MEMORANDUM FOR RECORD

SUBJECT: Department of the Army Record of Decision and Statement of Findings for the Above-Referenced Standard Individual Permit Application

This document constitutes the Record of Decision (ROD), Section 404(b)(1) Guidelines Evaluation, Public Interest Review, and Statement of Findings for the subject application.

1.0 Introduction and Overview

Information about the proposal subject to one or more of the United States Army Corps of Engineers' (Corps') regulatory authorities is provided in Section 1, detailed evaluation of the activity is found in Sections 2 through 11 and findings are documented in Section 12 of this memorandum. Further, summary information about the activity including administrative history of actions taken during project evaluation is attached (ORM2 Summary) and incorporated in this memorandum.

1.1 Applicant name

Katharine Perry
Orsted Wind Power North America LLC
110 Edison Place, Suite 200
Newark, NJ 07102

1.2 Activity location

The proposed Ocean Wind 1 Offshore Wind Farm (Project) installation spans a leased portion of the outer continental shelf (OCS) in the Atlantic Ocean, designated OCS-A0498 by the Bureau of Ocean Energy Management, with export cable corridors (ECC) intersecting the shore of New Jersey in Ocean City and at Island Beach State Park (IBSP). The ECC landing at IBSP continues across Barnegat Bay into Lacey Township, crossing Oyster Creek in the vicinity of US9 (N Main Street), for connection to the electrical transmission grid through a specialized substation. The ECC landing in Ocean City continues through Upper Township, crossing Crook Horn Creek in the vicinity of the Roosevelt Boulevard Bridge, to the decommissioned BL England generation facility for connection to the electrical transmission grid through a specialized substation.

1.3 Description of activity requiring permit

This ROD incorporates by reference the U.S. Department of Interior, Bureau of Ocean Energy Management (BOEM) 2022 Draft Environmental Impact Statement (DEIS), and the 2023 Final Environmental Impact Statement (FEIS) for the "Ocean Wind 1 Offshore Wind Farm". The Corps has been a cooperating agency under 40 C.F.R. § 1501.8, with BOEM as lead agency under 40 C.F.R. § 1501.7, for purposes of complying with the

National Environmental Policy Act (NEPA). Additionally, BOEM has been the lead agency for the purposes of complying with Section 7 of the Endangered Species Act (ESA), Section 106 of the National Historic Preservation Act (NHPA), and Section 305 of the Magnuson-Stevens Fishery Conservation and Management Act (MSA).

The Corps concurs with BOEM that this project constitutes a major federal action significantly affecting the quality of the human environment, and that therefore an environmental impact statement (EIS) was required. As a cooperating agency in accordance with NEPA, the Corps provided appropriate input and review comments during the EIS process. The Corps has independently reviewed the EIS and concludes that its comments and suggestions have been satisfied. The Corps has reviewed and evaluated the information in the FEIS in accordance with 40 C.F.R. § 1506.3, and 33 C.F.R. Part 325, Appendix B, and finds that the actions covered by the FEIS and those regulated by USACE under section 10 of the RHA and section 404 of the Clean Water Act (CWA) are substantially the same. The FEIS and associated NEPA documents prepared by BOEM, with referenced materials, and comments received in response to them, are hereby adopted in full and in accordance with 40 C.F.R. §1506.3, for purposes of NEPA, the public interest review required by 33 C.F.R. § 320.4, and the 404(b)(1) Guidelines analysis required by 40 C.F.R. Part 230.

The proposed Project includes up to 98 wind turbine generators supported by steel monopiles (WTG) connected by up to 170 kilovolt array cabling to a maximum of 3 offshore alternating current substations (OSS) supported by steel monopiles linked by up to 275 kilovolt interconnector cable(s). Monopile foundations sited on the OCS would be approximately 36 feet in diameter and surrounded by scour protection approximately 183 feet in diameter for a total permanent footprint of 61 acre, of which only 2.3601 acres are occupied by the structures. On the OCS only structures are regulated by the Corps. 142.7 miles of array cabling would occupy 18.742 acres with 331 acres of temporary disturbance anticipated for installation within the seabed on the OCS of Atlantic Ocean federal waters. Generated energy is proposed to be transmitted to grid connections using buried 275 kilovolt export cables, two for connection in Lacey Township and one for connection at BL England, to proposed terrestrial alternating current substations. Substations would occupy 11 acres in Lacey Township and 12 acres at BL England, before reaching interconnection with existing transmission lines at the above noted locations of which 1.521 acres would be permanent impacts to wetlands. Cable installation exiting the western shore of Barnegat Bay would have 0.001 acres of permanent impact to tidal wetlands. Temporary staging and access for construction of terrestrial substations would require approximately 2 additional acres of temporary impact. In total, a maximum of 147 miles of export cable are required, occupying 19.31 acres. Cable sited in the Atlantic Ocean or Barnegat Bay would be installed beneath at least four feet of seabed except where crossing features requiring greater burial depth, where intersecting existing cables, where substrate material is unstable, or where risk assessment determines that additional protection is warranted. Up to 10 percent of the cable is anticipated to be unable to meet the target depth of 4 feet, totaling up to 86 acres of permanent cable protection for export cables and 77 acres for array cabling consisting mainly of crushed stone, with a possible veneer of rounded stone, or articulated concrete mattresses. Regulated cable protection

constitutes a maximum of 15.403 acres. Up to six passive acoustic monitoring devices, each consisting of floats, hydrophones, recorders, and anchoring weights attached via chains, would be installed at up to 10 specified locations to aid in avoiding noise related harm to protected marine life. To access Barnegat Bay with cable installation equipment, the Oyster Creek federal navigation channel will require removal of approximately 18,030 cubic yards of material to achieve authorized dimensions of 200 feet wide by 8 feet deep. This dredging will only occur if the federally scheduled maintenance of the channel is not accomplished or does not achieve authorized dimensions required for equipment access. Any dredging will be coordinated closely with federal and non-federal navigation project sponsors. Disposal of dredged material would be accomplished at the Claremont Dredge Material Processing Facility, which has sufficient capacity available.

1.3.1 Proposed avoidance and minimization measures

Measures taken are summarized in section 6.2 of the application. Appendix H of the FEIS enumerates voluntary and required measures in more explicit detail. The project proponent will perform the following as part of the proposed action:

Site onshore export cable corridors and landfall within existing rights-of-way or previously disturbed/developed lands to the extent practicable.
Site onshore, cable landfall and offshore facilities to avoid known locations of sensitive habitat (such as known nesting beaches) or species during sensitive periods (such as nesting season); important marine habitat (such as high density, high value fishing grounds as determined by fishing revenues estimate [BOEM Geographical Information System (GIS) Data - see Section 2.3.4 of the Ocean Wind 1 COP]); and sensitive benthic habitat; to the extent practicable. Avoid hard- bottom habitats and seagrass communities, where practicable, and restore any temporary disturbance to these communities.
Avoid areas that would require extensive seabed or onshore alterations to the extent practicable.
Bury onshore and offshore cables below the surface or seabed to the extent practicable and inspect offshore cable burial depth periodically during project operation to ensure that adequate coverage is maintained to avoid interference with fishing gear/activity.
Use existing port and onshore operations and maintenance (office, warehouse, and workshop) facilities to the extent practicable and minimize impacts to seagrass by restricting vessel traffic to established traffic routes where these resources are present.
Develop and implement a site-specific monitoring program to ensure that environmental conditions are monitored during construction, operation, and decommissioning phases, designed to ensure environmental conditions are monitored and reasonable actions are taken to avoid and/or minimize seabed disturbance and sediment dispersion, consistent with permit conditions. The monitoring plan will be developed during the permitting process, in consultation with resource agencies.

Implement aircraft detection lighting system (ADLS) on wind turbine generators (WTGs). Comply with Federal Aviation Administration (FAA), BOEM, and U.S. Coast Guard (USCG) lighting, marking and signage requirements to aid navigation per USCG navigation and inspection circular (NVIC) 02-07 (USCG 2007) and comply with any other applicable USCG requirements while minimizing the impacts through appropriate application including directional aviation lights that minimize visibility from shore. Information will be provided to allow above water obstructions and underwater cables to be marked in sea charts, aeronautical charts, and nautical handbooks.
To the extent practicable, use appropriate installation technology designed to minimize disturbance to the seabed and sensitive habitat (such as beaches and dunes, wetlands and associated buffers, streams, hard-bottom habitats, seagrass beds, and the near-shore zone); avoid anchoring on sensitive habitat; and implement turbidity reduction measures to minimize impacts to sensitive habitat from construction activities.
During pile-driving activities, use ramp up procedures as agreed with National Marine Fisheries Service (NMFS) for activities covered by Incidental Take Authorizations, allowing mobile resources to leave the area before full-intensity pile-driving begins.
Prepare waste management plans and hazardous materials plans as appropriate for the Project and adhere to those plans.
Establish and implement erosion and sedimentation control measures in a Stormwater Pollution Prevention Plan (SWPPP, authorized by the State), and Spill Prevention, Control, and Countermeasures (SPCC) Plan to minimize impacts to water quality (signed/sealed by a New Jersey Professional Engineer and prepared in accordance with applicable regulations such as New Jersey Department of Environmental Protection (NJDEP) Site Remediation Reform Act, Linear Construction Technical Guidance, and Spill Compensation and Control Act). Development and implementation of an Oil Spill Response Plan (OSRP, part of the SPCC plan) and SPCC plans for vessels.
Where HDD trenchless technology methods are used, develop, and implement an Inadvertent Return Plan that includes measures to prevent inadvertent returns of drilling fluid to the extent practicable and measures to be taken in the event of an inadvertent return.
Restore disturbance areas in the Onshore Project Area to preexisting contours (maintaining natural surface drainage patterns) and ensure vegetation becomes reestablished once construction activities are completed, to the extent practicable.
Develop and implement a communication plan to inform the USCG, Department of Defense (DOD) headquarters, harbor masters, public, local businesses, commercial and recreational fishers, among others of construction and maintenance activities and vessel movements, as coordinated by the Marine Coordination Center and Marine Affairs.
Develop and implement an Onshore Maintenance of Traffic Plan to minimize vehicular traffic impacts during construction. Ocean Wind would designate and utilize onshore construction vehicle traffic routes, construction parking areas, and carpool/bus plans to minimize potential impacts.
Prior to the start of operations, Ocean Wind will hold training to establish responsibilities of each involved party, define the chains of command, discuss communication procedures, provide an overview of monitoring procedures, and

review operational procedures. This training will include all relevant personnel, crew members and protected species observers (PSO). New personnel must be trained as they join the work in progress. Vessel operators, crew members and protected species observers shall be required to undergo training on applicable vessel guidelines and the standard operating conditions. Ocean Wind will make a copy of the standard operating conditions available to each project-related vessel operator.
Implement Project and site-specific safety plans (Safety Management System, Appendix B).
Reduce scouring action by ocean currents around foundations and to seabed topography by taking reasonable measures and employing periodic routine inspections to ensure structural integrity.
Take reasonable actions (use BMPs) to minimize seabed disturbance and sediment dispersion during cable installation and construction of project facilities.
Conduct periodic and routine inspections to determine if non-routine maintenance is required.
In contaminated onshore areas, comply with State regulations requiring the hiring of a Licensed Site Remediation Professional (LSRP) to oversee the linear construction project and adherence to a Materials Management Plan (MMP). The MMP prepared for construction can also be followed as a best management practice when maintenance requires intrusive activities.
Implement turbidity reduction measures to minimize impacts to hardbottom habitats, including seagrass communities, from construction activities, to the extent practicable.
All vessels will be certified by the Project to conform to vessel operations and maintenance protocols designed to minimize the risk of fuel spills and leaks.
Use low sulfur fuels to the extent practicable (15 parts per million [ppm] per 40 Code of Federal Regulations [CFR] §80.510(c) as applicable).
Select engines designed to reduce air pollution to the extent practicable (such as U.S. Environmental Protection Agency [USEPA] Tier 3 or 4 certified).
Coordinate with the NJDEP and United States Fish and Wildlife Service (USFWS) to identify unique or protected habitat or known habitat for threatened or endangered and candidate species and avoid these areas to the extent practicable.
Conduct maintenance and repair activities in a manner to avoid or minimize impacts to sensitive species and habitat such as beaches, dunes, and the near-shore zone.
Evaluate avian use by conducting pre-construction surveys for raptor nests, wading bird colonies, seabird nests, and shorebird nests during nesting periods. (Focus being listed species or species identified of special concern by the Federal or State government.)
An avian post-construction monitoring framework will be developed and coordinated with NJDEP and USFWS and implemented as required
Cut trees and vegetation, where possible, during the winter months when most migratory birds are not present at the site.
Use lighting technology that minimizes impacts on avian and bat species to the extent practicable.
WTG air gaps (minimum blade tip elevation to the sea surface) to minimize collision risk to marine birds which fly close to ocean surface.
Ocean Wind has sited Wind Farm Area facilities in the eastern portion of the original

Lease Area, outside the migratory pathway, to reduce exposure to birds.
A bat post-construction monitoring framework will be developed and coordinated with NJDEP and USFWS and implemented as required.
Ocean Wind is conducting appropriate pre-siting surveys to identify and characterize potentially sensitive seabed habitats and topographic features.
Use standard underwater cables which have electrical shielding to control the intensity of electromagnetic fields (EMF). EMF will be further refined as part of the design or cable burial risk assessment.
Evaluate geotechnical and geophysical survey results to identify sensitive habitats (e.g., shellfish and SAV beds) and avoid these areas during construction, to the extent practicable.
Ocean Wind will post a qualified observer as agreed to during the NMFS incidental take authorization process, on site during construction activities to avoid and minimize impacts to marine species and habitats in the Project Area.
Obtain necessary permits to address potential impacts on marine mammals from underwater noise, and establish appropriate and practicable mitigation and monitoring measures in coordination with regulatory agencies.
Develop and implement a Protected Species Mitigation and Monitoring Plan.
Comply with NJDEP noise regulations (New Jersey Administrative Code [N.J.A.C.] 7:29), which limit noise from industrial facilities received at residential property lines to 50 decibels during nighttime (10:00 p.m. to 7:00 a.m.) and 65 decibels during daytime as well as specific octave band noise limits, and comply with any local noise regulations, to the extent practicable, to minimize impacts on nearby communities.
Develop and implement a Post-Review Discovery Plan.
Use the results of geotechnical and geophysical surveys to identify potential cultural resources. Any cultural resources found will be avoided to the extent practicable. Where avoidance is not practicable, coordinate with relevant agencies and affected tribes to determine minimization and mitigation as necessary.
Conduct background research and consult with the State Historic Preservation Office (SHPO) to determine the need for cultural resource surveys onshore. Any cultural resources found will be avoided to the extent practicable. Where avoidance is not practicable, coordinate with SHPO and affected tribes to determine minimization and mitigation as necessary.
The Project has been designed to minimize visual impacts to historic and cultural properties to the extent feasible. The Project's layout was adjusted to align turbines at the eastern portion of the lease area, so that closest turbines are at least 15 miles from shore. Visibility of the turbine array from all identified properties within the Preliminary Area of Potential Effect would be minimized and mitigated further by measures adopted in this table including ADLS and markings (GEN-07), and as in COP Appendix F-4.
Mitigation in the form of documentation, planning, or educational materials will be coordinated with stakeholders, as in COP Appendix F-4.
Develop an anchoring plan for vessels prior to construction to identify avoidance/no anchorage areas.
Develop a construction schedule to minimize activities in the onshore export cable route during the peak summer recreation and tourism season, where practicable.

