UNSOLICITED APPLICATION FOR AN OUTER CONTINENTAL SHELF RENEWABLE ENERGY COMMERCIAL LEASE UNDER 30 CFR 585.230

Lease Application for NY4-Excelsior Wind Park™

Submitted To:

U.S. Department of the Interior Bureau of Ocean Energy Management (BOEM)

45600 Woodland Road, Sterling, VA 20166

Dec 30, 2016

Submitted By:

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1.0 Executive Summary

PROJECT

NY4-Excelsior Wind Park™ (herein referred to as the "Proposed Project") is an offshore wind project with a preliminary capacity of roughly 300-400MW located off of the coast of Long Island, 28 nautical miles southeast from the Roland Road Substation. This is an unsolicited application for a potential lease area that has not been identified previously, although it is located not too far from the New York Wind Energy Area (WEA) for which a lease auction was held on December 15-16, 2016 and for which an Environmental Assessment (EA) exists.

PROPONENT

PNE Wind is an international project developer of onshore and offshore wind farms, with a presence in more than ten countries. Since 1990, the PNE WIND Group has successfully realized more than 200 onshore wind farms with a total nominal capacity of more than 2400MW.[1] PNE is active in the offshore space and considers it to be a core part of its business. In Germany, PNE has an offshore wind pipeline of just over 2800MW with nearly 900MW having achieved operation to date.[2]

PNE is active in the development of wind farms in the United States, with its North American business based in Chicago, Illinois. Documentation of PNE's leaseholder qualifications (legal, technical and financial) are provided in Section 9.

COLLABORATIVE PROCESS

PNE will continue to examine the viability of the proposed site for the development of an offshore wind project per policy with respect to wind power development in federal waters and adjacent state waters. Studies and analysis will be performed in compliance with the National Environmental Policy Act (NEPA) and other applicable

regulations including but not limited to environmental, economic, social, and other issues with potential impact on project viability.

ASSIGNMENT OF COMMERCIAL RIGHTS

If PNE is awarded a commercial lease, it will move forward on the preparation of a Site Assessment Plan (SAP) in accordance with the applicable provisions under 30 CFR 585. PNE will also commission further studies to determine environmental impact, interconnection and offtake options.

AREA REQUESTED FOR LEASE

40,920 acres are requested for lease under (see Section 3).

GENERAL DESCRIPTION OF OBJECTIVES AND FACILITIES

The ca. 300-400MW Proposed Project could potentially require 30-50 locations, assuming the use of 8-10MW WTGs on fixed-bottom foundations as described in Section 4. The detailed array and interconnect design will be provided based on collaboration with BOEM under the SAP and COP process to define detailed environmental issues. The output of the Proposed Project will interconnect from an offshore substation to an onshore receiving station via 230 kV submarine cables. The exact point of interconnection is yet to be determined and subject to future analysis, although Roland Road is assumed initially.

GENERAL SCHEDULE OF PROPOSED ACTIVITIES

The preliminary project schedule foresees lease award at some point in 2017-18 with Commercial Operation (COD) by no later than 2027. A more detailed scheduled is contained in Section 5.

RENEWABLE ENERGY RESOURCE AND ENVIRONMENTAL SITE CONDITIONS

The energy resource is expected to be in the range of 8.8-9.1 meters per second (m/s) at a hub height of 90 meters (m), to be validated during subsequent stages of the development process via offshore hub height met mast and/or wave buoy.

CONFORMANCE WITH STATE AND LOCAL ENERGY PLANNING

PNE will support the BOEM Task Force with outreach activities to develop a public outreach communications plan and will engage local agencies, communities, industries, and other parties to determine immediate and overarching concerns with the Proposed Project area and solicit inputs from stakeholders as described in Section 7.

ACQUISITION FEE

As specified in 30 CFR 585.502(a), an acquisition fee of $10,230 has been submitted on the pay.gov website for this unsolicited lease request, based on an acquisition of 40,920 acres at $0.25 per acre. (See Attachment 1)

ENVIRONMENTAL IMPACT COMPLIANCE

An Environmental Assessment (EA) was prepared for the nearby New York lease area (OCS-A-0512), an area that is just southwest of the Proposed Project. A Notice of Availability (NOA) for a revised EA was published in the Federal Register on October 31, 2016 along with a Finding of No Significant Impact (FONSI).[3] The revised EA stated that "there are no substantial questions regarding the reasonably foreseeable impacts of the proposed action or alternatives, and that no reasonably foreseeable significant impacts are expected to occur as the result of the preferred alternative or any of the alternatives contemplated in the revised EA."[4] Going forward additional studies and analysis will be performed and approvals will be sought in satisfying the National Environmental Policy Act (NEPA).

Last, but not least, in the course of reviewing this application, readers should be aware that it constitutes a preliminary analysis of the Proposed Project and marks the first step in a lengthy process involving the engagement of federal, state, and local stakeholders to determine the Proposed Project's potential impact and viability going forward.

Table of Contents

ABBREVIATIONS & ACRONYMS

ACHP Advisory Council on Historic Preservation

BOEM Bureau of Ocean Energy Management

BSEE Bureau of Safety and Environmental Enforcement

CEQ Council on Environmental Quality

CES Clean Energy Standard

COD Commercial Operation Date

COP Construction & Operation Plan

CZMA Coastal Zone Management Act

DOD Department of Defense

DPS Department of Public Service

ESA Endangered Species Act

EPA Environmental Protection Agency

EA Environmental Assessment

EPCI Engineering, Procurement, Construction & Installation

FAA Federal Aviation Administration

FONSI Finding of No Significant Impact

GIS Geographic Information System

HVDC High-Voltage Direct Current

ITC Investment Tax Credit

ISO-NE Independent System Operator New England

LCOE Levelized Cost of Energy

LIPA Long Island Power Authority

MWh Megawatt hour

NARW North American Right Whale

NM Nautical Mile

NMFS National Marine Fisheries Service

NOA Notice of Availability

NOAA National Oceanic and Atmospheric Administration

NPS National Park Service

NREL National Renewable Energy Laboratory

NYISO New York Independent System Operator

NYPA New York Power Authority

NYSDEC New York State Department of Environmental Conservation

NYSERDA New York State Energy Research and Development Authority

OCS Outer Continental Shelf

OCSLA Outer Continental Shelf Lands Act

OFTO Offshore Transmission Owners

OPAREA Operating Area

POI Point of Interconnect

RFI Request for Information

SAP Site Assessment Plan

SHPO State Historic Preservation Office

SOC Standard Operating Conditions

SPUE Sighting Per Unit Effort

TSO Transmission System Operator

TSS Traffic Separation Scheme

USACE United States Army Corps of Engineers

USCG United States Coast Guard

USFWS United States Fish and Wildlife Service

WEA Wind Energy Area

WTG Wind Turbine Generator

2. Introduction

2.1. Overview, Objective

PNE Wind USA ("PNE") is pleased to submit this unsolicited request in accordance with 30 CFR 585.230 for the Proposed Project, which is located in the New York Bight and is furthermore located 28 nautical miles (nm) from the proposed point of interconnection (POI).

Offshore wind is an emerging technology in the United States. Its prospects are currently driven by political-economic considerations in predominantly Northeastern Atlantic states that share the following characteristics:

1. High locational marginal pricing (LMP), of which New York City and Long Island have some of the highest prices in the United States;

2. Strong wind resource across New York waters;

3. Relatively shallow water depths;

4. General political support for offshore wind;

5. Ambitious state targets for the procurement of clean power;

6. Power plant retirements in NYISO, ISO-NE, and PJM;

7. Land constraints that inhibit the deployment of large-scale generation, and'

8. Proximity of offshore wind to demand centers.

In addition to these factors, PNE Wind views offshore wind as a core element of its overall strategy. In Europe, PNE has several projects that have to date become operational or are in various stages of development. As a result, PNE has acquired

considerable insight and expertise in this field and can furthermore leverage its network in the offshore supply chain to create value in the emerging U.S. market.

Lastly, with the recent completion of the nation's first offshore wind farm at Block Island (30MW) PNE hopes that such milestone marks a turning point for the U.S. offshore industry.

2.2. Public Policy

At present, New York does not have an offshore-specific policy and much of the existing effort involves the New York State Energy Research and Development Authority (NYSERDA) examining offshore potential in state waters. Specifically, the Clean Energy Standard (CES) states that "……NYSERDA is already tasked with developing a blue print for offshore wind development for the State. The appropriate next step, therefore, is to await NYSERDA's study and request that NYSERDA include in its analysis recommendations on the best solutions for maximizing the potential for offshore wind in New York."[5] The proposed study area is illustrated in the figure below. It is expected that such study will be published at some point during 2017 and PNE looks forward to is findings.

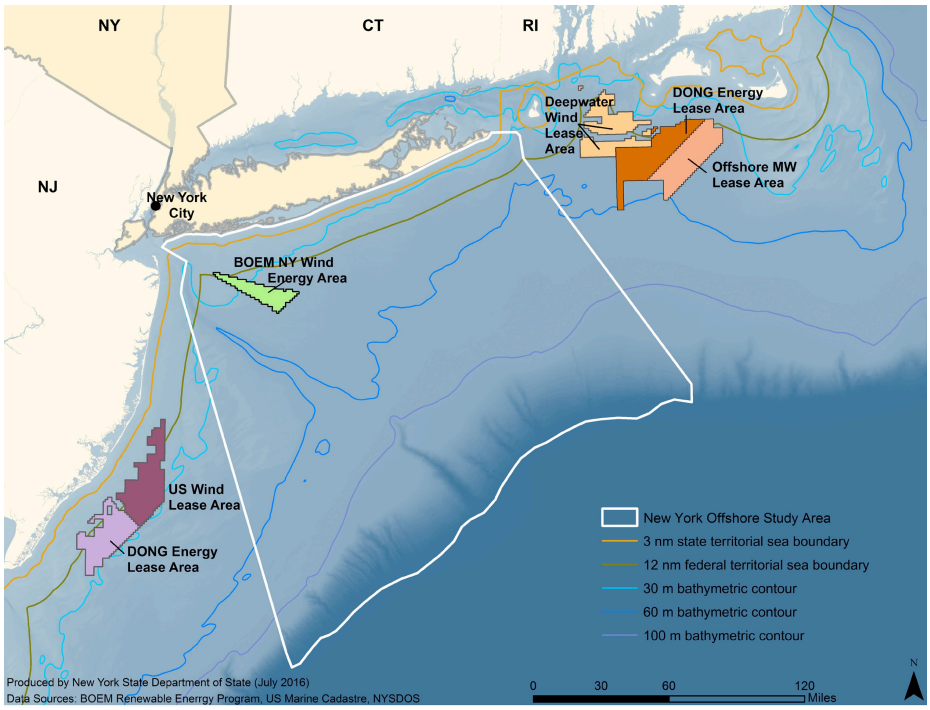

Figure 1: Master Plan Offshore Study Area.[6]

The involvement of state agencies in assessing and identifying offshore wind potential, combined with the recent lease auction of another project in New York waters, is evidence of concrete interest and marks a similar path that other states have undertaken in the past to pursue offshore wind. Combined with the CES 50% target by 2030, PNE is convinced of offshore wind's long-term potential in meeting New York's generation needs. Going forward, however, what is essential is developing a viable policy framework and an established process that mandates the procurement of offshore wind capacity in New York, as implemented to date in states such as Maryland and Massachusetts.

2.3. Qualifications

PNE Wind is an international project developer of onshore and offshore wind farms, with a presence more than ten countries. Since 1990, the PNE WIND Group has successfully realized more than 200 onshore wind farms with a total nominal capacity of more than 2400MW.[7] PNE is active in the offshore space and considers it to be a core part of its business. In Germany, PNE has an offshore wind pipeline of just over 2800MW with nearly 900MW having achieved operation to date.[8] It is on the basis of PNE's existing of offshore experience in Europe, combined with its access to the entire global offshore supply chain, that it is seeking to enter and create value in the emerging U.S. market. The map below illustrates particular offshore projects in the German North Sea that PNE has developed and/or sold to date:

Figure 2: PNE Offshore Wind Track Record.[9]

PNE is already established in the U.S. with a portfolio of onshore projects and a North American headquarters based in Chicago, Illinois. Documentation of PNE's leaseholder qualifications (legal, technical and financial) are provided in Section 9.

3. Area Requested for Lease

3.1. Requested Area

The requested area of the Proposed Project sits on 40,920 acres located 28 nautical miles from the proposed point of interconnection (POI) and is south of the Long Island coast. The requested area of the Proposed Project is located to the northeast of the New York WEA (OCS-A-0512) and in turn it is worth mentioning here the area identification process and context for OCS-A-0512.

On September 8, 2011, BOEM received an unsolicited request from the New York Power Authority (NYPA), Long Island Power Authority (LIPA), and Consolidated Edison (ConEd) for a commercial lease from NYPA. This marked the start of a five-year process culminating on December 16, 2016 with a provisional lease awarded for OCS-A-0512. A Request for Interest (RFI) was issued by BOEM in the federal register under Docket ID: BOEM-2012-0083 to determine competitive interest. Additionally, BOEM sought public comment on the NYPA proposal, its potential environmental consequences, and the use of the area in which the proposed project would be located. BOEM received two indications of interest from other parties and on March 28, 2014 issued a Call for Information and Nominations (Call) and simultaneously published a Notice of Intent (NOI) to prepare an Environmental Assessment (EA). "The purpose of the EA is to determine whether there are significant impacts associated with issuing a lease, conducting site characterization surveys, and conducting site assessment activities (e.g., the installation of a meteorological tower and/or buoys) within the proposed area."[10] On March 16, 2016, the Department of Interior announced that BOEM had identified a Wind Energy Area (WEA) offshore New York and an initial EA was published on June 6, 2016 with a 30-day public comment period. During the comment period various stakeholders expressed reservations about the presence of offshore wind in an area called Cholera Bank, which contains sensitive habitats. A revised EA was published in October 2016, which excluded the Cholera Bank area from the WEA and a finding of no significant impact (FONSI) was issued.

Below are two maps illustrating the Proposed Project and the existing New York lease area (OCS-A-0512):

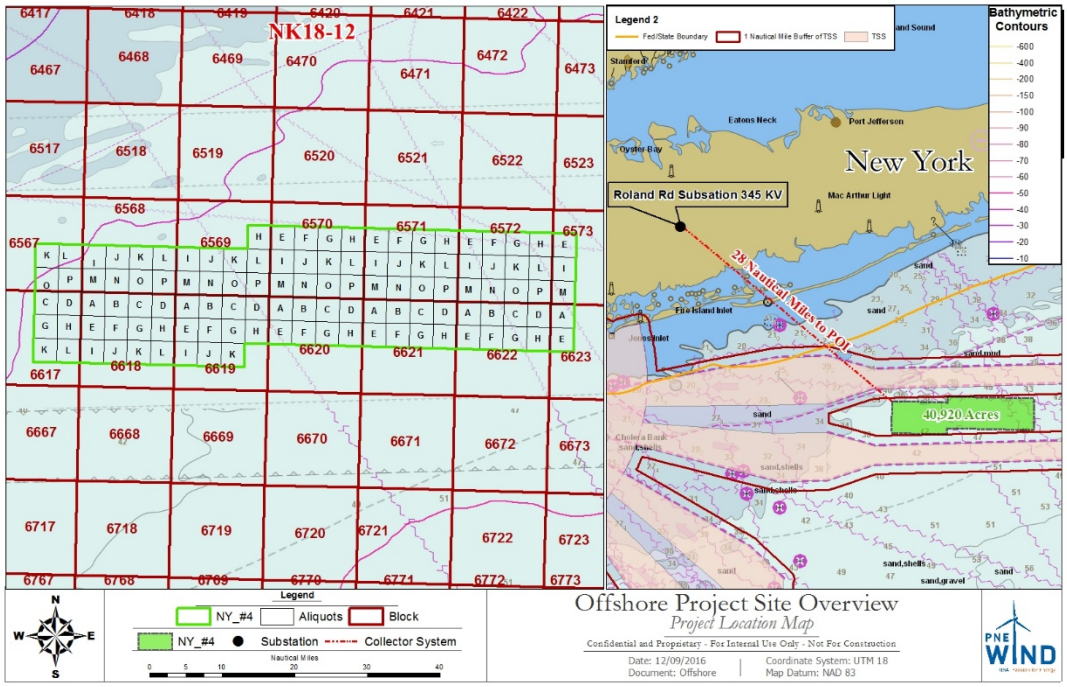

Figure 3: Proposed Lease Area.

