DIVISION OF LAND RESOURCE PROTECTION
BUREAU OF COASTAL PERMITTING
ENVIRONMENTAL ANALYSIS REPORT

Federal Consistency Certification
File No. 0000-21-0022.1, CDT210001

Applicant: Atlantic Shores Offshore Wind LLC (now known as Atlantic Shores Offshore Wind Project 1, LLC and Atlantic Shores Offshore Wind Project 2, LLC)

Project Name: Atlantic Shores Offshore Wind South Project

Location: BOEM Lease Area OCS-A 0499
Approximately 8.7 nautical miles (14 miles) east of North Brigantine Natural Area

Waterway: Atlantic Ocean

Administrative History:

BOEM Publishes NOI:	September 30, 2021
Federal Consistency Voluntary Submission to DLRP:	September 30, 2021
Start of the Six (6) Month Review Period:	October 1, 2021
Stay Agreement Executed:	October 1, 2021
Stay Begins:	October 1, 2021
Start Public Comment Period 1:	October 20, 2021
End Public Comment Period 1:	December 18, 2021
Three (3) Month Letter Sent to NOAA:	December 30, 2021
BOEM Publishes DEIS:	May 19, 2023
Stay Ends:	December 29, 2022
Second Stay Agreement Executed:	May 31, 2023
Stay Begins:	May 31, 2023
Start Public Comment Period 2:	June 1, 2023
End Public Comment Period 2:	June 30, 2023
Start Public Comment Period 3:	September 20, 2023
End Public Comment Period 3:	October 19, 2023
Stay Ends:	December 14, 2023
Third Stay Agreement Executed:	December 14, 2023
Stay Begins:	December 14, 2023
Stay Ends:	March 3, 2024
Federal Consistency Decision Due:	April 1, 2024

Federal Consistency Certification Request Description

Section 307 of the Coastal Zone Management Act (CZMA) of 1972 requires that federal actions affecting any coastal use or resource (defined as land or water use, or natural resource of a state's coastal zone), be conducted in a manner that is consistent with the enforceable policies of a state's federally approved Coastal Zone Management Program (CZMP) or Coastal Resource Management Program (CRMP). The Bureau of Ocean Energy Management (BOEM) is not requiring the submittal of a consistency certification under 30 Code of Federal Regulations ("C.F.R.") § 585.627(a)(9) as the Atlantic Shores Project 1 (Project 1) and the Atlantic Shores Project 2 (Project 2), collectively the Atlantic Shores Offshore Wind South Project (Project), are

not within a state's Geographic Location Description (GLD). Nonetheless, Atlantic Shores Offshore Wind, LLC (Atlantic Shores) prepared a Consistency Certification to demonstrate that the proposed Project located within BOEM Lease Area OCS-A 0499 is consistent with the policies identified as enforceable by the Coastal Zone Management (CZM) Rules of the State of New Jersey (N.J.A.C. 7:7).

As described herein, the proposed activity will be conducted in a manner consistent with New Jersey's CZMP and pursuant to 15 C.F.R. § 930, which authorizes states with approved CZM programs to conduct a coastal zone consistency review and concurrence determination of projects within or outside the state coastal zone boundary. Projects that require a federal license or permit, are federally funded, or are a direct activity of a federal agency are to be reviewed to ensure that activities in or affecting the state's coastal zone are consistent with the state's enforceable program policies.

In New Jersey, federal consistency reviews are the responsibility of the New Jersey Department of Environmental Protection (NJDEP), Division of Land Resource Protection (DLRP) as the lead State agency that implements or coordinates the State's federally approved CZMP. Pursuant to the CZMA, New Jersey has defined its coastal zone boundaries and developed policies to be utilized to evaluate projects within the designated Coastal Zone, as set forth in New Jersey's CZM Rules (last amended on October 5, 2021). These rules also provide for the issuance of permits under three CZMP areas: Waterfront Development Act (N.J.S.A. 12:5-3), Wetlands Act of 1970 (N.J.S.A. 13:9A), and the Coastal Area Facility Review Act (CAFRA; N.J.S.A. 13:19). New Jersey's coastal waters are any tidal waters of the State of New Jersey extending from the mean high-water line out to the three-geographical-mile limit of the New Jersey territorial sea, and elsewhere to the interstate boundaries of New York, Delaware, and the Commonwealth of Pennsylvania.

Through Executive Order 14008, President Joseph Biden established the policy of the United States to combat the climate crisis through the deployment of clean energy technologies and infrastructure. Through a competitive leasing process under 30 C.F.R. § 585.211, Atlantic Shores was awarded commercial Renewable Energy Lease OCS-A 0499 covering an area offshore of New Jersey (the Lease Area). Under the terms of the lease, Atlantic Shores has the exclusive right to submit a Construction and Operations Plan (COP) for activities within the Lease Area, and it has submitted a COP to BOEM proposing the construction and installation, operation and maintenance (O&M), and conceptual decommissioning of two offshore wind energy facilities (the Project as referenced above) in the Lease Area in accordance with BOEM's COP regulations under 30 C.F.R. § 585.626 et seq. Project 1 as proposed would generate 1,510 megawatts (MW), and while Project 2's output is not yet determined, Atlantic Shores has set a goal of 1,327 MW for Project 2.

The Project would contribute to New Jersey's goal of 11 gigawatts (GW) of offshore wind energy generation by 2040 as outlined in New Jersey's Governor's Executive Order No. 307, issued on September 22, 2022. Pursuant to the New Jersey Offshore Wind Economic Development Act (OWEDA), on June 30, 2021, the New Jersey Board of Public Utilities (NJ BPU) awarded Atlantic Shores Project 1 an Offshore Renewable Energy Credit (OREC) allowance to deliver 1,510 MW of offshore renewable energy into the State of New Jersey (NJ BPU Docket No. QO21050824, In the Matter of the Board of Public Utilities Offshore Wind Solicitation 2 for 1,200 to 2,400 MW – Atlantic Shores Offshore Wind Project 1, LLC). This OREC award was only for Project 1. Pursuant to New Jersey Executive Orders No. 8 and No. 92, the State will be awarding additional OREC allowances to offshore wind energy projects

through a competitive solicitation process every 2 years through 2026. Atlantic Shores is actively seeking additional OREC awards or purchase power agreements (PPA) for Project 2. Although Project 2's capacity has not yet been determined, as noted above, Atlantic Shores has a goal of producing 1,327 MW of renewable energy. The Project (both Projects 1 and 2 as indicated above) is intended to contribute substantially to the region's electrical reliability and help New Jersey achieve its renewable energy goals.

BOEM prepared a Draft Environmental Impact Statement (DEIS) (May 2023) to assesses the reasonably foreseeable impacts on physical, biological, socioeconomic, and cultural resources that could result from the construction and installation, O&M, and conceptual decommissioning of the Project. BOEM has prepared the DEIS under the National Environmental Policy Act (NEPA) (42 U.S. Code [U.S.C.] 4321–4370f). This DEIS will inform BOEM's decision on whether to approve, approve with modifications, or disapprove the Project's COP.

Although BOEM's authority under the Outer Continental Shelf Lands Act (OCSLA) only extends to the activities on the Outer Continental Shelf (OCS), alternatives related to addressing nearshore and onshore elements as well as offshore elements of the Project or Proposed Action are analyzed in the DEIS. BOEM's regulations (30 C.F.R. § 585.620) require the COP to describe all planned facilities that the lessee would construct and use for the Project, including onshore and support facilities and all anticipated Project easements. This Federal Consistency Certification review, however, is limited to the offshore Project components that are located beyond the three-geographical mile limit of the New Jersey territorial sea. Pursuant to N.JA.C. 7:7-1.2(b), the offshore component of the Project (referred to throughout this document as the Offshore Project) is not located within New Jersey's coastal zone, which in this case is limited to those coastal waters of the State of New Jersey that extend from the mean high water line out to the three-geographical-mile limit of the New Jersey territorial sea. This Federal Consistency Certification has been submitted because it is reasonably foreseeable that the proposed construction, operation and decommissioning of the Offshore Project will have an effect on the uses or resources of New Jersey's coastal zone. Those components of the Project that are located within New Jersey's territorial waters, as well as the onshore components, will require separate State permits from NJDEP's DLRP.

Those State Permits will constitute the State's consistency certification for the portions of the Project within New Jersey's territorial waters and onshore. The State permit application for Project 1 consists of a request for a CAFRA Individual Permit, a Waterfront Development Individual In-Water Permit, a Freshwater Wetlands Special Activity Transition Area Waiver for Linear Development, and a Freshwater Wetlands Letter of Interpretation-Line Verification pending under DLRP file #0000-21-0022.2 LUP240001 & LLI240001. The State permit application for Project 2 consists of a request for a Waterfront Development Individual In-Water Permit pending under DLRP file# 0000-21-0022.3 LUP240001. The State permit application for the O&M facility bulkhead construction consists of a CAFRA Individual Permit, a Waterfront Development Individual In-Water Permit, and a Flood Hazard Area Verification, pending under DLRP file #0102-24-0001.1 LUP240001, The State permit application for the O&M facility, which includes a building and docks, consists of a CAFRA Individual Permit and Waterfront Development Individual In-Water Permit, pending under DLRP file #0102-24-0001.1 LUP240002

To conduct its review of the project's consistency with the State's enforceable policies, DLRP has considered the consistency certification submitted by Atlantic Shores to DLRP along

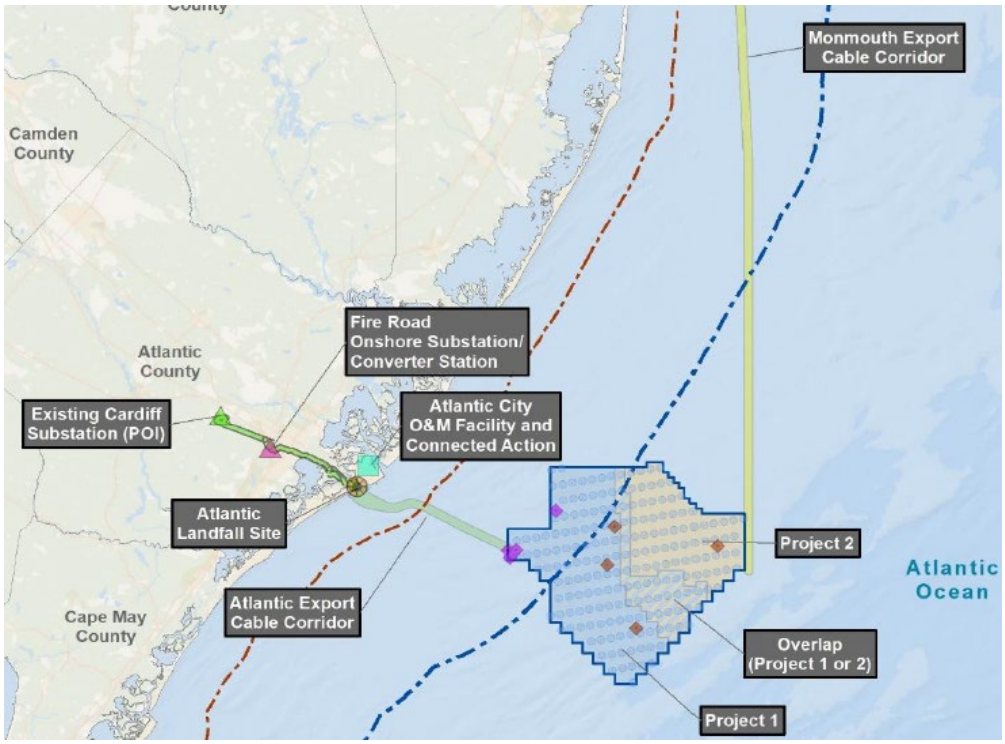
with public comments received during review of the certification request, information presented by Atlantic Shores to BOEM in its COP initially submitted in March of 2021 with supplemental submissions in December of 2021, August of 2022, and May of 2023, as well as BOEM's DEIS released in May 2023. It is important to note that Appendix G of the DEIS discusses Atlantic Shores proposed and BOEM recommended mitigation and monitoring measures in order to avoid, minimize, and/or mitigate Projects' impacts on environmental resources. While some of the mitigation measures are discussed herein, the comprehensive list of proposed and/or recommended mitigation and monitoring measures can be found in Appendix G of the DEIS.

BOEM is considering a range of project alternatives through the EIS process. BOEM may select a combination of alternatives that results in a preferred alternative that will be identified in its Final Environmental Impact Statement (FEIS) and that meets the purpose and need of the Project. This review, however, by NJDEP is focused on the Proposed Action described in the DEIS and is identified in the Project Description section of this report.

Project Description

Atlantic Shores acquired a 100 percent interest in Renewable Energy Lease Number OCS-A 0499 located off the coast of New Jersey (the Lease Area). Under the terms of the lease and as mentioned previously, Atlantic Shores has the exclusive right to submit a COP to BOEM for activities within the Lease Area. Atlantic Shores has submitted a COP to BOEM proposing the construction and installation, operation, maintenance and conceptual decommissioning of Project 1 and Project 2, collectively known as the Project as mentioned above. Portions of the Offshore Project will be located within an approximately 102,124-acre (41,328-hectare) Wind Turbine Area (WTA) situated within the southern portion of the Lease Area. The Offshore Project within the WTA is proposed 8.7 miles from the New Jersey shoreline at its closest point.

Project 1 is proposed within the southwestern 54,175 acres (21,924 hectares) of the Lease Area and Project 2 is proposed within the southeastern 31,847 acres (12,888 hectares) of the Lease Area, with a 16,102-acre (6,516-hectare) Overlap Area that could be used by either Project 1 or Project 2 as shown on the below map. The Overlap Area is included in the event engineering or technical challenges arise at certain locations in the WTA, to provide flexibility for final selection of a wind turbine generator (WTG) supplier for the Project (which would determine the final number of WTG positions needed for Project 1 and Project 2), and for environmental or other considerations.