Coordinate with local municipalities to minimize impacts to popular events in the area during construction, to the extent practicable.
Work cooperatively with commercial/recreational fishing entities and interests to ensure that the construction and operation of the Project will minimize potential conflicts with commercial and recreational fishing interests. Review planned activities with potentially affected fishing organizations and port authorities to minimize fishing gear conflicts.
Develop and implement a Fisheries Communication and Outreach Plan (COP Appendix O). The plan includes the appointment of a dedicated fisheries liaison as well as fisheries representatives who will serve as conduits for providing information to, and gathering feedback from, the fishing industry, as well as Project-specific details on fisheries engagements.
Implement Ørsted's corporate policy and procedure to compensate commercial/recreational fishing entities for gear loss as a result of Project activities (Appendix AE).
Ocean Wind will develop a Navigational Safety Fund by providing eligible commercial, charter, and for-hire fishing vessels operating in and near the Wind Farm Area with reimbursement for new radar equipment and/or training courses (Appendix AE).
Develop crossing and proximity agreements with utility owners prior to utility crossings. (Crossing agreements in U.S. waters are supported by the International Cable Protection Committee (ICPC), which provides a framework for establishing cable crossing agreements.)
Ocean Wind has engaged and will continue to engage with FAA and DOD with regards to potential effects to aviation and radar.
Site facilities to avoid unreasonable interference with major ports and USCG-designated Traffic Separation Schemes.
Select structures within the proposed Wind Farm Area will be equipped with strategically located Automatic Identification System (AIS) transponders.
WTGs will be arranged in equally spaced rows on a northwest to southeast orientation to aid the safe navigation of vessels operating within the Wind Farm Area.
Evaluate geotechnical and geophysical survey results to identify existing conditions, existing infrastructure, and other marine uses. Areas of other marine uses will be avoided to the extent practicable, and Ocean Wind will coordinate with other users where avoidance is not practicable.
Address key design elements, including visual uniformity, use of tubular towers, and proportion and color of turbines.
Ocean Wind has used appropriate viewshed mapping, photographic and virtual simulations, computer simulation, and field inventory techniques to determine the visibility of the proposed project. Simulations illustrate sensitive and scenic viewpoints.
Security lighting for onshore facilities will be down shielded to mitigate light pollution.
Where substation components may be visible and highly contrasting with their surroundings, the Project would provide supplemental plantings and other landscape elements to screen the substation from public view.
Consideration will be given to visually adapt the buildings and other substation components into their physical context. The forms, lines, colors, and textures of these

components will be influenced by their immediate surroundings and selected to minimize visual contrast and potential visual impact. Non-reflective paint will be used on all Project components.
Site cable landfall and offshore facilities to avoid known locations of sensitive benthic habitat, to the extent practicable. Avoid SAV communities, where practicable and restore any temporary disturbance to these communities.
Use existing port and onshore operations and maintenance facilities to the extent practicable and minimize impacts to seagrass by restricting vessel traffic to established traffic routes where these resources are present.
Develop and implement a site-specific monitoring program to ensure environmental conditions are monitored during construction, operation, and decommissioning phases, designed to ensure environmental conditions are monitored and reasonable actions are taken to avoid and/or minimize seabed disturbance and sediment dispersion, consistent with permit conditions. The monitoring plan has been developed during the permitting process, in consultation with resource agencies.
To the extent practicable, use appropriate installation technology designed to minimize disturbance to seagrass beds; avoid anchoring on sensitive habitat; and implement turbidity reduction measures to minimize impacts to sensitive habitats from construction.
Take reasonable actions (use best management practices) to minimize seabed disturbance and sediment dispersion during cable installation and construction of Project facilities
Implement the SAV Preliminary Mitigation Plan dated November 2022 (Ocean Wind 2022), which includes mapping efforts, monitoring activities, restoration of documented activities at a minimum in-situ 1:1 ratio, annual reporting, as well as additional research to improve SAV mitigation in the future.
Vibration monitoring/structure monitoring will be implemented for the onshore construction activities including but not limited to infrastructure, bridges, businesses, homes, and drainage structures.
Use horizontal directional drilling in areas where the export cable crosses wetlands, where feasible.
Do not stage equipment in wetlands.
Use construction mats if work in wetlands is unavoidable.

1.3.2 Proposed compensatory mitigation

The proposed project will result in permanent impacts to 0.001 acres of tidal, emergent wetlands (Holtec property, transition joint bay access ports), permanent conversion of 0.243 acres of forested palustrine wetland to palustrine emergent wetland (BL England cable right of way), and permanent impacts to 1.279 acres of non-tidal, emergent wetlands (Oyster Creek substation) in areas where the New Jersey Department of Environmental Protection has not assumed federal jurisdiction under Section 404 of the Clean Water Act. The Applicant proposes to purchase a minimum of 1.821 wetland credits total from the Great Bay Wetland Mitigation Bank and the Rio Grande Swamp Mitigation Bank sponsored by Evergreen Environmental, LLC. The proposed wetland

impacts are entirely located within the Geographic Service Area of the Great Bay Wetland Mitigation Bank and the Rio Grande Swamp Mitigation Bank. The Great Bay Wetland Mitigation Bank and Rio Grande Swamp Mitigation Bank are approved mitigation banks with available credits. Remaining wetland impacts described above are temporary and would be required to be restored upon completion of construction.

Therefore, this office would not require a mitigation plan as outlined in 33 CFR 332 so long as we receive the relevant credit transfer letter(s) or a ledger update from the bank sponsor.

1.4 Existing conditions and any applicable project history

The general offshore area is characterized by typical continental shelf margins with very gradual increases in depth. Based on the geophysical survey, water depth in the Lease Area varies from -49 ft (-15 m) MLLW in the northern part to -125 ft (-38 m) MLLW in the southern part. From the coastline to the Lease Area there is a shallow slope with an average gradient of less than 1°.

Seabed morphology is generally a very gentle varying seabed. The sand ridges raise smoothly 32.8 – 49.2 ft (10 to 15 m) above the surrounding seabed. The ridges have rather irregular shapes and are oriented sub-parallel to the coastline. The Great Egg Valley is flat without topographic highs. There are areas where features of mega-ripples having a height around 1.6 ft (0.5 m) are found with varying slope gradients.

Along the export cable route, in federal waters outside the 3 nautical mile maritime limit, the water depths vary from -32.8 ft (-15 m) depth MLLW to close to -98.4 ft (-30 m) depth MLLW. In the back bays, water depths are predominantly shallow except in existing channels. Based on National Oceanic and Atmospheric Administration (NOAA) nautical charts, depths within Barnegat Bay (offshore export cable corridor to Oyster Creek) range from -1.0 to -9.8 ft (-0.3 to -3.0 m), with a majority of the open water area within the study corridor ranging from -1.0 to -5.9 ft (-0.3 to -1.8 m) MLLW. The deeper areas are found along the demarcated intracoastal waterway which ranges in depth from -6.9 to -9.8 ft (-2.1 to -3.0 m) MLLW.

Onshore the project is within the Outer Lowland Province of the Atlantic Coastal Plain, which is characterized by broad plains and gently sloping hills. The Outer Lowland Province is characterized by coastal estuaries, swamplands, and near sea level relief (US Geological Survey 2017). Based on the Digital Elevation Model and Light Detection and Ranging (LiDAR) data, the BL England and Oyster Creek Project elevations range between sea level and approximately 60 ft (18.5 m) above mean sea level (msl).

Several verifications were provided under the subject file number for geotechnical sampling and temporary installation of buoys with onboard measurement equipment under Nationwide Permits 5 and 6. Those investigations informed selection of structure types and installation techniques to be analyzed herein.

Also, an individual permit was issued to the proponent, file number NAP-2021-00187-

84, for rehabilitation of a port facility in Delta Basin, Atlantic City, Atlantic County, New Jersey. This port facility would moor and supply vessels serving to construct and maintain multiple planned generation facilities, including the subject facility.

1.4.1 Jurisdictional Determination

Is this project supported by a jurisdictional determination? No Jurisdictional Determination. A jurisdictional determination was requested by the applicant and that request was subsequently withdrawn.

The NJDEP has provided 2 Letters of Interpretation verifying the limits of wetlands at the locations where construction is proposed. This office was represented when field investigations were performed and concurs with the findings NJDEP has documented.

1.5 Permit authority Select the appropriate option to identify whether the proposed activity is regulated under the Corps' regulatory authorities; more than one option may be selected.

Table 1 – Permit Authority	
Section 10 of the Rivers and Harbors Act (33 USC 403)	X
Section 404 of the Clean Water Act (33 USC 1344)	X
Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 USC 1413)	

2.0 Scope of review for National Environmental Policy Act (i.e., scope of analysis), Section 7 of the Endangered Species Act (i.e., action area), and Section 106 of the National Historic Preservation Act (i.e., permit area)

2.1 Determination of scope of analysis for National Environmental Policy Act (NEPA)

The scope of analysis always includes the specific activity requiring a Department of the Army permit that is located within the Corps' geographic jurisdiction. In addition, we have applied the four factors test found in 33 CFR Part 325, Appendix B to determine if there are portions of the larger project beyond the limits of the Corps' geographic jurisdiction where the federal involvement is sufficient to turn these portions of an essentially private action into a federal action.

Based on our application of the guidance in Appendix B, we have determined that the scope of analysis for this review includes the Corps geographic jurisdiction and upland portions beyond the Corps geographic jurisdiction.

These upland components include specific segments of export cables, transition joint bays, specialized transformer substations, and grid interconnections. These components have been determined to be within our scope of analysis as the extent of federal involvement is sufficient to turn these portions of an essentially private action into a federal action with the resulting environmental consequences of the larger project

essentially being products of the Corps' permit action.

Final description of scope of analysis:

The analysis below will cover the footprint of specialized substations, onshore export cable corridors where they intersect wetlands or tidally influenced flowing water bodies, staging or cable pulling areas in the immediate vicinity of those intersections, transition joint bays where cable is joined or spliced, staging or cable pulling areas in the immediate vicinity of transition joint bays or related horizontal directional drilling (HDD) equipment, dredge or excavation footprints sited below mean high water, dredged material disposal sites, subaqueous buried cable corridors for the purpose of carrying generated energy to shore, the footprint of scour protection placed over cables installed between mean high water at the shore and the three nautical mile limit, subaqueous buried cable corridors for interconnection of WTGs and OSSs, the footprint of passive acoustic monitoring devices, and the footprint of WTGs and OSSs.

Each of these aspects of the project satisfy two or more of the four factors in 33 CFR 325 Appendix B and would thus be the responsibility of this office to consider.

2.2 Determination of the Corps' action area for Section 7 of the Endangered Species Act (ESA)

Action Area for the listed/proposed species and/or designated/proposed critical habitat under the National Marine Fisheries Service's jurisdiction

The action area includes the Wind Development Area (WDA) where project activities will occur and the surrounding areas ensonified by proposed Project noise; the two offshore export cable route corridors, Oyster Creek and BL England; the areas where High Resolution Geo-physical (HRG), fisheries and benthic resource surveys will take place; the vessel transit areas between the WDA and ports in New Jersey, Virginia, and South Carolina; and the routes used by vessels transporting manufactured components from Europe inclusive of the portion of the Atlantic Ocean that will be transited by those vessels and the territorial sea of nations along the European Atlantic coast from which those vessels will originate.

Materials for construction may be transported from ports outside the WDA, including Europe. The number of trips from outside of the United States, and which ports those trips could originate from, would not be fully known until contractors are selected and supply chains are established. Trips could originate from ports in Europe because many offshore wind components are currently manufactured there. Currently, most industry-specific vessels are located in Europe but as the industry matures in the United States, fewer trips from Europe will be necessary. Vessels transporting parts from the South Atlantic and/or Mid-Atlantic ports are expected to take the most direct route to the WDA and/or to ports in New Jersey, South Carolina, or Virginia; thus, we consider the action area to include portions of the North Atlantic Ocean where any project vessels transiting from the South Atlantic and/or Mid-Atlantic ports may operate. All trips originating from

Europe will either travel directly to the project site within the New Jersey Wind Energy Area or to one of the ports in Paulsboro, New Jersey; Norfolk, Virginia; or Hope Creek, New Jersey. At this time, the port(s) of origin are unknown. All vessel routes will depend, on a trip-by-trip basis, on weather and sea-state conditions, other vessel traffic, and any maritime hazards. We assume that vessels traveling from Europe to the WDA or the NJ or VA ports will take the most direct route; thus, we consider the action area to include portions of the North Atlantic Ocean where project vessels transiting from Europe may operate.

Action Area for the listed/proposed species and/or designated/proposed critical habitat under the United States Fish and Wildlife Service's jurisdiction

The action area for the overall Ocean Wind 1 (OW1) project is considerably larger than the action area considered in the resultant Biological Opinion (BO). The action area for the complete project includes surface and subsurface portions of the offshore environment, as well as extensive areas of beach, estuarine, freshwater, and terrestrial habitats affected by onshore project components. The BO issued by USFWS addresses only the risk that one or more listed birds will collide with any of the OW1 wind turbines over the operational life of the project. Thus, the action area for this BO is limited to the offshore airspace within the Wind Farm Area, extending from the ocean surface to the maximum height of the turbine blade tip, 906 feet (276 m) above the mean lower low water surface. For roseate terns, the action area also includes ocean waters to a depth of roughly 20 inches (50 centimeters (cm), as this species feeds by plunge diving and may occasionally do so within the Wind Farm Area. The Wind Farm Area varies from approximately 10 to 13 miles (16 to 21 km) wide by 15 to 17 miles (24 to 27 km) long, with an area of 68,450 acres (277 sq km).

2.3 Determination of Corps' permit area for Section 106 of the National Historic Preservation Act (NHPA)

The permit area includes those areas comprising waters of the United States that will be directly affected by the proposed work or structures, as well as activities outside of waters of the U.S. because all three tests identified in 33 CFR 325, Appendix C(g)(1) have been met.

Final description of the permit area:

The depth and breadth of the seabed potentially affected by any bottom disturbing activities.
The depth and breadth of terrestrial areas potentially affected by any ground disturbing activities.
The viewshed from which renewable energy structures, whether offshore or onshore, would be visible.
Any temporary or permanent construction or staging areas, both onshore and offshore which may fit into any of the above portions.

These areas are further detailed in Appendix N, 1.3, of the FEIS pursuant to 36 CFR 800 cumulatively described as the area of potential effects (APE).

3.0 Purpose and Need

3.1 Project purpose and need

Project purpose and need for the project as provided by the applicant and reviewed by the Corps:

The purpose of the Project is to develop a wind generation project within the BOEM Lease Area (OCS-A 0498) that meets the need for competitively priced renewable energy and additional capacity in accordance with State and regional renewable energy demands and goals. Under the New Jersey Offshore Wind Development Act (OWEDA), the NJBPU is required to establish an Offshore Wind Renewable Energy Certificate (OREC) program requiring a percentage of electricity sold in the state be derived from offshore wind energy, in order to support at least 1,100 MW of generation from qualified projects. On June 21, 2019, the NJBPU selected the Ocean Wind project to develop the offshore wind farm proposed in this application (BPU Docket No. QO18121289). The BPU Order envisions a schedule for commercial operation starting in late 2024.

3.2 Basic project purpose

Basic project purpose, as determined by the Corps: The basic Project purpose, as determined by the Corps for Section 404(b)(1) guidelines evaluation, is offshore wind energy generation.

3.3 Water dependency determination

The activity is determined to be water dependent.

Because the generating facility is sited on the OCS and energy is carried to shore via cables, access and proximity to special aquatic sites would be required to fulfill the basic project purpose. More specifically, the NJ Bureau of Public Utilities has designated the BL England and Lacey Township points of interconnection at which the required substations cannot be constructed without partial siting in wetlands.

3.4 Overall project purpose

Overall project purpose, as determined by the Corps:

In Executive Order 14008, Tackling the Climate Crisis at Home and Abroad, issued January 27, 2021, President Biden stated that it is the policy of the United States “to organize and deploy the full capacity of its agencies to combat the climate crisis to implement a Government-wide approach that reduces climate pollution in every sector of the economy; increases resilience to the impacts of climate change; protects public health; conserves our lands, waters, and biodiversity; delivers environmental justice;

and spurs well-paying union jobs and economic growth, especially through innovation, commercialization, and deployment of clean energy technologies and infrastructure."

Through a competitive leasing process under 30 Code of Federal Regulations (CFR) 585.211, Ocean Wind was awarded commercial Renewable Energy Lease OCS-A 0498 covering an area offshore New Jersey (Lease Area). Under the terms of the lease, Ocean Wind has the exclusive right to submit a COP for activities within the Lease Area, and it has submitted a COP to BOEM proposing the construction and installation, O&M, and conceptual decommissioning of an approximately 1,100-megawatt (MW) offshore wind energy facility in the Lease Area in accordance with BOEM's COP regulations under 30 CFR 585.626, et seq. (Figure S-1, BOEM FEIS).

Based on BOEM's authority under the Outer Continental Shelf Lands Act (OCSLA) to authorize renewable energy activities on the OCS, and Executive Order 14008; the shared goals of the federal agencies to deploy 30 GW of offshore wind energy capacity in the United States by 2030, while protecting biodiversity and promoting ocean co-use1; and in consideration of the goals of the Applicant, the purpose of BOEM's action is to determine whether to approve, approve with modifications, or disapprove Ocean Wind's COP. BOEM will make this determination after weighing the factors in Subsection 8(p)(4) of the OCSLA that are applicable to plan decisions and in consideration of the above goals. BOEM's action is needed to fulfill its duties under the lease, which require BOEM to make a decision on the lessee's plans to construct and operate a commercial-scale offshore wind energy facility within the Lease Area (the Proposed Action).