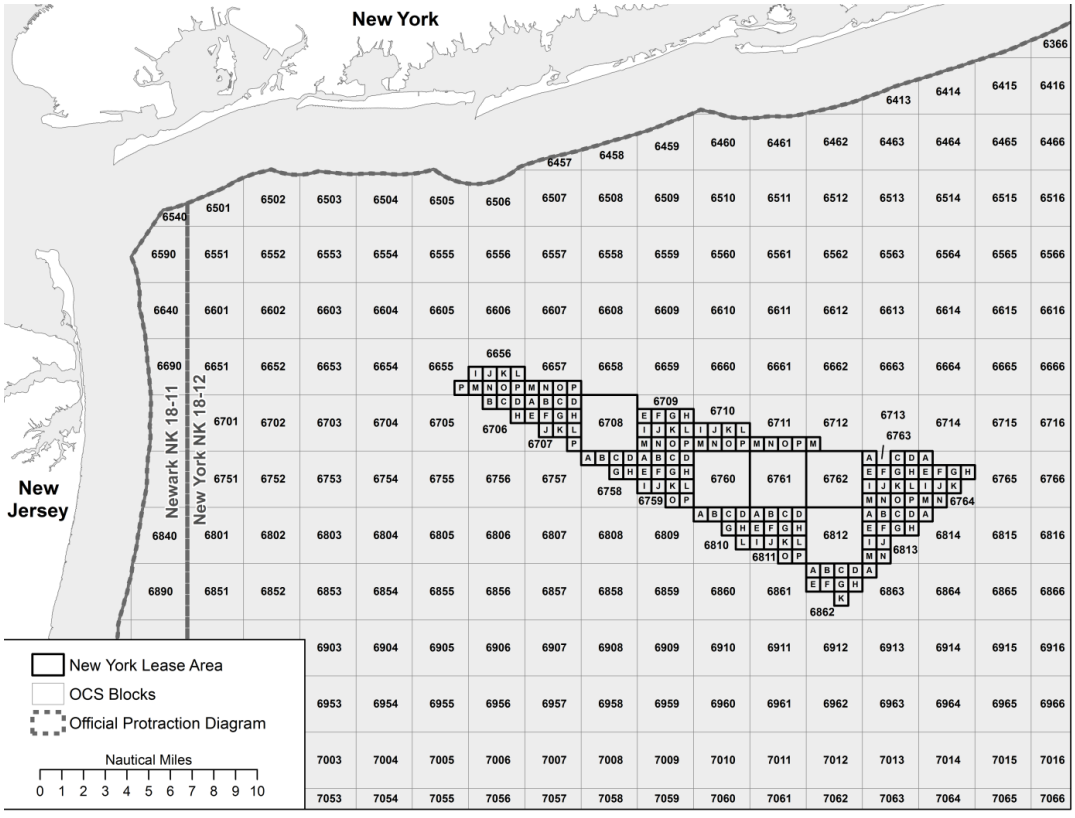

Figure 4: OCS-A-0512 Lease Area.[11]

Below are the requested Blocks or portions of Blocks lying within Official Protraction Diagram NJ18-12:

#	Official Protraction	Entire Blocks	Partial Blocks	Sub-Blocks
1	NJ18-12		6567	K,L,O,P
2	NJ18-12		6568	I,J,K,L,M,N,O,P
3	NJ18-12		6569	H,I,J,K,L,M,N,O,P
4	NJ18-12		6570	E,F,G,H,I,J,K,L,M,N,O,P
5	NJ18-12		6571	E,F,G,H,I,J,K,L,M,N,O,P
6	NJ18-12		6572	E,F,G,H,I,J,K,L,M,N,O,P
7	NJ18-12		6573	E,I,M
8	NJ18-12		6617	C,D,G,H,K,L
9	NJ18-12		6618	A,B,C,D,E,F,G,H,I,J,K,L
10	NJ18-12		6619	A,B,C,D,E,F,G,H,I,J,K
11	NJ18-12		6620	A,B,C,D,E,F,G,H
12	NJ18-12		6621	A,B,C,D,E,F,G,H
13	NJ18-12		6622	A,B,C,D,E,F,G,H
14	NJ18-12		6623	A,E

Table 1: Blocks Requested for Lease.

3.2. Site Selection Process

PNE conducted a thorough analysis of several areas along the Atlantic U.S for potential offshore development, the selection of the Proposed Project site is based on several factors including, but not limited to, the following:

1. The availability of an existing EA for the general area of the Proposed Project, performed previously for the neighboring OCS-A-0512 lease, and in which a FONSI was issued;

2. The establishment in New York of a 50% Clean Energy Standard (CES) by 2030, which among its elements instructs the New York State Energy Research and Development Authority (NYSERDA) to assess offshore wind potential and "identify the appropriate mechanisms the Commission and the State may wish to consider to achieve this objective."[12]

3. The establishment in New York of an Offshore Wind Master Plan, an effort that is being lead by NYSERDA and will include the following elements: site identification and leasing strategies, site assessment and site characterization pre-development activities. cost-benefit, and interconnection studies, analysis and recommended mechanisms for energy offtake agreements, local economic impacts and job creation, stakeholder and community engagement, and educational efforts, viewshed, fishing, and other mitigation efforts. These work packages when completed would provide a comprehensive overview of offshore potential in the New York Bight.

4. Power plants that have retired, or are scheduled to retire in the broader region;

5. Strong wind resources in the New York Bight, with many areas that have wind speeds exceeding 9.0 m/s.

6. The fact that New York City and Long Island have some of the highest power prices and locational marginal pricing (LMP) in the country.

7. Relatively shallow water depths of the Northeast, with many areas under 50m, which when combined with the strong wind resource presents an attractive case for offshore wind.

8. Per the New York Offshore Wind Master Plan Blueprint: “Potential offshore wind projects in the Atlantic off the coast of New York State are located close to major load (electricity demand) centers, and are expected to produce power during the peak or highest periods of demand. As a result, offshore wind projects, along with their associated transmission and interconnection investments, can provide value to the electric system and enhance its reliability and resiliency.”[13]

3.3. Consultation with Stakeholders

The OCS-A-0512 area underwent a formal consultation process as part of BOEM’s area identification process, during which time 27 comments[14] were received during the call stage from a variety of stakeholders/individuals with a further 32 comments

received upon NOI to prepare an EA.[15] These comments were received before an EA was prepared and published on the regulations.gov website. The content of the comments ranged from support to opposition from particular individuals to various organizations asking that the area identification process take various environmental and shipping concerns into account. A subsequent EA was performed and made available for public comment on June 6, 2016. 51 comments were received and are available on regulations.gov website.[16]

As part of the EA consultation process, BOEM regularly coordinated with the Federal and State agencies including: BSEE, EPA, NOAA, NPS, USACE, USCG, NYSDEC, the Narragansett Tribe, and the Shinnecock Indian Nation. BSEE, EPA, NOAA, USACE, USCG, and NYSDEC are cooperating agencies, and agreed to participate in the development and review of the EA. Consultations were carried out under the Endangered Species Act (ESA), Magnuson-Stevens Fishery Conservation and Management Act, Coastal Zone Management Act (CZMA), and National Historic Preservation Act as well as in consultation with USFWS and NMFS.[17]

PNE has had initial correspondence with the Department of Defense (DOD) in regards to the potential impact on military operations. DOD conducted an informal review, indicating that the Proposed Project will potentially impact military training, operations, and testing in the area and has furthermore requested consultation on the project going forward (see Section 6.9). Through the BOEM stakeholder and interagency coordination process, PNE looks forward to working with DOD to determine areas that could potentially be affected and to work towards identifying a solution.

To conclude, should PNE be awarded a lease it will move forward on a more expanded stakeholder engagement and consultation process in coordination with BOEM as well as state and local agencies.

4. General Description of Objectives and Facilities

4.1. Objectives

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The objective is driven by the factors set out under Section 3.2, which are the ambitious targets of the New York Clean Energy Standard (CES), provisions within the CES directing NYSERDA to examine offshore potential in New York, high regional power prices (New York City and Long Island in particular), relatively shallow water depth, and last but not least sufficient wind resource,

4.2. Offshore Production Facilities and Substations

The design of the Proposed Project will be contingent upon a number of factors going forward including but not limited to: local and federal regulations (including Jones Act), public acceptance, usable area, technological availability, and economic viability. In either case, the project will likely have an operating life of 25 years from COD, after which the project would be decommissioned and structures removed per, including but not limited to, the requirements of 30 CFR 585.900 - 913.

The Proposed Project is likely to have a capacity of roughly 300-400MW using wind turbine generators (WTGs) with a capacity of at least 8-10MW, thus resulting in 30-50 locations in total. Going forward, some manufacturers have made announcements that they are developing “next generation” WTGs exceeding 10MW in capacity, although it ultimately remains to be seen what is commercially available in the coming years. What can be said based on historical precedent, is that offshore Wind Turbine Generator (WTG) sizes deployed 10 years ago were primarily in the 3-3.6MW range, whereas today projects are being built and contracted using WTGs in the 6-8MW range, thus a doubling of WTG size in the span of a decade.

In either case using a larger WTG would have the benefit of reducing the total number of locations, increased energy yield, shorter construction times, and thereby a lower Levelized Cost of Electricity (LCOE). The figures below shows the LCOE impact of using 8MW WTGs as opposed to 5MW WTGs according to a report prepared for NYSERDA by the University of Delaware and collaborating entities. The

scenarios are based on for four theoretical offshore projects in New York waters. The first figure illustrates a scenario based only on global cost reductions and a stagnant political and finance climate in the U.S.

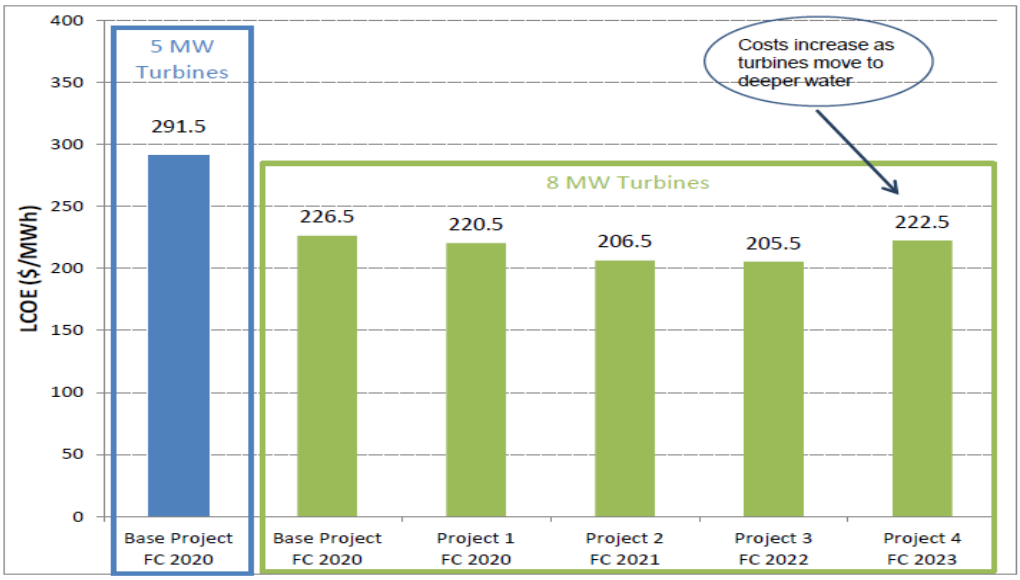

Figure 5: Impact of Continuous Global Cost Reduction on NYS LCOE (Stagnant OSW Policy and Financing).[18]

The second scenario simulates LCOE impact as a result of global cost reduction combined with U.S. learning:

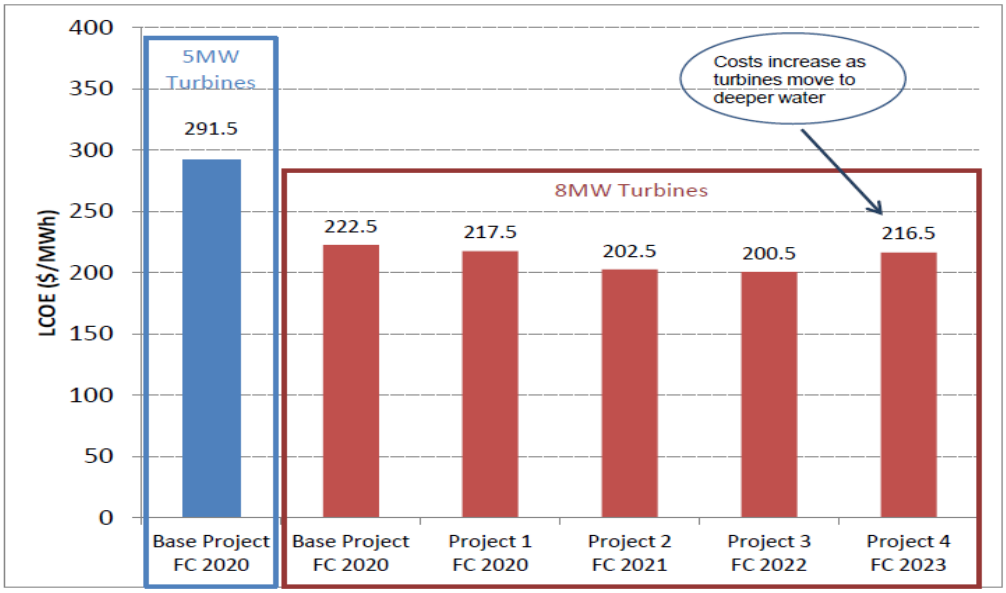

Figure 6: Impact of Continuous Global Cost Reduction and U.S. Learning on NYS LCOE (Stagnant OSW Policy and Financing).[19]

In reality, the chances of any offshore wind project reaching financial close in New York before 2020-23 is slim at this point given that the base case scenario of the CES foresees offshore wind primarily as a post-2023 development. Nevertheless, the global cost of offshore wind is dropping as seen in Europe. The speed at which U.S. offshore costs decline will be determined by the level of deployment. Meaning, costs will decline as more projects are built in the U.S., driven by publicly policy, and as a result of having localized experience and supply chain.

Foundation selection will depend largely on the seabed conditions, namely the particular water depth, metocean conditions, as well as the associated soil and geotechnical composition at each of those locations. Nevertheless, projects being constructed today in Europe and North America have been done so primarily on the basis of monopile, jacket, and gravity-base foundations. The particular characteristics of such foundations is described below.

- Monopile: consists of a single pile which is driven into the seabed. Has been typically used on water depths of up to 30m, but can also be used at deeper depths based on site-specific conditions.

- Jacket: consisting of four legs and piles that are driven into the seabed. Typically used on water depths of 20-50m, but going forward a number of projects worldwide are planning to use jacket foundations on water depths of up to 70m.

- Gravity-Base: large base constructed from either concrete or steel which rests on the seabed. The turbine is dependent on gravity to remain erect.

Foundation selection will depend largely on the seabed conditions, namely the particular water depth, metocean conditions, as well as the associated soil and geotechnical composition at each of those locations. It will also depend on the nature of the supply chain, namely access to suppliers that have the procurement, financial, and logistical resources to manufacture foundations in mass quantities.

In its simplest form, the electrical configuration will likely involve infield cables (34.5kV or 68kV) that are connected to an offshore substation, which then collects and converts power before being transmitted to shore via a 230kv subsea export cable which connects to the grid at the Roland Rd. 345kv substation. Though a final POI has yet to be determined, it will likely be located in either the Long Island or New York regions (NYISO regions K and J respectively as illustrated below).