Atlantic Shores Project Area – 3-mile NJ limit demarcated by red dashed line

The Project would include up to 200 WTGs (between 105 and 136 for Project 1 and between 64 and 95 for Project 2), up to 10 offshore substations (OSSs) (up to 5 in each project), up to 1 permanent meteorological (met) tower (Project 1), up to 4 temporary meteorological and oceanographic (metocean) buoys (up to 3 metocean buoys in Project 1, 1 metocean buoy in Project 2), interarray and interlink cables, 2 onshore substations, 1 O&M facility, and up to 8 transmission cables making landfall at two New Jersey locations.

The proposed landfall for Project 1 is known as the Atlantic Landfall Site located at the eastern terminus of South California Avenue adjacent to the Atlantic City Boardwalk in Atlantic City, New Jersey, with an onshore route to the existing Cardiff Substation Point of Interconnection (POI). The Project 2 offshore route will terminate more than 0.25 miles offshore in depths of approximately 34 feet; pending the result of NJ BPU's Pre-build solicitation process, a future developer will construct the onshore route to the existing Larrabee Substation POI. Up to eight export cables would be installed to deliver electricity from the OSSs to the landfall sites. The landfall locations and POIs are not included in this Federal Consistency review, as they will require separate State permits from the NJDEP and will be analyzed during the State permitting process.

The WTGs would extend to a maximum height of up to approximately 1,046.6 feet (319.0 meters) above mean sea level (AMSL) with 0.6-nautical-mile (1,100-meter) spacing between the turbines. Atlantic Shores would mount the WTGs on monopile foundations for Project 1 and monopile or piled jacket foundations, which are a type of foundation consisting of a steel lattice structure that is fixed to the seabed using piles connected to each leg of the jacket, for Project 2.

Separate submarine export cables are proposed with approximately 328–820 feet (100–250 meters) between each cable. The approximately 12-mile (19-kilometer) Atlantic Export Cable Corridor (ECC) for Project 1 would travel from the western tip of the WTA westward to

the Atlantic Landfall Site. The approximately 61-mile (98-kilometer) Monmouth ECC for Project 2 would travel north from the eastern corner of the WTA along the eastern edge of the Lease Area to a termination point more than 0.25 miles offshore from Sea Girt. As mentioned above, pending the result of NJ BPU's Pre-build solicitation process, a future developer will construct the onshore route from this termination point to the Monmouth Landfall Site at the United States Army National Guard Training Center (NGTC) in Sea Girt, New Jersey and then to the existing Larrabee Substation POI.

The width of each ECC would correspond to the width of the surveyed corridors, in which the potential cable easements would be located, and would range from approximately 3,300 to 4,200 feet (1,000 to 1,280 meters) for all of the Monmouth ECC and most of the Atlantic ECC, though the Atlantic ECC widens to approximately 5,900 ft (1,800 m) near the Atlantic Landfall Site. The proposed width of each ECC accommodates the planned export cable options as well as the associated cable installation vessel activities and would allow for avoidance of resources such as shipwrecks, artificial reefs, and sensitive habitats.

The inter-array and interlink cables could be installed using one or more of the following methods: simultaneous lay and burial, post-lay burial, or pre-lay trenching. According to BOEM, post-lay burial involves laying the cable onto the seabed followed by a subsequent, separate burial operation. Pre-lay trenching involves excavating a trench prior to cable installation. Atlantic Shores is evaluating available cable installation tools to select techniques that are appropriate for the site and that would maximize the likelihood of achieving the target cable burial depth of 5 to 6.6 feet (1.5 to 2.0 meters).

It is expected that most of the export, inter-array, and interlink cables would be installed using jet trenching or jet plowing. Jet trenching involves production of water jets that create a fluidized channel of seabed sediment into which the cable sinks. In jet plowing installation methods, a plow's share cuts into the seabed, opening a trench and holding it open with the sides of the share. As the plow advances, the cable passes through the tool and falls into the open trench. Limited mechanical trenching techniques may be utilized for cable installations Mechanical trenching involves a cutting wheel and may be equipped with a jetting sword or excavation chain, to cut a narrow trench into the seabed allowing the cable to sink under its own weight or be pushed to the bottom of the trench via a cable depressor.

BOEM estimates that 80 to 90 percent of the offshore cables would be installed with a single pass of the cable installation tool. However, limited areas are expected to be more challenging for cable burial (along up to 10 to 20 percent of the export, inter-array, and interlink cable routes), so an additional one to three passes of the cable installation tool may be required to further lower the cable to its target burial depth.

Once construction is completed, both Project 1 and Project 2 are designed to operate for up to 30 years. After that time, under 30 C.F.R. § 285 and commercial Renewable Energy Lease OCS-A 0499, Atlantic Shores would be required to remove or decommission all facilities, projects, cables, and pipelines, and clear the seafloor of all obstructions created by the proposed Project. All foundations would need to be removed 15 feet (4.6 meters) below the mudline (30 C.F.R. § 285.910(a)).

Project Public Interest

It is well-settled in the scientific community that climate change is primarily driven by increased atmospheric levels of greenhouse gas concentrations. According to the 2020 New Jersey Scientific Report on Climate Change (NJDEP, 2020), human activities are now the primary cause of climate change, particularly greenhouse gas emissions from burning fossil fuels which, combined with land use changes like deforestation, have increased atmospheric carbon dioxide concentrations by more than one third over the past century. As discussed in the Report, sea level rise is occurring throughout the world, and is an indicator of Earth's increasing temperature (NJDEP, 2020).

New Jersey has already been disproportionally affected by climate change, sea level rise in particular, at a rate that is more than two times the global average (Kopp et al. 2019). According to a 2019 report of the New Jersey Climate Change Alliance Science and Technical Advisory Panel (STAP), by 2050, there is a 50 percent chance that sea-level rise will meet or exceed 1.4 feet and a 17 percent chance it will exceed 2.1 feet (Kopp et al. 2019). Under a moderate emission scenario, those levels increase to 3.3 and 5.1 feet by the end of the century (Kopp et al. 2019). These impacts pose a threat to New Jersey's communities, infrastructure, economy, natural resources and way of life.

In addition to impacts to communities and infrastructure, climate change is known to increase temperatures, alter ocean acidity, raise sea levels, and increase frequency and intensity of storms. Increased temperatures can alter habitat, modify species' use of existing habitats, change precipitation patterns, and increase storm intensity (USEPA 2016; NASA 2019; Love et al. 2013). As reported by the DEIS, an increase of the ocean's acidity has numerous effects on ecosystems including reducing available carbon that organisms use to build shells and causing a shift in food webs offshore (USEPA 2016; NASA 2019; Love et al. 2013). The increased magnitude or frequency of storms, shoreline changes, ocean acidification, and water temperature changes can impact commercial fisheries, which contribute more than $1 billion dollars to the State's economy (NJ Sea Grant Consortium) and for-hire recreational fishing. The New Jersey commercial and recreational economies reliant on marine species that are vulnerable to the effects of climate change could be adversely affected. Furthermore, New Jersey coastal communities with fishing businesses that have infrastructure near the shore could be adversely affected by sea level rise.

The New Jersey Global Warming Response Act, N.J.S.A. 26:2C-38 et seq. (GWRA), first passed in 2007 and since amended to enhance the State's response to climate change, established a fixed goal of reducing statewide greenhouse gas emissions to eighty percent below 2006 levels by the year 2050, and directed the NJDEP to routinely report on the State's progress in reducing emissions and identify pathways for meeting the 2050 goal.

Multiple state and federal assessments have made it clear that, without permanent reductions in greenhouse gas emissions within the next several years, New Jersey's people and their property will experience significant adverse effects of climate change, including rising sea-levels, increases in temperature and precipitation causing periods of both intense storms and drought, and chronic inundation from flooding (NJDEP 2020a; NJDEP 2022; USGCRP 2023). These reports make it clear that, while future emissions reductions cannot avoid these nearer-term impacts hastened by our past emissions, deeper and continuous emissions reductions will protect and improve the state's longer-term outlook by helping to avoid more drastic adverse impacts.

Without steep reductions moving forward, for example, New Jersey's sea-levels could rise by as much as 5.1 feet by the year 2100 and 8.3 feet by the year 2150 under even a moderate emissions scenario (Kopp, 2019), with the potential to erode large land areas of the state.

The energy generating sector is the third largest contributor to the state's total greenhouse gas, the majority of which are from natural gas fired electric generating units (over 90% in 2021), with lesser amounts arising from solid waste incineration (NJDEP, 2024). Coal-fired generation ceased in the state in 2023.

To both meet statutory emissions reductions requirements and avoid more drastic adverse climate impacts to the State's communities and economy, emissions from electric generation must be fully decarbonized by 2050. (NJDEP 2020a, NJDEP 2020b). Planning assessments have determined that renewable power supply must increase from a present-day level of 4.8 GW (Gigawatts) to almost 16 GW by 2030, through the addition of 10.9 GW of renewable energy (NJ BPU 2024; NJ BPU 2019, NJDEP 2020b). It is anticipated this will include development of 3.5 GW of offshore wind, with the balance supplied by 7.4 GW of in-state solar and renewable energy resources from the PJM region (NJBPU 2019, NJDEP 2020b).

By 2050 total state renewable energy capacity must reach approximately 60.5 GW, comprised of 32 GW of solar, nearly 11 GW of offshore wind, and almost 18 GW of firm capacity (e.g., low-carbon or carbon neutral fuels) to meet reliability requirements (NJBPU 2019, NJDEP 2020b).

Offshore wind energy production as an alternative to the burning of fossil fuels reduces global, national, and regional greenhouse gas emissions, advances renewable energy, improves resiliency for communities in New Jersey and the extended region, and improves energy efficiency throughout the region, as well as supporting national energy policies. Offshore wind energy production will aid in combating the adverse effects of climate change discussed above by reducing the demand for energy sources which produce substantial greenhouse gas emissions. The alleviation of these adverse impacts of climate change, such as increased temperatures, alteration of ocean acidity, rising sea levels, and increases in intensity and frequency of storms, further reduces adverse impacts on coastal and environmental resources.

Furthermore, a cumulative approach to combatting climate change through a reduction in greenhouse gas emissions by development of clean energy sources, such as offshore wind energy production, will reduce adverse environmental impacts on a national level and supports achievement of the goals outlined in the national policy discussed in detail above.

Mitigating the adverse impacts of climate change is in the national, regional, and State of New Jersey's public interest and the Project will contribute to ameliorating these effects.

As discussed above, pursuant to the New Jersey OWEDA, on June 30, 2021, the NJ BPU awarded Atlantic Shores Project 1 an OREC allowance to deliver 1,510 MW of offshore renewable energy into the State of New Jersey (BPU Docket No. QO21050824, In the Matter of the Board of Public Utilities Offshore Wind Solicitation 2 for 1,200 to 2,400 MW – Atlantic Shores Offshore Wind Project 1, LLC). This OREC award was only for Project 1. Pursuant to New Jersey Executive Orders No. 8 and No. 92, the State will be awarding additional OREC allowances to offshore wind energy projects through a competitive solicitation process every 2 years through 2026. Atlantic Shores is actively seeking additional OREC awards or PPAs for Project 2. Although Project 2's capacity has not yet been determined, as noted above, Atlantic

Shores's goal for Project 2 is production of 1,327 MW. The Project (both Projects 1 and 2) is intended to contribute substantially to the region's electrical reliability and help New Jersey achieve its renewable energy goals.

Therefore, based on the foregoing, the Project is in the public interest.

Project Alternatives

BOEM's DEIS lists alternatives in Table 2-1 which are not mutually exclusive. BOEM may "mix and match" multiple listed DEIS referenced alternatives or sub-alternatives, to result in a preferred alternative that will be identified in the FEIS, provided that: (1) the design parameters are compatible, (2) the preferred alternative still meets the purpose and need, and (3) the preferred alternative does not exceed the Project Design Envelope (PDE). The number of WTGs that could be removed may be reduced if an alternative is selected and combined with another alternative that requires removal of additional WTG positions and, if that combination of alternatives would fail to meet the purpose and need, including any awarded offtake agreement(s). The analysis in the DEIS considers a reasonable range of alternatives, including cable route options within the PDE and alternatives considered but dismissed.

The alternatives within the DEIS also include a No Action alternative which considers baseline conditions that would continue to follow current regional trends and respond to impact producing factors (IPFs) introduced by other ongoing non-offshore wind activities for resources considered within the DEIS.

The Proposed Action is developed based on a PDE as described in the COP, and explained in Section 1.5, Methodology for Assessing the Project Design Envelope, and Appendix C of the DEIS. For the purposes of this report, DLRP has considered the Proposed Action in its review of the project's consistency with the enforceable policies of the Coastal Zone Management Rules.

Coastal Zone Management Rule Analysis (N.J.A.C. 7:7-1.1 et seq.):

7:7-1.1 Purpose

The CZM Rules at 7:7-1.1(c) lay out eight broad coastal goals that the Rules strive to attain: 1) healthy coastal ecosystems, 2) effective management of ocean and estuarine resources, 3) meaningful public access, 4) sustained and revitalized water-dependent uses, 5) coastal open space, 6) safe, healthy, and well-planned coastal communities and regions, 7) coordinated coastal decision making, comprehensive planning, and research, and 8) coordinated public education and outreach. Each goal is supplemented by related policies that set forth the means to realize that goal.

Specifically, 1.1(e) states that the broad goals outlined in 1.1(c) are implemented through the location rules (N.J.A.C 7:7-9 through 14), use rules (N.J.A.C. 7:7-15), and resource rules (N.J.A.C. 7:7-16). This report addresses project consistency with all relevant rules within these sections, thus determining project consistency with the broader goals of the CZM Rules.

Further, 1.1(d) states that the CZM Rules seek to strike a balance between conflicting and competing local, State, and national interests in coastal resources and in uses of coastal locations.

The report that follows discusses balancing environmental protection with the proposed Project that is in the public interest.