In addition, the National Oceanic and Atmospheric Administration's (NOAA) NMFS received a request for authorization to take marine mammals incidental to construction activities related to the Project, which NMFS may authorize under the Marine Mammal Protection Act (MMPA). NMFS's issuance of an MMPA incidental take authorization is a major federal action and, in relation to BOEM's action, is considered a connected action (40 CFR 1501.9(e)(1)). The purpose of the NMFS action—which is a direct outcome of Ocean Wind's request for authorization to take marine mammals incidental to specified activities associated with the Project (e.g., pile driving)—is to evaluate Ocean Wind's request under requirements of the MMPA (16 USC 1371(a)(5)(A)) and its implementing regulations administered by NMFS and to decide whether to issue the authorization. NMFS needs to render a decision regarding the request for authorization due to NMFS' responsibilities under the MMPA (16 USC 1371(a)(5)(A)) and its implementing regulations. NMFS intends to adopt the Final EIS if, after independent review and analysis, NMFS determines the Final EIS to be sufficient to support its separate proposed action and decision to issue the authorization, if appropriate.

The USACE Philadelphia District anticipates requests for authorization of a permit action to be undertaken through authority delegated to the District Engineer by 33 CFR 325.8, pursuant to Section 10 of the RHA (33 USC 403) and Section 404 of the CWA (33 USC 1344). In addition, USACE anticipates that a "Section 408 permission" will be required pursuant to Section 14 of the RHA (33 USC 408) for any proposed alterations that have the potential to alter, occupy, or use any federally authorized civil works

projects. USACE considers issuance of permits under these three delegated authorities a major federal action connected to BOEM's action (40 CFR 1501.9(e)(1)). The need for the Project as provided by the Applicant in Ocean Wind's COP and reviewed by USACE for NEPA purposes is to provide a commercially viable offshore wind energy project within the Lease Area to meet New Jersey's need for clean energy. The basic Project purpose, as determined by USACE for Section 404(b)(1) guidelines evaluation, is offshore wind energy generation. The overall Project purpose for Section 404(b)(1) guidelines evaluation, as determined by USACE, is the construction and operation of a commercial-scale offshore wind energy project for renewable energy generation and distribution to the New Jersey energy grids.

The purpose of USACE Section 408 action as determined by Engineer Circular 1165-2-220 is to evaluate the Applicant's request and determine whether the proposed alterations are injurious to the public interest or impair the usefulness of the USACE project. The USACE Section 408 permission is needed to ensure that congressionally authorized projects continue to provide their intended benefits to the public. USACE intends to adopt BOEM's EIS to support its decision on any permits and permissions requested under Section 10 of the RHA, Section 404 of the CWA, and Section 14 of the RHA. USACE would adopt the EIS under 40 CFR 1506.3 if, after its independent review of the document, it concludes that the EIS satisfies USACE's comments and recommendations. Based on its participation as a cooperating agency and its consideration of the final EIS, USACE would issue a Record of Decision (ROD) to formally document its decision on the Proposed Action.

4.0 Coordination

4.1 Public Notice Results

The results of coordinating the proposal on public notice are identified below, including a summary of issues raised, any applicant response and the Corps' evaluation of concerns.

Were comments received in response to the public notice? Yes

Were comments forwarded to the applicant for response? N/A

Was a public meeting and/or hearing requested, and if so, was one conducted?

No, no public hearing or meeting was requested.

BOEM scheduled three virtual public comment meetings, which also served as Corps public hearings. This office attended the meetings.

Comments received in response to public notice:

Comment 1: Cultural Heritage Partners, on behalf of Cape May County, advised our office that BOEM's review of a number of aspects of the project were lacking sufficient detail and reliable findings in the DEIS. It was indicated that this office should not provide any permit reliant upon the content of the DEIS for compliance with NEPA. The letter included copies of comments Cultural Heritage Partners submitted in response to the DEIS and the comments of the New Jersey Historic Preservation Office regarding the same.

Applicant's Response: N/A

Corps' Evaluation: The EIS was revised to address the issues raised in this comment and BOEM made the necessary changes to expand the involvement of stakeholders, revised the list of properties considered, and prepared a memorandum of agreement to mitigate impacts to resources covered by the National Historic Preservation Act.

Comment 2: The United States Environmental Protection Agency advised this office that the impacts reflected in the public notice did not match those described in the DEIS.

Applicant's Response: N/A

Corps' Evaluation: The DEIS was written to address a broad range of options for building the project to facilitate comprehensive analysis across all possibilities. The application this office received, and subsequently described in the public notice, details a specific preferred project. The impacts of the specific project have since been refined further through the applicant's effort to avoid and minimize. Proposed impacts to submerged aquatic vegetation have been reduced to the smallest feasible footprint of temporary disturbances.

Comment 3: The United States Fish and Wildlife Service indicated that alternatives to the impacts proposed in SAV should be evaluated to determine compliance with 40 CFR 230. Further, the Service advised this office that portions of the proposed activity are sited within a migratory bird corridor with no existing provisions for take. Finally, the Service highlights the Air Quality Related Value protections applicable to the Brigantine National Wilderness Area.

Applicant's Response: N/A

Corps' Evaluation: Alternatives minimizing impacts to SAV were considered below. Migratory birds have been addressed in the EIS with numerous provisions described in Appendix H for avoidance, minimization, and monitoring of impacts. The project proponent has applied for appropriate permissions regarding air quality that EPA is currently reviewing.

Comment 4: Barnegat Bay Partners indicated differences between reported impacts in the construction and operations plan and the DEIS. Recommendations were made with regard to mitigation and monitoring for SAV, hard-shelled clams, and blue crabs.

Applicant's Response: N/A

Corps' Evaluation: The project proponent has developed an SAV mitigation and monitoring plan. The project proponent will contribute to NJDEP's fund an amount that reflects anticipated impacts to benthic resources in Barnegat Bay.

Additional discussion of submitted comments, applicant response and/or Corps' evaluation: DEIS comments have been organized and addressed in Appendix O of the FEIS. The published FEIS reflects careful consideration of those comments that were substantive.

4.2 Additional issues raised by the Corps

Substantive issues raised by Corps stakeholders are subject to 33 USC 408 and related policy. A separate review and determination will address these issues which include, in summary:

Colocation with New Jersey beaches subject to sand renourishment by the Corps. Colocation with navigation channels maintained by or coordinated with the Corps. Colocation with planned flood hazard abatement measures the Corps has been solicited to provide for the back bays of New Jersey.

4.3 Comments regarding activities and/or effects outside of the Corps' scope of review

See above and FEIS, Appendix O.

5.0 Alternatives Analysis

(33 CFR Part 325 Appendix B, 40 CFR 230.5(c), 40 CFR 1501, and RGL 88-13). An evaluation of alternatives is required under NEPA for all jurisdictional activities. NEPA requires discussion of a reasonable range of alternatives, including the no action alternative, and the effects of those alternatives. An evaluation of alternatives is required under the Section 404(b)(1) Guidelines for projects that include the discharge of dredged or fill material to waters of the United States. Under the Section 404(b)(1) Guidelines, practicability of alternatives is taken into consideration and no alternative may be permitted if there is a less environmentally damaging practicable alternative.

5.1 Site selection/screening criteria

In order to be practicable, an alternative must be available, achieve the overall project purpose (as defined by the Corps) and be feasible when considering cost, logistics and existing technology.

Criteria for evaluating alternatives as evaluated and determined by the Corps:

Wind Turbine Generators and Offshore Substations

• It is outside the jurisdiction of the Lead Agency, including resulting in activities that are not allowed under the lease (e.g., requiring locating part or all of the wind energy facility outside of the Lease Area, or constructing and operating a facility for another form of energy).
• It would not respond to the purpose and need of BOEM's action, including not furthering the United States' policy to make OCS energy resources available for expeditious and orderly development, subject to environmental safeguards.
• It would require a major change to an existing law, regulation, or policy.
• It would not be responsive to the Applicant's goals, lease constraints, and obligations, such as alternatives that would:
o Partially or completely relocate the Project outside of the defined geographic area where it was proposed; or
o Result in the development of a Project that would not allow the developer to satisfy contractual obligations (e.g., resulting in a Project with a nameplate capacity that is less than what is required under a Power Purchase Agreement; result in significant implementation delays that would prevent the Project from initiating commercial operations by the contractually required date in the Power Purchase Agreement).
• It is technically infeasible, meaning implementation of the alternative is unlikely given past and current practice, technology (e.g., experimental turbine design or foundation type), or site conditions (e.g., presence of boulders) as determined by BOEM's technical experts.
• It is economically infeasible, meaning implementation of the alternative is unlikely due to unreasonable costs as determined by BOEM's technical experts; while this does not require cost-benefit analysis or speculation about an applicant's costs and profits, there must be a reasonable basis.
• It cannot be analyzed because its implementation is remote or speculative, or it is too conceptual in that it lacks sufficient detail to meaningfully analyze impacts.
• It is substantially similar in design to an alternative that is or will be analyzed in detail.
• It is environmentally infeasible, meaning implementation of the alternative would not be allowed by another agency from which a permit or approval is required, or implementation results in an obvious and substantial increase in impacts on the human environment.
• It does not address a specific environmental or socioeconomic concern or issue.

Point(s) of Interconnection (POI)

- Capable of accepting all or a portion of the power from the Project with minimal upgrades
- Located within 10 miles of the coastline to minimize environmental impacts and optimize cable route length
- Avoid or minimize impacts to environmental features (e.g., critical habitat, wetlands, cultural resources, existing contamination)
- Consistency with, and reduced or low potential impacts on, adjacent land uses
- Constructability (e.g., land use, slopes, access, temporary staging areas, and utility locations)
- Availability of suitable landfall locations (i.e., those that minimize environmental

impacts and are within 10 miles of the POI).

Onshore Substation(s)

- Proximity to POI (within 10 miles) to minimize environmental impacts and optimize cable route length
- Avoid or minimize impacts to environmental features (e.g., critical habitat, wetlands, cultural resources, existing contamination)
- Proximity to the export cable route to minimize environmental impacts, neighborhood disruption (e.g., disturbances, interruptions, or changes), and costs associated with the cable connections to the POI)
- Sufficient land available (a minimum of 6 acres)
- Consistency with, and reduced or low potential impacts on, adjacent land uses
- Constructability (e.g., land use, slopes, access, temporary staging areas, and utility locations)
- Optimization of cable route lengths
- Availability of suitable landfall locations (i.e., those that minimize environmental impacts and are within 10 miles of the substation)

Export Cable Landfall(s) (landfall)

- Avoid or minimize impacts to environmental features (e.g., critical habitat, shellfish lease areas, fish spawning areas, cultural resources, and existing contamination) by leveraging existing conditions (i.e., existing roadways or parking lots or previously disturbed areas)
- Prioritize property availability, including State- and county-owned roadways, and existing utility ROW
- Consistency with, and reduced or low potential impacts on, adjacent land uses.
- Constructability (e.g., land use, slopes, access, temporary staging areas, and utility locations)
- Optimization of cable route lengths
- Availability of suitable landfall locations (i.e., are within 10 miles of the substation to minimize onshore impacts to local communities and sensitive natural resources)
- Use of existing ROWs to access the water when a parcel for the landfall location was not adjacent to the water

Offshore Export Cable Route within NJ State Waters

- Minimize extreme changes in slope and water depths
- Coarse grain sediments of sufficient depth to meet target cable burial depths while avoiding pockets of contaminated sediments and organic sediments.
- Optimization of cable route lengths
- Avoid or limit crossing navigation channels and anchorage areas

- Avoid known submerged shipwrecks and other cultural resources
- Avoid mining and or dredge spoil areas
- Minimize number of infrastructure (e.g., utility) crossings
- Minimize impacts to aquatic communities and sensitive habitats
- Constructability (e.g., habitat type, depths, slopes, access, and utility locations)

Onshore Export Cable Route

- Minimize extreme changes in slope
- Prioritize property availability, including State- and county-owned roadways, and existing utility ROW
- Avoid known Superfund Sites or sites designated as hazardous
- Avoid known locations of historic or archaeological resources
- Avoid or minimize number of infrastructure (e.g., roads, bridges, culverts) crossings to reduce impacts to existing onshore infrastructure
- Minimize impacts to wetlands and floodplains
- Minimize the overall length of the route to minimize impacts to terrestrial communities, wildlife species, and sensitive habitats
- Minimize impacts to aesthetic resources
- Minimize impacts to sensitive receptors such as hospitals, schools, and Churches

5.2 Description of alternatives

5.2.1 No action alternative

Under the no action alternative, the project would not be constructed, as the proposed activity requires access or proximity to or siting within aquatic resources to fulfill its purpose.

5.2.2 Off-site alternatives

FEIS Section 2.1.7 lists numerous offsite and on-site alternatives that were considered but not analyzed in detail following consideration of the screening criteria listed above. Additional dismissed alternatives are addressed in FEIS appendix C. No off-site alternatives are available for the development of the facility given the constraint to a federally issued lease by the Bureau of Ocean Energy Management and the designation of interconnection points by the New Jersey Bureau of Public Utilities. Export cable routes to available points of interconnection are detailed in attachment 2 of the application. Screening criteria noted above were applied to alternatives listed in application Attachment 2, section 3.3 for eliminating routes and points of interconnection that are not feasible which resulted in the selection of alternatives analyzed in the FEIS. The feasible subset is summarized under on-site alternatives.

5.2.3 On-site alternatives

On-site alternative 1: (Identified as Alternative A in BOEMs' ROD): Under Alternative A, the construction, O&M, and conceptual decommissioning of an 1,100-MW wind energy facility consisting of up to 98 WTGs, up to three alternating current OSS, inter-array cables linking the individual WTGs to the OSS, and substation interconnector cables linking the substations to each other would be developed in the Lease Area, approximately 13 nm southeast of Atlantic City, New Jersey. Up to three offshore export cables (installed within two export cable route corridors) that connect to onshore export cable systems and two onshore substations with connections to the existing electrical grid in New Jersey at BL England and Oyster Creek would also be developed. The BL England export cable route corridor would landfall in Ocean City, New Jersey, and the Oyster Creek export cable route corridor would landfall in Lacey Township, New Jersey. Development of the wind energy facility would occur within the range of design parameters outlined in the COP (Ocean Wind 2023), subject to applicable mitigation measures.

On-site alternative 2: (Identified as Alternative B in BOEMs' ROD): Under Alternative B, the construction, O&M, and eventual decommissioning of an 1,100-MW wind energy facility on the OCS offshore New Jersey would occur within the range of the design parameters outlined in the COP, subject to applicable mitigation measures. However, no surface occupancy would occur at select WTG positions to reduce the visual impacts of the proposed Project. Each of the sub-alternatives below may be individually selected or combined with any or all other alternatives or sub-alternatives, subject to the combination meeting the purpose and need.

- Alternative B-1: No Surface Occupancy at Select Locations to Reduce Visual Impacts (Smaller Turbine Model): This alternative would exclude placement of WTGs at up to nine WTG positions that are nearest to coastal communities (positions F01 to K01 and B02 to D02). The final number of WTG positions excluded in the Final EIS may be fewer than nine to ensure consistency with an 1,100-MW nameplate capacity and annual OREC allowance to fulfill Ocean Wind's contractual obligations with BPU.

- Alternative B-2: No Surface Occupancy at Select Locations to Reduce Visual Impacts (Larger Turbine Model): This alternative would exclude placement of WTGs at up to 19 WTG positions that are nearest to coastal communities (positions F01 to K01, A02 to K02, A03, and C03). Selection of this alternative would be contingent on the larger turbine with a 240-meter rotor diameter being commercially available when BOEM issues its ROD as well as technical and economic feasibility and consistency with the purpose and need. The final number of WTG positions excluded in the Final EIS may be fewer than 19 to ensure consistency with an 1,100-MW nameplate capacity and annual OREC allowance to fulfill Ocean Wind's contractual obligations with BPU.

On-site alternative 3 (Identified as Alternative C in BOEMs' ROD): Under Alternative C,

the construction, O&M, and eventual decommissioning of an 1,100-MW wind energy facility on the OCS offshore New Jersey would occur within the range of the design parameters outlined in the Ocean Wind 1 COP, subject to applicable mitigation measures. However, modifications would be made to the wind turbine array layout to create a 0.81-nm to 1.08-nm buffer between WTGs in the lease area of OCS-A 0498 (Ocean Wind 1 Lease Area) and WTGs in the lease area of OCS-A 0499 (Atlantic Shores South Lease Area) to reduce impacts on existing ocean uses, such as commercial and recreational fishing and marine (surface and aerial) navigation. Each of the sub-alternatives may be individually selected or combined with any or all other alternatives or sub-alternatives, subject to the combination meeting the purpose and need.