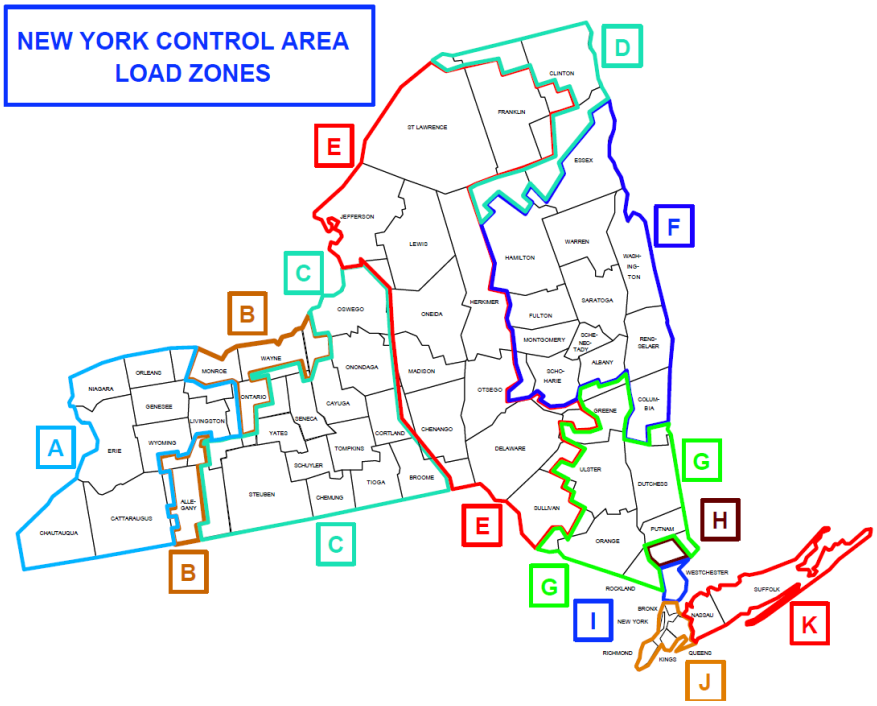

Figure 7: New York Control Area Load Zones (NYISO).[20]

The use of installation vessels, whether they are jack-up barges or other vessels, will be subject to the Jones Act which "requires the use of US- built vessels owned and operated by US citizens and manned by US citizens in certain circumstances."[21] Such vessels are to be used for the installation of wind turbines, foundations, and substations. With respect to cable installation, cable laying vessels are to be used.

Offshore technology is constantly evolving. The ultimate project configuration that PNE pursues will be contingent upon several factors including but not limited to: commercially available technology at the time of construction, availability of local

supply chain, seabed conditions, metocean, impact on military operations, cultural-historical factors, and logistical set up to name a few. Such factors will be determined in subsequent stages of the process and through stakeholder / inter-agency engagement as headed by BOEM.

4.3. Power Transmission and Grid Interconnection

One of the work tasks of the upcoming New York Offshore Master Plan includes an assessment of local interconnection and transmission conditions, the conclusions of which could help PNE in gaining a better understanding of particular on-the-ground conditions and the existence of alternatives that are not readily apparent as of today. According to the New York Offshore Master Plan Blueprint, the following actions[22] are envisioned going forward:

- "Partner Engagement – Work with the New York Independent System Operator, DPS, NYPA, LIPA, Con Edison, other electricity providers and grid operators, and offshore electrical component suppliers to undertake interconnection studies and analysis."

- "Offshore Wind Interconnection Study – Conduct detailed analyses of options and costs of injecting offshore wind into various interconnection points in load zones J (New York City) and K (Long Island) of the New York grid, as well as any required transmission upgrades for distribution and reliability."

- "Cumulative/Regional Impact Analysis – Consider the interaction of New York State's development activities with those of other Northeastern and Mid-Atlantic states and the cumulative impact of developing large amounts of offshore wind to determine the impact to the State's grid and electric market."

- "Transmission Cost Study – Evaluate the cost of offshore wind transmission and required grid upgrades associated with offshore wind that benefit New York State ratepayers and align with the State's market structures."

- “Transmission Siting Proceedings - NYSERDA and DPS will work closely to assess the need for transmission proceedings and to fully consider ratepayer costs and benefits.”

All of these actions would, when completed, provide greater clarity on transmission and interconnection conditions. PNE looks forward to any potential interconnection studies that may be conducted in the future by NYISO, NYSERDA, academia, and other organizations as it is a key criteria (among many) for determining project feasibility.

In Europe, offshore wind is subject to various transmission regimes where interconnection is managed and/or financed via third parties (public and/or private). In the UK, the Offshore Transmission Owners (OFTO) system involves the project owner building its own transmission asset and then selling to a third party that in turn manages its operation. In Germany, a “hub-and-spoke” system exists whereby offshore projects are, via statutory legislation, developed in several clusters and where each cluster has a common HVDC substation and transmission cable that is built, owned, and operated by a Transmission System Operators (TSO). The interconnection regime that is ultimately adopted in the U.S. remains to be seen, although the current default assumption for the Proposed Project is that project owners are responsibility for delivering and transmitting power up to the point of interconnection.

Regardless, transmission upgrades will be needed on Long Island going forward, given that much of Long Island currently operates on the basis of 138kv transmission and in light of considerable congestion levels in the area. Should PNE be awarded a lease, it will perform further interconnection analysis to determine interconnection feasibility as well as potential configuration options.

4.4. Onshore Support Facilities and Staging Areas (Ports)

Offshore construction requires port facilities that, among other things, have sufficient channel depth and width to accommodate an installation jack-up vessel, cranes that can bear a weight capacity for WTGs and foundations, warehouses, and a staging

area to perform assembly works. When a project becomes operational, it needs an Operations & Maintenance (O&M) port out of which small-to-medium vessels can operate, often for the purposes of crew transfer.

BOEM conducted and released a port study in 2016 assessing several port locations along the Atlantic coast. Among its stated objectives, the study "identified and classified Atlantic coast ports that could potentially service proposed areas for the offshore wind energy industry."[23] The study identified[24] the following potential candidate ports in New York for staging purposes:

- New York – Staten Island (channel width: 609.6m / water depth: 16.2m / overhead draft: 60.4m)

- New York – Erie Basin (channel width: 63.6m / water depth: 12.2m / overhead draft: 60.4m)

- New York – Brooklyn (S of Brooklyn Bridge / channel width: 152.4m / water depth: 10.7m / overhead draft: 60.4m)

The study furthermore identified the following candidate ports in New York for the purposes of O&M:

- Montauk – (channel width: 45.7m / water depth: 3.7m / overhead draft: unlimited)

- Greenport (Long Island) – (channel width: 30.5m / water depth: 2.4m / overhead draft: unlimited)

- New York – Staten Island – (channel width: 609.6m / water depth: 16.2m / overhead draft: 60.4m)

- Kismet Harbor – (channel width: 137.2m / water depth: 3.7m / overhead draft: 19.8m)

- Ocean Beach Harbor – (channel width: 137.2m / water depth: 4.0m / overhead draft: 19.8m)

Going forward, should PNE be awarded a lease a more thorough analysis will be performed on finding suitable port locations as well as verifying the port parameters.

Lastly, the Proposed Project would be a valuable source of job creation, revenue, and economic development. The nature of the Proposed Project would call for a large undertaking during construction to assemble, store, and manage components at a port location. The 25-year operating period of the Proposed Project would serve as a long-term source of employment, and tenancy, as a local maintenance setup would have to be established in order to service the project on a continuing basis, and over the course of scheduled and unscheduled maintenance. A report from NREL indicates that offshore wind can generate up to 14-31 jobs per MW *depending* on the region and particular circumstance.[25] PNE knows firsthand from its experience in Germany that offshore wind has a positive impact on jobs and the local economy and furthermore recognizes the importance of training and developing a local work force. Going forward PNE looks forward to establishing long-term relationships with the local communities and stakeholders alike.

5. General Schedule of Proposed Activities

5.1. Project Schedule & Milestones

In total PNE foresees a preliminary development and construction schedule of 8 – 10.5 years from start to finish. Going forward there are several factors that can affect this schedule including but not limited to: the amount of time it takes to award a lease, political-regulatory dynamics at state and/or federal levels, third party opposition, availability of financing at financial close, availability of Investment Tax Credit (ITC) for offshore, macroeconomic conditions, as well as supply chain lead times and constraints. .

This is an unsolicited OCS lease application per 30 CFR 585.230 and 30 CFR 585.210. To meet a target 2024 commercial operation date (COD) in support of the

New York renewable energy mandate, a 1 to 2-year schedule is proposed for BOEM OCS lease approval and NYISO/ NYSERDA approval of GIR and PPA as described below. The project schedule and milestones are dictated largely by the BOEM OCS lease review including SAP and COP approval since site control is required for project financing along with the PPA and Interconnect Agreement from NYISO/NYSERDA/PJM. For this reason, PNE intends to submit SAP and COP in parallel to BOEM so as to meet project COD date,

The actual construction cycle for a 400MW offshore wind farm is estimated to be 4 to 5 years from notice to proceed (NTP) to commercial operation date (COD). Assuming initial OCS lease filing and a 3 year BOEM approval cycle (2020 lease approval; see (see Table 3)) along with a concurrent NYISO/NYSERDA PPA/Interconnect approval cycle, and construction can start in 2020 to 2022 to achieve COD in 2024 to 2027 with decommissioning or repowering to start 25 years later in 2049 to 2052. Below are proposed milestones:

- Lease Acceptance Tasks (1 to 2 years); a) Consultations BOEM; b) Task force meetings; c) informal meetings State NY, NYISO, NYSERDA and PJM; d) agree on form of SAP and COP

- ** Lease Award Tasks (1 to 2 years); a) Prepare and submit SAP and COP; b) file for GIR; c) prepare financial close (complete WTG supply agreement, BOP Agreement, Off-take, GIR, FONSI in place)

- *** Construction Tasks (4 to 5 years); a) order long lead items; b) award subcontracts; c) mobilize; d) WTG delivery and installation; e) complete construction; f) commission plant; g) punch list items.

Based on an application being submitted to BOEM on December 30, 2016, the following preliminary project schedules (subject to BOEM approval) are proposed at this time.

Milestone	**Duration (years)**	**Date Achieved**
BOEM Application Submitted	-	December 30, 2016

Lease Acceptance**	1-2	2017-2018
SAP	1-2	2019 - 2020
COP *(in parallel with SAP)*	-	2019 - 2020
Lease Award / Contracts /GIR **	1-2	2020 -2022
Financial Close (upon GIR)	-	2020 -2022
Construction (Post Financial Close)***	4-5	2024- 2027
Commercial Operation	-	2024- 2027
TOTAL	8-11	
Decommissioning (25 yrs later)	25	2049-2052

Table 2: Preliminary Schedule for the Proposed Project (GENERAL SCHDEDULE).

Task	Project Milestone	Date
1	Lease application accepted by BOEM	Q1, 2018
2	SAP /COP submitted to BOEM	Q2, 2018
3	SAP/ COP approved by BOEM	Q2, 2020
4	BOEM Ocean Energy Lease Approval (start 5yr site	Q3, 2020
5	PPA and Interconnect Executed	Q3, 2019
6	Project Financial Close	Q1, 2020
7	Construction Notice to Proceed / Order Long Lead Items	Q3, 2020
8	Commercial Operation Date (4 yr construction cycle)	Q3, 2024
9	Start of Decommissioning or repowering (end of 25-year	Q3, 2049

Table 3: Preliminary Schedule for the Proposed Project (DEFINED SCHDEDULE).

A Gantt chart is contained under Appendix A-14.

For BOEM, review and approval will include the following deliverables; a) Site Assessment Plan (SAP) including plans for on-site wind resource validation (for example met mast/LIDAR buoy designed for Proposed Project site validation); and b) Construction and Operation Plan (COP) with details of Project design/engineering and construction plans suitable for BOEM review. These reports will be developed for the Proposed Project based on PNE's in-house experience with offshore projects in Europe and onshore wind farm projects in USA on Federal lands including BIA

and BLM and State and private lands. The detailed scope of work will be designed to comply with all responsible Federal, State and local Agencies and key stakeholders including NYISO/NYSERDA, PJM and others.

Based on the above scope of work approved by BOEM and other agencies, PNE will implement SAP and COP within the first 5 years of the Proposed Project development schedule.

6. Renewable Energy and Environmental Site Conditions

6.1. Energy Resource

PNE's preliminary analysis estimates wind speeds of 8.8-9.1 m/s in the Proposed Project area. The 90m wind resource map below from NREL / AWS Truepower was produced using a MesoMap system and historical weather data. It illustrates wind speeds of roughly 9.0 m/s at 90m in the general area.

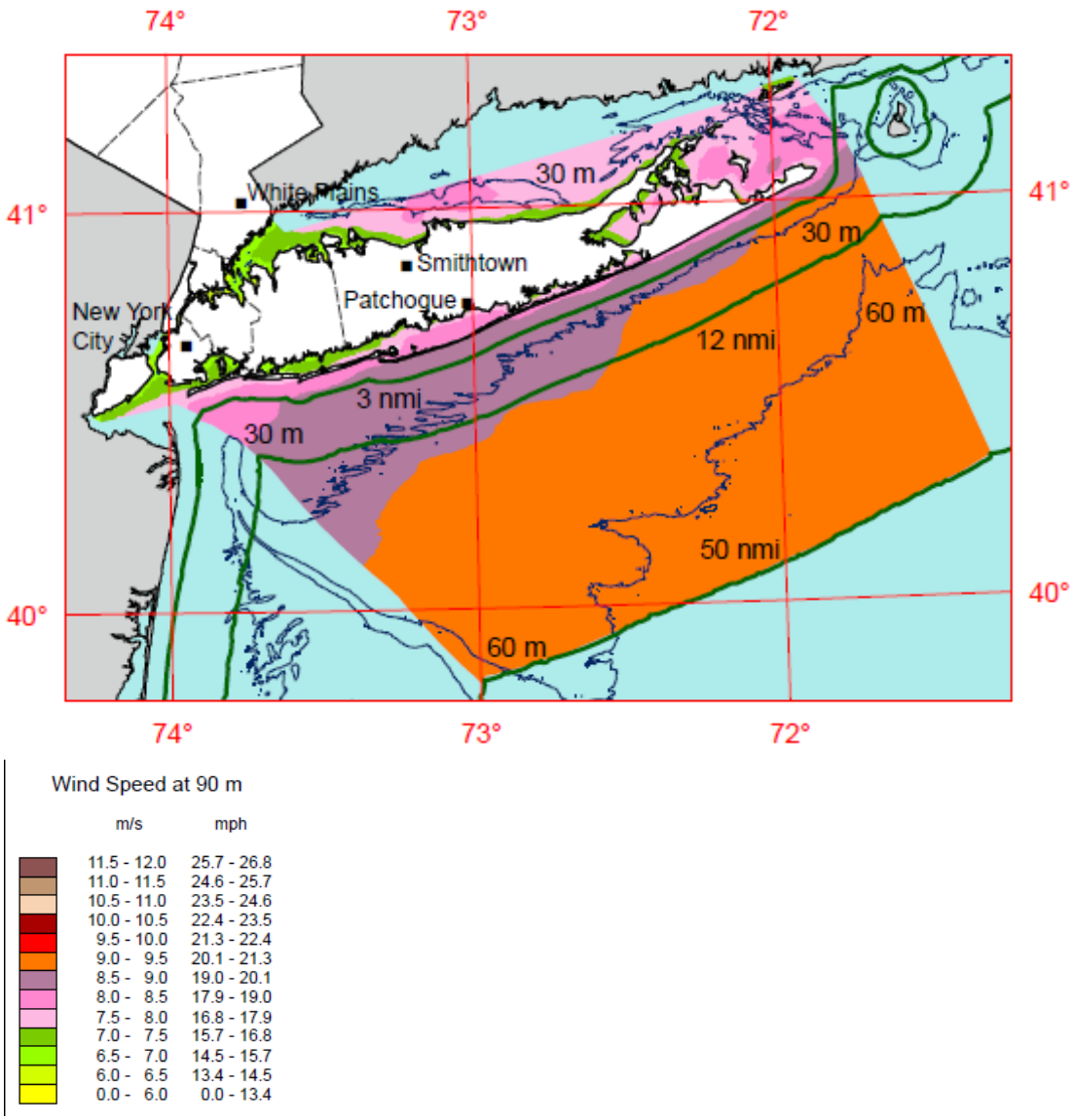

Figure 8: Map of New York Offshore Wind Resource at 90m.[26]

As another reference, below is a mescoscale map that was performed for the existing New York lease area, indicating that wind speeds near the Proposed Project exceed 8.75 m/s.