7:7-9.2 Shellfish habitat

The Offshore Project area is located within Federal waters of the Atlantic Ocean. Application of the Shellfish Habitat rule is limited to areas defined as an estuarine bay or river bottom. Additionally, the Offshore Project area does not occupy areas defined as shellfish habitat per the rule at 9.2(a). Since no portion of the work which is the subject of this Federal Consistency Certification request will occur within an estuarine bay or river bottom or within an area defined as shellfish habitat per the rule, this Rule is not applicable to the offshore component of the Project.

Any defined areas of shellfish habitat within New Jersey State waters which are proposed to be impacted by portions of the Project will be separately reviewed for compliance with this Rule under the pending State permit applications referenced above.

7:7-9.3 Surf clam areas

The Surf Clam Areas rule prohibits development which would result in the destruction, condemnation, or contamination of surf clam areas except when the development is of national interest that has no prudent or feasible alternative site and the impacts are minimized or for sand and gravel mining to obtain material for beach nourishment.

The Offshore Project area includes the construction of up to 200 WTGs, 10 OSSs, and 1 met tower that would include installation of up to 289 acres (117 hectares) of hard scour protection around the foundations and up to 595 acres (241 hectares) of hard cable protection around the export and interarray cables. The Offshore Project area is composed of mainly soft sediments with bottom features that include a series of ridges and troughs that are oriented in a northeast-southwest alignment. According to the DEIS, benthic resources within the Offshore Project area include Atlantic surf clam (*Spisula solidissima*). Also, the NJDEP's Marine Resources Administration (MRA) has provided comments on the Project within Federal waters stating that the Offshore Project area is collocated with productive Atlantic surf clam areas, which are coastal waters that can be demonstrated to support significant commercially harvestable quantities of Atlantic surf clams or area important for recruitment of Atlantic surf clam stocks. The MRA and the DEIS note that the sand bottom habitat that supports this population will be altered permanently by offshore wind turbine foundations and scour protection and temporarily by cable installation. In addition, while the construction of the export transmission cable is likely to cause a one-time, temporary mortality event to Atlantic surf clams in the Project's cable corridors, it is not expected to threaten the overall surf clam population.

As discussed previously in the Project Public Interest section of this document, the Project is in the interest of the State of New Jersey as well as in the regional and national public interest. In addition, there is no other prudent or feasible alternative for the location of the WTA. The Project components within the WTA must be confined to Atlantic Shores' Renewable Energy Lease Area OCS-A 0499 designated by BOEM and acquired by Atlantic Shores through a competitive leasing process for offshore wind development. Atlantic Shores does not have the ability to construct the components of the WTA outside of the limits of the Lease Area. Additionally, offshore wind projects, such as the Project proposed under this Federal Consistency Certification request, are water-dependent uses. Offshore wind projects benefit from the reliability of ocean winds with higher wind speeds over the ocean versus over land, and

the lack of physical interferences within the ocean that can be encountered on land. Moreover, the Project components within the Lease Area require expansive areas that cannot be accommodated on land in the State of New Jersey.

In order to minimize impacts to surf clam areas, numerous mitigation measures will be implemented. Note, however, that those mitigation measures intended to provide compensatory mitigation or other mitigation measures to commercial fisheries or in-hire fishermen associated with impacts to the surf clam fishing industry will be discussed in the Marine Fish and Fisheries section of this document.

As stated in the consistency statement submitted with the Federal Consistency Certification request, Atlantic Shores is taking steps to minimize and then mitigate impacts to surf clams and their habitats. The proposed electric transmission export cables will be installed using low impact installation techniques that limit substrate disturbance and sediment suspension. Additionally, as outlined in the COP, Atlantic Shores is working closely with the surf clam industry to better understand how the effects of climate change are influencing the distribution and abundance of surf clams within Atlantic Shores lease area and the greater Mid-Atlantic Bight.

According to comments provided to the DLRP by MRA, research monitoring is an important component of mitigation, and Atlantic Shores has commissioned informative and rigorous scientific studies to better characterize the resources and the potential impacts of offshore wind activities. One area of focus has included studying the potential socioeconomic impacts of offshore wind development on the Atlantic surf clam fishery, which reflects an understanding of the value of the fishery to New Jersey and the vulnerability of this fishery to offshore wind facility construction, operation, and maintenance. The NJDEP welcomes such novel research to model and quantify potential impacts upon the commercial fishing industry, especially since existing research and guidance materials have been primarily focused on ecological concerns. The scientists engaged in this work, led by Daphne Munroe at Rutgers University Haskins Shellfish Laboratory, are the academic experts on this species and fishery in New Jersey and have developed a cooperative relationship with the industry, the Science Center for Marine Fisheries, and the Virginia Institute of Marine Science.

Additionally, as stated in the DEIS, Atlantic Shores has also committed to comprehensive monitoring of fisheries and benthic habitat conditions throughout the phases of the Project's life cycle. These monitoring activities will document baseline environmental conditions relevant to fisheries and benthic resources in the WTA, and monitoring of those conditions will continue throughout construction and installation, O&M, and decommissioning of the Proposed Action. These surveys will allow Atlantic Shores to measure Project related disturbances and monitor the recovery of habitats and biological communities. Atlantic Shores' Fisheries Monitoring Plan will utilize survey gear including clam dredges, demersal fish trawls, and fish traps/pots. Benthic monitoring surveys will utilize gear types including benthic grab samplers, multibeam echosounders, and underwater video cameras. These measures are considered part of the Proposed Action.

Specific to surf clam, to ensure baseline data concerning potential effects upon and recovery of benthic resources is well-established, Atlantic Shores has committed to implementing a Hydraulic Clam Dredge Survey as outlined in the December 15, 2021 Fisheries Monitoring Plan (COP, Appendix II-K) for the purpose of identifying significant changes to the presence and size of ocean quahogs and Atlantic surf clams within the WTA. This survey

includes analysis of potential effects associated with the WTG, inter-array cable, and export cable installation. The survey has been designed to follow the same specification as the NJDEP surf clam resource surveys, thereby enhancing the understanding of the surf clam populations in New Jersey State waters. Further, Atlantic Shores has committed to implementing an extensive benthic habitat monitoring program along the ECC as described in the Benthic Monitoring Plan (COP, Appendix II-H), for the purpose of identifying potential changes in benthic macroinvertebrate communities and benthic habitat before and after construction.

7:7-9.4 Prime fishing areas

Prime fishing areas under this rule include tidal water areas and water's edge areas which have a demonstrable history of supporting a significant local intensity of recreational or commercial fishing activity, and include areas of coastal jetties, groins, public fishing piers or docks and artificial reefs. The rule identifies recreational and commercial finfishing and shellfishing, scuba diving and other water related recreational activities as permissible uses of these areas, and includes sand or gravel submarine mining, which would alter existing bathymetry to a significant degree so as to reduce the high fishery productivity of these areas, as prohibited uses. The construction of offshore wind turbines, cables, and associated infrastructure was not envisioned by this rule; therefore, this use is neither explicitly permissible nor prohibited. The purpose of prohibiting uses in prime fishing areas is to avoid altering "existing bathymetry to a significant degree so as to reduce the high fishery productivity of these areas."

The DEIS recognizes that there are several areas classified by NJDEP as prime fishing areas within the Lease Area. Additionally, a review of applicable NJDEP GIS mapping, there are several areas classified as prime fishing areas that are located within the Offshore Project area.

The COP (revised May 2023) states that between 2015 and 2019, an annual average of 207,779 angler trips were estimated to occur on for-hire recreational vessels in State and Federal waters off the entire coast of New Jersey (NOAA MRIP 2020). National Marine Fisheries Service (NMFS) (2021b) analysis of recreational party and charter vessel activity from 2008 to 2018 indicates that approximately 14,789 angler trips occurred within the Lease Area, originating from Atlantic City, Barnegat, and Long Beach. NMFS (2021b) analysis of recreational party and charter vessel activity from 2008 to 2018 indicates that, of all the species landed within the Lease Area, approximately 68.7% were black sea bass, 10.7% were summer flounder, and 5.4% were bluefish.

The consistency statement submitted by Atlantic Shores indicates that the installation of the offshore facilities will utilize low impact techniques which will limit substrate disturbance and sediment suspension in order to minimize impacts to prime fishing areas. Additionally, Atlantic Shores has agreed to monitor benthic habitat and mitigate for impacts to the fishing industry that result from adversely impacting prime fishing areas.

The WTA layout was specifically configured to consider commercial fishing patterns, particularly for the surf clam/quahog dredging fleet, which is the predominant commercial fishery within the WTA. While the primary direction of fishing vessel traffic varies somewhat across the Lease Area (a northeast to southwest heading is more frequent in the northern portion of the Lease Area whereas a southeast to northwest heading is more common farther south), commercial fishermen and USCG have indicated a preference for a uniform layout across the entire Lease Area to facilitate navigation. A standard and uniform grid pattern is also preferred by USCG to facilitate search and rescue (SAR) missions in the WTA. Thus, the layout of the WTA will be consistent with the layout of the entire Lease Area. Additionally, the COP states

that offshore export cable routes have been routed to the maximum extent practicable to avoid impacts to Prime Fishing Areas as identified on New Jersey's Specific Sport Ocean Fishing Grounds map.

According to the DEIS, the Projects would require the removal of some sand bedforms via "pre-sweeping" in 20 percent of export cable corridors and 10 percent of interarray cable corridors. These activities would create narrow troughs or flats in fields of sand waves, altering the seabed profile and potentially causing localized, short-term impacts on finfish, invertebrates, and essential fish habitat (EFH). Sand ripples provide vertically structured habitat for finfish and invertebrates in an otherwise flat seascape. BOEM anticipates the redeposition of sand ripples impacted by the pre-sweeping activities into areas of similar sediment composition. BOEM further anticipates tidal and wind-forced bottom currents to reform most ripple areas within days to weeks following disturbance. While some sand ripples may not recover to the pre-disturbance height and width, BOEM expects the habitat function to nonetheless fully recover post-disturbance. Therefore, BOEM expects that the impacts of seabed profile alterations on finfish, invertebrates, and EFH would be localized and short term, dissipating over time as mobile sand waves fill in the altered seabed profile.

Additionally, impacts from cable emplacement would be localized to the ECCs. Impacts from habitat alteration would be long term only in areas where cables are armored. According to the DEIS, Atlantic Shores has sited offshore export cable routes to where they would minimize overlap with sensitive benthic habitats, and cables would be further micro-sited along those routes to avoid boulders and other hard-bottom habitat to the extent feasible. According to the DEIS, cable emplacement impacts would be further minimized to the extent feasible, by seasonal work window restrictions that avoid construction during periods when sensitive species and life stages would be present in the area of the Projects and by using cable installation tools that minimize the area and duration of sediment suspension. With these avoidance and conservation measures, BOEM anticipates that the probability of adverse impacts from cables on sensitive finfish, invertebrate, and EFH resources to be low.

The DEIS states that the applicant will conduct comprehensive monitoring of fisheries and benthic habitat conditions throughout the phases of the Project's life cycle. These monitoring activities will document baseline environmental conditions relevant to fisheries and benthic resources in the WTA, and monitoring of those conditions will continue throughout construction and installation, O&M, and decommissioning of the Proposed Action. These surveys will measure Project-related disturbances and monitor the recovery of habitats and biological communities. Atlantic Shores' Fisheries Monitoring Plan will utilize survey gear including clam dredges, demersal fish trawls, and fish traps/pots. Benthic monitoring surveys will utilize gear types including benthic grab samplers, multibeam echosounders, and underwater video cameras.

As further discussed in the Marine Fish and Fisheries section of this document, potential effects of the Project within federal waters to recreational and commercial finfishing and shellfishing have been addressed. Atlantic Shores shall perform mitigation and monitoring to assess and offset any impacts the Project may have on these fishing industries.

Consistency with this Rule has been demonstrated.

7:7-9.5 Finfish migratory pathways

Finish migratory pathways are waterways are waterways (rivers, streams, creeks, bays and inlets) which can be determined to serve as passageways for diadromous fish to or from seasonal spawning areas. Development which creates a physical barrier to the movement of fish along migratory pathways is prohibited, unless acceptable mitigating measures are used.

The are no rivers, streams, creeks, bays, or inlets in the Offshore Project area. However, the DEIS states offshore wind structures would be constructed along migratory fish pathways including for striped bass and Atlantic sturgeon. It is too early to evaluate the effect of offshore wind structures on fish and invertebrate movements and migrations; however, there is some evidence that offshore wind structures may create stopover locations for migratory fishes as indicated in research prepared by Rothermel et al. entitled "Comparative Migration Ecology of Striped Bass and Atlantic Sturgeon in the US Southern Mid-Atlantic Bight Flyway" and cited in the DEIS. Stopover locations may benefit migrating fish by providing feeding opportunities but may also disrupt or slow migrations. These behavioral effects may affect the migrations of individual fish, but they are not expected to have broad impacts on migration. Other oceanographic conditions such as temperature and salinity are expected to remain the primary determinants of seasonal migrations.

Because there are no rivers, streams, creeks, bays, or inlets in the Project area, this Rule is not directly applicable. Further, based upon the information provided and the Rothermel Study, there is no information to demonstrate the Project will cause impacts to finfish migratory pathways even outside the applicable waterways. Therefore, consistency with this Rule has been demonstrated.

7:7-9.6 Submerged vegetation habitat

The Project located within Federal waters does not contain habitat for submerged aquatic vegetation as defined in the rule at 9.6(a). Submerged vegetation habitat is associated with near shore, shallow waters which are not present within the Offshore Project area.

Therefore, this Rule is not applicable to the Project within Federal waters but will be addressed to the extent it is applicable in the pending State permit applications for the portions of the Project within New Jersey State waters.

7:7-9.7 Navigation channels

This rule defines navigation channels as tidal water areas including the Atlantic Ocean, inlets, bays, rivers and tidal guts with sufficient depth to provide safe navigation. Navigation channels include all areas between the top of the channel slopes on either side. These navigation channels are often marked with buoys or stakes. Major navigation channels within the Offshore Project area are shown on NOAA/National Ocean Service Charts in the COP in Appendix II-S: Navigation Safety Risk Assessment. Development within or within 50 feet of navigation channels is discouraged, unless it can be demonstrated that the proposed structure will not hinder navigation.