- Alternative C-1: No Surface Occupancy to Establish a Buffer with Turbine Relocation: No surface occupancy along the northeastern boundary of the Ocean Wind 1 Lease Area (A02 to A09) through the exclusion of eight WTG positions, relocation of up to eight WTG positions to the northern portion of the Ocean Wind 1 Lease Area, or some combination of exclusion and relocation of WTG positions, to allow for a 0.81-nm to 1.08-nm buffer between WTGs in the Ocean Wind 1 Lease Area and WTGs in the Atlantic Shores South Lease Area.

- Alternative C-2: No Surface Occupancy to Establish a Buffer with Turbine Layout Compression: No surface occupancy along the northeastern boundary of the Ocean Wind 1 Lease Area to allow for a 0.81-nm to 1.088-nm buffer between WTGs in the Ocean Wind 1 Lease Area and WTGs in the Atlantic Shores South Lease Area. However, under Alternative C-2, the wind turbine array layout would be compressed to allow for a full build of up to 98 WTGs. Ocean Wind 1's turbine array row spacing would be reduced from 1 nm between rows to no less than 0.99 nm between rows.

On-site alternative 4 (Identified as Alternative D in BOEMs' ROD): Under Alternative D, the construction, O&M, and eventual decommissioning of an 1,100-MW wind energy facility on the OCS offshore New Jersey would occur within the range of the design parameters outlined in the Ocean Wind 1 COP, subject to applicable mitigation measures. However, modifications would be made to the wind turbine array layout to minimize impacts on sand ridge and trough features in the northeastern corner of the Lease Area. This alternative would result in the exclusion of up to 15 WTG positions in the sand ridge and trough area that include A07 to E07, A08 to E08, and A09 to E09. The identification of individual WTGs for exclusion, should the number excluded be fewer than 15, would be coordinated with NMFS. Selection of this alternative with the exclusion of more than nine WTGs would be contingent on the larger turbine with a 240-meter rotor diameter being commercially available when BOEM issues its ROD as well as its technical and economic feasibility, and consistency with the purpose and need. The final number of WTG positions considered for exclusion in the Final EIS may be reduced to fewer than nine to fifteen to ensure consistency with an-1,100 MW nameplate capacity and annual OREC allowance to fulfill Ocean Wind's contractual obligations with BPU.

On-site alternative 5 (Identified as Alternative E in BOEMs' ROD): Under Alternative E, the construction, operation, maintenance, and eventual decommissioning of an 1,100-MW wind energy facility on the OCS offshore New Jersey would occur within the range of the design parameters outlined in the Ocean Wind 1 COP, subject to applicable mitigation measures. However, the Oyster Creek export cable route traversing Island Beach State Park would be limited to the option developed to minimize impacts on submerged aquatic vegetation in Barnegat Bay. The submerged aquatic vegetation avoidance export cable route option would make landfall within an auxiliary parking lot of Swimming Area 2 in Island Beach State Park, continue north within parking lots, then northwest under Shore Road before entering Barnegat Bay. Upon entering Barnegat Bay, the export cable route would continue within a previously dredged channel and then reconnect to the Oyster Creek export cable route in Barnegat Bay. This alternative would narrow the design envelope so that the Applicant could only select the northernmost export cable route; the northernmost export cable route would not function independently but is intended to be combined with another alternative or sub-alternative, subject to the combination meeting the purpose and need.

5.3 Alternatives evaluation under the Section 404(b)(1) Guidelines and NEPA

Alternatives are analyzed in Chapter 2 of the FEIS with comparisons summarized in Table 2-4. Reasons for dismissal of alternatives are addressed more specifically in sections 2.1.3 through 2.1.5 and the BOEM ROD addresses combinations of the various alternatives across impact categories leading to selection of the preferred alternative, ultimately dismissing alternatives B, C, and D. The application provided alternatives analysis includes a consolidation of the analyzed alternatives and the dismissed alternatives in FEIS Appendix C, all screened using the criteria listed above.

5.4 Least environmentally damaging practicable alternative under the Section 404(b)(1) Guidelines

In Section 5 of the Record of Decision, BOEM concludes that a combination of Alternative A and Alternative E would result in fewer impacts than other action alternatives considered, determined to be consistent with the purpose and need. This office concurs with the findings of BOEM's analysis. The proposed action described in the application, and subsequent supplements, for a DA Permit, reflects this combination and selection of this alternative.

6.0 Evaluation for Compliance with the Section 404(b)(1) Guidelines

The following sequence of evaluation is consistent with 40 CFR 230.5

6.1 Practicable alternatives

Practicable alternatives to the proposed discharge consistent with 40 CFR 230.5(c) are evaluated in Section 5.

The statements below summarize the analysis of alternatives:

In summary, based on the analysis in Section 5 above, the no-action alternative, which would not involve discharge into waters of the United States, is not practicable.

For those projects that would discharge into a special aquatic site and are not water dependent, the applicant has demonstrated there are no practicable alternatives that do not involve special aquatic sites.

It has been determined that there are no alternatives to the proposed discharge that would be less environmentally damaging (Subpart B, 40 CFR 230.10(a)).

The proposed discharge in this evaluation is the practicable alternative with the least adverse impact on the aquatic ecosystem, and it does not have other significant environmental consequences.

6.2 Candidate disposal site delineation (Subpart B, 40 CFR 230.11(f))

Each disposal site shall be specified through the application of these Section 404(b)(1) Guidelines:

The applicant has secured a commitment with Clean Earth, LLC to place up to 149,500 cubic yards (cy) of dredged material at the Claremont Dredge Material Processing Facility for confined upland disposal. This total is inclusive of approximately 9,200 cy for HDD exit pits, 18,030 cy potentially dredged from the federal navigation channel, and material removed from Barnegat Bay where necessary as detailed on project plans.

The Project also includes discharge of crushed stone where cable installation cannot achieve the target depth, such as intersections with existing cables. In Barnegat Bay, crushed stone will be discharged as shoreline stabilization where cables enter the bay and clean sand will be discharged to bring trenches in Barnegat Bay back up to an elevation to support submerged aquatic vegetation growth. Additionally, the discharge of fill would be necessary to support development of the specialized substation in Lacey Township.

6.3 Potential impacts on physical and chemical characteristics of the aquatic ecosystem (Subpart C 40 CFR 230.20-40 CFR 230.25)

The following has been considered in evaluating the potential impacts on physical and chemical characteristics (see Table 2):

Table 2 – Potential Impacts on Physical and Chemical Characteristics						
Physical and Chemical Characteristics	**N/A**	**No Effect**	**Negligible Effect**	**Minor Effect (Short Term)**	**Minor Effect (Long Term)**	**Major Effect**
Substrate					X	
Suspended particulates/ turbidity				X		
Water			X			
Current patterns and water circulation			X			
Normal water fluctuations		X				
Salinity gradients		X				

Discussion: Fills discharged for cable protection are anticipated to permanently alter substrate composition by introducing crushed stone. This alteration is limited to the immediate vicinity of project components. Construction within Barnegat Bay and the Atlantic Ocean will disturb fine sediments, resulting in short term suspension of particles in the water column which should dissipate over the course of a few hours. Water characteristics in the vicinity of operating project components and during construction are anticipated to be altered. Water clarity would be reduced temporarily when construction activities suspend fine sediments. WTGs occupy the full depth of the water column and could subtly alter current patterns and water circulation. Given a lack of examples at the project scale, the cumulative change is estimated to be minor. Normal water fluctuations and salinity gradients are not expected to be affected given that the project is widely spread out and presents no consistent boundary to the tidal cycle and no sufficient chemical alteration to precipitate or add dissolved salt to the aquatic environment.

6.4 Potential impacts on the living communities or human uses (Subparts D, E and F)

6.4.1 Potential impacts on the biological characteristics of the aquatic ecosystem (Subpart D 40 CFR 230.30)

The following has been considered in evaluating the potential impacts on biological characteristics (see Table 3):

Table 3 – Potential Impacts on Biological Characteristics						
Biological Characteristics	**N/A**	**No Effect**	**Negligible Effect**	**Minor Effect (Short Term)**	**Minor Effect (Long Term)**	**Major Effect**
Threatened and endangered species					X	
Fish, crustaceans, mollusks, and other aquatic organisms					X	
Other wildlife					X	

Discussion: Where consultation with the Secretary of the Interior occurs under section 7 of the Endangered Species Act, the conclusions of the Secretary concerning the impact(s) of the discharge on threatened and endangered species and their habitat shall be considered final. In the immediate vicinity of project components and construction activities, habitat alterations associated with discharges are anticipated to be permanent but strictly localized having a minor effect on threatened and endangered species, fish, crustaceans, mollusks, other aquatic organisms, and other wildlife.

6.4.2 Potential impacts on special aquatic sites (Subpart E 40 CFR 230.40)

The following has been considered in evaluating the potential impacts on special aquatic sites (see Table 4):

Table 4 – Potential Impacts on Special Aquatic Sites						
Special Aquatic Sites	**N/A**	**No Effect**	**Negligible Effect**	**Minor Effect (Short Term)**	**Minor Effect (Long Term)**	**Major Effect**
Sanctuaries and refuges	X					
Wetlands					X	
Mud flats			X			
Vegetated shallows				X		
Coral reefs	X					
Riffle pool complexes	X					

Discussion: There are no sanctuaries and refuges, coral reefs or riffle pool complexes in the project vicinity for the purposes of this analysis. Mudflats in the project vicinity of the project will be avoided through the use of directional drilling to the maximum practicable extent. Unavoidable wetland impacts will be restored to contours observed prior to project implementation and are not anticipated to adversely affect biological productivity or result in smothering, dewatering, permanent flooding, altering substrate elevations, or alter periodicity of water movement. However, 1.28 acres of wetland will be converted to dry land and 0.243 acres of forested palustrine wetland will be permanently converted to palustrine emergent wetland. See section 6.7 for mitigative measures. The cable

crossing Barnegat Bay will temporarily disturb vegetated shallows but is not anticipated to create unsuitable conditions for the continued vigor of submerged aquatic vegetation.

6.4.3 Potential impacts on human use characteristics (Subpart F 40 CFR 230.50)

The following has been considered in evaluating the potential impacts on human use characteristics (see Table 5):

Table 5 – Potential Effects on Human Use Characteristics						
Human Use Characteristics	**N/A**	**No Effect**	**Negligible Effect**	**Minor Effect (Short Term)**	**Minor Effect (Long Term)**	**Major Effect**
Municipal and private water supplies	X					
Recreational and commercial fisheries			X			
Water-related recreation			X			
Aesthetics			X			
Parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar preserves			X			

Discussion: No municipal or private water supplies were identified in the project vicinity. Recreational and commercial fisheries will be subjected to a period of adjustment to navigating around the discharges to access some of the prime fishing grounds on the OCS. Once placed stone fills for cable protection attract and supplement marine life communities, offsetting benefits would be anticipated to accrue. Numerous parks and historical monuments are in the vicinity but not anticipated to be affected by any discharges. The proposed discharges of dredged and fill material under consideration do not include the structures proposed for installation on the OCS so cumulatively they would have a negligible effect on aesthetics.

6.5 Pre-testing evaluation (Subpart G, 40 CFR 230.60)

The following has been considered in evaluating the biological availability of possible contaminants in dredged or fill material (see Table 6):

Table 6 – Possible Contaminants in Dredged/Fill Material	
Physical substrate characteristics	
Hydrography in relation to known or anticipated sources of contaminants	

Table 6 – Possible Contaminants in Dredged/Fill Material	
Results from previous testing of the material or similar material in the vicinity of the project	
Known, significant sources of persistent pesticides from land runoff or percolation	X
Spill records for petroleum products or designated hazardous substances (Section 311 of the Clean Water Act)	
Other public records or significant introduction of contaminants from industries, municipalities, or other sources	
Known existence of substantial material deposits of substances which could be released in harmful quantities to the aquatic environment by man-induced discharge activities	X

Discussion: Fills are proposed to be sourced only from sources providing clean sand, clean soil, or clean crushed stone, free of any listed contaminants in Table 6. Dredged material has been tested in advance of excavation and is shown to contain hazardous metals and pesticides. Upland disposal is planned for dewatering and containment.

It has been determined that testing is not required because of the availability of constraints to reduce contamination to acceptable levels within the disposal site and to prevent contaminants from being transported beyond the boundaries of the disposal site.

6.6 Evaluation and testing (Subpart G, 40 CFR 230.61)

Discussion: Select sampled locations where dredging is proposed have material not suitable for in-water disposal, including hazardous metals and pesticides. Attachment 8 of the application details sediment sampling and analysis which the NJDEP required. Additional sampling is anticipated to be required in an amendment to the NJDEP permit.

6.7 Actions to minimize adverse impacts (Subpart H)

The following actions, as appropriate, have been taken through application of 40 CFR 230.70-230.77 to ensure no more than minimal adverse effects of the proposed discharge (see Table 7):

Table 7 – Actions to Minimize Adverse Effects	
Actions concerning the location of the discharge	X
Actions concerning the material to be discharged	
Actions controlling the material after discharge	X
Actions affecting the method of dispersion	
Actions related to technology	X
Actions affecting plant and animal populations	X
Actions affecting human use	X
Other actions	X

Discussion: Actions applicable to fill include 40 CFR 230.72 (d) Timing the discharge to minimize impact, for instance during periods of unusual high-water flows, wind, wave, and tidal actions; 230.74 (c & e) Using machinery and techniques that are especially designed to reduce damage to wetlands. This may include machines equipped with devices that scatter rather than mound excavated materials, machines with specially designed wheels or tracks, and the use of mats under heavy machines to reduce wetland surface compaction and rutting. Employing appropriate machinery and methods of transport of the material for discharge; 230.75 (c) Avoiding sites having unique habitat or other value, including habitat of threatened or endangered species; 230.76 (f) Locating the disposal site outside of the vicinity of a public water supply intake; and 230.77 (d) When a significant ecological change in the aquatic environment is proposed by the discharge of dredged or fill material, the permitting authority should consider the ecosystem that will be lost as well as the environmental benefits of the new system.. Actions applicable to disposal of dredged material include 40 CFR 230.70 (c) Selecting a disposal site that has been used previously for dredged material discharge; 230.70 (f) Designing the discharge of dredged or fill material to minimize or prevent the creation of standing bodies of water in areas of normally fluctuating water levels, and minimize or prevent the drainage of areas subject to such fluctuations; 230.71 (a) Disposal of dredged material in such a manner that physiochemical conditions are maintained and the potency and availability of pollutants are reduced; 230.72 (a)(1) Using containment levees, sediment basins, and cover crops to reduce erosion; 230.72 (c) Maintaining and containing discharged material properly to prevent point and nonpoint sources of pollution; 230.74 (a) Using appropriate equipment or machinery, including protective devices, and the use of such equipment or machinery in activities related to the discharge of dredged or fill material; 230.74 (e) Employing appropriate machinery and methods of transport of the material for discharge; 230.75 (c) Avoiding sites having unique habitat or other value, including habitat of threatened or endangered species; 230.76 (b) Selecting disposal sites which are not valuable as natural aquatic areas; 230.76 (d) Following discharge procedures which avoid or minimize the disturbance of aesthetic features of an aquatic site or ecosystem; 230.76 (e) Selecting sites that will not be detrimental or increase incompatible human activity, or require the need for frequent dredge or fill maintenance activity in remote fish and wildlife areas; and 230.76 (f) Locating the disposal site outside of the vicinity of a public water supply intake.

6.8 Factual Determinations (Subpart B, 40 CFR 230.11)

The following determinations are made based on the applicable information above, including actions to minimize effects and consideration for contaminants (see Table 8):

Table 8 – Factual Determinations of Potential Effects

Site	N/A	No Effect	Negligible Effect	Minor Effect (Short Term)	Minor Effect (Long Term)	Major Effect
Physical substrate					X	

Table 8 – Factual Determinations of Potential Effects						
Site	**N/A**	**No Effect**	**Negligible Effect**	**Minor Effect (Short Term)**	**Minor Effect (Long Term)**	**Major Effect**
Water circulation, fluctuation and salinity			X			
Suspended particulates/turbidity				X		
Contaminants			X			
Aquatic ecosystem and organisms					X	
Proposed disposal site					X	
Cumulative effects on the aquatic ecosystem			X			
Secondary effects on the aquatic ecosystem			X			

Discussion: See tables above.