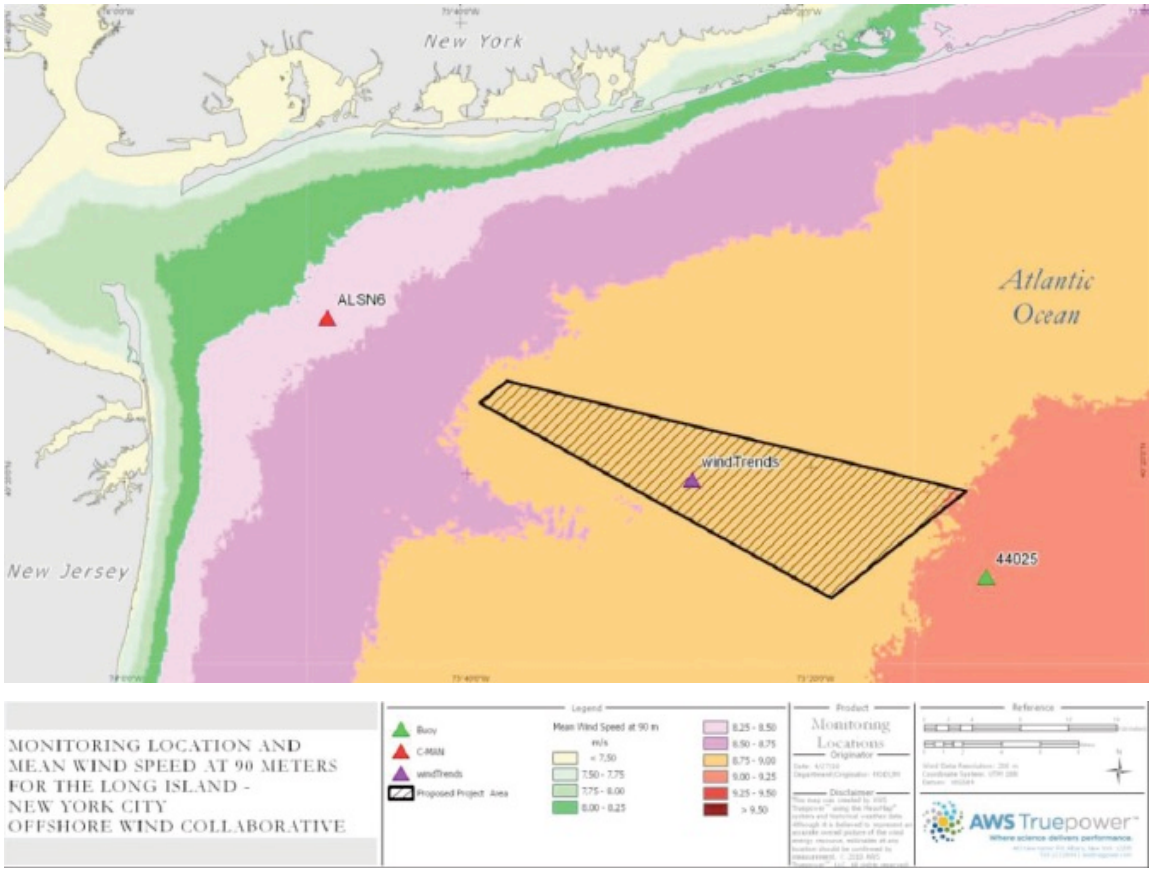

Figure 9: Mesoscale modeling of mean wind speed at 90m.[27]

The wind resources in the area are abundant and seem commensurate with offshore conditions. Going forward a more site-specific resource analysis will be conducted, nevertheless the preliminary data indicates that the wind resources of the general area are comparable to other offshore projects around the world.

6.2. Bathymetry

PNE estimates that water depths in the Proposed Area range from 24-40m. Such depth range is commensurate with the use of traditional fixed-bottom foundations and conventional technology. Further site-specific analysis will be performed to determine a more definitive bathymetry distribution and for each of the 30-50 proposed WTG locations (and substation location).

6.3. Environmental Assessment

This application is being submitted for a Proposed Project that has not been identified previously by BOEM and relies primarily on a revised EA that was

prepared for the nearby New York Lease Area (OCS-A-0512). In October 2016, a Notice of Availability (NOA) and the revised EA containing a finding of no significant impact (FONSI) were both issued in October 2016. The timeline below highlights the entire process during 2011-16:

Figure 10: Wind Energy Area Planning Process Timeline.[28]

It analyzes two distinct BOEM actions in the WEA—lease issuance and SAP approval—and the reasonably foreseeable consequences associated with the following actions[29]:

1. Conducting shallow hazard, geological, geotechnical, biological, and archaeological resource surveys in the proposed lease area (site characterization); and

2. Installing, operating, and decommissioning of a meteorological tower, meteorological buoys, or a combination of the two (site assessment).

The EA and FONSI do not constitute an approval to build, own, and operate a project in the Proposed Area for which an approved SAP and COP would be required. Further analysis under NEPA will be required before any future decisions are made regarding construction/installation, operation and maintenance, or decommissioning of any future wind energy facility to be sited in the WEA. Nevertheless, having an effective EA that was performed for an area nearby is of course helpful in understanding the general environmental conditions of the Proposed Project.

The EA assessed the following three alternatives, which were identified in consultation and engagement with task forces in both states, relevant consultations with federal, state, and local agencies and potentially affected Native American Tribes, and extensive input from the public and potentially affected stakeholders[30]:

- Alternative A (Preferred Alternative) - Offer the WEA for lease, except for Cholera Bank sensitive habitat, while restricting site assessment structure placement within 1 nm (1.9 km) of the TSSs: lease issuance and approval of site assessment activities could occur in the WEA, however, no site assessment structures (i.e., meteorological tower and/or buoys) could be placed on the portion of the sub-blocks within 1 nm (1.9 km) of the TSSs. Neither leasing nor site assessment activities would occur in aliquots F, G, H, K, and L of OCS Block 6655, which were identified as Cholera Bank sensitive habitat.

- Alternative B – Offer the WEA for lease, except for Cholera Bank sensitive habitat, while restricting site assessment structure placement within 2 nm (3.7 km) of the TSSs: lease issuance and site characterization activities could occur in the WEA, however, no site assessment structures (i.e., meteorological tower and/or buoys) could be placed within 2 nm (3.7 km) of the TSSs. Neither leasing nor site assessment activities would occur in aliquots F, G, H, K, and L of OCS Block 6655, which were identified as Cholera Bank sensitive habitat.

- Alternative C – No Action: no lease would be issued nor site assessment activities approved in the WEA at this time.

The EA assumes that Alternative A would be the preferred alternative and much of the analysis was geared towards assessing the impacts associated with this alternative. However, going forward further analysis will need to be performed to determine potential stakeholder concerns and other impacts as envisaged under Alternative B. In either event the Proposed Project is not located anywhere near Cholera Bank and the associated aliquots for which an exclusion has been established. The Proposed Project sits between two TSS on its northern and southern boundaries and the question going forward is whether the associated buffer would be increased beyond the current 1nm setback distance set out under Alternative A: Preferred Alternative (see Section 6.10).

6.4 Marine Mammals

"The ESA-listed marine mammal species that occur in the New York Bight include five large whale species (fin, sei, North Atlantic right, blue, and sperm whales) (Table 4–5). Sperm, blue, and sei whales that are sighted in the New York Bight are generally found farther offshore and/or near the shelf edge (Kenney & Vigness-Raposa, 2010; Right Whale Consortium, 2015). Thus, these species are not expected to occur in the action area. Only two listed species, fin and NARW, are likely to occur in the action area (Right Whale Consortium, 2015)."[31]

Common Name	Scientific Name	Federal Status	Potential to Occur in the Action Area
Blue whale	*Balaenoptera musculus musculus*	Endangered	Rare, Occurrence not well known, but primarily deep water, unknown seasonality
Fin whale	*Balaenoptera physalus*	Endangered	Most common; may be found in groups throughout NY Bight year-round
North Atlantic right whale	*Eubalaena glacialis*	Endangered	Uncommon but regularly observed year round; primarily coastal, migratory, but may also may be foraging
Sei whale	*Balaenoptera borealis*	Endangered	Rare, primarily found near the continental shelf edge; unknown seasonal occurrence
Sperm whale	*Physeter macrocephalus*	Endangered	Rare, primarily found on the continental shelf, but also near Montauk Point; cows and calves regularly sighted in NY Bight; unknown seasonal occurrence

Source: USFWS, 1997; BOEM, 2011c; Whitt et al., 2013; Schlesinger & Bonacci, 2014; Right Whale Consortium, 2015; Waring et al., 2015

(1) Occurrence reported in the Right Whale Consortium (2015) database.

Table 4: ESA-Listed Marine Mammals that Occur in the New York Bight.[32]

The EA contains furthermore contains a map illustrating the presence of various whale species in the New York Bight:

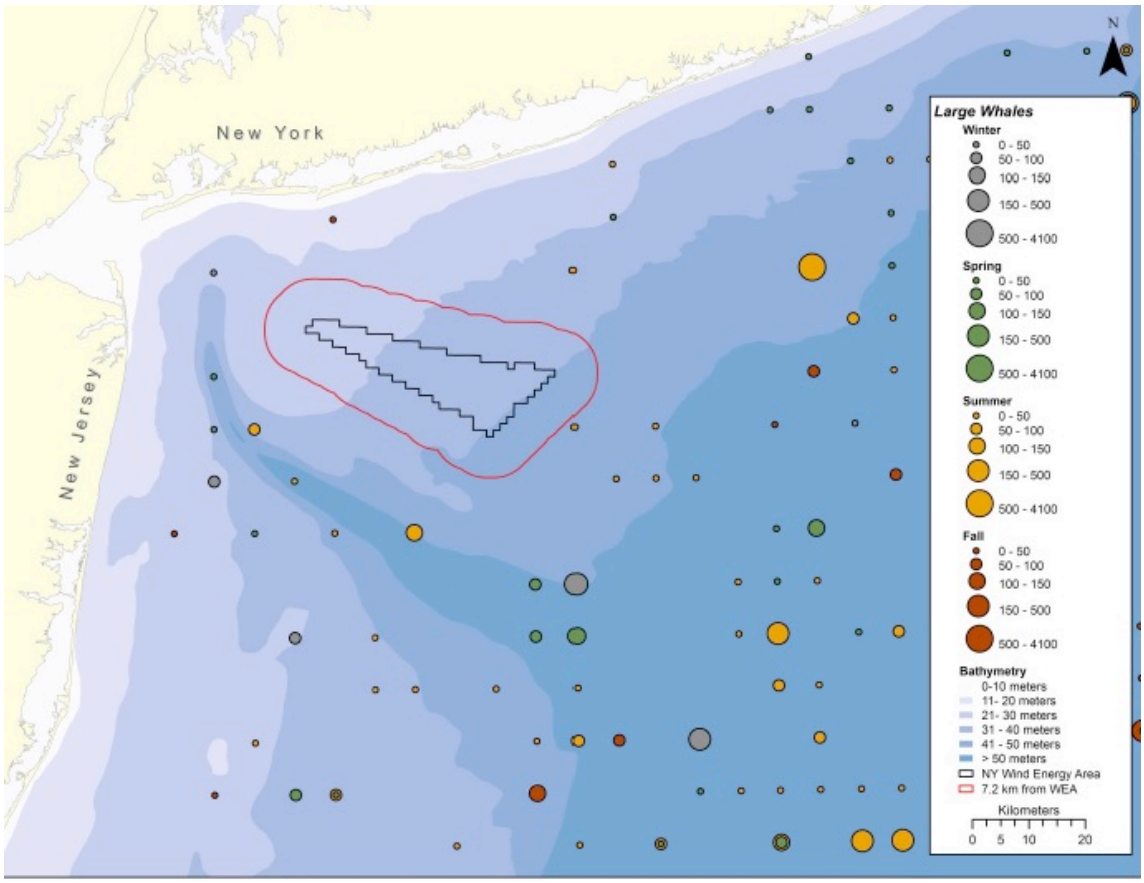

Figure 11: SPUE (whales per 621 mi [1,000 km] surveyed) for Large Whales in the Vicinity of the WEA from 1979 through 2014.[33]

“Fin whales are the most abundant endangered whale in the area, and may be found in the vicinity of the WEA during the summer, and in nearby inshore waters in all seasons although higher densities of fin whales generally occur offshore of the New York Bight (Roberts et al., 2016). Raw sightings data for NARW and fin whales indicate that these species may occur in the action area more regularly than the SPUE data suggest. For example, raw sightings data (Right Whale Consortium, 2015) indicated that the West Indies distinct population segment (DPS) of humpback whales have occurred in the area during the spring, summer, fall, and winter, while the map presenting SPUE data indicated their occurrence only during fall and spring. This is because the SPUE analysis relies on a more limited dataset of sightings that is corrected for effort in order to standardize data for analysis and comparison with other datasets that have differing amounts of survey effort. The raw sightings data is not corrected for effort and reflects all visual detections of the relevant species.”[34]

“The North Atlantic Right Whale (NARW) is the most endangered whale in the North Atlantic. The detection of only one whale in a management area is enough to trigger management protocols. For management purposes, determining whether the whales are present in an area is a priority over abundance information, particularly regarding vessel strikes (Clark et al., 2010). NARWs are known to migrate through the New York Bight from November 1 through April 30. However, results from passive acoustic surveys offshore New York and New Jersey (Cornell, 2010; Whitt et al., 2013) and raw sightings data suggest that this species may occur in the action area during all seasons.”[35] The figures below illustrate NARW presence according to raw sightings and SPUE methodology.

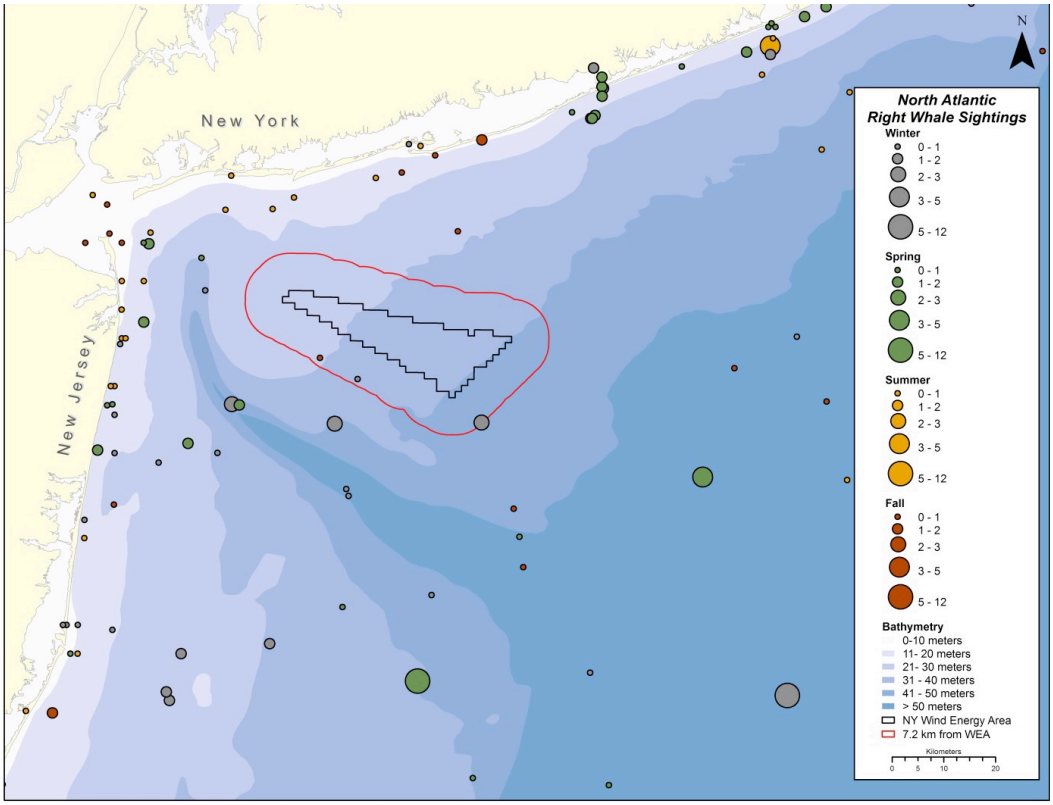

Figure 12: Raw Sightings for North Atlantic Right Whales in the Vicinity of the WEA from 1979 through 2014.[36]