The COP states that there are no demarcated navigation channels adjacent to or within the WTA. According to the DEIS, the layout of the WTGs and OSSs is designed to facilitate the transit of vessels through the WTA based on a review of existing traffic patterns. To facilitate safe navigation, all offshore structures will include appropriate marine navigation lighting and marking in accordance with the United States Coast Guard (USCG) and BOEM guidance.

Atlantic Shores will continue to work with USCG and BOEM to determine the appropriate marine lighting and marking schemes for the proposed offshore facilities.

The export cables associated with the Project will be installed within defined ECCs referred to as the Monmouth ECC for Project 2 and the Atlantic ECC for Project 1. The width of each ECC corresponds to the width of the marine survey corridors and ranges from approximately 3,300 to 4,200 ft (1,000 to 1,280 m) for all of the Monmouth ECC and most of the Atlantic ECC, though the Atlantic ECC widens to approximately 5,900 ft (1,800 m) near the Atlantic Landfall Site. Neither ECC crosses established navigation channels. Additionally, the cables are proposed to be routed around federal aids to navigation (ATONs) where practical. However, where existing obstructions (such as artificial reefs and sand borrow areas) did not allow for avoidance, Atlantic Shores surveyed around the aids to navigation and will coordinate with USCG on potential repositioning of an aid to navigation.

Since the Project structures will not hinder navigation as set forth above, consistency with this Rule has been demonstrated.

7:7-9.12 Submerged infrastructure route

A submerged infrastructure route is the corridor in which a pipe or cable runs on or below a submerged land surface. Any activity which would increase the likelihood of infrastructure damage or breakage, or interfere with maintenance operations, is prohibited under this rule.

Although cable routes were selected to avoid known hazards, including submerged infrastructure, the ECCs will cross existing submarine cables. The Monmouth ECC could have up to 15 crossings that each export cable will need to complete, while the Atlantic ECC could have up to four crossings for each export cable. It is also estimated that up to 10 inter-array cable crossings and up to two inter-link cable crossings may be required.

The COP states that any cable crossing will be carefully surveyed and, if the cable is still active, Atlantic Shores will develop a crossing agreement with its owner. At each crossing, before installing the Atlantic Shores cable, the area around the crossing will be cleared of any marine debris. Depending on the status of the existing cable and its location, such as burial depth and substrate characteristics, cable protection may be placed between the existing cable and Atlantic Shores' overlying cable. However, if sufficient vertical distance exists, such protection may be avoided. It is likely that the presence of an existing cable will prevent Atlantic Shores' cable from being buried to its target burial depth. In this case, cable protection may be required on top of the proposed cable at the crossing location. Following installation of the proposed cables, the cable crossing will be surveyed again.

The five types of cable protection that Atlantic Shores is considering are rock placement, concrete mattresses, rock bags, grout-filled bags, and half-shell pipes. Each of these forms of protective cable armor would create hard-bottom habitat up to 16 feet (5 meters) wide along cable corridors. The continuous hard-bottom habitat may fragment soft-bottom habitat communities, especially benthic infaunal communities, while presenting habitat opportunities for complex-bottom communities (e.g., biofouling communities that include anemones and barnacles). The DEIS states that ASOW will work to minimize the amount of cable protection required, but that it is conservatively estimated that up to 10 percent of the export cables, interarray cables, and interlink cables may require cable protection in areas where sufficient burial depth is not achieved. Cable armoring impacts are likely permanent, but some re-sedimentation may occur.

If an existing cable is inactive, it will be cut and removed prior to installing Atlantic Shores' cables. Removal of the inactive cables will enable burial of Atlantic Shores' cables and avoid the need for cable protection. Where removal is not feasible, standard cable crossing techniques will be employed, which may require cable protection.

Implementation of these measures will decrease the likelihood of infrastructure damage or breakage or interference with maintenance operations of existing submerged infrastructure.

Consistency with this Rule has been demonstrated.

7:7-9.13 Shipwrecks and artificial reef habitats

NJDEP maintains 17 artificial reef sites located between 2 and 25 miles (3 to 40 kilometers) off the coast of New Jersey (NJDEP 2019). One artificial reef, the Atlantic City Artificial Reef, is located at the southwest corner of the WTA. A single turbine is located approximately 150 to 200 feet from this Artificial Reef

Comments received from Atlantic States Marine Fisheries Commission (MAFMC) and the New England Marine Fisheries Council (NEFMC) recommended that the Project be sited to avoid the Atlantic City Artificial Reef. BOEM is considering an alternative where no WTGs would be placed within 410 feet (125 meters) of the Atlantic City Artificial Reef. This alternative would lead to the removal or relocation of 1 WTG (Figure 2.2-6 in the DEIS). BOEM determined that this alternative would be more suitable to address as a Project mitigation measure. According to Appendix G of the DEIS, BOEM will require Atlantic Shores to eliminate a single turbine that was proposed approximately 150 to 200 feet from the Atlantic City Artificial Reef Site to provide a greater buffer to this habitat.

Additionally, the NJDEP's Historic Preservation Office ("HPO") has been reviewing the Project in consultation with BOEM's notification to use NEPA substitution for this Project pursuant to 36 C.F.R. § 800.8. HPO's review includes the potential impacts to any shipwrecks identified within the Offshore Project area. Mitigation for any adverse effects to identified shipwrecks will be determined as part of this Section 106 review and implemented via a Memorandum of Agreement ("MOA") between the consulting parties.

The DEIS reported that multiple shipwrecks are said to be near the Offshore Project area. Atlantic Shores plans to avoid shipwrecks and will consider micro-siting WTGs if needed to avoid shipwrecks. In particular, any historic wrecks that are listed or eligible for listing on the National Register of Historic Places will be avoided.

Removal of the single turbine to avoid impacts to the Atlantic City Artificial Reef and avoidance of any shipwrecks will ensure that the Project will not adversely affect the usefulness of this special area as fish habitat. Therefore, consistency with this Rule has been demonstrated.

7:7-9.15 Intertidal and subtidal shallows

The Offshore Project will not be located within any intertidal or subtidal shallows. Therefore, this Rule is not applicable to the Offshore Project.

7:7-9.16 Dunes

The Offshore Project will not be located within any dune area. Therefore, this Rule is not applicable to the Offshore Project.

7:7-9.18 Coastal high hazard areas

FEMA does not prepare flood mapping beyond New Jersey's State waters boundary of 3-geographical miles. Nonetheless, the Offshore Project does not involve any of the land uses identified by this rule. Therefore, this Rule is not applicable.

7:7-9.19 Erosion hazard areas

There are no erosion high hazard areas within the Offshore Project area. Therefore, this Rule is not applicable.

7:7-9.20 Barrier island corridor

There are no barrier islands located within the Offshore Project area and, therefore, this Rule is not applicable.

7:7-9.22 Beaches

There are no beaches located within the Offshore Project area, and therefore, this Rule is not applicable.

7:7-9.25 Flood hazard areas

The Offshore Project is located below the mean high water line of the Atlantic Ocean, but does not involve the construction of a habitable building, railroad, roadway, bridge or culvert. Therefore, this Rule is not applicable.

7:7-9.26 Riparian zones

There are no riparian zones within the Offshore Project area. Therefore, this Rule is not applicable.

7:7-9.27 Wetlands
7:7-9.28 Wetlands buffers

There are no wetlands or wetlands buffers within the Offshore Project area. Therefore, these Rules are not applicable.

7:7-9.34 Historic and archaeological resources

The HPO has been reviewing the Project and has provided the DLRP with comments concerning the Project's impact to historical and archaeological resources. HPO has informed the DLRP that it is currently engaged in ongoing consultation with BOEM pursuant to its obligations under Section 106 of the National Historic Preservation Act, as amended, for the identification, evaluation and treatment of historic properties within the Project's area of potential effects. While consultation is currently ongoing and HPO will be continuing consultation with BOEM regarding completion of the Section 106 review for the Project, HPO has determined that the proposed project constitutes an adverse effect on historic and archaeological resources. Pursuant to comments from HPO received March 22, 2024, BOEM has indicated that the full extent of potential adverse effects on archaeological resources associated with the proposed Project cannot be fully determined at this time.

9.34(b) discourages development that detracts from, encroaches upon, damages, or destroys the value of historic and archaeological resources. As discussed further in this document, "discouraged" coastal development may be permitted in cases where NJDEP considers the proposed use to be in the public interest and mitigating or compensating measures can be taken. As discussed previously in the Project Public Interest section of this document, the

Project is in the public interest of the State of New Jersey as well as the regional and national public interest. Further, as discussed below, mitigation for adverse effects will be provided.

9.34(e) states that new development is conditionally acceptable in undeveloped areas near historic or archaeological resources provided the design of the development is compatible with the appearance of the historic and archaeological resource. Further, when in the area of undertaking, avoidance and protection of archaeological resources will occur. If not feasible or prudent, archaeological data recovery to mitigate the project impact will be required. Per the comments from HPO referenced above, BOEM is recommending a phased program of identification and evaluation, in consultation with the Section 106 consulting parties. The purpose of this phased program is to address the consideration of historic properties and archaeological resources at a later date in the development. HPO has concurred with this recommendation from BOEM. It is also important to note that Appendix G of the DEIS indicates that Atlantic Shores proposes and BOEM is recommending mitigation and monitoring measures to be undertaken by Atlantic Shores in order to first avoid, then minimize, and then mitigate impacts to historic and archaeological resources.

Mitigation for adverse effects will be determined as part of the Section 106 review referenced above and implemented via a Memorandum of Agreement ("MOA") between the consulting parties.

With execution of the MOA referenced above and implementation of the appropriate mitigation as outlined in the MOA, HPO advised the DLRP that through this consultation, the Project is consistent with this Rule.

7:7-9.36 Endangered and Threatened Wildlife or Vegetation Species Habitat

The NJDEP's GIS Landscape Project mapping for endangered and threatened wildlife or vegetation species habitat does not extend beyond New Jersey State's three-nautical mile geographical limit. However, information contained within the DEIS indicates potential endangered and/or threatened species habitat within the Offshore Project area as discussed below. For the purposes of this analysis, the DEIS is equivalent to a habitat impact assessment described at N.J.A.C. 7:7-11 and required per this rule at 9.36(b).

Bats

According to the DEIS, the range of the federally endangered northern long-eared bat (*Myotis septentrionalis*) overlaps with both the offshore and onshore components of the Project. The federally endangered Indiana bat (*Myotis sodalis*) also occurs in New Jersey, but its range is limited to the northern portions of the State.

The DEIS cited studies that describe bats as terrestrial species that spend the majority of their lives on or over land. The DEIS cites a study by Pelletier et al. 2013, that concluded the likelihood of detecting a Myotis species or other cave bats is considerably less in offshore environments than for tree bats. Because bats are not anticipated to be present in the offshore location of the Project, the DEIS concludes that there will no anticipated impacts to bats.

However, Appendix G of the DEIS indicates a number of anticipated measures to protect and/or mitigate potential impacts to bats. As an applicant-proposed environmental protection measure, Atlantic Shores has implemented two years of preconstruction vessel-based acoustic surveys for bats to build upon and fill knowledge gaps from previous survey efforts. Atlantic

Shores has also proposed to limit lighting during offshore O&M to the minimum required by regulation and for safety, minimizing the potential for any light driven attraction of bats and their insect prey and therefore reducing the effects of light on potential collisions of bats at night. It is anticipated that BOEM will require the use of flashing FAA lights and yellow flashing marine navigation lights on the WTGs instead of constant white light, which has been shown to reduce eastern red bat fatality rates, the most prevalent species observed offshore. Furthermore, ADLS is being considered to significantly reduce the number hours FAA lighting will be illuminated. In addition, BOEM will require Atlantic Shores to develop and implement a post-construction bat monitoring plan.

Marine Mammals

Pursuant to information contained within the DEIS, four marine mammal species are listed under the Endangered Species Act (ESA) and are likely to occur in the Project area: the fin whale (*B. physalus*), North American Right Whale (*Eubalaena glacialis*), sei whale (*B. borealis*), and sperm whale *(Physeter macrocephalus*).

Pursuant to 16 U.S.C. 1379 Sec. 109, of the Marine Mammal Protection Act, no State may enforce, or attempt to enforce, any State law or regulation relating to the taking of any species (which term for purposes of this section includes any population stock) of marine mammal within the State unless the Secretary has transferred authority for the conservation and management of that species (hereinafter referred to in this section as "management authority") to the State under subsection (b)(1). In other words, the Marine Mammal Protection Act preempts State laws related to marine mammals. Therefore, the Endangered or Threatened Wildlife or Plant Species Habitats Rule as it relates to marine mammals is non-enforceable by the State of New Jersey.

Nonetheless, according to the DEIS, the presence of the WTGs, OSSs, and met tower structures may have an artificial reef effect, resulting in increased recreational fishing activity in the vicinity of these structures. An increase in fishing activity could increase risk of entanglement for marine mammals, which could result in injury or death. To mitigate that potential impact, Atlantic Shores has proposed to remove marine debris caught on Offshore Project structures to reduce the risk of marine mammal entanglement in lost fishing gear. The artificial reef effect could also result in beneficial impacts on odontocetes (toothed whales) or pinnipeds (seals, sea lions, and walruses) due to prey aggregation. The aggregation of prey species would increase foraging opportunities for marine mammals and could lead to measurable, long-term benefits. These beneficial effects have the potential to be offset by risk of entanglement from derelict fishing gear and/or reduced feeding potential (prey concentrations) for some marine mammal species. The DEIS also reports that the presence of offshore wind facility structures could result in avoidance and displacement of marine mammals, which could potentially move marine mammals into areas with lower habitat value or with higher risk of vessel collision or fisheries interactions.