6.9 Findings of compliance or non-compliance with the restrictions on discharges (40 CFR 230.10(a-d) and 230.12)

Based on the information above, including the factual determinations, the proposed discharge has been evaluated to determine whether any of the restrictions on discharge would occur (see Table 9):

Table 9 – Compliance with Restrictions on Discharge		
Subject	**Yes**	**No**
1. Is there a practicable alternative to the proposed discharge that would be less damaging to the environment (any alternative with less aquatic resource effects, or an alternative with more aquatic resource effects that avoids other significant adverse environmental consequences?)		X
2. Will the discharge cause or contribute to violations of any applicable water quality standards?		X
3. Will the discharge violate any toxic effluent standards (under Section 307 of the Clean Water Act)?		X
4. Will the discharge jeopardize the continued existence of endangered or threatened species or their critical habitat?		X
5. Will the discharge violate standards set by the Department of Commerce to protect marine sanctuaries?		X

Table 9 – Compliance with Restrictions on Discharge		
Subject	**Yes**	**No**
6. Will the discharge cause or contribute to significant degradation of waters of the United States?		X
7. Have all appropriate and practicable steps (Subpart H, 40 CFR 230.70) been taken to minimize the potential adverse impacts of the discharge on the aquatic ecosystem?	X	

Discussion: The discharge is determined to be compliant with the inclusion of the above noted appropriate and practicable discharge conditions to minimize pollution and adverse effects to the affected aquatic ecosystems.

7.0 General Public Interest Review (33 CFR 320.4 and Regulatory Guidance Letter 84-09)

The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity and its intended use on the public interest as stated at 33 CFR 320.4(a). To the extent appropriate, the public interest review below also includes consideration of additional policies as described in 33 CFR 320.4(b) through (r). The benefits which reasonably may be expected to accrue from the proposal are balanced against its reasonably foreseeable detriments.

7.1 Public interest factors review

All public interest factors have been reviewed and those that are relevant to the proposal are considered and discussed in additional detail (see Table 10):

Table 10 – Public Interest Factors						
Factor	**None**	**Detrimental**	**Neutral (mitigated)**	**Negligible**	**Beneficial**	**Not Applicable**
1. Conservation: See below for discussion.					X	
2. Economics: This project will employ a significant workforce to construct, maintain, and operate.					X	
3. Aesthetics: See below for discussion.		X				
4. General Environmental Concerns:					X	
5. Wetlands: Temporary wetland impacts will be restored to preexisting conditions following construction. Compensatory mitigation will be provided for permanent impacts.			X			
6. Historic Properties: See below for discussion.			X			

Table 10 – Public Interest Factors						
Factor	**None**	**Detrimental**	**Neutral (mitigated)**	**Negligible**	**Beneficial**	**Not Applicable**
7. Fish and Wildlife Values: Conservation recommendations, reasonable and prudent measures, as well as the recommendations of the relevant state agency have been implemented by inclusion in the required mitigation and monitoring measures as part of the proposed action (Appendix H of the FEIS).			X			
8. Flood Hazards: NJDEP has applied conditions to the water quality certification that satisfactorily limit and offset any cumulative contribution to flood hazard by this activity.			X			
9. Floodplain Values: NJDEP has applied conditions to the water quality certification that satisfactorily limit and offset any cumulative contribution to floodplain values by this activity.				X		
10. Land Use: The primary responsibility for determining zoning and land use matters rests with state, local and tribal governments. The district engineer will normally accept decisions by such governments on those matters unless there are significant issues of overriding national importance.	X					
11. Navigation: See below for discussion.			X			
12. Shoreline Erosion and Accretion: Project features intersecting shorelines have been designed to circumvent entirely or to protect against any contribution to erosion or accretion, except where state and local recommendation favors accretion.				X		
13. Recreation: See below for discussion.			X			
14. Water Supply and Conservation: This activity will not alter availability or conservation efforts with regard to water supply.	X					
15. Water Quality: The certifying authority has evaluated and approved the proposed action conditionally. The Regional Administrator, U.S. EPA will not send notification to neighboring jurisdictions and confirms processing of the license or permit may proceed without awaiting further action from EPA pursuant to CWA 401(a)(2).			X			

Table 10 – Public Interest Factors						
Factor	None	Detrimental	Neutral (mitigated)	Negligible	Beneficial	Not Applicable
16. Energy Needs: The project will supply significant energy to offset consumption of fossil fuels and provide for growing demand.					X	
17. Safety: No structures intended for impoundment of water are proposed.						X
18. Food and Fiber Production: The facility and supporting infrastructure have been sited to avoid designated fisheries resources to the maximum practicable extent.			X			
19. Mineral Needs: See below for discussion.	X					
20. Consideration of Property Ownership: The applicant will obtain all necessary permission to access and utilize required properties to implement the project including potential conflicts with intersected federal projects.	X					
21. Needs and Welfare of the People: See below for discussion.					X	

Additional discussion of effects on factors above: Conservation: Implementing this activity will defer any anticipated need for development of energy producing facilities in or near communities of the New Jersey coast, to include natural gas burning facilities requiring significant pipeline infrastructure for supply and nuclear generating facilities requiring substantial water intakes for cooling and specialized disposal of radioactive wastes, to name a few. Aesthetics: Approximately half of the north to south oriented coast of New Jersey will have clear view, in most light conditions, of WTGs installed by this project and any others receiving approval in the coming years. This will contribute an aesthetic effect by destroying vital elements that contribute to the compositional harmony or unity, visual distinctiveness, or diversity of the area. The proposal includes structures on the OCS of the Atlantic Ocean that will be visible from vantage points along much of the coast of New Jersey. Historic Properties: Given that ocean views are a contributing factor for listing historic properties, the visibility of project structures has a detrimental effect on the properties identified in Appendix N of the FEIS. The applicant has committed to numerous mitigative measures to resolve adverse effects including but not limited to studies, documentation, and contribution of funds. Recreation: The applicant has scheduled the construction of all project aspects to avoid conflict with recreation, marine and vehicular traffic, and commercial or recreational fisheries wherever feasible. Navigation: Project features, at the recommendation of the United States Coast Guard, will be installed to minimize impediments, apply required markings, notify mariners of hazards, and limit the timing of restricted access. Mineral Needs: With sand for beach renourishment being the predominant controlling mineral resource in the

vicinity of the project, the applicant has sited and routed all project features to avoid deposits of interest, colloquially referred to as borrow areas, designated for such use. Other: WTGs occupy the full depth of the water column and could subtly alter current patterns and water circulation. Given a lack of examples at the project scale, the cumulative change is estimated to be minor. Cables have associated magnetic fields that weaken significantly over a short distance but will be pervasive at the sea bed in the immediate vicinity of the cables; cables carrying the current anticipated to be generated by the project dissipate heat that will alter temperature in the immediate vicinity which can indirectly effect suspended or dissolved chemical constituents such as oxygen

7.2 Public and private need

The relative extent of the public and private need for the proposed structure or work:

Refer to section 3.

7.3 Resource use unresolved conflicts

If there are unresolved conflicts as to resource use, explain how the practicability of using reasonable alternative locations and methods to accomplish the objective of the proposed structure or work was considered.

There were no unresolved conflicts identified as to resource use.

7.4 Beneficial and/or detrimental effects on the public and private use

The extent and permanence of the beneficial and/or detrimental effects that the proposed work is likely to have on the public and private use to which the area is suited is described below:

Detrimental effects are expected to be minimal and permanent.

Beneficial effects are expected to be more than minimal and permanent.

The primary detriment of implementing this project is the immutable visibility of the structures, especially in combination with other planned facilities in the vicinity. The offsetting benefits to economics, energy need, environmental integrity, and offsetting land-based energy production significantly outweigh that detriment and reflect a long-term investment in the needs and welfare of the people.

7.5 Climate Change

The proposed activities within the Corps' federal control and responsibility likely will result in a negligible release of greenhouse gases into the atmosphere when compared to global greenhouse gas emissions. Greenhouse gas emissions have been shown to contribute to climate change. Aquatic resources can be sources and/or sinks of

greenhouse gases. For instance, some aquatic resources sequester carbon dioxide whereas others release methane; therefore, authorized impacts to aquatic resources can result in either an increase or decrease in atmospheric greenhouse gas. These impacts are considered de minimis. Greenhouse gas emissions associated with the Corps' federal action may also occur from the combustion of fossil fuels associated with the operation of construction equipment, increases in traffic, etc. The Corps has no authority to regulate emissions that result from the combustion of fossil fuels. These are subject to federal regulations under the Clean Air Act and/or the Corporate Average Fuel Economy (CAFE) Program. Greenhouse gas emissions from the Corps' action have been weighed against national goals of energy independence, national security, and economic development and determined not contrary to the public interest. The applicant voluntarily provided the Corps with an analysis of greenhouse gas emissions that they produced for other local, state, and/or federal requirements, entitled FEIS, Appendix G, Section 3.4, dated 26 May 2023. The portions of that document pertaining to the actions within the Corps' federal control and responsibility are incorporated by reference.

8.0 Mitigation

(33 CFR 320.4(r), 33 CFR Part 332, 40 CFR 230.70-77, and 40 CFR 1508)

8.1 Avoidance and minimization

Avoidance and Minimization: When evaluating a proposal including regulated activities in waters of the United States, consideration must be given to avoiding and minimizing effects to those waters. Avoidance and minimization are described in Section 1.3.1 above.

Describe other mitigative actions including project modifications implemented to minimize adverse project impacts? (See 33 CFR 320.4(r)(1)(i))

Refer to section 1.3.1 above.

8.2 Compensatory mitigation requirement

Is compensatory mitigation required to offset environmental losses resulting from proposed unavoidable impacts to waters of the United States? Yes

Provide rationale: Permanent impacts to wetlands are required for the landing at the western shore of Barnegat Bay, referred to as the Holtec property, resulting in a wetland loss of 0.001 acres of tidal, emergent wetlands; 0.243 acres of conversion to install cable at BL England; and 1.279 acres of non-tidal, emergent wetlands to build the substation in Lacey Township, respectively.

8.3 Type and location of compensatory mitigation

8.3.1 Mitigation bank service area

Is the impact in the service area of an approved mitigation bank? Yes

Does the mitigation bank have the appropriate number and resource type of credits available? Yes

8.3.2 In-lieu fee program service area

Is the impact in the service area of an approved in-lieu fee program? No

Does the in-lieu fee program have the appropriate number and resource type of credits available? N/A

8.3.3 Compensatory mitigation

Selected compensatory mitigation type/location(s) (see Table 11):

Table 11 – Mitigation Type and Location	
Mitigation bank credits	X
In-lieu fee program credits	
Permittee-responsible mitigation under a watershed approach	
Permittee-responsible mitigation, on-site and in-kind	
Permittee-responsible mitigation, off-site and/or out-of-kind	

8.3.4 Mitigation hierarchy

Does the selected compensatory mitigation option deviate from the order of the options presented in 33 CFR 332.3(b)(2)-(6)? No

8.3.5 Watershed approach

Does the selected compensatory mitigation option follow a watershed approach? N/A

8.4 Amount of compensatory mitigation

1.821 credits purchased from the Evergreen Great Bay Mitigation Bank and Evergreen Rio Grande Swamp Mitigation Bank.

Rationale for required compensatory mitigation amount:

1.279 acres of proposed permanent wetland impacts are to emergent non-tidal wetlands. 0.243 acres where the cable approaches the specialized substation at BL England, consisting of forested palustrine wetland, is not able to be restored and would permanently convert to emergent wetland to maintain a safe utility right of way. Finally, the remaining 0.001 acres of wetland impact is to emergent tidal wetland where cables exit Barnegat Bay for transition joint bay access ports installed at grade. The functional value of the offsetting bank credits as compared with the impacted resources warrants a 1:1 ratio for compensation. Permanent impacts to wetlands are required where the project enters Barnegat Bay at the eastern shore of the bay at IBSP and to install the

required substation at BL England. This purchase would replace the 1.522 acres of lost wetland with approximately 3.56 acres of emergent tidal marsh and 0.19 acres of emergent palustrine wetland given that bank resources are typically developed at an average ratio of 2.5:1. The additional purchased quantity covers extended temporal losses at some of the temporary impact sites, as required by the NJDEP in the water quality certification.

9.0 Consideration of Cumulative Effects

(40 CFR 1508 & RGL 84-9) Cumulative impact is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor direct and indirect but collectively significant actions taking place over a period of time. A cumulative effects assessment should consider how the direct and indirect environmental effects caused by the proposed activity requiring DA authorization (i.e., the incremental impact of the action) contribute to the aggregate effects of past, present, and reasonably foreseeable future actions, and whether that incremental contribution is significant or not.

9.1 Identify/describe the direct and indirect effects which are caused by the proposed activity:

FEIS Section 3 and Appendix G describes the impact producing factors and their effects by resource category. The results are summarized in the BOEM's Record of Decision, Table 3-2.

9.2 The geographic scope for the cumulative effects assessment is:

Scope is described for each effected resource category in FEIS Section 3 and Appendix G. Appendix F states the following: The geographic analysis area varies for each resource as described in the individual resource sections of Chapter 3. BOEM anticipates that impacts could occur from the start of Project construction in 2023 through Project decommissioning in approximately 2058. The geographic analysis area is defined by the anticipated geographic extent of impacts for each resource. For the mobile resources—bats, birds, finfish, and invertebrates; marine mammals; and sea turtles—the species potentially affected are those that occur within the area of impact of the Proposed Action. The geographic analysis area for these mobile resources is the general range of the species. The purpose is to capture the cumulative impacts on each of those resources that would be affected by the Proposed Action as well as the impacts that would still occur under the No Action Alternative.

9.3 The temporal scope of this assessment covers:

The applicant has the option to request an extension of operations. For that reason, BOEM set the temporal scope to cover construction and the potential extended term of project operation from 2023 to 2058.

9.4 Describe the affected environment:

Affected environment varies for each resource category and is described in FEIS Section 3.

9.5 Determine the environmental consequences:

Environmental consequences are discussed for each of the impact producing factors under each of the resource categories in FEIS Section 3.

9.6 Conclusions regarding cumulative impacts:

When considering the direct and indirect impacts that will result from the proposed activity, in relation to the overall direct and indirect impacts from past, present, and reasonably foreseeable future activities, the incremental contribution of the proposed activity to cumulative impacts in the area described in section 9.2, are not significant. Compensatory mitigation will be required to offset the impacts of the proposed activity to eliminate or minimize its incremental contribution to cumulative effects within the geographic area described in Section 9.2. Mitigation required for the proposed activity is discussed in Section 8.0.

10.0 Compliance with Other Laws, Policies and Requirements

10.1 Section 7(a)(2) of the Endangered Species Act (ESA)

Refer to Section 2.2 for description of the Corps' action area for Section 7 of the ESA.

10.1.1 Lead federal agency for Section 7 of the ESA

Has another federal agency been identified as the lead agency for complying with Section 7 of the ESA with the Corps designated as a cooperating agency and has that consultation been completed? Yes

Identify the lead agency, the actions taken to document compliance with Section 7 of the ESA and whether those actions are sufficient to ensure the activity(s) requiring Department of the Army authorization is in compliance with Section 7 of the ESA:

BOEM is the lead federal agency, identifying the Corps as a cooperating agency. Consultation with USFWS and NMFS addressed all species that would likely be affected by the Corps action reviewed herein.

The Corps has reviewed the documentation provided by the agency and determined it is

sufficient to confirm Section 7 ESA compliance for this permit authorization, and additional consultation is not necessary.

10.1.2 Listed/proposed species and/or designated/proposed critical habitat

Are there listed or proposed species and/or designated critical habitat or proposed critical habitat that may be present or in the vicinity of the Corps' action area? Yes

Effect determination(s), including no effect, for all known species/habitat, and basis for determination(s):

No Effect:
Swamp Pink, *Helonias bullata*, survey did not find any of this species.
Knieskern's Beaked-rush, *Rhynchospora knieskernii*, survey did not find any of this species.
Gulf of Maine Distinct Population Segment (DPS) of Atlantic salmon
Critical habitat designated for the North Atlantic right whale
Critical habitat designated for the Carolina DPS of Atlantic sturgeon
Critical habitat designated for the Northwest Atlantic DPS of loggerhead sea turtles
See Biological Opinions dated May 2023 (USFWS) and April 2023 (NMFS) for basis and Service concurrence.