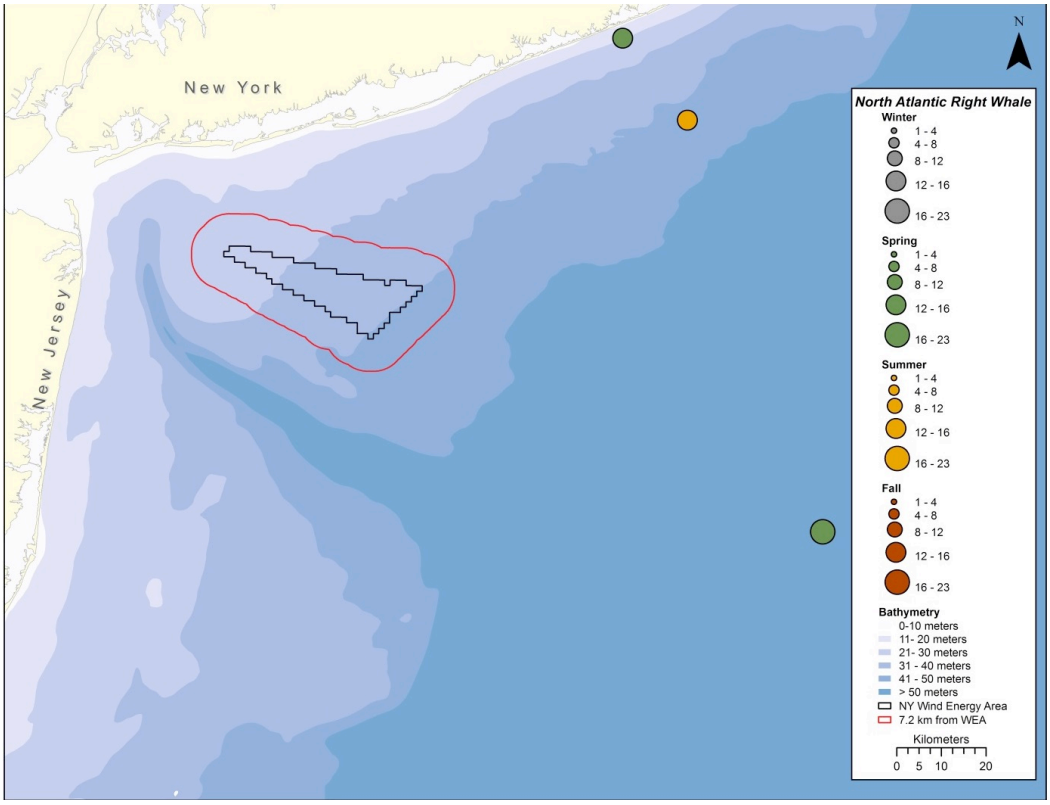

Figure 13: SPUE (whales per 621 mi [1,000 km] surveyed) for North Atlantic Right Whales in the Vicinity of the WEA from 1979 through 2014.[37]

"The raw sightings data indicate that NARWs may occur in relatively low numbers in the action area in all seasons, while the SPUE data only indicate right whale occurrence in three blocks: two in the spring and one in the summer (Right Whale Consortium, 2015)."[38] The EA furthermore contains several maps (pgs. 4-51 through 4-54) which illustrate the predicted distributions and mean densities of the NARW along the Atlantic coast throughout the year.

Going forward it is necessary to gather further data on whale presence and behavior. In Massachusetts, a number of studies have been carried out in recent years that locate and quantifiy whale presence on an aerial and acoustic basis, even showing area-specific and time-specific prevalence. As information becomes more readily available and baseline benchmarks are established, it is possible over time to develop mitigative and avoidance measures where necessary. In Rhode Island, for example, Deepwater Wind acquired two leases in 2013 in Rhode Island - Massachusetts (RIMA) and in 2014 signed an agreement with several environmental and conservation organizations to "minimize potential impacts on North Atlantic right whales and other marine mammals from underwater noise and construction vessels during the developer's site characterization and assessment activities."[39] The agreement includes the following provisions[40]:

- Seasonal Restrictions on Sub-bottom Profiling and on Pile Driving for Meteorological Tower Installation;
- Vessel Speed Restrictions;
- Use of Noise Attenuation and Source Level Reduction Technology;
- Establishment of an Exclusion Zone;
- Real-time Monitoring Effort, and;
- Adaptive Management Review

These above measures are an example of what has been agreed upon previously in relation to a project that is part of the RIMA cluster in Rhode Island - Massachusetts. Nevertheless, it is a good example of mitigative measures that can be developed, if needed, and in a collaborative approach with local stakeholders.

Regardless, going forward PNE will work with the applicable agencies and stakeholders to monitor and identify the potential impact that subsequent activities would have on whale populations and take mitigation measures where necessary to minimize any potential impact in this regard.

6.5. Sea Turtles

As illustrated in the table below: "Four species of sea turtles occur in the New York Bight: loggerhead, green, Kemp's ridley, and leatherback. All four species are listed as threatened or endangered under the ESA. Of the four species, loggerhead turtles are sighted more frequently than any other sea turtle species in the vicinity of the WEA."

Common Name	Scientific Name	Federal Status	Potential Occurrence in the Action Area
Loggerhead turtle	*Caretta caretta*	Threatened (Northwest Atlantic DPS)	Most common sea turtle; found in bays and along the coast up to 40 mi (64 km) or greater offshore in late spring to early fall (May–October)
Green turtle	*Chelonia mydas*	Threatened (North Atlantic DPS)	Regular; distribution related to vegetative forage off eastern side of Long Island from July–November
Kemp's ridley turtle	*Lepidochelys kempii*	Endangered	Common to abundant in summer to early fall (June–October)
Leatherback turtle	*Dermochelys coriacea*	Endangered	Common; found in near coastal waters from May–November
Source: USFWS, 1997; BOEM, 2011c; Right Whale Consortium, 2015; NMFS OPR, 2015; NMFS, 2013a; NYSDEC, 2015b DPS = distinct population segments			

Table 5: ESA Listing Status, Relative Occurrence, and Seasonality of Sea Turtles in the New York Bight.[41]

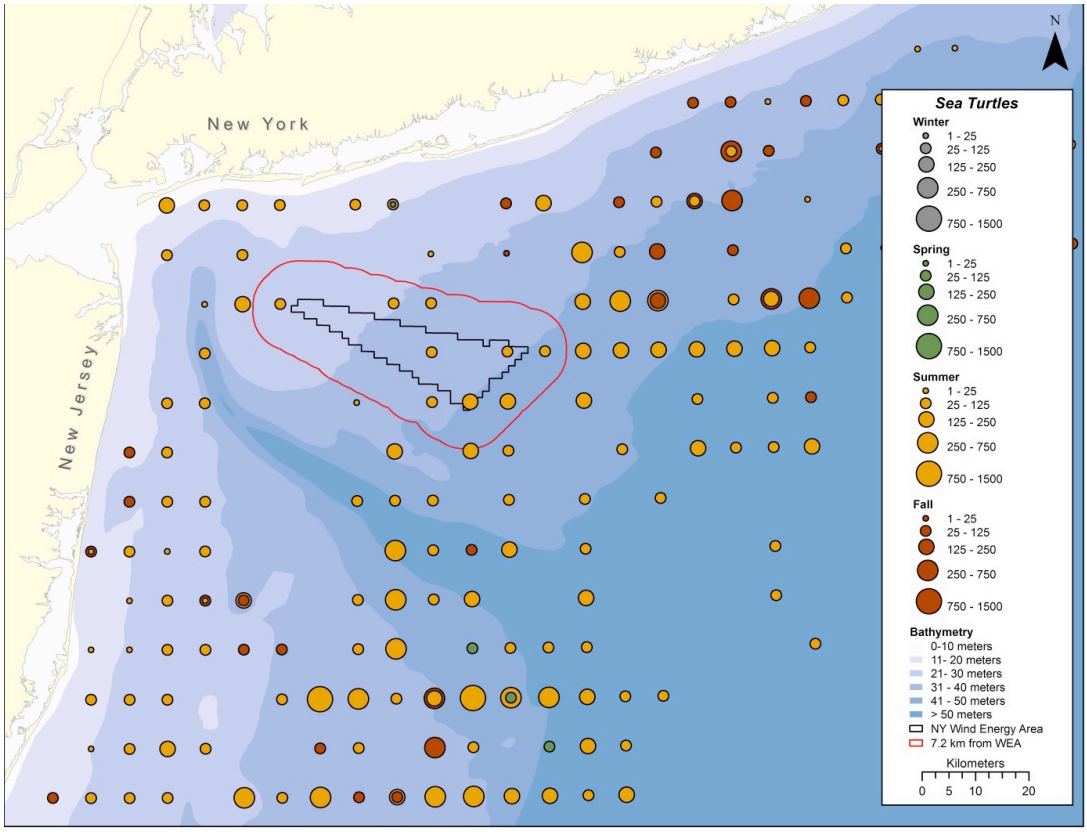

Figure 14: SPUE (turtles per 621 mi [1,000 km] surveyed) for Sea Turtles (loggerhead, leatherback, and Kemp's ridley) in the Vicinity of the WEA from 1979 through 2014.[42]

"The EA concludes that "Overall, impacts to sea turtles are expected to be moderate, although potential impacts to sea turtles would range from negligible to moderate depending on the activity being conducted during site characterization and site assessment. Vessel strike and noise are two of the most important factors that may affect sea turtles. However, implementing the vessel strike avoidance measures in the SOCs would minimize the potential for vessel strikes and adverse impacts on sea turtles. Although implementation of the SOCs is expected to minimize the potential of hearing injury impacts and disruption the behavior of sea turtles, pile driving from May 1 to October 31, coincides with the time of year that sea turtles are known to occur in the WEA. However, pile driving of one meteorological tower would take a relatively short time (approximately 3-8 hours per day for up to 3 days), which would limit the turtles' exposure to the sound to periodic disruptions over a 1- to 3-day period. Sea turtles that avoid the area are expected to successfully forage in nearby habitats with similar prey availability. There are no critical or otherwise important foraging habitats known to occur in the area of the WEA."[43]

6.6 Scallops

During the area identification process for the WEA, several comments were submitted from the scallop industry raising concern that wind facility foundations may cause near-field and far-field suspended sediment that could potentially smother valuable scallop resources in the proposed lease area. In November 2015 a series of workshops were held which were attended by fishermen from New York, New Jersey, Rhode Island, and Massachusetts. During the workshop, fishermen stated that the New York Call Area is heavily used for commercial fishing, with Atlantic sea scallop and longfin squid as the primary target species caught in the Call Area. As scallops are an important source of revenue for local fishermen, the following maps illustrate their presence in the New York Bight according to surveys conducted in 2011 and 2014.

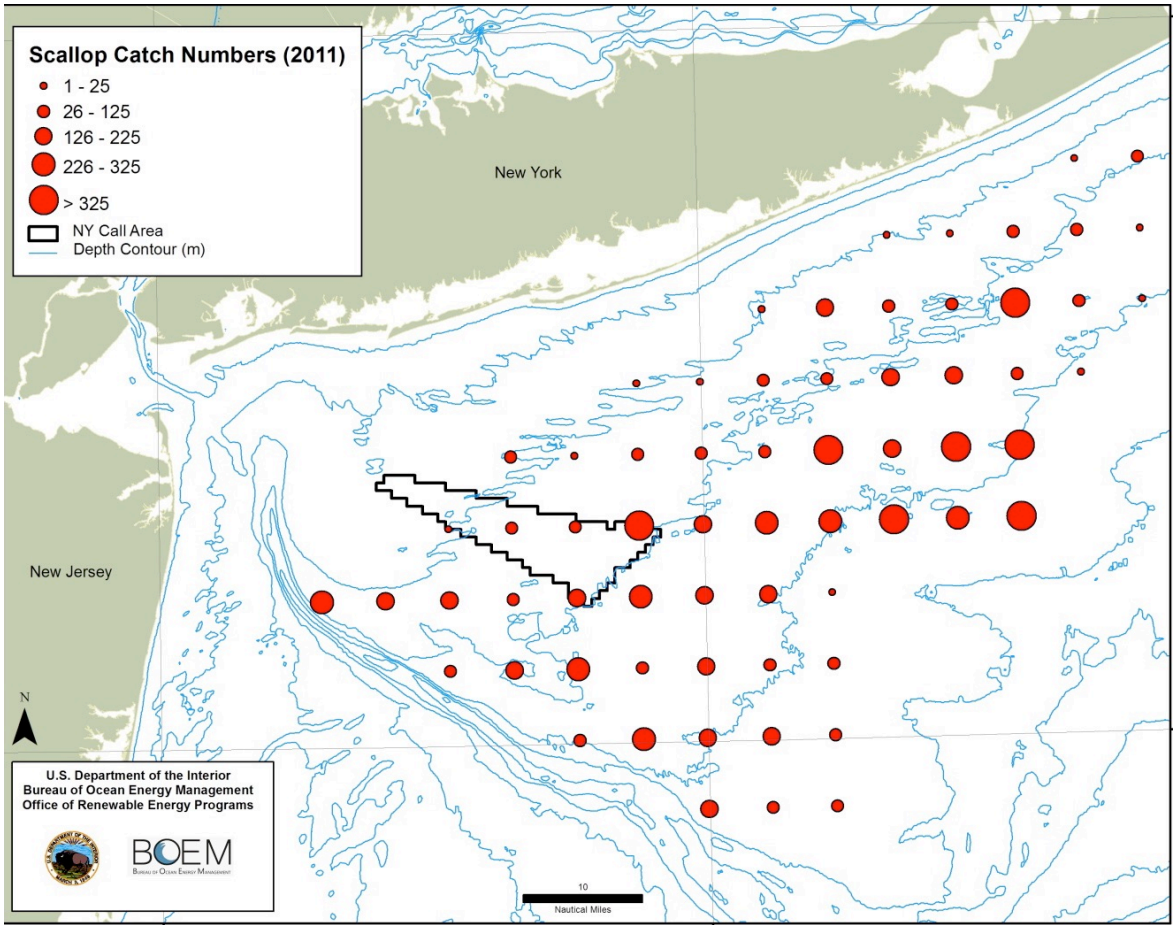

Figure 15: Atlantic sea scallops abundance surveys in the New York Bight in 2011 from the VIMS mid-Atlantic scallop resource dredge survey.[44]

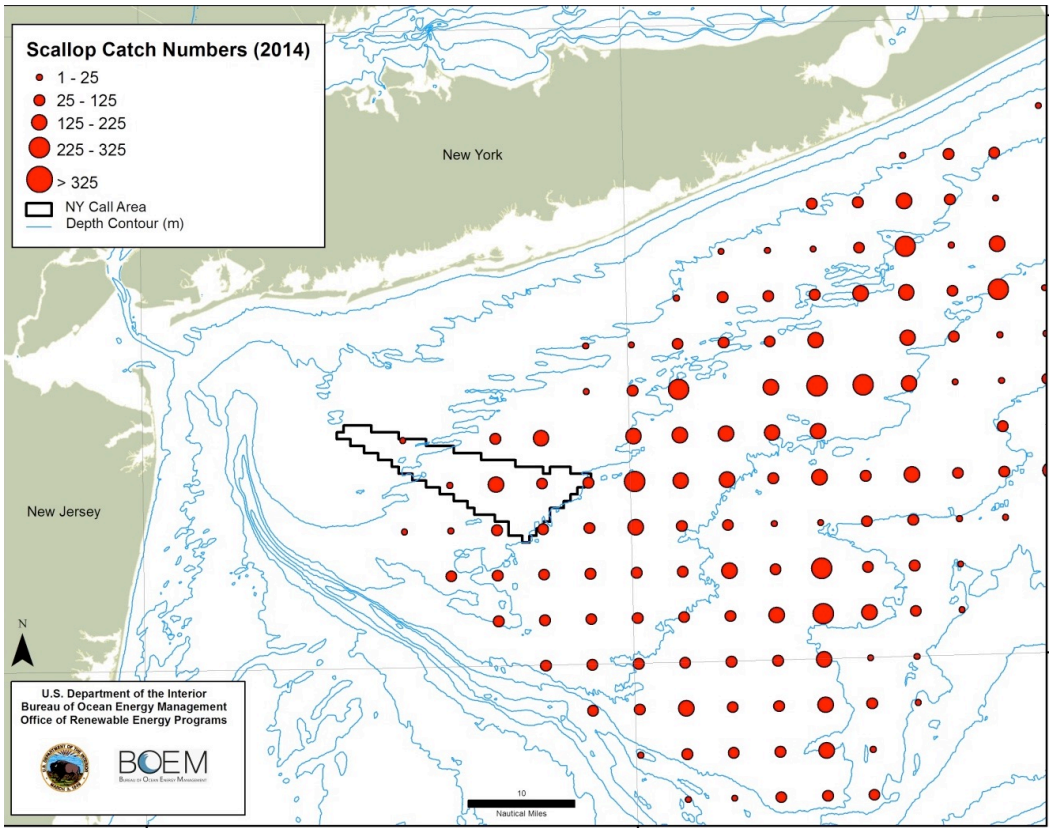

Figure 16: Atlantic sea scallops abundance surveys in the New York Bight in 2014 from the VIMS mid-Atlantic scallop resource dredge survey.[45]