Construction and installation, O&M, and decommissioning of the Proposed Action would result in negligible to moderate adverse impacts on marine mammals and could include minor beneficial impacts for odontocetes and pinnipeds. Adverse impacts would result mainly from pile-driving noise, vessel noise, and presence of structures. Beneficial impacts could result from

the presence of structures. Impact determinations for each IPF are provided in the following paragraphs. Overall, the Proposed Action is expected to have minor adverse impacts on odontocetes and pinnipeds, which may experience effects at an individual level, but no stock- or population-level impacts are anticipated. The Proposed Action is expected to have moderate adverse impacts on mysticetes (baleen whales that sieve plankton and small organisms), as the presence of structures and associated potential for gear entanglement could have population-level consequences for some species.

To minimize impacts to marine mammals, BOEM has proposed measures including the following:

- Require marine debris awareness training for all vessel operators, employees, and contractors.
- Require vessel strike avoidance procedures.
- Train personnel in marine mammal spotting and identification, observation reporting protocols, and vessel strike avoidance procedures.
- Adhere to applicable NOAA-established Seasonal Management Area & Dynamic Management Area speed restrictions for North American Right Whale (NARW).
- Monitor marine mammal activity during all Project phases to ensure that the chances for possible marine mammal strikes are minimized. Specifically, Atlantic Shores will monitor NOAA notifications from the Right Whale Slow Zones Program, online or the "Whale Alert" app and the NOAA Right Whale Sighting Advisory System for NARW activity in the Offshore Project area.
- Establish marine protection zones to create sufficient opportunity to modify or halt Project activities potentially harmful to protected species.
- Pile driving will follow a proposed schedule from May to December to minimize risk to NARW.
- Equipment operating procedures will be implemented, as appropriate, to control the noise generated by pile driving or survey equipment to prevent exposure of harmful sound levels to protected marine life. Noise Abatement Systems (NAS) will be implemented during impact pile driving to decrease the propagation of potentially harmful underwater noises; soft starts will be considered for impact pile driving, ramp-up procedures whereby the sound source level is increased gradually before full power will be used; and a ramp-down and shutdown of activities such as pile driving and/or HRG survey equipment that has the potential to cause harm or harassment to marine mammals will occur if an animal is seen approaching or entering a Monitoring or Exclusion Zone.

These measures are not inclusive of all of the measures proposed by BOEM to protect marine mammals. A complete listing of the measures proposed by BOEM is contained within Appendix G of the DEIS.

Turtles

According to the DEIS, five species of turtles have been documented in the U.S. waters of the northwest Atlantic Ocean where the Project is proposed. Three of these turtles are listed as endangered under the Endangered Species Act - the hawksbill (*Eretmochelys imbricata*)

Kemp's ridley (*Lepidochelys kempii*), and leatherback sea turtles (*Dermochelys coriacea*) are listed as endangered, and the green (*Chelonia mydas*) and loggerhead sea turtles (*Caretta caretta*) are federally listed as threatened.

The Offshore Project area is located within the migratory travel route for sea turtles as they travel between their northern-latitude feeding grounds and their nesting grounds in the southern United States, the Carribean, and the Gulf of Mexico. Typically, turtles arrive on their feeding grounds in the spring and begin migrating south in October and are usually gone by the first week in November according to the DEIS.

According to the DEIS, green turtles are typically found in nearshore shallow habitats and no green sea turtle nesting has been documented on the New Jersey coast.

Nesting habitat for Kemp's ridley turtles is limited to the beaches of the western Gulf of Mexico and are not found in New Jersey according to the DEIS. These turtles can be found in the Project area year-round, but are more likely to be present in the summer and fall.

Leatherback turtles are found throughout the northwest Atlantic Ocean and can be found in the Project area year-round but would most likely be found in the Project area in the summer and fall.

Loggerhead turtles are found in the Project area, but their nesting area is normally found between Virginia and Texas.

While hawksbill turtles have been documented on the Outer Continental Shelf waters of the northwest Atlantic Ocean, they have not been documented offshore of New Jersey. Therefore, BOEM does not expect this species to occur in the Project area.

As described in the DEIS, pile driving can result in behavioral and physiological effects on sea turtles. Atlantic Shores has proposed measures to avoid, minimize, and mitigate impacts of pile driving noise on sea turtles. These measures include the utilization of protected species observers to monitor and enforce appropriate monitoring and exclusion zones, noise reducing technologies including soft starts, and scheduling pile driving to avoid completion after dark when sea turtles are most difficult to observe. If a turtle is observed prior to the start of pile driving, the pile driving activity will be delayed until the turtle has left the clearance zone, or after 30 minutes have lapsed with no further sightings. If a turtle enters the safety zone after pile driving has commenced, an immediate shutdown would commence unless Atlantic Shores determines shutdown is not feasible due to an imminent risk of injury or loss of life to an individual. In that scenario, there would be a reduction of pile driving hammer energy. Night vision devices would be utilized to monitor for the presence of turtles in the monitoring and exclusion zones when nighttime pile driving is unavoidable, or when there is inclement weather which limits visibility. With the implementation of these measures, BOEM concludes that no significant injuries to sea turtles are expected. While temporary behavioral and physiological effects are anticipated, BOEM also concludes that no stock or population level effects would likely occur.

Noise levels associated with operational WTGs are below recommended thresholds for sea turtle injury and behavioral effects. However, the DEIS indicates that WTGs larger than described in the Project Description Section could be constructed and those larger WTGs could exceed recommended thresholds. Nonetheless, the DEIS concludes that with the implementation

of the measures discussed above to avoid, minimize and mitigate noise impacts, even under the larger WTG scenario that the noise would result in minor impacts to sea turtles.

The DEIS also states that the presence of the WTGs could disrupt sea turtle foraging and migration as sea turtles may stop to forage or rest around structures. The presence of the structures; however, is not expected to result in measurable changes in sea turtle migratory patterns according to the DEIS.

In addition, Appendix G of the DEIS proposes to implement the following measures to protect sea turtles:

- Vessel strike avoidance procedures that reduce the potential risk of Project-related vessel collisions with sea turtles, including the following actions: adhere to marine wildlife viewing and safe boating guidelines (GARFO 2021) to minimize vessel interactions to the maximum extent practicable, and train Project personnel in sea turtle spotting and identification, observation reporting protocol and vessel strike avoidance procedures.
- Protection zones will be established and monitored to create sufficient opportunity to modify or halt Project activities potentially harmful to protected species, such as: Exclusion Zones around activities that have the potential to harm sea turtles and a Monitoring Zone (larger than Exclusion Zone) around activities that have the potential to result in the harassment of sea turtles.
- Visual monitoring of Exclusion and Monitoring Zones by NOAA Fisheries– approved Protected Species Observers will be conducted to alert the Project's survey and/or marine construction teams to the presence of protected species, including vessel-based and/or aerial monitoring of large Exclusion Zones and Monitoring Zones; and the use of night vision devices such as night vision binoculars and/or infrared cameras, during nighttime activities and/or periods of inclement weather.
- Equipment operating procedures will be implemented, as appropriate, to control the noise generated by pile driving or survey equipment to prevent exposure of harmful sound levels to protected marine life. NAS will be implemented during impact pile driving to decrease the propagation of potentially harmful underwater noises; soft starts will be considered for impact pile driving, ramp-up procedures whereby the sound source level is increased gradually before full power will be used; and a ramp-down and shutdown of activities such as pile driving and/or HRG survey equipment that has the potential to cause harm or harassment to marine mammals will occur if an animal is seen approaching or entering a Monitoring or Exclusion Zone.

Birds

As acknowledged in the COP, the federally protected piping plover, roseate tern, and red knot may pass through the portions of the Projects located in Federal waters. The DEIS confirms that the three (3) above referenced Endangered Species Act (ESA) species have the potential to pass through the area of the Projects, but only during the spring and fall migration.

The DEIS indicates that the New Jersey Baseline Studies rarely observed these species near the WTA, as they mainly occur in the coastal portions of New Jersey during spring and summer. In addition, they were not detected during the Atlantic Shores digital aerial surveys. Automated radiotelemetry tracking studies of these species have also found extremely minimal,

infrequent passage through the lease area, including the NJWEA. BOEM has concluded that due to the anticipated use of flashing red tower lights instead of constant white light to reduce further bird attraction, consideration of the use of ADLS to significantly reduce the number of hours FAA lighting will be illuminated, restricted seasons of exposure, and small number of individuals that could cross the Project area, the Project would not likely adversely affect ESA-listed roseate terns, piping plovers, eastern black rails, or saltmarsh sparrows.

BOEM is preparing a Biological Assessment (BA) for the potential effects on ESA-listed species, which includes piping plover. A preliminary draft found that the Proposed Action may affect, but is not likely to adversely affect the roseate tern, piping plover, eastern black rail, or saltmarsh sparrow, or their critical habitat. BOEM will request concurrence from the United States Fish & Wildlife Service (USFWS) on its conclusion that the impacts of the proposed activities are expected to be discountable and insignificant, and thus may affect but are not likely to adversely affect the piping plover, roseate tern, eastern black rail, or saltmarsh sparrow. Consultation with USFWS pursuant to Section 7 of the ESA is ongoing, and results of the consultation will be presented in BOEM's Final EIS.

The DEIS notes that locations of the OCS offshore wind lease areas were selected to minimize impacts on all resources, including birds. Within the Atlantic Flyway along the North American Atlantic Coast, much of the bird activity is concentrated along the coastline.

As acknowledged in the COP, the federally protected piping plover, roseate tern, and red knot may pass through the portions of the Projects located in Federal waters. The DEIS confirms that the three (3) above referenced ESA species have the potential to pass through the area of the Projects, but only during the spring and fall migration.

In addition, the following measures are proposed within Appendix G of the DEIS to avoid and/or minimize potential impacts to bird species:

- Limit lighting during offshore operations to the minimum required by regulation and for safety, minimizing the potential for any light driven attraction of birds.
- Reduce attraction to structures by using perch deterrents to the maximum extent practicable.
- Use red flashing FAA lights and yellow flashing marine navigation lights on the WTGs, instead of constant white light, to reduce further bird attraction, and consider Aircraft Detection Lighting System (ADLS) to significantly reduce the number of hours FAA lighting will be illuminated.
- Marine debris caught on Offshore Project structures will be removed, when safe and practicable, to reduce the risk of bird entanglement.
- Develop and implement an avian post-construction monitoring plan.

Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*), Shortnose Sturgeon (*A. Brevirostrum*) Essential Fish Habitat ("EFH")

Both Atlantic and shortnose sturgeon are federally listed endangered species. According to the DEIS, Atlantic sturgeon occurs with the Offshore Project area. However, Shortnose sturgeon are primarily a riverine/estuarine species that is less likely to occur in the Offshore Project area. Both species are known to occur within nearshore waters, including rivers and

estuaries. Any potential impacts to sturgeon for nearshore activities will be evaluated within the State permit applications referenced above.

As referenced within the DEIS, field studies indicate that fishes may be startled, temporarily displaced, or change their schooling behaviors during pile-driving noise, but that when the sound is over, they are likely to resume normal behaviors relatively quickly. In particular, Atlantic sturgeon seemed to avoid certain areas when pile driving was taking place, suggesting that they would not remain in the area long enough to experience detrimental physiological effects. Offshore wind structures would be constructed along migratory fish pathways including for striped bass and Atlantic sturgeon (Rothermel et al. 2020). It is too early to evaluate the effect of offshore wind structures on fish and invertebrate movements and migrations (Sparling et al. 2020); however, there is some evidence that offshore wind structures may create stopover locations for migratory fishes (Rothermel et al. 2020). Stopover locations may benefit migrating fish by providing feeding opportunities but may also disrupt or slow migrations (Rothermel et al. 2020). These behavioral effects may affect the migrations of individual fish, but they are not expected to have broad impacts on migration. Other oceanographic conditions such as temperature and salinity are expected to remain the primary determinants of seasonal migrations (Fabrizio et al. 2014; Moser and Shepherd 2009; Secor et al. 2018).

The Proposed Action would have similar impacts on Atlantic sturgeon as other non-ESA species. Presence of structures, emplacement and maintenance of cables, and EMFs are factors that may impact migrating Atlantic sturgeon. In addition to these factors, Atlantic sturgeon would be at risk to vessel strikes from Project-related vessel activity. Project-related vessel traffic would slightly increase vessel strike risk compared to existing vessel traffic. However, BOEM has determined that impacts to fish species, including sturgeon, would be negligible to minor when comparing the Proposed Action to the No Action alternative.

BOEM is evaluating potential impacts on all EFH from the Proposed Action and is consulting with the National Marine Fisheries Service under the Endangered Species Act. The results of that consultation will be included in the Final Environmental Impact Statement. In addition, Atlantic Shores will be required to report annually in writing to BPU and NJDEP on actions taken to ensure environmental protection, fisheries protection, mitigation of environmental and/or fishing impacts. This report will specifically address how Atlantic Shores is enacting its plans for environmental and fisheries protection and mitigation of impacts as articulated in its Application to BPU.

Comprehensive benthic habitat surveys (seafloor sampling, imaging, and mapping) have been conducted in consultation with BOEM and NOAA to support the identification of sensitive and complex habitats and the development of strategies for minimizing impacts on identified areas to the maximum extent practicable. The DEIS identifies several measures to minimize impacts on EFH, which includes potential impacts to Atlantic sturgeon:

- Atlantic Shores has proposed to bury interarray, interlink, and export cables to a target depth of 5 to 6.6 feet (1.5 to 2 meters), which will allow the benthic community to recover and recolonize, avoid direct interaction with finfish and benthic invertebrates, and minimize impacts from EMF.
- An anchoring plan will be employed for areas where anchoring is required to avoid impacts on sensitive habitats to the maximum extent practicable, including hard bottom

and structurally complex habitats, identified through the interpretation of site-specific survey and benthic assessments. Soft starts and gradual "ramp-up" procedures (i.e., gradually increasing sound output levels) will be employed for activities such as pile driving to allow mobile individuals to vacate the area during noise-generating activities.

- During impact pile driving, a noise abatement system consisting of one or more available technologies (e.g., bubble curtains evacuated sleeve systems, encapsulated bubble systems, Helmholtz resonators) will be implemented to decrease the propagation of potentially harmful noise.

With implementation of the above measures, adverse impacts to threatened or endangered species will be avoided or minimized to the extent practicable. Therefore, consistency with this Rule has been demonstrated.