Not Likely to Adversely Affect (NLAA):
Sensitive Joint-vetch *Aeschynomene virginica*
Seabeach Amaranth *Amaranthus pumilus*
American Chaffseed *Schwalbea americana*
Monarch Butterfly *Danaus plexippus*
Northern Long-eared Bat *Myotis septentrionalis*
Giant Manta Ray (*Manta birostris*)
Hawksbill sea turtle (*Eretmochelys imbricate*)
Oceanic White Tip Shark (*Carcharhinus longimanus*)
Northeast Atlantic DPS of Loggerhead Sea Turtles (*Caretta caretta*)
Gulf of Maine DPS of Atlantic salmon (*Salmo salar*)
Shortnose sturgeon (*Acipenser brevirostrum*)
Critical habitat designated for Atlantic sturgeon
See Biological Opinions dated May 2023 (USFWS) and April 2023 (NMFS) for basis and Service concurrence.

Likely to Adversely Affect:
Eastern Black Rail (*Laterallus jamaicensis ssp. Jamaicensis*)
Piping Plover (*Charadrius melodus*)
Red Knot *Calidris* (*canutus rufa*)
North Atlantic Right Whale (*Eubalaena glacialis*)
Fin Whale (*Balaenoptera physalus*)
Sei Whale (*Balaenoptera borealis*)
Sperm Whale (*Physter macrocephalus*)
Blue Whale (*Balaenoptera musculus*)

Green Sea Turtle (*Chelonia mydas*, North Atlantic DPS)
Kemp's Ridley Sea Turtle (*Lepidochelys kempii*)
Leatherback Sea Turtle (*Deromchelys coriacea*)
Atlantic Sturgeon (*Acipenser oxyrinchus oxyrinchus*, five DPS)
Critical habitat designated in the Delaware River for the New York Bight DPS of Atlantic sturgeon.
See Biological Opinions dated May 2023 (USFWS) and April 2023 (NMFS) for basis. The February 25, 2022 New Jersey Wind Port Biological Opinion discusses the status of Atlantic sturgeon critical habitat in the Delaware River in sections 5.3 and 6.2.3 and is incorporated in the April 2023 NMFS BO by reference.

10.1.3 Section 7 ESA consultation

Consultation with either the NMFS and/or the USFWS was initiated and completed as required, for any determinations other than "no effect" (see the attached ORM2 Summary sheet for begin date, end date and closure method of the consultation)

BOEM, at the request of the Services, NMFS and USFWS, has incorporated mitigation and monitoring measures listed in FEIS Appendix H as part of the proposed action. The Reasonable and Prudent Measures (RPMs) required in the respective BOs are summarized as follows:

<u>USFWS</u>
1. Periodically review current technologies and methods for minimizing collision risk of listed birds, including but not limited to: WTG coloration/marking, lighting, avian deterrents, and limited WTG operational changes.
2. Implement those technologies and methods deemed reasonable and prudent.

<u>NMFS</u>
1. Effects to ESA-listed whales and sea turtles must be minimized during pile driving. This includes adherence to the mitigation measures specified in the final MMPA Incidental Take Authorization (ITA).
2. Effects to ESA-listed whales and sea turtles must be minimized during Unexploded Ordnance (UXO) detonation. This includes adherence to the mitigation measures specified in the final MMPA ITA.
3. Vessels operated by Ocean Wind or under contract to Ocean Wind or its contractors must comply with the RPMs and Terms and Conditions relevant to vessel operations within the Delaware River and Delaware Bay included in the Incidental Take Statements provided with NMFS Greater Atlantic Regional Field Office's (GARFO) July 19, 2022, Paulsboro Marine Terminal Biological Opinion and February 25, 2022, New Jersey Wind Port Biological Opinion, or any subsequently issued Opinions that replace those Opinions as a result of reinitiation.
4. Effects to, or interactions with, ESA-listed Atlantic sturgeon, whales, and sea turtles must be documented during all phases of the proposed action, and all incidental take must be reported to NMFS GARFO.
5. All required plans must be submitted to NMFS GARFO with sufficient time for review, comment, and approval.

6. On-site observation and inspection must be conducted to gather information on the effectiveness and implementation of measures to minimize and monitor incidental take during activities described in this Opinion, including its Incidental Take Statement.

10.2 Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), Essential Fish Habitat (EFH)

10.2.1 Lead federal agency for EFH provisions of the Magnuson-Stevens Act

Has another federal agency been identified as the lead agency for complying with the EFH provisions of the Magnuson-Stevens Act with the Corps designated as a cooperating agency and has that consultation been completed? Yes

Identify the agency, the actions taken to document compliance with the Magnuson-Stevens Act and whether those actions are sufficient to ensure the activity(s) requiring Department of the Army authorization is in compliance the EFH provisions.

BOEM is the lead federal agency, identifying the Corps as a cooperating agency. BOEM's scope covers the Corps action.

The NMFS provided the following conservation recommendations (CR) to BOEM which were forwarded to the Corps, including a selection applicable to the OCS. The indicated numbers below correspond to those used by NMFS in the original document and that pertain to this DA permit.

Outer Continental Shelf

4. In order to minimize permanent adverse impacts from the elimination/conversion of existing habitats from scour protection:, the project should:
a. Avoid and minimize the use of scour protection by fully burying cables (this can be done by siting cables in appropriate substrates) and using the minimum amount of scour protection to accomplish the purpose/intent of the scour protection;
b. Use natural, rounded stone of consistent grain size in the entirety of the sand ridge and trough complex area and any areas of complex habitat;
c. Avoid the use/placement of engineered stone (e.g., riprap; cut, crushed, or graded stone; etc.) or concrete mattresses within complex habitats or the sand ridge and trough complex area. If the use of engineered stone or concrete mattresses is required within these areas, the impact should be mitigated through the addition of a natural, rounded stone veneer. At a minimum, the exposed surface layer should be designed and selected to provide three-dimensional structural complexity that creates a diversity of crevice sizes (e.g., mixed stone sizes, natural rounded stone veneer) and rounded edges (e.g., tumbled stone, or natural round stone veneer);
d. Develop a scour and cable protection plan for all complex habitat areas. At a minimum, the plan should include: 1) a clear depiction of the location and extent of proposed scour or cable protection within complex habitat (i.e., figures displaying existing areas with large boulders and/or medium to high multibeam backscatter returns

and the extent of scour or cable protection proposed within each area); 2) all available habitat information for each identified areas (e.g., plan view imagery, video transects); and 3) detailed information on the proposed scour or cable protection materials for each area.
e. The scour and cable protection plan should be submitted to us for our review and comment (including comments that may change the plan and on-the-ground activities) at least 120 days prior to in-water work. BOEM should provide a response to NMFS comments and an updated copy of the plan at least 30 days before in-water work begins.

5. Avoid anchoring in complex habitats and areas of high habitat heterogeneity and complexity during all phases of the project including any area where large boulders (>/= 0.5 m in diameter), medium to high multibeam backscatter returns occur, or large benthic features occur (not inclusive of ripples/megaripples)
a. If anchoring is necessary in complex habitats and areas of high habitat heterogeneity during cable installation, extend the anchor lines to the extent practicable to minimize the number of times the anchors must be raised and lowered to reduce the amount of habitat disturbance. This should not be done if the anchor chain sweep area includes benthic features that will be impacted.
b. An anchoring plan should be developed to demonstrate how anchoring will be avoided and minimized in these habitats during all phases of the project. .
c. For any area where large boulders or medium to high multibeam backscatter returns occur and vessels must remain stationary, dynamic positioning systems (DPS) or mid-line buoys on anchor chains should be required.
d. At a minimum, the anchoring plan to be developed should include: 1) depictions of the lease and export cable areas that clearly identify areas, using GPS location coordinates, where large boulders and/or medium to high backscatter returns occur, and either: a) DPS, or b) mid-lines buoys are required for anchoring; 2) information describing the operations and number of vessels that will be necessary to maintain vessel position using DPS or mid-line buoys within complex areas (i.e., large boulder and medium to high multibeam backscatter areas); and 3) for any complex habitat area that is identified for it to be infeasible to be fully avoid anchoring within or using mid-line buoys, detailed information supporting the feasibility issues encountered, calculated impact areas of large boulders and/or medium to high multibeam backscatter area, and impact minimization measures to be used should be provided.
e. A copy of the anchoring plan, with complex habitat coordinates, should be provided to all vessel operators.
f. The anchoring plan should be submitted to us for our review and comment (including comments that may change the plan and on-the-ground activities) at least 120 days prior to in-water work. BOEM should provide a response to NMFS comments and an updated copy of the plan at least 30 days before in-water work begins.

6. For boulder/cobble removal/relocation activities, boulders and cobble should be moved as close to the impact area as practicable in areas immediately adjacent to existing similar complex bottom and placed in a manner that does not hinder navigation or impede commercial fishing and avoids impacts to existing complex habitats.
a. In order to minimize impacts to complex habitats, boulders that will be relocated using

boulder “pick” methods should be relocated outside the area necessary to clear and placed along the edge of existing complex habitats such that the placement of the relocated boulders will result in a marginal expansion of complex habitats into soft-bottom habitats (i.e., boulders should be placed outside the relocation area and in an area of low multibeam backscatter return immediately adjacent to medium or high return areas) and reduce risk to navigation and fishing operations in the area.

12. The EFH consultation should be reinitiated prior to decommissioning turbines to ensure that the impact to EFH as a result of the decommissioning activities have been fully evaluated and minimized to the extent practicable.

State Waters and Special Aquatic Sites

1. In all nearshore areas where seafloor preparation activities will occur, benthic feature removal/clearance (i.e., sand wave clearance) via dredging, plowing, use of mass flow excavators, or other methods should be avoided through micrositing and re-routing cables. Where plows, jets, grapnel runs or other similar methods are used, post-construction surveys capable of detecting bathymetry changes of 0.5 ft. or less should be completed to determine the height and width of any created berms. In any area where the berm height exceeds one foot above the existing grade, the created berm should be restored to match that of the existing grade/pre-construction conditions.

2. The nearshore portion of OCEC should be re-routed to avoid the N.J. Prime Fishing Ground known as “Cedar Creek.” Should total avoidance not be possible, this portion of the cable should be re-routed to cross “Cedar Creek” at the narrowest point(s), the fewest number of times.

3. Dredging, plowing, or other extractive or turbidity/sediment-generating activities should be avoided in Barnegat Bay/estuarine areas from January 1 to May 31 of any given year to avoid and minimize impacts to EFH for winter flounder early life stages (eggs, larvae).

4. In all inshore/estuarine areas (i.e. Barnegat Bay, Great Egg Harbor Bay) where seafloor preparation and cable installation activities will occur, impacts to SAV, shellfish beds, and benthic features should be avoided and minimized through the use of horizontal directional drilling (HDD), micrositing and re-rerouting, to the maximum extent practicable.
a. All disturbed areas should be restored to pre-construction conditions, inclusive of bathymetry, contours, and sediment types.
b. Pre-construction surveys to determine bathymetry, contours and sediment types and post-construction surveys should be conducted to verify restoration has occurred. Survey results should be provided to NMFS.

5. All vessels should float at all stages of the tide.

6. Detailed frac-out plans should be developed for all areas where HDD is proposed to be used. These plans should be shared with us at a minimum 60 days prior to

construction.

7. Avoid trenching in open waters, especially areas supporting SAV and shellfish, and wetlands.
a. If open trenching is used, excavated materials should not be sidecast or placed in the aquatic environment. All materials should be stored on uplands and placed back into the trench to restore the excavated areas, or removed to a suitable upland disposal site. Trenched areas should be restored to pre-construction conditions with native and/or clean, compatible material.

8. Avoid cable installation, dredging or other construction activities in submerged aquatic vegetation (SAV), particularly in Barnegat Bay.
a. Systematic visual pre-construction surveys should be conducted to document occurrence and abundance/density of SAV. Three years of pre-construction surveys are recommended to account for yearly variations in SAV presence. However, at a minimum, one survey should be done during the growing season (April 15 to October 15) in the same calendar year construction commences (i.e., if cable installation is scheduled to begin July 1, 2023, SAV surveys should take place between April 15 and June 30, 2023). Visual surveys should be conducted within 5,000 ft. (2,500 ft. on both sides of cable centerline or 2,500 ft. of a unified centerline between both cables) of any area to be dredged/plowed/jetted.
b. Post-construction surveys should be conducted to document the recovery of areas temp
c. Barges should not be moored in SAV or SAV habitat. Maps derived from updated surveys should be provided to vessels/captains to ensure SAV is avoided;
d. Dredging, plowing, or other extractive or turbidity/sediment-generating activities should be avoided during the growing season (April 15 to October 15) of any given year to avoid and minimize impacts to SAV.
e. Should the applicant need to dredge/plow during the growing season of any given year, a minimum 500-ft. buffer between dredging/plowing area(s) and the edge of any SAV bed should be maintained between April 15 and October 15 of any year. The appropriate buffer is 250-ft. if the sediments are greater than 95% sand. Sequencing of dredging/plowing can be used to accommodate this buffer.
f. Provide compensatory mitigation for all areas of SAV impacted by construction activities including cable installation and dredging at a minimum ratio of 3:1. Based upon the information in various plans, documents, GIS viewing tools, the area of unavoidable SAV impact appears to be at least 2.9 acres (minimum). However, we are not yet certain that is accurate given the various export cable alignments.

9. Avoid installing cables, dredging, or other construction activities in high and moderate densities of shellfish in Barnegat and Great Egg Harbor Bay and surrounding estuarine waters. Project-specific surveys should be conducted to complement existing NJDEP mapping efforts.
a. Systematic visual pre-construction surveys should be conducted to document occurrence and abundance/density of shellfish. Three years of pre-construction surveys are recommended to account for yearly variations in SAV presence. However, at a minimum, one survey should be done during the growing season in the same calendar

year construction commences (i.e., if cable installation is scheduled to begin July 1, 2023, surveys should take place in 2023, prior to June 30). Visual surveys should be conducted within 5,000 ft. (2,500 ft. on both sides of cable centerline or 2,500 ft. of a unified centerline between both cables) of any area to be dredged/plowed/jetted.
b. Provide compensatory mitigation for impacts to areas of soft clams, oysters, and high and moderate densities of hard clams that cannot be avoided. Mitigation should be coordinated with the New Jersey Department of Environmental Protection's Bureau of Shellfisheries.

10. An inshore/estuarine shellfish and SAV-specific monitoring plan should be developed to monitor potential construction-related (trenching/sedimentation) and operational impacts (heat, EMF) to SAV and shellfish in Barnegat Bay. At a minimum, monitoring should be conducted within 5,000 ft. (2,500 ft. on both sides of cable centerline or 2,500 ft. of a unified centerline between both cables) of any area to be dredged/plowed/jetted. A before–after-gradient (BAG) survey design should be employed for any monitoring. This monitoring can be included in Benthic Habitat or Fisheries Monitoring plans (mentioned above).

11. Use horizontal directional drilling in areas where the export cable crosses wetlands.

12. Do not stage equipment in wetlands.

13. Use construction mats if work in wetlands is unavoidable.

14. Restore all impacted wetlands to pre-construction conditions and monitor the restored areas for a minimum of five years to ensure successful restoration.
a. Provide NMFS with a copy of the restoration plan for review and comment at least 60 days prior to the issuance of a DA permit...
b. The restoration plan should be approved prior to the issuance of the DA permit and be included as a special condition of the permit.

15. Provide compensatory mitigation for all permanent impacts to wetlands and short-term/temporary impacts lasting more than 12 months.
a. Quantify all permanent and short-term/temporary impacts and provide project plans delineating the areas impacted prior to the issuance of the DA permit.
b. Compensatory mitigation ratios should be as follows:
i. A minimum 3:1 ratio if the mitigation is the enhancement or restoration/rehabilitation of existing wetlands.
ii. A minimum 2:1 ratio if the mitigation is the creation of wetlands from uplands or the restoration/rehabilitation of areas that are currently uplands but were once wetlands.

16. Compensatory mitigation should be provided for any unavoidable direct, indirect and individual, cumulative, synergistic impacts to SAV, shellfish, and wetlands. A compensatory mitigation plan that satisfies each element of a complete compensatory mitigation plan as identified in the published regulations 33 CFR Parts 325 and 332 "Compensatory Mitigation for Losses of Aquatic Resources," (Mitigation Rule) should be provided for NMFS review prior to project authorization. This plan should be included as

a special condition of the permit.
a. Compensatory mitigation should occur prior to, or concurrently with, the impacts.
b. The compensatory mitigation plans should be made special conditions of the DA permit.