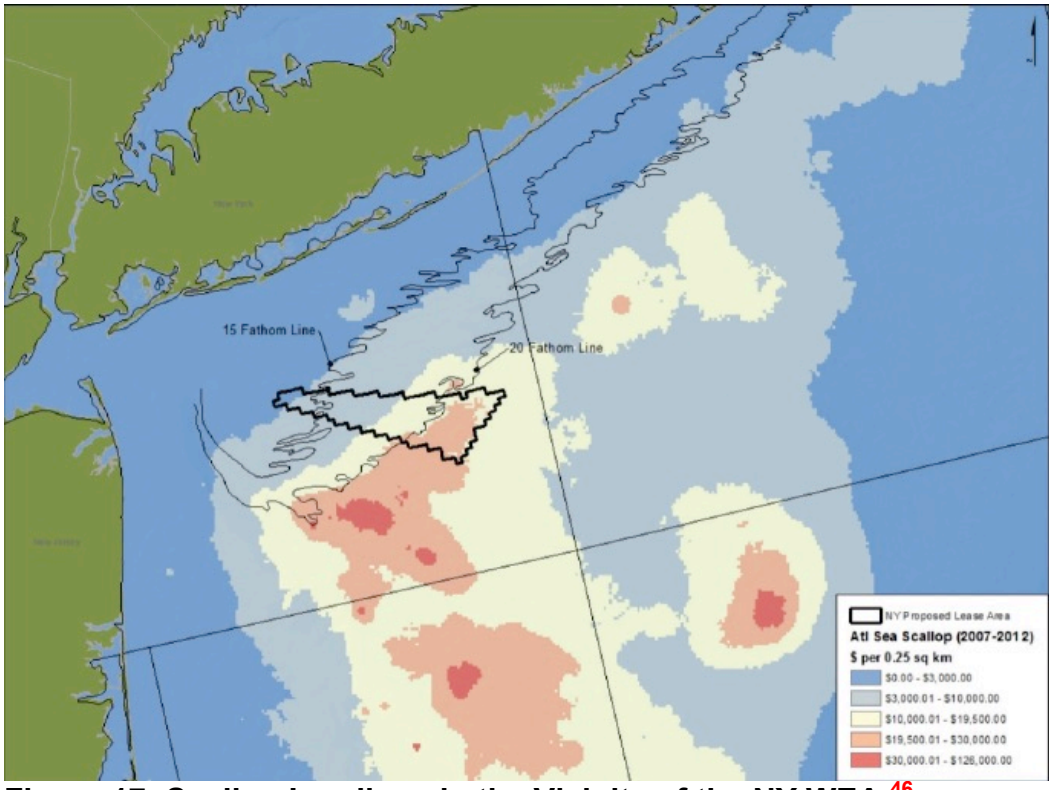

Figure 17: Scallop Landings in the Vicinity of the NY WEA.[46]

Fisheries Management Plan	Jurisdiction	Avg. Annual Revenue* from NY WEA	Average Annual Total Revenue	% Revenue from NY WEA
Sea Scallop	NEFMC	$3,262,78	$428,413,267	0.8
Squid, Mackerel, Butterfish	MAFMC	$194,	$40,849,295	0.5
Monkfish	NEFMC, MAFMC	$28,340	$19,759,447	0.1
Atlantic Herring	NEFMC	$28,086	$23,241,713	0.1
Summer Flounder, Scup, Black Seabass	MAFMC	$39,452	$33,166,172	0.1
Surf Clam & Ocean Quahog	MAFMC	$22,385	$64,967,095	~0
Skate	NEFMC	$1,395	$7,796,915	~0
Small Mesh Multispecies	NEFMC	$1,572	$10,675,728	~0
Unmanaged		$10,959	$248,316,185	~0
Large Mesh Multispecies	NEFMC	$960	$76,625,579	~0

* Based on federally report vessel trip report landings

Table 6: Revenue by fishery management plans from the NY WEA, 2007-2012.[47]

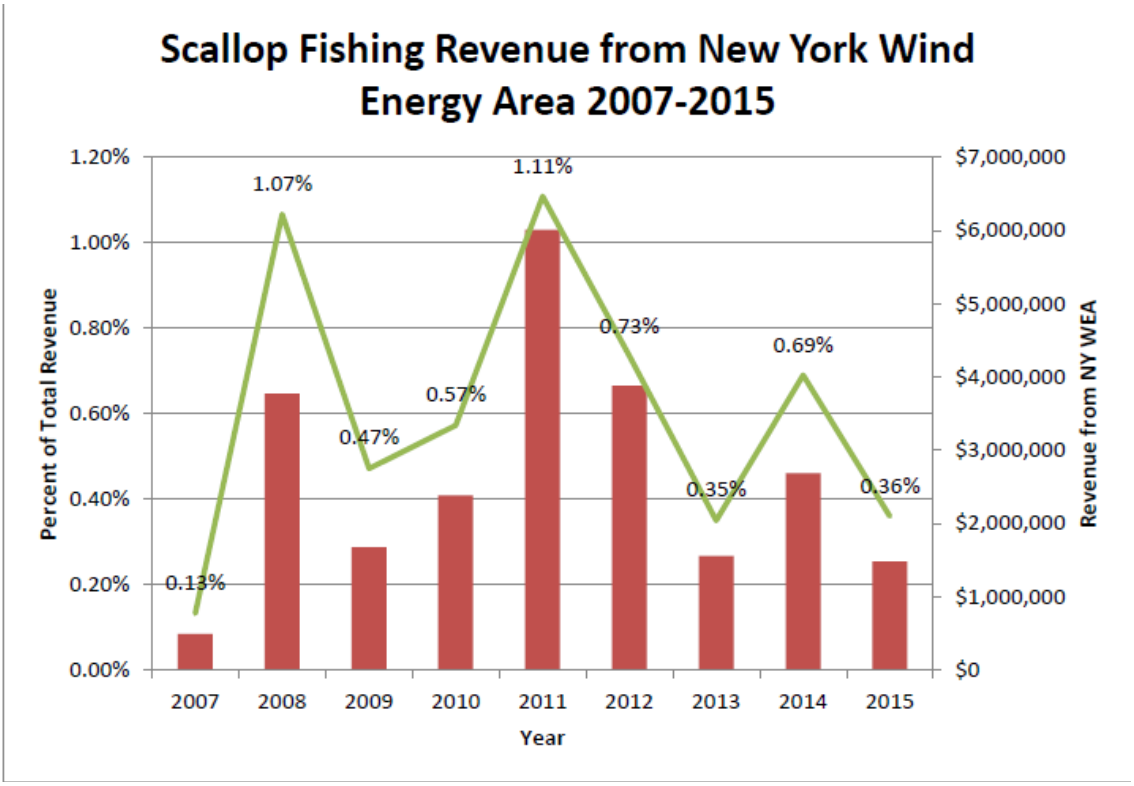

Figure 18: Yearly variation in scallop FMP revenue from the New York WEA, 2007-2015.[48]

"During Area ID, BOEM evaluated commercial fishing data from NMFS, information submitted by fishermen during and following the aforementioned meetings, relevant science concerning impacts to fisheries, and issues regarding access to fishery

resources in commercial wind facilities. The data that BOEM analyzed showed that the Atlantic squid and scallop fisheries each derived less than one percent of their total average annual revenue from the New York WEA between 2007 and 2012. For the fisheries that did overlap with the WEA, BOEM had no evidence to suggest that fishery resources would become completely inaccessible over the lifetime of a lease, with the exception of some disruption during construction activities."[49]

Nevertheless, if PNE is awarded a lease, it will engage local stakeholders to determine the particular impact the Proposed Project could potentially have on commercial fishing (if any) and will examine potential measures to mitigate that impact where necessary. PNE looks forward to working with BOEM and local stakeholders in this regard.

6.7 Avian

Four federally listed birds may be found within the proposed lease area: Piping Plover (*Charadrius melodus*); Red Knot (*Calidris canutus rufa*); Roseate Tern (*Sterna dougallii dougallii*); and Bermuda Petrel (*Pterodroma cahow*).[50] However, the EA indicates that, when compared to other areas of the Atlantic OCS, relatively low numbers[51] of nearshore bird species, pelagic bird species, and gull-like species are predicted to occur within the New York proposed lease area as illustrated in Figures 19 and 20 below. Should PNE be awarded a lease, subsequent studies will be performed on the presence and extent of avian species.

Group[2]	Common Name	Scientific Name
Gull-like	Black-legged Kittiwake[3]	*Rissa tridactyla*
	Bonaparte's Gull	*Chroicocephalus philadelphia*
	Great Black-backed Gull[3]	*Larus marinus*
	Herring Gull[3]	*Larus argentatus*
	Laughing Gull	*Leucophaeus atricilla*
	Northern Gannet[3]	*Morus bassanus*
	Ring-billed Gull	*Larus delawarensis*
Nearshore	Black Scoter	*Melanitta americana*
	Common Eider	*Somateria mollissima*
	Common Loon[3]	*Gavia immer*
	Common Tern[3]	*Sterna hirundo*
	Double-crested Cormorant[3]	*Phalacrocorax auritus*
	Horned Grebe	*Podiceps auritus*
	Least Tern	*Sternula antillarum*
	Long-tailed Duck	*Clangula hyemalis*
	Razorbill[3]	*Alca torda*
	Red-throated Loon	*Gavia stellata*
	Roseate Tern	*Sterna dougallii*
	Surf Scoter	*Melanitta perspicillata*
	White-winged Scoter	*Melanitta fusca*
Pelagic	Atlantic Puffin	*Fratercula arctica*
	Common Murre[3]	*Uria aalge*
Pelagic	Cory's Shearwater	*Calonectris diomedea*
	Dovekie	*Alle alle*
	Manx Shearwater	*Puffinus puffinus*
	Pomarine Jaeger	*Stercorarius pomarinus*
	Red-necked Phalarope	*Phalaropus lobatus*
	Sooty Shearwater[3]	*Puffinus griseus*
	Wilson's Storm-Petrel[3]	*Oceanites oceanicus*

Table 7: Birds most likely to use the proposed lease area.[52]

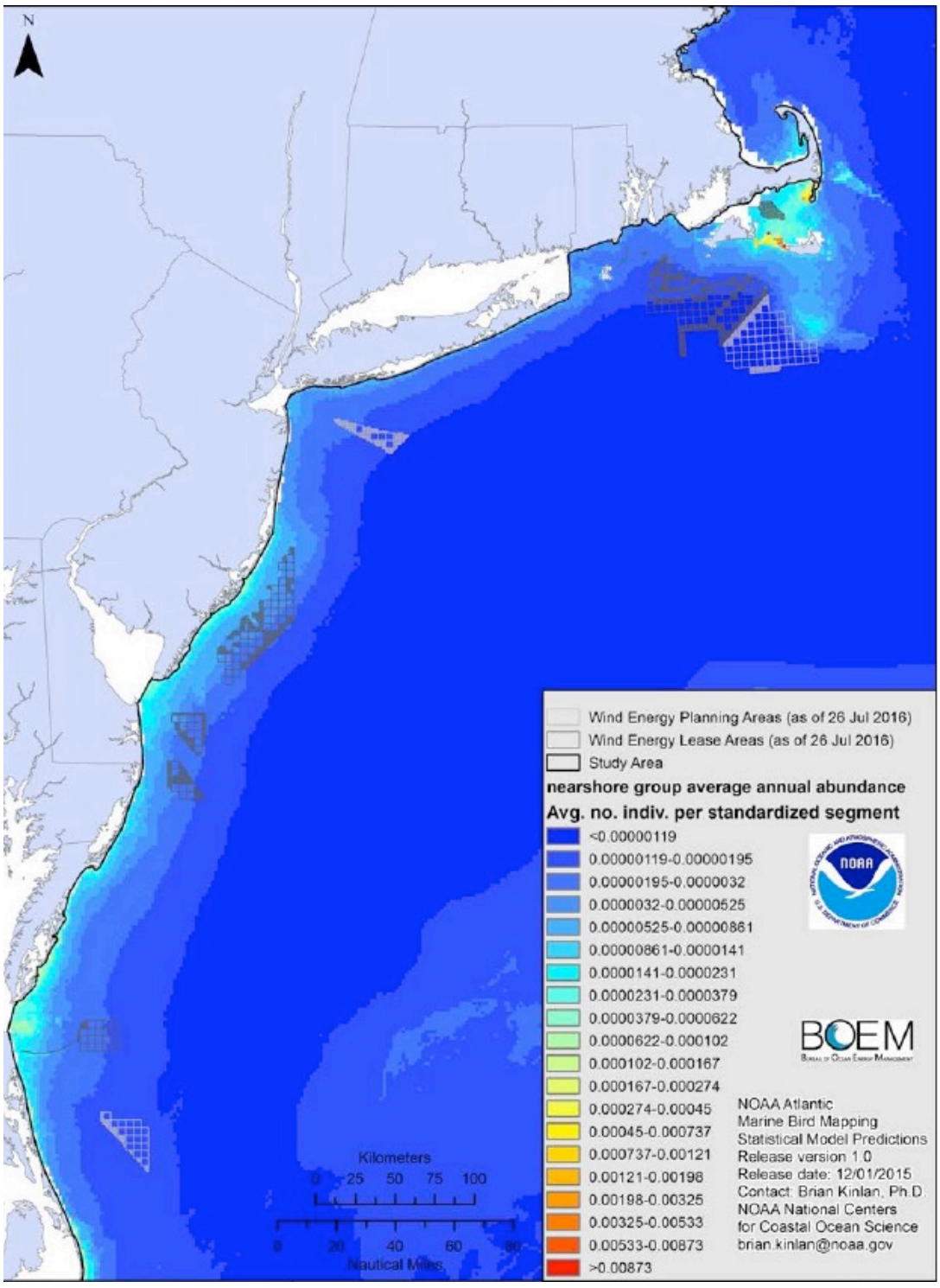

Figure 19: Predicted Average Annual Distribution of Nearshore Bird Species (Brown Pelican, Common Eider, Double-crested Cormorant, Horned Grebe, Long-tailed Duck, Loons [Common & Red-throated], Scoters [Black, Surf, & White-winged], and Terns [Artic, Common, Least, Roseate, & Royal]). Adapted from Appendix M, Kinlan et al., 2016.[53]