7:7-9.37 Critical Wildlife Habitat

Critical wildlife habitats, as defined at N.J.A.C. 7:7-9.36(a), are specific areas known to serve an essential role in maintaining wildlife, particularly in wintering, breeding, and migrating. Critical wildlife habitat within the coastal zone consists of patches of woody vegetation which serve a critical role in providing resting and foraging habitat for migratory birds. Within the coastal zone mainland, patches of woody vegetation (i.e., trees, scrub-shrub, etc.) equivalent to 20 acres in size and greater, are valued as stopover habitat for migratory birds because they offer critical cover and food resources for migratory bird species. The Offshore Project area does not contain critical wildlife habitat as described above. Additionally, the Offshore Project area does not contain any ecotones, or edges between two types of habitats, or rookeries for colonial nesting bird species.

However, the DEIS notes that birds may pass through the area of the Offshore Projects. These includes land birds (i.e. songbirds and raptors), coastal waterbirds (i.e. shorebirds, long-legged waders), and marine birds (i.e. loons and sea ducks). The DEIS notes that locations of the OCS offshore wind lease areas were selected to minimize impacts on all resources, including birds. Within the Atlantic Flyway along the North American Atlantic Coast, much of the bird activity is concentrated along the coastline.

As acknowledged in the COP, the federally protected piping plover, roseate tern, and red knot may pass through the portions of the Projects located in Federal waters. The DEIS confirms that the three (3) above referenced Endangered Species Act (ESA) species have the potential to pass through the area of the Projects, but only during the spring and fall migration. See above discussion under 7:7-9.36 regarding minimization measures proposed to protect bird species habitat.

As no activities are proposed within defined critical wildlife habitat, consistency with this rule has been demonstrated.

7:7-9.39 Special hazard areas

According to the DEIS, and the NJDEP's Emergency Management Program, there is a possibility to encounter munitions and explosives of concern (MECs) and unexploded ordnance (UXOs) within the Offshore Project area. According to the DEIS, two site-specific studies were commissioned by Atlantic Shores to gain a more detailed understanding of the potential for MECs in the Offshore Project area: the MEC Hazard Assessment and the MEC Risk Assessment with Risk Mitigation Strategy (COP Volume II, Appendix II-A4; Atlantic Shores 2023). The

studies determined that the Offshore Project area is within low hazard zones for MECs. The reports determined that the likelihood of encountering buried items that constitute a notable safety risk to be below the industry standard of As Low as Reasonably Practicable (ALARP). Furthermore, the studies recommended that Atlantic Shores avoid the use of high-resolution magnetometry surveys to detect buried items. As stated in Appendix G of the DEIS, Atlantic Shores has agreed to this recommendation.

In the event that any military munitions and explosives of concern (MECs) or unexploded ordinances (UXOs) are encountered during project construction, Atlantic Shores has agreed to immediately notify the United States Coast Guard of the presence of MEC/UXO and its location, consistent with N.J.A.C. 7:7-9.39, to avoid or minimize any special hazard that may be present.

Consistency with this Rule has been demonstrated.

7:7-9.48 Lands and waters subject to public trust rights

The Offshore Project is not located within New Jersey's territorial waters and is not adjacent to any New Jersey tidal shore. Therefore, this Rule is not applicable.

7:7-12.7 New dredging

Two electric transmission cables are proposed to convey electricity to two onshore substations, specifically from the WTA of Project 1 to the existing Cardiff Substation in Atlantic County and from the WTA of Project 2 to the existing Larrabee Substation in Monmouth County. The proposed installation of electric transmission cables within the Atlantic Ocean will involve the temporary displacement and removal of sediment. However, this rule only applies to the installation of submerged pipelines and cables. Submerged pipelines are defined at N.J.A.C. 7:7-12.15(a) as "underwater pipelines which transmit liquid or gas, including crude oil, natural gas, water, petroleum products or sewerage". Submerged cables are defined at N.J.A.C. 7:7-12.21(a) as "underwater telecommunication cables" and "all associated structures in the water". As the proposed electric transmission cables are not telecommunication cables or submerged pipelines, the requirements of this Rule do not apply to the Project.

7:7-12.21 Submerged cables

As mentioned above, the proposed electric transmission cables are not submerged cables, which are defined in this rule as "underwater telecommunication cables". Therefore, this Rule is not applicable.

7:7-12.24 Miscellaneous uses

Miscellaneous uses, as defined by this rule, are uses of water areas not specifically defined in this section or addressed in the use rules at N.J.A.C. 7:7-15. This rule requires water-dependent uses not defined in the use rules to be analyzed on a case-by-case basis. The Project is considered a water-dependent activity. Offshore wind projects by design generate electricity from the wind that blows across the ocean. Offshore wind projects benefit from the reliability of ocean winds, the higher wind speeds associated with the ocean versus over land, and the lack of physical interferences that can be encountered on land.

Offshore wind speeds tend to be faster than on land. Small increases in wind speed yield large increases in energy production: a turbine in a 15-mph wind can generate twice as much energy as a turbine in a 12-mph wind (American Geosciences Institute). Faster wind speeds offshore mean much more energy can be generated. Offshore wind speeds tend to be steadier than on land. A steadier supply of wind means a more reliable source of energy (American

Geosciences Institute). Offshore sites will produce at least 1.7 times more energy than the onshore and nearshore sites when using the same commercial wind turbine (Jiale Li, Xiong Yu 2018). Furthermore, offshore wind turbines could produce more power during peak hours in the spring and winter (Jiale Li, Xiong Yu 2018).

Many coastal areas have very high energy needs. Half of the United States' population lives in coastal areas, with concentrations in major coastal cities. Building offshore wind farms in these areas can help to meet those energy needs from nearby sources (American Geosciences Institute).

Offshore wind farms have many of the same advantages as land-based wind farms – they provide renewable energy; they do not consume water; they provide a domestic energy source; they create jobs; and they do not emit environmental pollutants or greenhouse gases (American Geosciences Institute).

With the implementation of the BOEM proposed mitigation and protective measures discussed in the Marine Fish and Fisheries rule section of this analysis, adverse impacts will be minimized and the proposed Project will be protective of wildlife and marine fisheries to the maximum extent practicable.

Furthermore, as discussed in the Project Public Interest section above, the Project is in the public interest and is considered to be water dependent.

Consistency with this Rule has been demonstrated.

7:7-14.1 Rule on location of linear development

According to N.J.A.C. 7:7-1.5, "Linear development" means a development with the basic function of connecting two points, such as a road, drive, public walkway, railroad, sewerage pipe, stormwater management pipe, gas pipeline, water pipeline, or electric, telephone or other transmission lines. Therefore, this rule is applicable to the proposed electric transmission cables but is not applicable to the other components of the Project in federal waters, such as the WTGs and OSSs.

The proposed electric transmission cables have no alternative location because they are connecting the WTGs, which location is defined by the federal Lease Area, with the defined POIs. Based upon BOEM's DEIS, there will be no permanent loss of unique or irreplaceable areas, and no long-term impacts to marine habitats pursuant to the mitigation measures proposed by Atlantic Shores and recommended by BOEM in Appendix G. There are no existing transportation corridors with the Offshore Project area.

Atlantic Shores has agreed to enter into a Memorandum of Understanding (MOU) through the execution of a Letter of Intent, dated April 1, 2024, with NJDEP to provide environmental mitigation measures pertaining to the construction, operation, and decommissioning of the proposed ASOW wind energy facilities. Atlantic Shores has agreed to work with other offshore wind developers, federal and state regulators to establish a Compensatory Mitigation Fund to compensate fishers for verifiable claims of negative impacts of a significant nature, including potential economic losses due to the construction, operation, or decommissioning of the Projects and to contribute to said fund in accordance with the BOEM Fisheries Mitigation Guidance once such guidance is finalized.

Consistency with this Rule has been demonstrated.

7:7-14.2 Basic location rule

The Project is located within BOEM Lease Area OCS-A 0499. Under the terms of the lease, Atlantic Shores has the right to submit a COP for activities within the Lease Area. Offshore wind projects by design generate electricity from the wind that travels across the ocean. Offshore wind projects benefit from the reliability of ocean winds, the higher wind speeds associated with the ocean versus over land, and the lack of physical interferences that can be encountered on land.

As discussed in the Project Public Interest section above and throughout this analysis, the Project is in the national and public interest, promotes public health, safety, and welfare, is protective of public and private property, and through adherence to the conditions discussed in the wildlife and marine fisheries sections, will be protective of marine habitats and the natural environment.

Consistency with this Rule has been demonstrated.

7:7-14.3 Secondary impacts

The project is not anticipated to have any secondary impacts such as traffic increases or increased recreational demand and will not induce further development. The Offshore component of the project is outside of New Jersey's territorial waters and therefore is not included in the State Development and Redevelopment Plan. As referenced in the Description above, the Project would contribute to New Jersey's goal of 11 gigawatts (GW) of offshore wind energy generation by 2040 as outlined in New Jersey's Governor's Executive Order No. 307, issued on September 22, 2022. The Atlantic Shores South Project (both Projects 1 and 2) is intended to contribute substantially to the region's electrical reliability and help New Jersey achieve its renewable energy goals.

Consistency with this Rule has been demonstrated.

7:7-15.4 Energy facility

Through a competitive leasing process under 30 Code of Federal Regulations (C.F.R.) § 585.211, Atlantic Shores Offshore Wind, LLC was awarded commercial Renewable Energy Lease OCS-A 0499 covering an area offshore of New Jersey (the Lease Area). Under the terms of the lease, Atlantic Shores Offshore Wind, LLC has the exclusive right to submit a Construction and Operations Plan (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 two offshore wind energy facilities in the Lease Area. The proposed Project, which consists of Project 1 and Project 2, would generate 1,510 MW for Project 1 and an output that has not been determined for Project 2. Atlantic Shores does, however, have a goal of 1,327 MW for Project 2.

The Project is intended to contribute to the region's electrical reliability and further New Jersey's clean energy goals, specifically the goal of 11 gigawatts (GW) of offshore wind energy generation by 2040 as outlined in New Jersey's Governor's Executive Order No. 307, issued on September 21, 2022. Further, it is intended to fulfill the NJ BPU's solicitation, and subsequent June 30, 2021, award to Atlantic Shores for 1,510 MW of offshore wind capacity (BPU Docket No. QO21050824, In the Matter of the Board of Public Utilities Offshore Wind Solicitation 2 for

1,200 to 2,400 MW – Atlantic Shores Offshore Wind Project 1, LLC). Atlantic Shores is actively seeking additional OREC awards or PPAs for Project 2.

Historically the power grid in New Jersey was built up to supply the main load centers from large conventional fuel generation, such as coal, oil, gas and nuclear, as well as interconnection with the rest of the state and neighboring states. Two large conventional fuel generators of this type were recently retired in New Jersey. These were the Oyster Creek nuclear (636 MW) and the BL England coal, oil, and diesel (450 MW) generators (COP Ocean Wind Offshore Wind Farm, Vol. 1, March 2022). The combined power output of these plants was less than the planned capacity of the Atlantic Shores Offshore Wind Project.

Offshore wind energy development, by displacing fossil-fuel energy, would help offset emissions from fossil fuels, improving regional air quality and reducing greenhouse gas (GHG) emissions. BOEM in their DEIS, cited several studies about the impacts of wind energy projects on emissions. For example, an analysis by Katzenstein and Apt (2009), was said to have estimated that CO2 emissions can be reduced by up to 80 percent and NOx emissions can be reduced up to 50 percent by implementing wind energy projects. BOEM also cited an analysis by Barthelmie and Pryor (2021), that calculated, depending on global trends in GHG emissions and the amount of wind energy expansion, development of wind energy could reduce predicted increases in global surface temperature by 0.5–1.4 degrees Fahrenheit (°F) (0.3–0.8 degrees Celsius [°C]) by 2100. According to the DEIS, increasing energy production from offshore wind projects would likely reduce regional and overall (GHG) emissions by displacing energy from fossil fuels. This reduction in regional GHG emissions would be noticeable in the regional context and would contribute incrementally to reducing climate change according to the DEIS.

Offshore wind projects by design generate electricity from the wind that blows across the oceans. Offshore wind projects benefit from the reliability of ocean winds, the higher wind speeds associated with the ocean versus over land, and the lack of physical interferences that can be encountered on land. Turbine blades positioned hundreds of feet into the air are also exposed to much faster and almost constant wind allowing them to generate electricity even when there is no wind on land.

The Project's offshore features, which is the subject of this Federal Consistency review, are not located within New Jersey's coastal zone or waters, which extends from the mean high-water line out to the three-geographical-mile limit of the New Jersey territorial sea and therefore not subject to CAFRA or Waterfront Development jurisdiction. As referenced within this report, the portions of the Project located within defined special areas will not result in adverse impacts to these areas and appropriate mitigative measures will be implemented. Offshore wind projects have been determined to be water dependent.

The WTGs are located within habitat for surf clams and marine fish and fisheries. As discussed under the Surf clam rule and the Marine fish and fisheries rule contained herein, the Project will create challenges for commercial fishers to physically access the WTG areas.The turbine foundations will permanently alter the sandy substrate habitat for surf clams. The Marine fish and fisheries rule (N.J.A.C. 7:7-16.2(b)) discourages any activity that would adversely affect the natural functioning of marine fish and discourages any activity that would impact any New Jersey based marine fisheries or access thereto. According to the Coastal Zone Management Rules, N.J.A.C. 7:7, "Discouraged" means that a proposed use of coastal resources is likely to be rejected or denied as the NJDEP has determined that such uses of coastal resources should be deterred. In cases where the NJDEP considers the proposed use to be in the public interest

despite its discouraged status, the NJDEP may permit the use provided that mitigating or compensating measures can be taken so there is a net gain in quality and quantity of the coastal resource of concern.

As discussed in the Project Public Interest section of this document, the Project is in the public interest. In addition, BOEM plans to require Atlantic Shores to establish a compensation fund within one year of the approval of the COP to compensate commercial and for-hire recreational fishermen for loss of income due to displacement from fishing grounds due to project construction and operations, and to shoreside businesses for losses indirectly related to the Project.