The Corps forwarded the recommendations to the applicant. Responses provided to the Corps by the applicant on 31 March 2023 indicated that certain recommendations could collectively render the Project impossible to construct or present insurmountable resource conflicts and construction delays. Those recommendations include sourcing rounded stone which lacks necessary surface friction to interlock for structural stability, repeating detailed SAV surveys that the applicant already provided for the NJDEP, implementing an absolute requirement to transit resources via HDD without regard to site specific feasibility, requiring redundant mitigation for impacts to shellfish resources, and prescriptive requirements detailing how the Corps should approach compensatory mitigation that would treat the applicant inconsistently with prior applicants. The Corps communicated adoption of conservation recommendations not tied to the concerns listed above to BOEM, who then shared them with NMFS as part of the consultation process. The Service indicated a need for more detailed scientific justification for recommendations not adopted. The applicant provided the justifications to the Corps on 25 August 2023. These responses were reviewed and subsequently forwarded to NMFS HESD directly and all are included in project records.

The Corps communicated a request by the applicant for one month of relief (i.e., start work September 15, 2023) to work in proximity to SAV to allow completion of required work in a single year and thereby limit disturbance in Barnegat Bay. The Service indicated that there would be no relief without an SAV mitigation requirement for which the Corps has no authority or precedent given that the proposed impacts are temporary with a commitment to restoration over and above the quantity impacted. Additionally, the NJDEP has included an SAV mitigation requirement under their authority. As such, the applicant will provide SAV mitigation but will likely need to work in Barnegat Bay over two years and risk timely Project delivery.

The Corps was unable to adopt the recommendation to change the cable route to avoid the Cedar Creek prime fishing ground. IBSP has very little space available that is previously disturbed. The proposed approach makes use of the large parking lots available at Swimming Area Number 2 and aligns with a previously disturbed channel in Barnegat Bay, consistent with the broader goal of avoiding and minimizing impacts across all relevant resource types without adding miles of additional cable in the Atlantic Ocean.

The applicant provided information dated 25 August 2023 includes updated detail regarding noise mitigation, seeking an adjustment to the Corps intended permit condition. The selected contractor is able to achieve greater noise reduction than the recommendations of the Service, eliminating a need for the recommended noise abatement and monitoring additional to what the project has already committed to providing for protection of marine mammals.

10.2.2 Did the proposed project require review under the Magnuson-Stevens Act? Yes

10.2.3 Were EFH species or complexes considered? Yes

Effect determination and basis for that determination: The EFH determination provided to BOEM by NMFS cites substantial adverse impacts, mainly due to the fact that the assessment describes a maximum impact scenario that does not exclusively reflect the proposed action this ROD considers.

10.2.4 Consultation with the National Marine Fisheries Service was initiated and completed as required (see the attached ORM2 Summary sheet for begin date, end date and closure method of the consultation).

The Corps has reviewed the documentation provided by the agency and determined it is sufficient to confirm compliance for this permit authorization with the EFH provisions, and additional consultation is not necessary.

10.3 Section 106 of the NHPA

Refer to Section 2.3 for permit area determination.

10.3.1 Lead federal agency for Section 106 of the NHPA

Has another federal agency been identified as the lead federal agency for complying with Section 106 of the NHPA with the Corps designated as a cooperating agency and has that consultation been completed? Yes

Identify the lead agency, and whether the undertaking they consulted on included the Corps' undertaking(s). Briefly summarize actions taken by the lead federal agency.

BOEM is the lead federal agency, identifying the Corps as a cooperating agency. BOEM's scope covers the Corps action.

The Corps has reviewed the documentation provided by the agency and determined it is sufficient to confirm Section 106 compliance for this permit authorization, and additional consultation is not necessary.

10.3.2 Historic properties

Known historic properties present? Yes

Historic properties were added for consideration in response to comments on the DEIS by the NJHPO, various organizations, and members of the public. FEIS Appendix N details the finding of adverse effects. Visual effects documentation was expanded under FEIS Appendix M as attachments, including comprehensive visual simulations.

Effect determination and basis for that determination: adverse effect, see Appendix N for determination basis.

10.3.3 Consultation with the appropriate agencies, tribes and/or other parties for effect determinations

Consultation was initiated and completed with the appropriate agencies, tribes and/or other parties for any determinations other than “no potential to cause effects.” (See the attached ORM2 Summary sheet for begin date, end date and closure method of the consultation)

This office concurs with the stipulations of the Memorandum of Agreement among the Bureau of Ocean Energy Management, the New Jersey State Historic Preservation Officer, and the Advisory Council on Historic Preservation regarding the Ocean Wind 1 Offshore Wind Farm Project.

10.4 Tribal Trust Responsibilities

10.4.1 Tribal government-to-government consultation

Was government-to-government consultation conducted with federally-recognized tribe(s)? Yes

Provide a description of any consultation(s) conducted including results and how concerns were addressed.

BOEM invited the following federally recognized tribes to participate in government-to-government consultation on the proposed Project: Eastern Shawnee Tribe of Oklahoma, Shawnee Tribe, Absentee-Shawnee Tribe of Indians of Oklahoma, Stockbridge-Munsee Community Band of Mohican Indians, Delaware Nation, Delaware Tribe of Indians, Shinnecock Indian Nation, Narragansett Indian Tribe, Rappahannock Tribe, Mashantucket Pequot Tribal Nation, and Wampanoag Tribe of Gay Head (Aquinnah).

With respect to tribal and indigenous peoples, New Jersey formally recognizes the Nanticoke Lenni Lenape Indians, Powhatan Renape Indians, Ramapough Lenape Indian Nation, and Inter-Tribal People, none of which are federally recognized. The Lenni-Lenape inhabited the Delaware River area of New Jersey long before the Europeans. The Lenni-Lenape lived near the coast, but their primary resources came from inland and the rivers.

10.4.2 Other Tribal consultation

Other Tribal consultation including any discussion of Tribal Treaty rights.

N/A

10.5 Section 401 of the Clean Water Act – Water Quality Certification (WQC)

10.5.1 Section 401 WQC requirement

Is an individual Section 401 WQC required, and if so, has the certification been issued or waived?

An individual WQC is required and has been granted. On April 27, 2023, the NJDEP granted water quality certification with conditions. Those conditions will be made a part of the permit through General Condition 5.

10.5.2 401(a)(2) Process

If the certifying authority granted an individual WQC, did the United States Environmental Protection Agency make a determination that the discharge 'may affect' water quality in a neighboring jurisdiction? No

Provide an explanation of the determination of the effect on neighboring jurisdiction.

On 23 August 2023 the EPA provided the following response to the water quality certification: EPA has decided that it will not send the notification to neighboring jurisdictions referenced in CWA 401(a)(2), based on the location of the project, the 401 certification conditions, and the information available to EPA regarding the discharge. Consequently, processing of the license or permit may proceed without awaiting further action from EPA pursuant to CWA 401(a)(2).

10.6 Coastal Zone Management Act (CZMA)

10.6.1 CZMA consistency concurrence

Is a CZMA consistency concurrence required, and if so, has the concurrence been issued, objected to, or presumed?

An individual CZMA consistency concurrence is required and has been issued by the appropriate agency. On April 27, 2023, the NJDEP concurred with the applicant's CZMA consistency certification with conditions. Those conditions will be made a part of the permit through General Condition 5.

10.7 Wild and Scenic Rivers Act

10.7.1 National Wild and Scenic River System

Is the project located in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system? No

10.8 Effects on Corps Civil Works Projects (33 USC 408)

10.8.1 Permission requirements under Section 14 of the Rivers and Harbors Act (33 USC 408)

Does the applicant also require permission under Section 14 of the Rivers and Harbors Act (33 USC 408) because the activity, in whole or in part, would alter, occupy, or use a Corps Civil Works project?

Yes.

The proposed activity also requires authorization pursuant to Section 408 for impacts to the New Jersey Shore Protection, Great Egg Harbor Inlet to Townsends Inlet, New Jersey Federal Flood and Coastal Storm Damage Reduction Project, and the New Jersey Intracoastal Waterway Federal Navigational Project at 2 locations. On 29 September 2023, the Corps granted Section 408 Permission.

10.9 Corps Wetland Policy (33 CFR 320.4(b))

10.9.1 Wetland Impacts

Does the project propose to impact wetlands? Yes

10.9.2 Wetland impact public interest review

Based on the public interest review herein, the beneficial effects of the project outweigh the detrimental impacts of the project.

10.10 Other (as needed)

N/A

10.11 Compliance Statement

The Corps has determined that it has fulfilled its responsibilities under the following laws, regulations, policies, and guidance:

Table 13 – Compliance with Federal Laws and Responsibilities

Laws, Regulations, Policies, and Guidance	Yes	N/A
Section 7(a)(2) of the ESA	X	
EFH provisions of the Magnuson-Stevens Act	X	
Section 106 of the NHPA	X	
Tribal Trust	X	
Section 401 of the Clean Water Act	X	
CZMA	X	
Wild and Scenic Rivers Act		X
Section 408 - 33 USC 408	X	
Corps Wetland Policy (33 CFR 320.4(b))	X	
Other: N/A		X

11.0 Special Conditions

11.1 Special condition(s) requirement(s)

Are special conditions required to ensure minimal effects, ensure the authorized activity is not contrary to the public interest and/or ensure compliance of the activity with any of the laws above? Yes

11.2 Required special condition(s)

1. All work shall be completed in accordance with the attached project plan(s) identified as “Ocean Wind 1 An Orsted & PSEG project”, prepared by HDR Engineering Inc., dated 3/23/2023, revision A, sheets 1 through 22 of 22; “Ocean Wind Offshore Wind Project Upper Township Cape May County, New Jersey”, prepared by E2 Project Management LLC, dated 7/20/2022, last revised 1/25/2023, sheets 1 through 24 of 24; “Ocean Wind Offshore Wind Project Oyster Creek Location Lacey Township, NJ 0875”, prepared by E2 Project Management LLC, dated 4/27/22, last revised 1/25/2023, sheets 1 through 22 of 22; “Ocean Wind 1 An Orsted & PSEG Project”, prepared by J.D. Hair & Associates Inc., dated 1/17/2023, last revised 8/11/2023, drawing 08123866; “Ocean Wind An Orsted & PSEG Project”, prepared by HDR Engineering Inc., dated 01/04/2023, sheets 2 through 8 of 10. These plans are hereby made part of this permit.

2. Construction activities shall not result in the disturbance or alteration of greater than 60.3541 acres of permanent impact and temporary impact to 94.8300 acres of waters of the United States.

3. Any deviation in construction methodology or project design from that shown on the above noted drawings must be approved by this office, in writing, prior to performance of the work. All modifications to the above noted project plans shall be approved, in writing, by this office. No work shall be performed prior to written approval of this office.

4. This office shall be notified at least 10 days prior to the commencement of authorized work by completing and signing the enclosed “Notification of Commencement Form”; and this office shall be notified within 10 days of the completion of the authorized work by completing and signing the enclosed “Notification of Completion Form”.

5. The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

6. This Department of the Army (DA) permit does not authorize you to take an endangered species. In order to legally take a listed species, you must have separate authorization under the Endangered Species Act (ESA) (e.g., an ESA Section 10

permit, or a Biological Opinion (BO) under ESA Section 7, with "incidental take" provisions with which you must comply). The United States Fish and Wildlife Service (USFWS) BO, entitled “Biological Opinion on the Effects of the Ocean Wind 1 Wind Energy Project, Offshore Atlantic County, New Jersey on Three Federally Listed Species”, prepared by the U.S. Fish and Wildlife Service, and dated May 2023, contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with "incidental take" that is also specified in the BO. Your authorization under this DA permit is conditional upon your compliance with all of the mandatory terms and conditions associated with the incidental take statement of the attached BO, which terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with the incidental take statement of the BO, where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute noncompliance with your DA permit. The USFWS is the appropriate authority to determine compliance with the terms and conditions of its BO, and with the ESA.

7. This DA permit does not authorize you to take an endangered species. In order to legally take a listed species, you must have separate authorization under the ESA (e.g., an ESA Section 10 permit, or a BO under ESA Section 7, with "incidental take" provisions with which you must comply). The National Marine Fisheries Service (NMFS) BO, entitled “National Marine Fisheries Service Endangered Species Act Section 7 Consultation Biological Opinion”, prepared by the National Marine Fisheries Service, and dated April 3, 2023, contains mandatory terms and conditions, including specified provisions of any incidental take authorization pursuant to the Marine Mammal Protection Act, to implement the reasonable and prudent measures that are associated with "incidental take" that is also specified in the BO. Your authorization under this DA permit is conditional upon your compliance with all of the mandatory terms and conditions associated with the incidental take statement of the attached BO, which terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with the incidental take statement of the BO, where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute noncompliance with your DA permit. The NMFS is the appropriate authority to determine compliance with the terms and conditions of its BO, and with the ESA.

8. With regard to essential fish habitat species and complexes, in accordance with the recommendations of the NMFS, the permittee shall:

A. In order to minimize permanent adverse impacts from the elimination/conversion of existing habitats from scour protection, the permittee shall:
a. Avoid and minimize the use of scour protection by fully burying cables (this can be done by siting cables in appropriate substrates) and using the minimum amount of scour protection to accomplish the purpose/intent of the scour protection.
b. Avoid the use/placement of engineered stone (e.g., riprap; cut, crushed, or graded stone; etc.) or concrete mattresses within complex habitats (e.g. hardbottom substrate, hardbottom substrate with epifauna or macroalgae, and vegetated habitats) or the sand ridge and trough complex area. If the use of engineered stone or concrete mattresses is

required within these areas, the impact should be mitigated through the addition of a natural, rounded stone veneer. **At a minimum, the exposed surface layer shall be designed and selected to provide three-dimensional structural complexity that creates a diversity of crevice sizes.**
c. Develop a scour and cable protection plan for all complex habitat areas. At minimum, the plan shall include: 1) a clear depiction of the location and extent of proposed scour or cable protection within complex habitat; 2) all available habitat information for each identified area (e.g., plan view imagery, video transects); and 3) detailed information on the proposed scour or cable protection materials for each area.
d. The scour and cable protection plan, addressing any issues with feasibility of the above, shall be submitted to BOEM, BSEE, NMFS and this office for review and comment (including comments that may change the plan and on-the-ground activities) at least 120 days prior to in-water work involving cable protection. I

B. For boulder/cobble removal/relocation activities, boulders and cobble shall be moved as close to the impact area as practicable in areas immediately adjacent to existing similar complex bottom and placed in a manner that does not hinder navigation or impede commercial fishing and avoids impacts to existing complex habitats.
a. In order to minimize impacts to complex habitats, boulders that will be relocated using boulder “pick” methods shall be relocated outside the area necessary to clear and placed along the edge of existing complex habitats such that the placement of the relocated boulders will result in a marginal expansion of complex habitats into soft-bottom habitats (i.e., boulders should be placed outside the relocation area and in an area of low multibeam backscatter return immediately adjacent to medium or high return areas) and reduce risk to navigation and fishing operations in the area.
b. A boulder relocation plan, as a component of the Micrositing Plan, shall be developed that identifies where boulders will be removed from and where they will be placed. Consult with resource agencies and the fishing industry in preparation of the boulder relocation plan. The plan shall identify all areas where a boulder plow will be used during site-preparation. At a minimum, the plan shall include: 1) a clear depiction (i.e., figures) of the location of boulder relocation activities specified by activity type (e.g., pick or plow, removal or placement) and overlaid on multibeam acoustic backscatter data; 2) a detailed methodology for each type of boulder relocation activity and technical feasibility constraints; 3) any proposed measures to minimize impacts to attached epifaunal assemblages on boulder surfaces; 4) measures taken to avoid further adverse impacts to complex habitat and fishing operations; and 5) a summary of any consultation with resources agencies and the fishing industry in development of the plan.
c. The boulder relocation plan shall be submitted to BOEM, NMFS, and this office for review and comment (including comments that may change the plan and on-the-ground activities) at least 120 days prior to in-water work.
d. A communication plan identifying the locations of relocated boulders and any cable protection measures (i.e., concrete mattresses) shall be developed to help inform marine users, including, but not limited to the fishing industry and entities conducting scientific surveys, of potential gear obstructions.

C. In all nearshore areas where seafloor preparation activities will occur, benthic feature removal/clearance (i.e., sand wave clearance) via dredging, plowing, use of mass flow excavators, or other methods should be avoided through micrositing wind turbine generators and re-routing cables. Where plows, jets, grapnel runs or other similar methods are used, post-construction surveys capable of detecting bathymetry changes of 0.5 ft. or less should be completed to determine the height and width of any created berms. In any area where the berm height exceeds three feet above the existing grade, the created berm shall be restored to match that of the existing grade/pre-construction conditions.

