Wind Power Development Reveals Significant Societal Benefits, Journal of Environmental Management, 141: 146-1542014), available at: https://cpb-us-w2.wpmucdn.com/sites.udel.edu/dist/5/8632/files/2019/01/samoteskul-et-al_manuscript_jem_feb9.2014_w-figs-accepted-2bunqcd.pdf,

In addition to the number of commercial fishing vessels transiting through the WEA even on peak use days being relatively small, their physical size is relatively small too (less than 50 meters in length as shown above), making the transit through wind farms safe even without designated corridors as the European experience has demonstrated.

As identified by AIS data, the largest commercial fishing vessel to transit the WEA during RCG's sampling period had a total length of 45 meters (2.4% of a nautical mile), meaning with expected turbine spacing there is adequate room for even the largest commercial fishing vessels to navigate safely without the need to establish transit corridors.

Planning guidelines are adequate to inform designation of WEAs and areas offered for leasing, and Binding regulatory measures are more appropriately imposed during NEPA review of individual projects.

The planning guidelines presented in the final ACPARS report are adequate for informing WEAs and areas offered for leasing. As the USCG acknowledged in the final ACPARS report, "These guidelines are not regulatory. They do not impact the boundaries of any existing leases for site characterization and site assessment activities, but do inform suitability of siting structures within a lease area." The report continued, "The goal of these guidelines is to minimize interference with shipping routes such that the safety of navigation is not compromised, while providing the flexibility to evaluate site specific conditions to maximize area considered for development."[36]

In addition, as the USCG reiterated in the *Federal Register* notice[37] announcing the finalization of the ACPARS report, "Our MP [marine planning] Guidelines are not standards, regulations or requirements of any type, but rather are guidance for developers to consider at the outset of a proposal." The notice continued, "The Coast Guard will evaluate each proposed project based upon the actual risks identified in the Navigation Safety Risk Assessment, and not by rigidly applying recommended distances from the MP Guidelines or any other similar guidance." With respect to MARIPARS, AWEA and RENEW see no reason to change course away from the project-specific approach utilizing NSRAs to identify potential issues and available mitigation, as suggested in the final ACPARS report.

In the U.S., as in Europe, an NSRA is required in which developers identify and evaluate potential mitigation measures. These site-specific risk assessments allow developers to work with local stakeholders to ensure mitigation measures are appropriate. This process includes consideration of navigational risks to all types of fishing vessels in the area. And, it allows routing measures and mitigation to be tailored to the needs of the developer and the specific vessels in the area.

Among the types measures that can facilitate safe navigation and could be considered during project specific NSRAs and individual developer and stakeholder discussions with USCG are:

[36] ACPARS. Page 1 and Page 3 of "Marine Planning Guidelines" enclosure.
[37] *Federal Register*, Vol. 82, No. 64, pp. 16510-12. (Apr, 5, 2017).

- Turbine spacing
- Turbine layout (pattern, orientation)
- Communications plans – notices to mariners etc.
- Transit speeds
- Deployment of AIS technologies
- Marine navigation lighting and marking
- Establishment of safety zones during construction

Reasons a project-specific approach to addressing vessel navigation concerns should be employed

Offshore wind farm development is extremely complex. As lease areas are studied by lease holders during implementation of their site assessment plan, they are collecting data and analyzing various factors – wind speeds, other atmospheric and ocean data, wildlife (avian, marine mammals etc.) issues, vessel navigation (via NSRAs), Department of Defense activities, seabed characterization, commercial fisheries, etc. – that inform and may change multiple times how they are thinking about the lease area and the proposed project. During the project design phase, lease holders periodically refine the turbine layout, total number of turbines etc. based on information acquired through studying the area and engaging with regulators and stakeholders. Given rapidly advancing wind turbine technology and the years it takes to develop offshore wind farms, even the planned turbine size and model around which an offshore wind farm is being developed may change as the project moves forward. This has implications for wind turbine layout. Optimizing wind turbine layout and spacing is also critical to maximizing energy production, which is central to keeping the cost of energy affordable and helps to provide a reasonable return to taxpayers.

The changes in turbine technology can also impact vessel navigation considerations. For example, larger rotor diameter turbines require more spacing between turbines to maximize output and for safety considerations. This fact alone may result in adequate spacing between turbines to ensure safe vessel transit, without the need to establish corridors that unnecessarily remove the flexibility of developers to maximize generation through optimizing wind turbine layout. Issues like this, which are often unique to each project and can change over the course of developing a project, are better handled through project-specific discussions and mitigation.

This complexity of the development process is recognized by BOEM in its draft project design envelope (PDE) guidance.[38] In the guidance, BOEM acknowledges that not all final design parameters may be decided when a developer is ready to submit their COP for NEPA review. The PDE approach, as practiced in other countries and as envisioned by BOEM, allows a developer to propose a reasonable range of potential project design parameters for certain key components of a development, including: type and number of turbines; foundation type; location of the export cable route; location of an onshore substation; location of the grid

[38] Available at: https://www.boem.gov/Draft-Design-Envelope-Guidance/.

connection point; and construction methods and timing, for purposes of the environmental review of the project. According to BOEM, the PDE approach provides "appropriate flexibility to accommodate final design decisions in later stages of the process (e.g., micro-siting to optimize generation efficiency and address site constraints)." AWEA and RENEW agree.

Establishing broadly applicable, one-size-fits-all vessel routing measures undermines the flexibility needed by developers to address other constraints that may arise during analysis and stakeholder engagements. By contrast, working with developers to design project-specific measures via NSRAs will still ensure safe vessel navigation while not unnecessarily hindering needed flexibility for project proponents during development when the process is still very fluid and stakeholder interests and needs are being considered and balanced. This can be done even in a case like the MA/RI WEA where there are multiple contiguous lease areas within the WEA. In such a case, the Coast Guard and BOEM can still work with the individual developers on project-specific issues to provide for uniform or complementary measures in a way that, when considering the contiguous lease areas, still ensures safe navigation through the areas.

Developers will seek to optimize the wind farm layout for maximum generation levels while addressing stakeholder issues during the NEPA process. To the extent the USCG determines that vessel transit within a lease area is necessary to ensure safe navigation, it is likely that the spacing between turbines and layouts to accommodate traffic (such as uniform rows of turbines) will provide for safe transit without designating a specific corridor.

Summary of AWEA and RENEW recommendations

(1) The Coast Guard must find a reasonable balance that facilitates the deployment of offshore wind while maintaining safe navigation as directed by statute and consistent with Administration, congressional, and state direction on offshore wind.

(2) The MARIPARS should validate the status quo and conclude that no new general routing measures, such as designated transit lanes, are necessary, which the USCG acknowledges is one possible outcome of the study.

(3) A project-specific review process is the appropriate place for a more focused review of the risks posed to navigation safety by individual projects. Therefore, any necessary project design or routing measures should be evaluated during this process using NSRAs, not as broadly applicable measures in the MARIPARS.

(4) To the extent the USCG instead moves forward with designating broadly applicable routing measures, before doing so, the USCG needs to consider the potential negative impacts any such measures could have on offshore wind development in order to adequately reconcile both and, at a minimum, limit the corridors to the maximum extent practicable.

Conclusion

Thank you for your consideration of the issues raised in these comments. Please don't hesitate to contact AWEA and RENEW if we can provide additional information.

Sincerely,

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