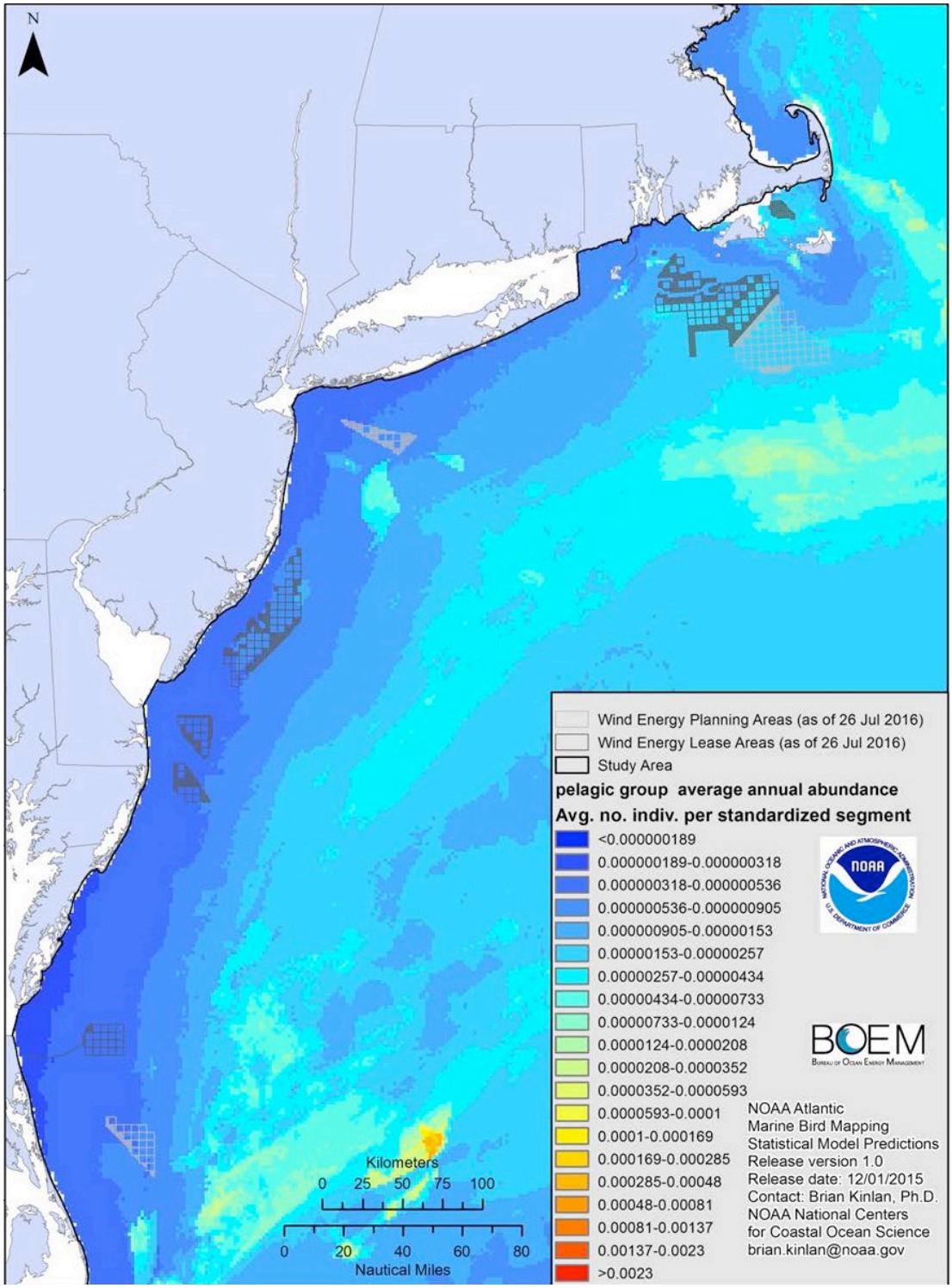

Figure 20: Predicted Average Annual Distribution of Pelagic Bird Species (Alcids [Atlantic Puffin, Black Guillemot, Common Murre, Dovekie, & Razorbill], Petrels [Bandrumped, Black-capped, Leach's, & Wilson's], Northern Fulmar, Pomarine Jaeger, Red Phalarope, and Shearwaters [Audubon's, Cory's, Manx, Greater, & Sooty]). Adapted from Appendix M, Kinlan et al., 2016.[54]

6.8. Aviation / Radar

The revised EA did not contain extensive analysis from the perspective of aviation impact, at least when compared to EAs prepared for other offshore projects. Nevertheless, the use of FAA lighting is noted throughout the EA, particularly in the SOCs (Appendix B, Section B.6). “For a meteorological tower taller than 200 ft (61 m) and within 12 nm (22 km) from shore, the lessee would be required to file a Notice of Proposed Construction or Alteration with the FAA per federal aviation regulations (14 CFR 77.7 and 14 CFR 77.9). This would also be necessary if it exceeds any other obstruction standard contained in 14 CFR Part 77. The FAA would then conduct an obstruction evaluation analysis to determine whether a meteorological tower would pose a hazard to air traffic, and would issue a Determination of Hazard/No Hazard. The FAA’s current guidance on obstruction marking and lighting (FAA, 2015) does not specifically mention regulations for lighting and marking of ocean-based towers. In their current guidance, the FAA recommends voluntary marking and/or lighting of a meteorological evaluation tower less than 200 ft (61 m) in height above ground level to address safety impacts to low-level agricultural flight operations to enhance the conspicuity of these towers in remote and rural areas; therefore, this voluntary marking and lighting in accordance with FAA regulations may not apply to meteorological towers in the proposed lease area.”[55]

Going forward, PNE will determine any aviation impact and will work with BOEM and FAA to ensure that the Proposed Project complies with the applicable regulations.

6.9. Military Use Areas

The WEA falls into an area assessed by DOD for offshore wind mission compatibility, and would require site-specific stipulations regarding the installation of meteorological structures). There are also Danger Zones (used for military operations and may be closed to the public) and Restricted Areas (limited public access) within coastal and marine waters, as outlined in CFR and on Raster Navigational Charts (NOAA OCS, 2015). Below is a table listing the names of military installations in New York and New Jersey.

Military Installation	Location	Department
Fort Hamilton Army Base	Brooklyn, NY	U.S. Army
Station New York	Staten Island, NY	USCG
Station Jones Beach	Freeport, NY	USCG
Station Fire Island	Babylon, NY	USCG
Station Shinnecock	Hampton Bays, NY	USCG
Station Montauk	Montauk, NY	USCG
Station Rockaway*	Rockaway, NY	USCG
Station King's Point	King's Point, NY	USCG
Station Eatons Neck	Northpoint, NY	USCG
Station Sandy Hook	Highlands, NJ	USCG
Station Manasquan Inlet	Point Pleasant, NJ	USCG

Military Installation	Location	Department
NWS Earle Navy Base	Colts Neck, NJ	U.S. Navy
McGuire AFB	New Hanover, NJ	U.S. Air Force
Fort Dix Army Base	Burlington, NJ	U.S. Army
NAES Lakehurst Navy Base	Lakehurst, NJ	U.S. Navy

* Seasonal
Sources: U.S. Military Bases, 2015; USCG, 2015c

AFB = Air Force Base
NAES = Naval Air Engineering Station
NWS = Naval Weapons Station

Table 8: Military Installations Located along the Coast of New York and New Jersey.[56]

As mentioned earlier in Section 3.3, DOD has indicated some areas could affect military operations and requested consultation going forward in relation to the Proposed Project. The revised EA identifies the following considerations on military matters:

- "On April 3, 2012, the DOD Office of the Secretary of Defense presented an assessment of offshore military activities and wind energy development on the OCS offshore New York to the Task Force. The DOD has identified three categories of wind energy development areas: wind exclusion areas where wind energy development would be incompatible with existing military uses, areas with site-specific stipulations, and areas with no restrictions. The entire WEA falls within a DOD-designated area of site-specific stipulations."[57]

- "To avoid or minimize potential conflicts with existing DOD activities, site-specific stipulations may be necessary for all OCS blocks within the WEA. Such stipulations may include a hold-and-save-harmless agreement where the lessee assumes all risks of damage or injury to persons or property if such

injury or damage to persons or property occurs by reason of the activities of the United States, and/or a requirement that, when requested by the DOD, the lessee controls its own electromagnetic emissions and those of its agents, employees, invitees, independent contractors, or subcontractors when operating in specified DOD OPAREAs or warning areas."[58]

- "Other examples of site-specific stipulations that may be required include the lessee entering into an agreement with the appropriate DOD commander when operating vessels or aircraft in a designated OPAREA or warning area, requiring that these vessel and aircraft movements be coordinated with the appropriate DOD commander, and/or a stipulation that DOD can request temporary suspension of operations or require evacuation on the lease in the interest of safety or national security."[59]

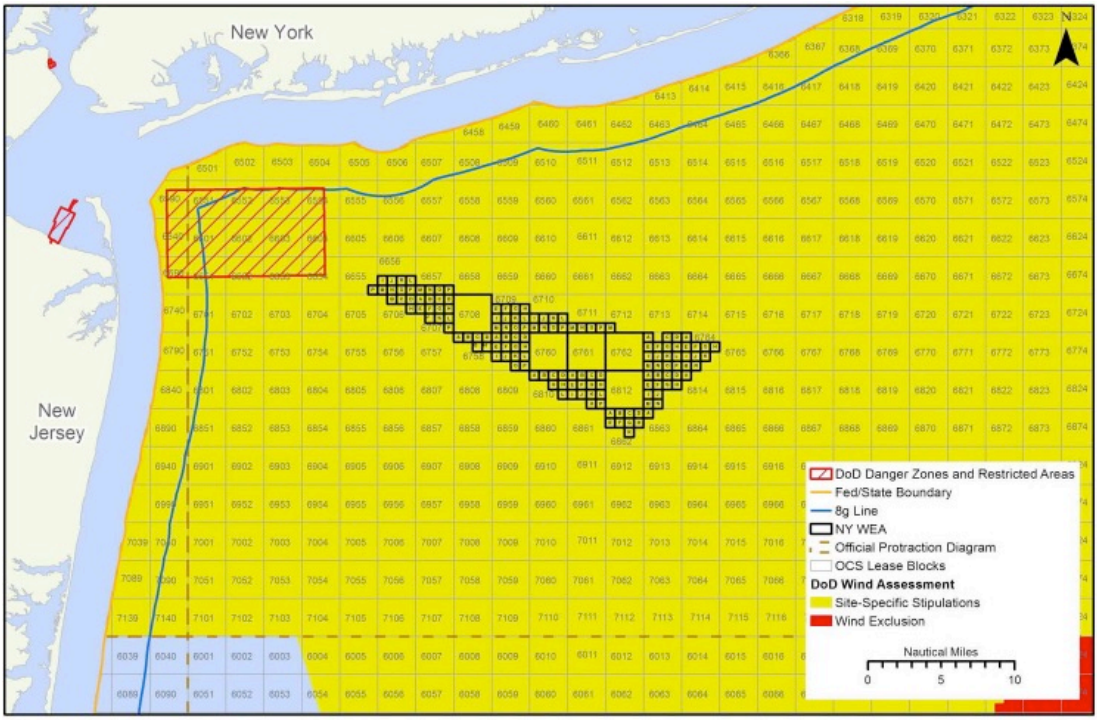

Figure 21: DOD Offshore Wind Mission Compatibility Assessment for Vicinity of the WEA.[60]

"Because site-specific coordination would be required to minimize multiple use conflicts on the OCS in and around the WEA, impacts on military use from the placement of a meteorological tower and/or buoys are expected to be negligible."[61]

Regardless, PNE will work with BOEM and DOD to determine any potential impact on military operations and take mitigation measures where needed.

6.10. Vessel Traffic

The Proposed Project is located in an area in which two Traffic Separation Schemes (TSS). The New York lease area (OCS-A-0512) is also located in close proximity to TSS. During the area identification and EA process for that project similar concerns were raised during previous stakeholder efforts in regards to potential impact on commercial traffic. On January 21, 2015, USCG convened a maritime stakeholder workgroup to discuss navigation concerns with representatives from the maritime industry, BOEM, the Port Authority of New York and New Jersey, and other federal, state, and local partners. "USCG ultimately recommended that BOEM not allow the placement of permanent structures any closer than 2 nm (3.7 km) from the edge of the TSS lanes and 5 nm (9.3 km) from the entry/exit of the TSS lanes."[62] "During Area ID, BOEM conducted trackline analysis, using available 2014 automatic identification system (AIS) data, to determine where the majority of vessels using the TSS lanes transit. This analysis indicates that the vast majority of vessels tend to stay within the TSS lanes when traversing the area, and that the traffic using the TSSs transit in those portions of the lanes farthest away from the area."[63]

"Overall, BOEM anticipates that impacts to navigation and vessel traffic would be minor. Because the vessel activity associated with Alternative A is expected to be relatively small compared to existing vessel traffic at the ports, in the WEA, and between the shore and the WEA, impacts on navigation from the additional vessels would be minor. With the use of navigation aids, impacts on navigation from the placement of a meteorological tower and/or buoys are expected to be minor."[64] Nevertheless, going forward there would need to be further analysis on any potential impact on commercial traffic, including stakeholder engagement with USCG through BOEM via inter-agency engagement. In regards to OCS-A-0512, the associated EA states that "In the future, if BOEM issues a lease and receives a COP, additional project-specific analysis and consultation will be conducted (i.e., a Navigational Safety Risk Assessment) to determine whether additional setbacks and the development of specific mitigation measures would be warranted."[65]

The EA's "Preferred Alternative A" establishes a 1nm setback, whereas Alternative B if implemented would require a 2nm setback. With regards to the Proposed Project, understanding the particular restrictions and buffer zones will be essential in any subsequent area delineation and layout optimization, it could be that the Proposed Project area would have to be shifted or reduced in size should it be deemed necessary by USCG and other stakeholders. Such determinations would be reached in subsequent stages of the process and as part of the inter-agency effort that is coordinated through BOEM. PNE will collaborate with BOEM and USCG to ensure that the appropriate setbacks are adhered to.

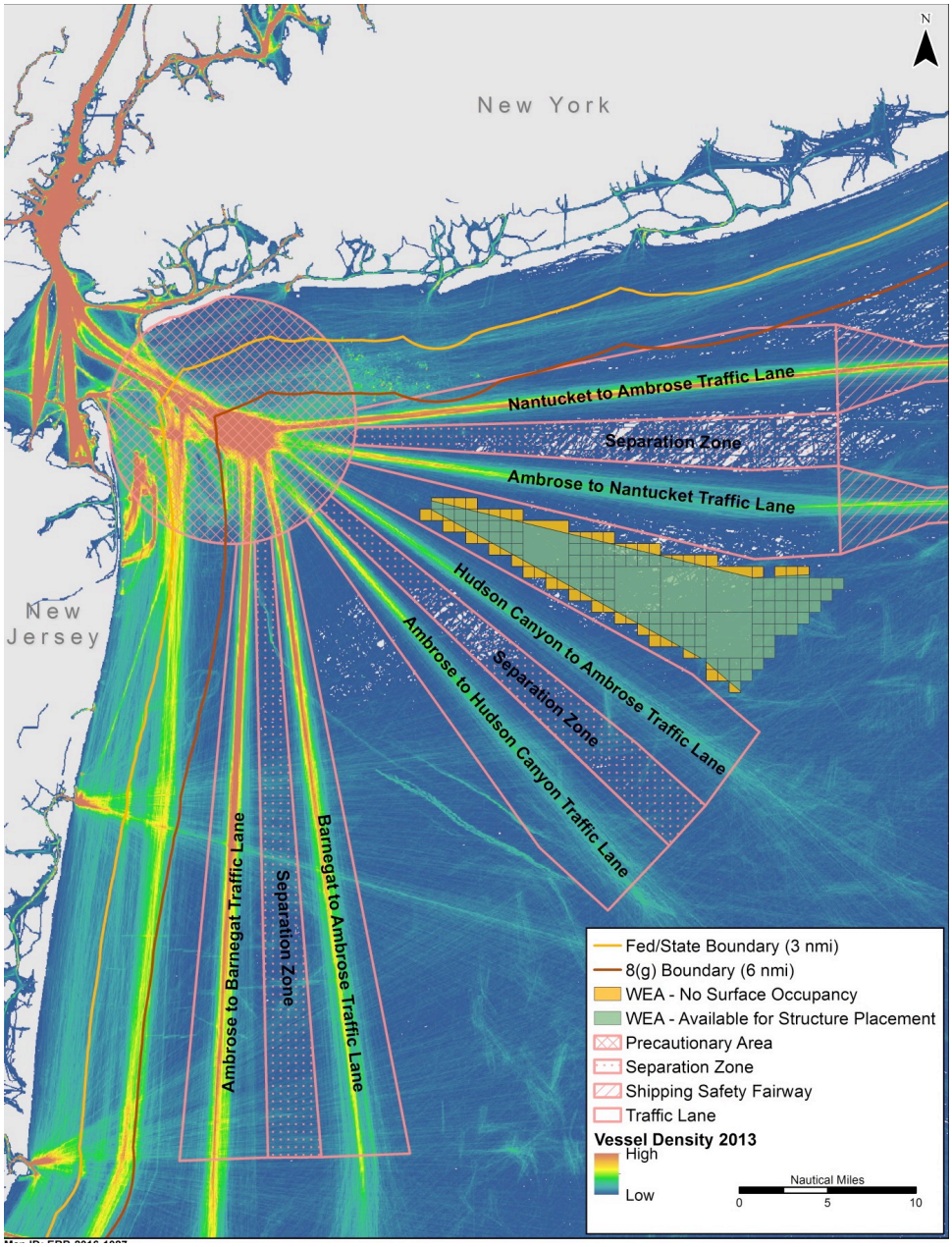

Figure 22: Vessel Density and TSSs in the Vicinity of the WEA.[66]

6.11 Telecommunications Cables

The following map illustrates the presence of two submarine cables located just east of the Proposed Project. Going forward PNE will work with BOEM and other stakeholders to determine the exact position of these cables in relation to the Proposed Project, to notify other parties as necessary, and will furthermore, identify and locate any cables that may transect the Proposed Project area.