As mentioned previously, Atlantic Shores has agreed to enter into a MOU through the execution of a Letter of Intent, dated April 1, 2024 with NJDEP to provide environmental mitigation measures pertaining to the construction, operation, and decommissioning of the proposed ASOW wind energy facilities. Atlantic Shores has agreed to work with other offshore wind developers, federal and state regulators to establish a Compensatory Mitigation Fund to compensate fishers for verifiable claims of negative impacts of a significant nature, including potential economic losses due to the construction, operation, or decommissioning of the Projects and to contribute to said fund in accordance with the BOEM Fisheries Mitigation Guidance once such guidance is finalized.

Public access will not be affected. This is discussed further under the Public Access Rule section of this document.

The Energy Use Rule at N.J.A.C. 7:7-15.4(b)(5) requires the scenic and visual qualities of coastal areas to be maintained as important resources in the siting of energy facilities, pursuant to the Scenic Resources and Design rule at N.J.A.C. 7:7-16.10. Consistency with this rule is addressed under the Scenic Resources and Design section of this report.

It is not anticipated that the Project will result in a net loss of 200 jobs in NJ. The project does have the potential to impact jobs associated with commercial and recreational fishing and associated land-based support businesses. According to the COP submitted to BOEM, the Project is expected to directly create more than 22,290 full time equivalent (FTE) jobs, indirectly create more than 11,810 FTE jobs, and induce over 14,820 FTE jobs throughout the Project's lifecycle.

The WTG's have no practicable alternative location in the coastal zone because they are water-dependent and require expansive areas that cannot be accommodated on land in New Jersey. In addition, the WTG's must be confined to Renewable Energy Lease Area OCS-A 0499 and Atlantic Shores does not have the ability to construct the Project outside of the Lease Area.

The Project may affect the ability of commercial and recreational fishers to access the WTG area. As discussed previously, the Project is in the State and national interest. As discussed in the marine fish and fisheries rule later in this report. Atlantic Shores COP has proposed the establishment of a Fund to compensate commercial and for-hire recreational fishermen for loss of income due to unrecovered economic activity resulting from displacement from fishing grounds due to project construction and operations and to shoreside businesses for losses indirectly related to the Project. In addition, BOEM intends, no later than 1 year after the approval of the COP, to require Atlantic Shores to establish a compensation/mitigation fund to compensate commercial and for-hire recreational fishermen for loss of income due to unrecovered economic activity resulting from displacement from fishing grounds due to project

construction and operations and to shoreside businesses for losses indirectly related to the Project. Atlantic Shores plans to avoid shipwrecks and will consider micro-siting turbines if needed to avoid shipwrecks. Any historic wrecks that are listed or eligible for listing on the National Register of Historic Places will be avoided. As discussed previously, the Project does not impact any areas considered Critical Wildlife habitat. Pursuant to 16 U.S.C. 1379 Sec. 109, of the Marine Mammal Protection Act, no State may enforce, or attempt to enforce, any State law or regulation relating to the taking of any species (which term for purposes of this section includes any population stock) of marine mammal within the State unless the Secretary has transferred authority for the conservation and management of that species (hereinafter referred to in this section as "management authority") to the State under subsection (b)(1). In other words, the Marine Mammal Protection Act preempts State laws related to marine mammals. Therefore, the Endangered or Threatened Wildlife or Plant Species Habitats Rule as it relates to marine mammals is non-enforceable by the State of New Jersey. As discussed above, the DEIS also states that the presence of the WTGs could disrupt sea turtle foraging and migration as sea turtles may stop to forage or rest around structures. The presence of the structures, however, is not expected to result in measurable changes in sea turtle migratory patterns according to the DEIS. BOEM is evaluating potential impacts on all endangered fish species and is consulting with the National Marine Fisheries Service under the Endangered Species Act and the results of that consultation will be included in the Final Environmental Impact Statement. Impacts and mitigation measures to marine mammals and turtles are discussed in greater detail in the endangered and threatened species rule section,

Consistency with this Rule has been demonstrated.

7:7-15.7 Industry

Industry uses are uses that involve industrial processing, manufacturing, storage, or distribution activities, including electric power production. Industrial uses are conditionally acceptable provided they comply with all applicable location and resource rules. Particular attention is given to location rules which reserve the water's edge for water dependent uses (N.J.A.C. 7:7-9.16 and 9.30); to the buffers and compatibility of uses rule, N.J.A.C. 7:7-16.11, which requires that the use be compatible with existing uses in the area or adequate buffering be provided; and the lands and waters subject to public trust rights rule, N.J.A.C. 7:7-9.48, and the public access rule, N.J.A.C. 7:7-16.9, which places public access requirements upon the use.

The Offshore Project involves the construction of an offshore wind farm within BOEM Lease Area OCS-A 0499 and associated electric transmission export cables to deliver renewable energy and additional capacity to meet State and regional renewable energy demands and goals.

The Offshore Project has been reviewed in accordance with the rules cited above, including 7:7-9.16, 9.30, 9.48, 16.9, and 16.11, and all other applicable location and resource rules and has been found to be consistent with these rules. The rationale for the Industry Rule recognizes that water dependent industry must be located somewhere along the waterfront. The offshore wind Project is considered a water-dependent activity. Offshore wind projects by design generate electricity from the wind that blows across the oceans. Offshore wind projects benefit from the reliability of ocean winds, the higher wind speeds over associated with the ocean versus on over land, and the lack of physical interferences that can be encountered on land.

Consistency with this Rule has been demonstrated.

7:7-15.14 High-rise structures

While the WTGs exceed the 60-foot height definition that is applied to high rise structures, this rule is not applicable because the rule specifically excludes wind turbines per N.J.A.C. 7:7-15.14(c)(3).

7:7-16.2 Marine fish and fisheries

The Marine Fish and Fisheries rule (N.J.A.C. 7:7-16.2(b)) discourages any activity that would adversely affect the natural functioning of marine fish and discourages any activity that would adversely affect any New Jersey based marine fisheries or access thereto. According to the Coastal Zone Management Rules at N.J.A.C. 7:7-1.5, "discouraged" means that a proposed use of coastal resources is likely to be rejected or denied as the NJDEP has determined that such uses of coastal resources should be deterred. In cases where the NJDEP considers the proposed use to be in the public interest despite its discouraged status, the NJDEP may permit the use provided that mitigating or compensating measures can be taken so that there is a net gain in quality and quantity of the coastal resource of concern. As discussed in detail in the Project Public Interest section of this document, the Project is in the public interest of not only the State of New Jersey, but also the regional and national public interest.

The DEIS notes that numerous finfish, including demersal and pelagic species, and invertebrate species are likely to occur within the Offshore Project area. Some of the potential impacts to the natural functioning of these marine species from construction activities and existence of structures along with mitigating measures are discussed immediately below.

As mentioned previously in this document, prior to the installation of the proposed electric transmission cables, the Project within Federal waters would require the removal of some sand bedforms via "pre-sweeping" in 20 percent of proposed export cable corridors and 10 percent of proposed inter-array cable corridors. These activities would create narrow troughs or flats in fields of sand waves, altering the seabed profile and potentially causing localized, short-term impacts on finfish, invertebrates, and essential fish habitat (EFH). Sand ripples provide vertically structured habitat for finfish and invertebrates in an otherwise flat seascape. BOEM anticipates the redeposition of sand ripples impacted by the pre-sweeping activities into areas of similar sediment composition. BOEM further anticipates tidal and wind-forced bottom currents to reform most ripple areas within days to weeks following disturbance. While some sand ripples may not recover to the pre-disturbance height and width, BOEM expects the habitat function to nonetheless fully recover post-disturbance. Therefore, BOEM expects, and based upon the available information the NJDEP agrees, that the impacts of seabed profile alterations on finfish, invertebrates, and EFH would be localized and short term, dissipating over time as mobile sand waves fill in the altered seabed profile.

Additionally, the installation of the cables would be localized to the ECCs and impacts on finfish and invertebrates from turbidity, displacement, and mortality would be short term. Impacts from habitat alteration would be long term only in areas where cables are armored. Atlantic Shores has sited offshore export cable routes to where they would minimize overlap with sensitive benthic habitats, and cables would be further micro-sited along those routes to avoid boulders and other hard-bottom habitat to the extent feasible. Cable emplacement impacts would be further minimized to the extent feasible, by seasonal work window restrictions that avoid construction during periods when sensitive species and life stages would be present in the Offshore Project area and by using cable installation tools that minimize the area and duration of sediment suspension. With these avoidance and conservation measures, BOEM anticipates, and based on the available information the NJDEP agrees, that the probability of adverse impacts

from cable installation on sensitive finfish, invertebrate, and EFH resources to be low. Furthermore, noise-producing activities associated with emplacement of export, interlink, and interarray cables may include route identification surveys, trenching, jet plowing, backfilling, and cable protection installation. However, any behavioral responses to cable-laying noise are expected to be short term and localized.

In addition to the 885 acres of scour protection for the cables, the installation of WTG foundations, OSSs, met tower, scour protection, and cable protection would create 504.3 acres of structurally complex, hard-bottom habitat in an otherwise flat and sandy seascape that includes sand wave and ridge and swale sensitive habitats. Because hard-bottom and three-dimensional structures in the Offshore Project area are currently limited to shipwrecks and artificial reefs, some structure-oriented finfish and invertebrates are expected to aggregate around this new hard-bottom habitat. Although conversion of soft-bottom habitat would result in the displacement of soft-bottom species (e.g., Atlantic surf clam, squid, winter flounder), BOEM does not anticipate that the species that rely on this habitat would experience population-level impacts from habitat conversion.

The electric transmission export and inter-array cables, once installed and operational, would generate electro-magnetic fields (EMF) in the surrounding waters for the duration of the Project's operational period. The DEIS reports that existing scientific literature has documented adverse impacts of EMF on finfish and invertebrates. In particular, the DEIS cites studies that document behavioral and physiological impacts of EMF on benthic epifaunal and infaunal invertebrates and finfishes (Scott et al. 2018, 2021; Hutchison et al. 2018, 2020a, 2021; Scanlan et al. 2019; Ernst and Lohmann 2018). However, according to the DEIS, finfish responses to EMF have been mixed and contradictory, even within species. The DEIS cites a study by Hutchison et al. (2020), that identifies the need for further research to understand the mechanisms of EMF impacts and the large-scale or population-scale consequences of EMF.

In further regards to EMF, in March of 2021, the NJDEP's Division of Science and Research published a white paper entitled "Review of the Impacts to Marine Fauna from Electromagnetic Frequencies (EMF) Generated by Energy Transmitted through Undersea Electric Transmission Cables", authored by Joseph Bilinski. This white paper was a result, at the time, of Governor Murphy's Executive Order No. 92 which announced the State's plan to produce 7,500 MW of electricity from offshore wind by 2035 (subsequently increased to 11,000 MW by 2040 by Executive Order 307). This publication reviewed the current scientific literature summarizing the observed, *in situ* effects of EMF on marine fauna from interactions with and proximity to undersea transmission cables.

The installation and operation of submarine transmission cables can affect marine benthic organisms and habitats in a variety of ways, some of which can include sediment disturbance, reef effects, thermal emission, and notably the distortion of the natural geomagnetic field via emission of electromagnetic frequencies. Electromagnetic Frequencies, or EMFs are generated by electric current flowing through undersea transmission cables that can be associated with onshore or offshore renewable energy projects (wind or hydrokinetic resources) or other power-generating sources (traditional power plants). Based on empirical evidence and laboratory investigations, the observed impacts to marine biota and ecosystems are considered to be minor or short-term. Electrosensitive species such as elasmobranchs and benthic species have been shown to sense EMFs more acutely than marine mammals and pelagic fishes, although only minor responses such as lingering near or attraction to cabled areas have been noted. However,

uncertainties do remain as to whether physiological impacts occur and what life stage is most affected, and or if any long-term impacts will develop (Bilinski, NJDEP 2021).

In a publication entitled "ENVIRONMENTAL STUDIES Electromagnetic Fields (EMF) from Offshore Wind Facilities" prepared by BOEM and dated December 2023, it's noted that naturally occurring EMF are present everywhere in the oceans. For offshore wind energy projects, the primary sources of EMF are inter-array cables that carry electricity from each wind turbine to the export cables, which carry that electricity to shore. The power cables do not produce an electric field on the seafloor or within the ocean because the voltage on the copper conductors within the cable is blocked by a grounded metallic covering on the cable. However, the magnetic field from the undersea power cable is shielded far less by this metallic covering; therefore, a 60-Hz AC magnetic field would surround each cable. The 60-Hz AC magnetic field induces a weak electric field in the surrounding ocean that is unrelated to the voltage of the cable but instead is related to the amount of current flow through the cable. This means that when the current flow on the undersea power cable increases or decreases, both the magnetic and the induced electric fields increase or decrease (BOEM 2023).

In addition to the metallic covering around the cable, undersea power cables are typically buried under the seafloor for their protection. As EMF from undersea power cables decrease rapidly with distance from the cable, burying the cables substantially reduces the levels of magnetic and induced electric fields in seawater. Increasing the burial depth from 3 feet to 6 feet reduces the magnetic field at the seafloor approximately four-fold. Where hardbottom seafloor conditions or existing infrastructure is encountered, the power cables are often covered with 6- to 12-inch thick concrete mattresses, rock berms, or other measures to protect the cable. While this covering does not achieve the same level of EMF reduction as burial and distance, beyond about 10 feet from the cable, the field levels for buried and mattress-covered cables are quite similar (BOEM 2023).