D. The EFH consultation shall be reinitiated prior to decommissioning turbines to ensure that the impact to EFH as a result of the decommissioning activities have been fully evaluated and minimized to the extent practicable.

E. The permittee shall implement the Inadvertent Return Plan and provide a copy to NMFS and this office at least 60 days prior to construction.

F. Dredging, plowing, or other extractive or turbidity/sediment-generating activities shall be avoided in Barnegat Bay/estuarine areas from January 1 to May 31 of any given year to avoid and minimize impacts to EFH for winter flounder early life stages (eggs, larvae) unless a specific variance is authorized.

G. In all inshore/estuarine areas (i.e. Barnegat Bay, Great Egg Harbor Bay) where seafloor preparation and cable installation activities will occur, impacts to SAV, shellfish beds, and benthic features shall be avoided and minimized through the use of horizontal directional drilling (HDD), micrositing and re-rerouting, to the maximum extent practicable.
a. Pre-construction surveys to determine bathymetry, contours and sediment types; and post-construction surveys shall be conducted to verify restoration has occurred. Survey results shall be provided to NMFS and this office.

H. All vessels shall float or remain suspended at all stages of the tide so that the hull does not rest on habitat, scour or suspend bottom sediments.

I. Where cable installation requires cutting trenches, excavated material shall not be side casted and shall be placed in the receiving container for storage in accordance with the water quality certification issued for the Project. Trenched areas shall be restored to pre-construction or otherwise specified conditions with stored excavated material and/or clean, compatible material.

J. To the maximum extent practicable, avoid cable installation, dredging or other construction activities in submerged aquatic vegetation (SAV), particularly in Barnegat Bay, specifically:
a. Barges shall only be moored in SAV or SAV habitat as depicted on approved plans. Maps derived from updated surveys should be provided to vessels/captains to ensure SAV is avoided;

b. Dredging, plowing, or other extractive or turbidity/sediment-generating activities shall be avoided during the growing season (April 15 to October 15) of any given year to avoid and minimize impacts to SAV unless a specific variance is authorized.
c. Should the permittee need to dredge/plow during the growing season, a minimum 500-foot buffer between dredging or plowing areas and the edge of any SAV bed shall be maintained between April 15 and October 15 of any year unless a specific variance is authorized. The appropriate buffer is 250 feet if the sediments are greater than 95 percent sand. Sequencing of dredging and plowing can be used to accommodate this buffer.

K. To the maximum extent practicable, avoid installing cables, dredging, or other construction activities in high and moderate densities of shellfish in Barnegat and Great Egg Harbor Bay and surrounding estuarine waters.

L. An inshore/estuarine shellfish and SAV-specific monitoring plan shall be developed to monitor potential construction-related (trenching/sedimentation) and operational impacts (heat, EMF) to SAV and shellfish in Barnegat Bay. At a minimum, monitoring shall be conducted within 5,000 ft. (2,500 ft. on both sides of cable centerline or 2,500 ft. of a unified centerline between both cables) of any area to be dredged/plowed/jetted. A before–after-gradient (BAG) survey design shall be employed for any monitoring. This monitoring can be included in Benthic Habitat or Fisheries Monitoring plans.

9. The permittee shall implement the stipulations in the document, entitled “MEMORANDUM OF AGREEMENT AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT, THE NEW JERSEY STATE HISTORIC PRESERVATION OFFICER, AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION REGARDING THE OCEAN WIND 1 OFFSHORE WIND FARM PROJECT”, which was fully executed on June 30, 2023.

10. The permittee shall ensure that all structures meet the marking and color requirements prescribed by the United States Coast Guard and Federal Aviation Administration.

11. The permittee shall be responsible for developing and submitting an anchoring plan specifically delineating areas of complex habitat around the submarine export cable and identifying areas restricted for anchoring within 3 nautical miles of the shoreline. Anchor chains shall be extended to reduce the frequency of raising and lowering; and include mid-line buoys to minimize impacts to benthic habitats from anchor sweep where feasible. The habitat maps and inshore maps delineating eelgrass habitat shall be provided to all construction and support vessels to ensure only necessary anchoring of vessels be done within or immediately adjacent to these complex habitats. The anchoring plan must be submitted to this office and National Marine Fisheries Service (NMFS) 90 days prior to any work in Barnegat Bay and prior to wind turbine generator installation, allowing the Corps and NMFS 30 calendar days to review and comment. The permittee is responsible for addressing all comments if received before construction activities can commence. At a minimum, the anchoring plan to be developed shall include: 1) depictions of the lease and export cable areas

that clearly identify areas, using GPS location coordinates, where large boulders and/or medium to high backscatter returns occur, and either: a) DPS, or b) mid-lines buoys are required for anchoring; 2) information describing the operations and number of vessels that will be necessary to maintain vessel position using DPS or mid-line buoys within complex areas (i.e., large boulder and medium to high multibeam backscatter areas); and 3) for any complex habitat area that is identified for it to be infeasible to fully avoid anchoring within or using mid-line buoys, detailed information supporting the feasibility issues encountered, calculated impact areas of large boulders and/or medium to high multibeam backscatter area, and impact minimization measures to be used should be provided. A copy of the anchoring plan, with complex habitat coordinates, should be provided to all construction and support vessel operators.

12. Where feasible, use horizontal directional drilling in areas where the export cable crosses wetlands and do not stage equipment in wetlands. Additionally, use construction mats where work in wetlands is unavoidable.

13. A minimum of 45 days prior to commencing in-water work, the permittee/contractor shall request in writing, from the U.S. Coast Guard, that a Local Notice to Mariners be issued regarding the authorized construction work. This written request shall include the location of work, a description of the construction activities, the type of construction equipment to be used and expected duration of work in the waterway. The written request should be addressed to the following: Commander (dpw), Fifth Coast Guard District, Aids to Navigation Branch, Federal Building, 431 Crawford Street, Portsmouth, Virginia 23704-5004, FAX Number 757-398-6303 or email to cgd5waterways@uscg.mil.

14. Within 1 nautical mile of NJDEP artificial reef sites, the permittee shall achieve a minimum noise reduction of 15 decibels, applicable to all in-water project activities through either:

a. Implementing Protected Species Mitigation and Monitoring Plan, Pile Driving Monitoring Plan, Sound Field Verification Plan, and Passive Acoustic Monitoring Plan, and consistent application of noise mitigation systems, or;

b. Use of additional noise attenuation such as isolation casings during pile driving; in-situ monitoring of artificial reef sites using hydrophones to validate noise reduction, camera systems to monitor fish behavior in response to noise, as well as traps equipped with camera systems to monitor species occurrence and density; Monitoring data should be analyzed using statistically rigorous methods to evaluate the potential impacts of elevated underwater noise from pile installation and WTG and wind farm operation on artificial reefs.

15. The permittee shall provide, prior to or concurrent with project implementation, compensatory mitigation for unavoidable permanent impacts to special aquatic sites as defined at 40 CFR 230 or temporary impacts to the same that are not restored within 12 months. Temporary impacts should be restored at minimum to conditions existing before any project related disturbance, demonstrated through annual monitoring, except where resource specific restoration plans indicate otherwise, until the certifying authority

for water quality and this office acknowledge satisfactory restoration. Compensatory mitigation will consist of:
a. Confirmed purchase of 1.821 credits from federally approved mitigation banks, or;
b. Approval of and adherence to a mitigation plan addressing all elements pursuant to 33 CFR 332.4, which shall be provided to this office and the NMFS.

16. The permittee shall notify the National Oceanic and Atmospheric Administration of the project completion and specifications so they may initiate the appropriate chart and Coast Pilot corrections. This must be submitted online at https://nauticalcharts.noaa.gov/charts/docs/charts-updates/Permit-Public-Notice.pdf along with a copy of the DA permit.

17. The permittee shall provide to this office bathymetric and terrestrial surveys of, at minimum, any cable alignment intersecting a Corps Civil Works project at least every 3 years or following any storm at the 100-year or greater intensity. If surveys indicate cable movement, the procedure in special condition 16 shall be repeated. Alternatively, the permittee shall contact the New Jersey Department of Transportation to determine compatible geotagging protocol and subsequently install passive geotags that mariners or beach nourishment contractors can use to avoid cable interactions. If surveys indicate cable movement, the procedure in special condition 16 shall be repeated.

18. Where cables are collocated with the New Jersey Intracoastal Waterway, the top of installed cable elevation shall be placed a minimum of six feet below authorized channel depth. Where necessary, coarse sand free of any contaminants should be placed over cables to match existing channel contours at the point of intersection. All cable installed in Barnegat Bay shall be installed beneath a minimum of four feet of bed material, including beneath the channel.

Rationale: Special conditions 1 through 5 identify approved plans depicting the project, acknowledge the limits of approved impacts, informs the applicant of the need for approval to modify the project, establishes the need for notification when project activities commence and cease, and notes the constructed project does not have precedence over navigation. Special condition 6 through 8 communicate requirements for compliance with the Endangered Species Act and Magnuson Stevens Act with regard to federally protected species and fisheries. Special condition 9 requires that the applicant construct the project consistent with the established MOA to comply with the National Historic Preservation Act and associated statutes for the protection and preservation of historic and cultural resources. Special condition 10 addresses markings required to keep the project consistent with other marine features for the safety of other ocean uses, including commercial and recreational fishing. Special condition 11 establishes the necessary requirements to minimize impacts to fisheries associated with anchoring by project vessels. Special condition 12 requires limitations to wetland impacts that often result from ancillary activities including soil compaction which make post construction restoration more challenging or likely to fail to return provided functions. Special condition 13 ensures that other users of the marine environment will be able to avoid conflicts with project activities that will temporarily interfere with navigation or installed equipment. Special condition 14 addresses noise mitigation

required to protect fisheries. Special condition 15 requires compensation for unavoidable permanent losses to special aquatic sites the project was unable to avoid. Special condition 16 ensures that nautical charts will reflect the hazards that other marine users may encounter in proximity to project features. Special condition 17 requires reporting that project features were installed according to approved plans to facilitate confirmation of compliance with the above noted conditions of approval. Special condition 18 is included at the request of the federal manager of the NJICWW navigation project to ensure sufficient depth of the cable burial so that there would be no interference with navigation channel maintenance. This version addresses the specific objection to the initial proffered permit the applicant communicated on 4 October 2023.

12.0 Findings and Determinations

12.1 Section 176(c) of the Clean Air Act General Conformity Rule Review:

The proposed permit action has been analyzed for conformity applicability pursuant to regulations implementing Section 176(c) of the Clean Air Act. It has been determined that the activities proposed under this permit will not exceed *de minimis* levels of direct or indirect emissions of a criteria pollutant or its precursors and are exempted by 40 CFR Part 93.153. Any later indirect emissions are generally not within the Corps' continuing program responsibility and generally cannot be practicably controlled by the Corps. For these reasons a conformity determination is not required for this permit action.

12.2 Presidential Executive Orders (EO)

12.2.1 EO 11988, Floodplain Management

Alternatives to location within the floodplain, minimization and compensatory mitigation of the effects were considered above.

12.2.2 EO 12898 and EO 14008, Environmental Justice

12.2.2.1 Provide details regarding screening and mapping tools and available information utilized during the review.

FEIS Section 3.12 details BOEM's analysis of the project alternatives with regard to Environmental Justice (EJ). BOEM utilized USEPA's EJSCREEN to identify communities meeting specified criteria for minority or income status, and NOAA's social indicator mapping to identify EJ populations that also have a high level of fishing engagement or fishing reliance.

12.2.2.2 Have disadvantaged communities been identified within the vicinity of the proposed project? Yes

Refer to FEIS Section 3.12, Figure 3.12-1, 3.12-2, and 3.12-3 for a map of identified communities. FEIS Section 3.12, Figure 3.12-4 highlights communities with notable engagement and reliance on commercial and recreational fishing.

12.2.2.3 What meaningful involvement efforts did the Corps take for potentially affected disadvantaged communities and other interested individuals, communities, and organizations?

BOEM, being the lead federal agency, was responsible for meaningful involvement. The Corps outlined our responsibility and involvement at the public hearings hosted by BOEM.

12.2.2.4 Describe if resource impacts are high and adverse.

BOEM concludes that environmental justice populations would not experience disproportionately high and adverse effects related to construction, O&M, and decommissioning of onshore infrastructure. Regional port utilization, use of the operations and maintenance facility in Atlantic City, construction, O&M, and decommissioning of offshore structures could have major impacts on some commercial fishing operations that use the Lease Area, with potential for indirect impacts on employment in related industries that could affect environmental justice populations. Cable emplacement and maintenance and construction noise would also contribute to impacts on commercial fishing. The long-term presence of offshore structures would also have major impacts on scenic and visual resources and viewer experience from some onshore viewpoints that could affect environmental justice populations. The Corps concurs with the findings in the FEIS.

Do the impacts fall disproportionately on disadvantaged communities? No

See the conclusion for the proposed action in the FEIS Section 3.12.5.3.

12.2.2.5 Based upon the discussion and analysis in the preceding sections, the Corps has determined that portions of the proposed project within our federal control and responsibility would not have a disproportionately high and adverse human health or environmental effect on disadvantaged communities.

12.2.3 EO 13112, Invasive Species, as amended by EO 13751

Through special conditions, which are listed in this evaluation, the permittee will be required to control the introduction and spread of invasive species.

12.2.4 EO 13212 and EO 13302, Energy Supply and Availability

The review was expedited and/or other actions were taken to the extent permitted by law and regulation to accelerate completion of this energy related project while maintaining safety, public health and environmental protections.

12.3 Compliance with NEPA

This ROD incorporates by reference the U.S. Department of Interior, Bureau of Ocean Energy Management (BOEM) 2022 Draft Environmental Impact Statement (DEIS), and the 2023 Final Environmental Impact Statement (FEIS) for the “Ocean Wind 1 Offshore Wind Farm”. The Corps has been a cooperating agency under 40 C.F.R. § 1501.8, with BOEM as lead agency under 40 C.F.R. § 1501.7, for purposes of complying with the National Environmental Policy Act (NEPA). Additionally, BOEM has been the lead agency for the purposes of complying with Section 7 of the Endangered Species Act (ESA), Section 106 of the National Historic Preservation Act (NHPA), and Section 305 of the Magnuson-Stevens Fishery Conservation and Management Act (MSA).

The Corps concurs with BOEM that this project constitutes a major federal action significantly affecting the quality of the human environment, and that therefore an environmental impact statement (EIS) was required. As a cooperating agency in accordance with NEPA, the Corps provided appropriate input and review comments during the EIS process. The Corps has independently reviewed the EIS and concludes that its comments and suggestions have been satisfied. The Corps has reviewed and evaluated the information in the FEIS in accordance with 40 C.F.R. § 1506.3, and 33 C.F.R. Part 325, Appendix B, and finds that the actions covered by the FEIS and those regulated by USACE under section 10 of the RHA and section 404 of the Clean Water Act (CWA) are substantially the same. The FEIS and associated NEPA documents prepared by BOEM, with referenced materials, and comments received in response to them, are hereby adopted in full and in accordance with 40 C.F.R. §1506.3, for purposes of NEPA, the public interest review required by 33 C.F.R. § 320.4, and the 404(b)(1) Guidelines analysis required by 40 C.F.R. Part 230.

The Corps intends to adopt BOEM’s EIS to support its decision on any permits and permissions requested under Section 10 of the RHA and Section 404 of the CWA. The Corps would adopt the EIS under 40 CFR 1506.3 if, after its independent review of the document, it concludes that the EIS satisfies the Corps comments and recommendations.

12.4 Compliance with the Section 404(b)(1) Guidelines

The proposed discharge complies with the Guidelines, with the inclusion of the appropriate and practicable special conditions to minimize pollution or adverse effects to the affected ecosystem.

12.5 Public interest determination

Having reviewed and considered the information above, I find that the proposed project is not contrary to the public interest. The permit will be issued with appropriate conditions included to ensure minimal effects, ensure the authorized activity is not contrary to the public interest and/or ensure compliance of the activity with any of the authorities identified in Section 10.

PREPARED BY:

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Brian R. Anthony
Biologist, Applications Section 1

REVIEWED BY:

Date: 2023.10.05
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Date:_____

Todd A. Hoernemann
Chief, Applications Section 1

REVIEWED BY:

Todd A. Schaible
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Date: 2023.10.05 16:54:06 -04'00'

Date:_____

Todd A. Schaible
Chief, Regulatory Branch

APPROVED BY:

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Date: 2023.10.05 22:21:32 -04'00'

Date:_____

Jeffrey M. Beeman, P.E.
Lieutenant Colonel, Corps of Engineers
District Commander