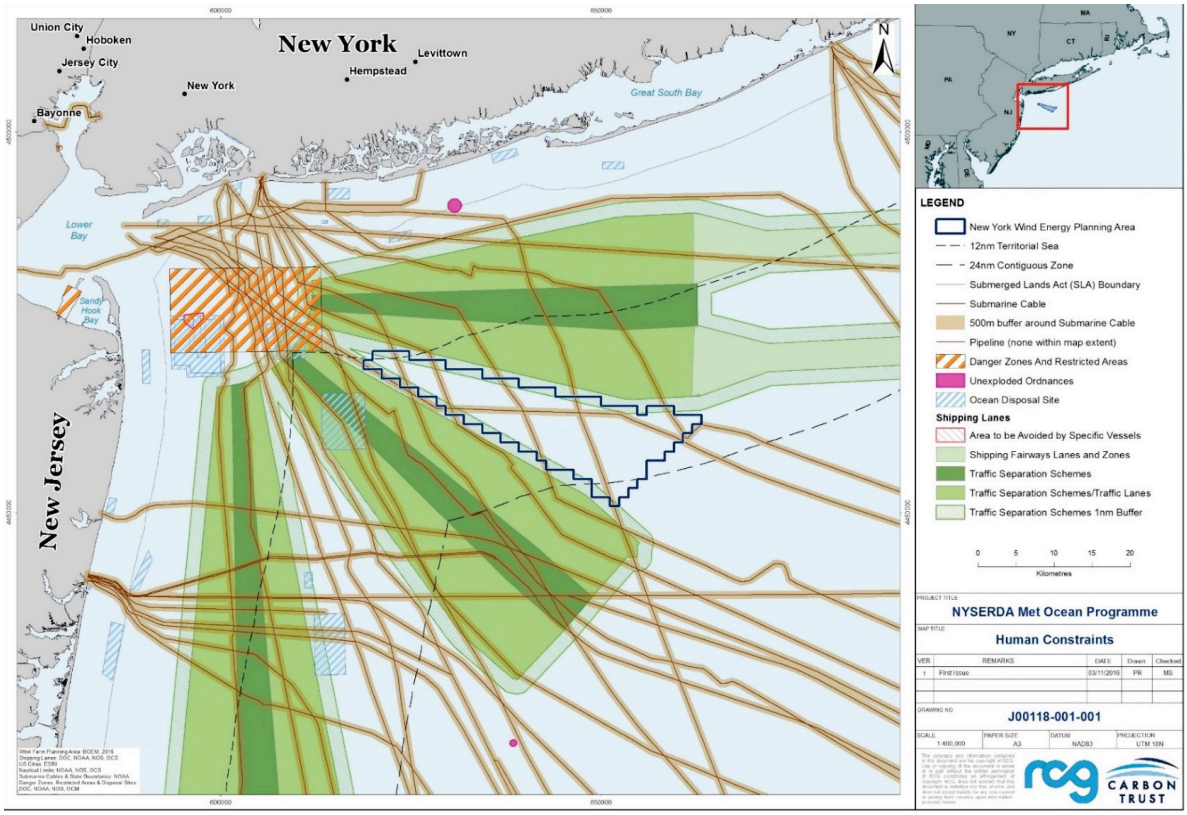

Figure 23: Cable Presence (& other constraints).[67]

6.12 Visual Impact / Cultural & Historical

The EA for the existing New York lease (OCS-A-0512) indicated that the National Park Service (NPS), New York State Historic Preservation Office (SHPO), and New Jersey SHPO expressed concerns regarding the potential for visual impacts to onshore areas from wind power development (primarily Fire Island National Seashore [FIIS], Gateway Recreation Area, Jones Beach State Park, and various National Historic Landmarks) particularly during nighttime hours when Federal Aviation Administration (FAA) safety lighting makes wind turbines more visible. BOEM conducted stakeholder outreach with NPS, the New York SHPO, and the New Jersey SHPO (based on previous meetings between BOEM and NPS and SHPO). Under BOEM's commercial wind energy leasing process, full identification of historic properties and consideration of visual impacts from commercial wind development to these properties would occur under BOEM's review of a lessee's COP, during which Section 106 consultations under the National Historic Preservation Act (NHPA) will be conducted. "If, during the Section 106 review of a COP, it is determined that there will be adverse effects to historic properties, BOEM

will work with the consulting parties to develop measures to avoid, minimize, or mitigate these adverse effects."[68]

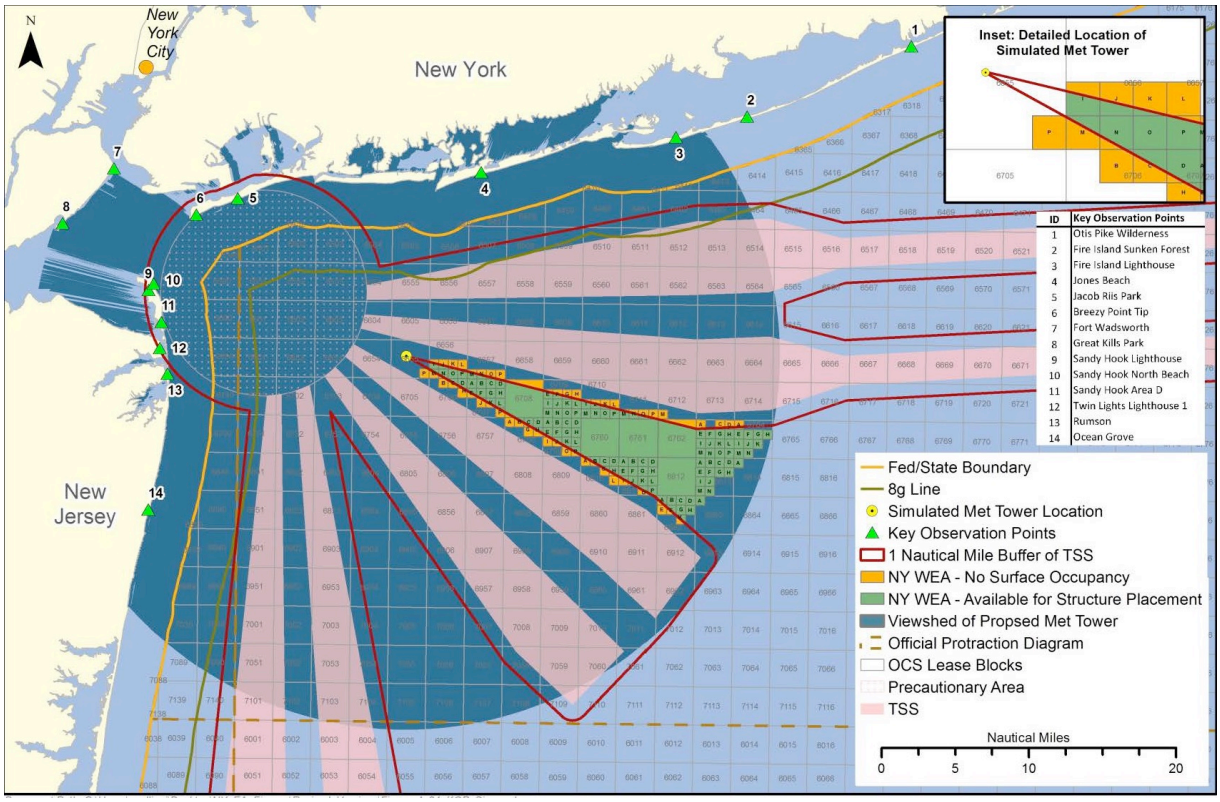

Figure 24: NRHP-Listed and Potentially Eligible Properties.[69]

Going forward PNE will work with BOEM, NPS, and the associated SHPOs to determine whether any potential visual impact exists, to understand the extent of such impact, and to develop any mitigative measures where necessary.

7. Conformance with State and Local Energy Planning

Per 30 CFR 585.230, unsolicited requests should provide a number of items, (a) through (g), of which "(e)" stipulates the following: "*If available* from the appropriate State or local government authority, a statement that the proposed activity conforms with state and local energy planning requirements, initiatives, or guidance."[70] At this point PNE does not have a statement from state or local authorities in regards to conformance with state and local energy planning, but intends to pursue conformance letters should the Proposed Project prove to be acceptable to BOEM and other stakeholders going forward. Nevertheless, the following matrix from NYSERDA highlights the applicable state and local planning requirements for offshore wind.

NY STATE Statutes and Regulations Applicable for Offshore Wind

Resource	Permitting Agency	Applicable Permit or Approval	Statutory Basis	Regulations	Applicability
Coastline of NY State	New York Department of State (DOS), Division of Coastal Resources	Coastal Zone Management Program Federal Consistency Certification	Coastal Zone Management Act (CZMA) 16 U.S.C 1451 et seq State Executive Law Article 42 State Executive Law Article 42	15 CFR Part 930 and 923 19 NYCRR Part 600 and 6 NYCRR Part 617	Federal consistency is the CZMA requirement that federal actions (such as the issuance of federal licenses or permits) which affect any use or natural resource of the coastal zone be consistent with the enforceable policies of a state's federally approved coastal zone program. In New York, the enforceable coastal policies are those in the New York Coastal Management Program (NYCMP), Local Waterfront Revitalization Programs (LWRP), and Long Island Sound Coastal Management Program (LISCMP). New York also requires consistency review for state actions, including issuance of permits. DOS review of the project would satisfy the requirements of both the federal and state consistency reviews.
Gas & Electric Transmission Siting	New York State Department of Public Service, Public Service Commission (PSC)	Certificate of Environmental Compatibility and Public Need under Article VII	New York State Public Service Law, Article VII	16 NYCRR Parts 85-88	Siting of major utility transmission facilities in New York is under the jurisdiction of the PSC. Major facilities are defined to include electric transmission lines with a design capacity between 100kV and 125 kV and extending ten or more miles in length or 125kV and over and extending a distance of one mile or more. The wind farm interconnection for 350 to 700 MW capacity will require a cable exceeding 125kV and thus will be subject to Article VII jurisdiction. The Article VII process provides a single forum for approval of the project, and the Certificate issued by the PSC is the only non-federal approval required to construct a transmission line. However, the applicant must demonstrate compliance with the substantive requirements of all applicable state and local approvals.
Electric Transmission Generation Siting	New York State Department of Public Service, Board on Electric Generating Siting and the Environment	Siting of Major Electric Generating Facilities - Certificate of Environmental Compatibility and Public Need	New York State Public Service Law, Article 10	16 NYCRR Parts 1000-1002	Requires a full system benefits and environmental impact review of the siting, design, construction, and operation of major electric generating facilities of greater than 25 MW or greater in New York State, including offshore areas within NYS jurisdictional waters.
Underwater lands	New York Office of General Services (OGS)	State Submerged Lands Easement	New York Public Lands Law, Article 2, Section 3	9 NYCRR Part 270 & 271	The title to the bed of numerous bodies of water is held in trust for the People of the State of New York under the jurisdiction of OGS. Structures, including fill, located in, on, or above State-owned lands underwater require a license, grant, or easement from the OGS. Pipelines, cables, docks, wharves, moorings and permanent structures, including the wind turbines and transmission cables, require an easement. OGS typically issues easements for a term of 25 years.
Protected Streams and Navigable Waters	New York State Department of Environmental Conservation (NYSDEC)	Article 15 Protection of Waters Permit	Environmental Conservation Act (ECL) Article 15, Title 5 and Article 70	6 NYCRR Part 608 and 621	Installation of transmission cables within New York State waters will require Article 15 permits under the New York Protection of Waters Regulatory Program for the excavation or placement of fill in navigable waters of the State and their adjacent and contiguous wetlands and disturbance of the bed or banks of a protected stream or other watercourse. Major excavation/fill projects are defined as projects that fill greater than 100 cubic yards, excavation of an area greater than 5,000 square feet, and all other activities that are not considered minor, including an underwater cable and onshore interconnections.
Protected Streams and Navigable Waters	NYSDEC	Wild, Scenic, & Recreational River System Permit	ECL Article 15, Title 27	6 NYCRR Part 666	Required for activities within these specifically designated river areas, though onshore interconnections will be sited to avoid such areas.
Coastline of NY State	NYSDEC	Coastal Erosion Management Permit	ECL Article 70	6 NYCRR Part 505	The construction or placement of a structure, or any action or use of land which materially alters the condition of land, including grading, excavating, dumping, mining, dredging, filling or any disturbance of soil is a regulated activity requiring a coastal erosion management permit.
Water Quality	NYSDEC	Water Quality Certification (WQC) under Section 401 of the Clean Water Act (CWA)	U.S. Clean Water Act Section 401, 16 USC 1451; ECL Article 15, Title 5	6 NYCRR Part 608	State WQC is required for projects applying for federal permits that may affect state waters, such as the USACE Section 10/404 permit. New York administers its WQC under the Protection of Waters Regulatory Program. WQC has been conditionally granted for USACE NWPs. An individual WQC would be required if the project requires an individual USACE permit.
Stormwater	NYSDEC	Discharge Elimination System (SPDES) Construction Stormwater Permit	U.S. Clean Water Act Section 402, ECL Article 17 Title 8	6 NYCRR PART 750	An individual permit maybe required for construction and installation of onshore transmission cables and expansion of any substation. Construction activities > 1 acre of land or, if < 1 acre but within areas identified in the permit are eligible for general permits. No SPDES permit is required for a facility whose total discharges to the ground water are less than 1,000 gallons per day of sewage-wastewater containing no industrial or other non-sewage wastes.
Wetlands	NYSDEC	Article 24 Freshwater Wetlands Permit	Environmental Conservation Act (ECL) Article 24	6 NYCRR Part 663,664,665	Freshwater wetlands permits will apply to onshore transmission line components in the vicinity of freshwater wetland resources.
Tidal Wetlands	NYSDEC	Tidal Wetlands Permit	Tidal Wetlands Act ECL Article 25	6 NYCRR Part 661	NYSDEC requires a permit for almost any activity which will alter tidal wetlands or the adjacent areas. Tidal wetlands consist of all the salt marshes, non vegetated as well as vegetated flats and shorelines subject to tides. The adjacent areas extend up to 300 feet inland from the wetland boundary .
Endangered & Threatened Species	NYSDEC	State endangered species consultation	ECL Article 11 Section 535	6 NYCRR Part 182	The potential impacts of the proposed project's construction, operation and decommissioning with respect endangered, threatened and species of concern listed in the State of New York are examined as part of this consultation.
Historical or cultural sites	New York State Office of Parks, Recreation, and Historic Preservation (NYS OPRHP), State Historic	Section 106 Consultation under the National Historic Preservation Act (NHPA) and Section 14.09 of the New York State Preservation Office (SHPO) Historic Preservation Act	16 USC 470	6 NYCRR Part 617	The New York SHPO will require an architectural study to identify NRHP sites, state register sites, and other sensitive historical, cultural, and traditional sites within an Area of Potential Effect (APE) from the project . The SHPO Archaeologist will also require archaeological studies to identify potentially significant sites. The SHPO will comment on the project through the NEPA review. SHPO recommendations will be implemented as necessary by the NEPA lead agency. See http://nysparks.state.ny.us/shpo/

Table 9: New York State Statutes and Regulations Applicable to Offshore Wind.[71]

If BOEM determines that there is no competitive interest and PNE is ultimately awarded a project on the basis of this unsolicited request, PNE will move forward per 30 CFR 585.231 to submit any consistency certification and necessary information to the applicable State Coastal Zone Management Act (CZMA) agency or agencies as well as BOEM.

APPENDIX