Impact pile driving during construction activities would represent the most substantial source of underwater noise associated with the Offshore Project. For reference, the construction of the Project will result in a total of 211 foundations (200 WTGs, 10 OSSs and 1 met tower) installed, each requiring a maximum of 7 to 9 hours of pile driving, which would occur over a maximum-case scenario of a total of 420 days (2 days per foundation assuming a single operating vessel and no daylight restrictions) over 3 years. According to the DEIS, intense and impulsive noise generated by pile driving can cause injury or mortality to finfish and invertebrates over a small area around each pile and can cause temporary stress and behavioral changes over a larger area. The presence of potentially injurious noise would render EFH unavailable or unsuitable for the duration of the noise. Pile-driving noise could also result in reduced reproductive success while pile driving is occurring, particularly in species that spawn in aggregate. According to the DEIS, fish with swim bladders involved in hearing (e.g., herrings, gadids) are most susceptible to pile-driving noise while those without swim bladders (e.g., flatfish, rays, sharks) are least susceptible. Further, the DEIS clarifies that an individual fish would be injured by pile-driving noise only if it remained near the pile during installation. Early life stages of finfish (i.e., eggs, larvae) and sessile invertebrates (i.e., longfin squid egg mops, ocean quahog, scallops, surf clam) are less sensitive to pile-driving noise but are more vulnerable because they are unable to move to avoid the noise. According to the DEIS, surf clam, ocean quahog, and scallops would likely respond to the vibration and sound of the impact hammer by closing their valves or "flinching," which prevents feeding. BOEM concludes that the loss of foraging opportunity resulting from closed valves would be a short-term, reversible, and once the

disturbance ended, the bivalves would resume feeding. Because of the relatively small footprint and short duration of injurious sound and the ability of most fish to swim away from noise sources, BOEM does not expect injurious noise from pile driving to cause population-level impacts on fish.

Atlantic Shores commits to implementing measures to avoid, minimize, and mitigate impacts of pile-driving noise on finfish and invertebrates, including using soft-start procedures and noise abatement systems, implementing time-of-day restrictions unless effective reduced-visibility monitoring equipment is available, and implementing seasonal work windows that avoid construction during periods when sensitive species and life stages would be present in the Project area. With these measures in place, BOEM concludes that injuries to fish and invertebrates are expected to be minimal. While some fish and invertebrates are expected to experience behavioral effects within the ensonified area, these effects would be temporary, as behavior is expected to return to preconstruction levels following the completion of pile driving. Impacts from injurious sound are expected to be short term and localized.

The vertical foundations that would be installed for each of the WTGs would cause continuous, fine-scale hydrodynamic disturbances. As described in the DEIS, offshore WTG foundations can alter downstream flows and resulting larval dispersal patterns, but the flows are expected to return to background levels 8 to 10 pile diameters downstream of the foundation. BOEM indicates that background conditions would exist 394 to 492 feet (120 to 150 meters) downstream of the largest monopile foundations that are being considered as part of the Project. Given the small scale at which hydrological changes from the Project would occur, BOEM expects impacts on finfish and invertebrates to be negligible.

Operation of the WTGs would generate non-impulsive, underwater noise that is audible to some finfish and invertebrates. Per the DEIS, the expected sound levels from the Project that are potentially harmful to finfish would be restricted to a very small area around each monopile. According to the DEIS, the best available data indicate noise levels produced by operating WTGs would be below fish behavior and injury thresholds; therefore, noise from operating WTGs is not expected to produce impacts on finfish and invertebrates. However, if the larger WTGs installed for the Project produce sound levels that exceed these thresholds, WTG noise may result in minor impacts on finfish and invertebrates.

This rule also discourages any activity that would adversely affect any New Jersey based marine fisheries or access thereto. As reported in the DEIS, between 2011 and 2020, the state with the highest annual average commercial fishery landings and revenue in the Project WTA was New Jersey, which landed 492,802 pounds and generated $345,831 (2019 dollars) annually. New Jersey accounted for approximately 95 percent of landings and 79 percent of revenue in the WTA. The fishing ports with the highest percentages of landings and revenue harvested in the Project 1 WTA were Atlantic City, New Jersey (0.88 percent of landings, 0.70 percent of revenue); Sea Isle City, New Jersey (0.05 percent of landings, 0.11 percent of revenue); and Cape May, New Jersey (0.08 percent of landings, 0.05 percent of revenue). The fishing port with the highest percentages of landings and revenue harvested in the Project 2 WTA was Atlantic City (1.05 percent of landings, 0.76 percent of revenue). Project 1 WTA had a higher percentage of landings and revenue from pots other than lobster, whereas the Project 2 WTA had higher percentages of landings and revenue attributed from the clam dredge.

The installation of the components in the Offshore Project area would result in the installation of up to 289 acres (117 hectares) of hard scour protection around the WTGs and

OSSs foundations and up to 595 acres (241 hectares) of hard cable protection in the form of rock placement, concrete mattresses, or half-shell around the export and inter-array cables. The scour protection and cable protection around structures in the Offshore Project area, resulting in the conversion of soft-bottom habitat to hard-bottom habitat. The introduction of hard-bottom habitat may result in adverse, beneficial, or mixed impacts, depending on the species and location. The conversion of habitat from the Project would result in the displacement of soft-bottom species, such as squid and winter flounder, in the area immediately surrounding the structures. In addition, habitat conversion would result in the loss of soft-bottom benthic features including sand waves, sand ridges, and shoal formations. These features provide habitat complexity that is used by benthic and finfish communities for refuge, spawning, and foraging, and are often identified as prime fishing areas by commercial and recreational fishermen. According to the DEIS, the introduction of hard-bottom, structured habitat may also attract structure-oriented species that are targeted in recreational fisheries, such as American lobster, Atlantic cod, black sea bass, scup, and striped bass. Highly migratory pelagic predators that are targeted in recreational fisheries (e.g., tuna, billfish, sharks) may also be attracted to the prey that aggregate around the WTG foundations. These impacts could provide enhanced opportunities to for-hire recreational fisheries but could also cause space-use conflicts with commercial fisheries. Although local distributions of squid and finfish may respond to the presence of foundations, the DEIS concludes that no stock-level effects are expected. Regarding Atlantic surf clam, the DEIS states that "Cable protection will be designed to minimize effects on fishing gear to the maximum extent practicable," however, Atlantic surf clams require a sandy substrate, and it seems unlikely that mobile bottom gear will be compatible with layers of mattressing. According to the DEIS, the habitat conversion resulting from the Project is expected to have localized, long-term impacts that would be adverse for commercial fisheries and beneficial to for-hire recreational fisheries.

Furthermore, the presence of scour and cable protection measures is expected to have additional long-term, adverse impacts on commercial and for-hire recreational fisheries. Additional impacts other than habitat conversion described above could include gear loss or damage, navigational hazards, fish aggregation, migration disturbances, and space-use conflicts. The increased risk of damage or loss of fishing gear would affect mobile and fixed-gear commercial fisheries and for-hire recreational fisheries, but the risk would be greatest for bottom-oriented commercial fisheries that use mobile gear (e.g., trawl, dredge), which is actively pulled over the seafloor. Although the Offshore Project area is generally classified as mostly sandy, areas where the seabed requires cable protection often contain natural snags that would provide suboptimal conditions for trawling or dredging and would, therefore, be avoided by those fisheries. Mobile gear could become snagged on the cable protection structures, resulting in damage to or loss of the gear, increased costs to fishers associated with repairing or replacing the gear, and revenue loss while the gear is being repaired or replaced.

The WTGs may also pose a long-term navigational hazard and risk of allisions to commercial and for-hire recreational fishing vessels transiting through and fishing near the Offshore Project area. Depending on the location and width of transit corridors, commercial and for-hire recreational fishing vessels may have difficulty safely navigating within the Offshore Project area, as there may be less space for maneuverability and greater risk of allision or collision if there is a loss of steerage. Commercial fishing vessels, which are generally larger than for-hire recreational fishing vessels and often have large, externally deployed fishing gear, are expected to have more difficulty navigating within the Offshore Project area. According to

BOEM, fishing industry representatives have stated that their operations require a minimum distance greater than 1 nautical mile (1.9 kilometers) between WTGs, in alignment with the prevailing tidal currents for safe operations. Specifically, a loss of access to valuable fishing grounds for the Atlantic surf clam industry in the Offshore Project area will occur. The primary commercial fishing gear used to target Atlantic surf clam is the hydraulic dredge, which contacts and penetrates the sediment and requires a relatively large sea space for haul back, space that will not be available between wind turbines.

Fishing vessels navigating through the Offshore Project area could also have difficulty using navigational radar because WTGs present many radar targets that may obscure smaller vessels and where radar returns may be duplicated under certain meteorological conditions, such as heavy fog.

The presence of gear entanglement hazards and navigational hazards associated with structures in the WTAs may cause some fishermen to seek alternative fishing grounds, switch the species they target or the gear they use, or leave the fishery altogether. Fishermen who are willing to seek alternate fishing grounds may experience increased operating costs and/or lower revenue. Fishermen who switch target species or gear types used may also lose revenue from targeting a less-valuable species and increased costs from switching gear type. Switching species could also cause fishermen to land their catch in different ports, which could increase operational costs depending on where the port is located. According to the DEIS, the largest impacts in terms of exposed revenue as a percentage of total revenue in the geographic analysis area would be in the Surf clam and Ocean Quahog FMP fishery (1.96 percent), followed by the Bluefish (0.06 percent), Spiny Dogfish (0.05 percent), and Summer Flounder, Scup, Black Sea Bass (0.04 percent) FMP fisheries. Additionally, fishing vessel operators who are displaced from fishing grounds within offshore wind areas and are unable to find alternative fishing locations would experience long-term revenue losses. Vessels that choose not to navigate through the WTA and use alternative transit routes may experience increases in travel times and fuel costs.

Further, revenue losses may be compounded if displacement of fishing effort causes fishing vessels to become concentrated into smaller areas, potentially leading to reduced catches at the individual level. Considering the revenue risk across ports, together with the number of vessels and fishing activity that would be affected by the Project, the DEIS concludes that the impacts on other fishing industry sectors, including seafood processors and distributors and shoreside support services, would be long term and moderate to major, depending on the fishery in question.

The changes in fishing activity resulting from the presence of offshore wind structures would likely result in impacts on shoreside support services (e.g., seafood processing, fuel, ice). Fishing communities that derive a high percentage of revenue from the Lease Area and have a high reliance on the commercial fishing industry are expected to experience the greatest impacts from reduced demand for shoreside support services.

In order to mitigate the impacts described above, multiple measures are under consideration and are summarized in the paragraphs below.

NJDEP acknowledges that monitoring is an important component for mitigating the impacts to marine fish and fisheries as discussed in this rule. As discussed above in the Surf Clam Areas rule section, Atlantic Shores has commissioned informative and rigorous scientific studies to understand the resources and potential impacts of offshore wind on the fishing

industry. These include a study on Fishing Vessel Traffic, use of the Responsible Offshore Development Alliance Fisheries Knowledge Trust, and the previously mentioned study from Rutgers that modeled future Atlantic surf clam fishing. One focus of this research, which has been completed, has been the potential socioeconomic impacts of offshore wind development on the Atlantic surf clam fishery, which reflects an understanding of the value of the fishery to New Jersey and the vulnerability of this fishery to offshore wind. The goal of the study is to better understand how Mid-Atlantic wind farm developments that are anticipated over the next 30 years, along with climate change, may influence the distribution and abundance of surf clams. The study will also examine the economics of the Surf clam Fishery within the Lease Area and the greater Mid-Atlantic Bight. Atlantic Shores' goal is to better understand the changes in surf clam habitat and abundance within its Lease Area and more accurately understand and mitigate any potential effects on the surf clam industry from the construction and operation of its projects.

In addition to the research initiatives described above, Atlantic Shores has committed to the use of cable protection measures (such as concrete mattresses with tapered edges) that better reflect pre-existing conditions, to the maximum extent practicable. As stated in COP Volume II, Section 7.4.4.3, cable protection measures will be designed to minimize effects to fishing gear to the maximum extent practicable and fishermen will be informed of the areas where cable protection is installed. Further, Atlantic Shores has agreed to provide the physical locations of all cable protection installed during project construction. Atlantic Shores is also working with industry groups to determine ways to share information with NOAA and fisheries stakeholders.

As discussed in detail above, economic losses are anticipated as a result of lack of access by the fishing industry to the WTA and over portions of the cable corridor that require protection. To address the adverse impacts to all commercial and for-hire fisheries, BOEM is recommending mitigation measures including the establishment of a compensation fund to compensate commercial and for-hire fishermen for the loss of income due to displacement from fishing grounds and to shoreside businesses for losses indirectly related to the Project. BOEM is also proposing a requirement for Atlantic Shores to conduct an analysis of impacts on shoreside seafood businesses in ports that are expected to be impacted by the Proposed Action. These shoreside businesses may include (but are not limited to) the following:

1. Fishing gear suppliers and repair services;
2. Vessel fuel and maintenance services;
3. Ice and bait suppliers;
4. Seafood processors and dealers; and
5. Wholesale distributors.

As indicated in the DEIS, BOEM is recommending the following measures be implemented by Atlantic Shores:

- No later than 1 year after the approval of the COP, Atlantic Shores will establish a compensation/mitigation fund (Fund) consistent with BOEM's draft Guidance for Mitigating Impacts to Commercial and Recreational Fisheries on the Outer Continental Shelf Pursuant to 30 C.F.R. § 585 (Guidance) to compensate commercial and for-hire recreational fishermen for loss of income due to unrecovered economic activity resulting from displacement from fishing grounds due to project construction and operations and to shoreside businesses for losses indirectly related to the Project. Atlantic Shores has

indicated in its COP that they will establish this fund. For losses to commercial and for-hire recreational fishermen, the Fund will be based on the revenue exposure for fisheries based out of ports listed in Table 3.6.1-15 of the May 2023, DEIS. For losses to shoreside businesses, the Atlantic Shores will analyze the impacts on shoreside seafood businesses adjacent to ports listed in Table 3.6.1-15 of the May 2023 Draft Environmental Impact Statement. The shoreside business impacts may include (but are not limited to): fishing gear suppliers and repair services; vessel fuel and maintenance services; ice and bait suppliers; seafood processors and dealers; and wholesale distributors.

- Atlantic Shores will be required to provide BOEM with their analysis (including any model outputs, such as an IMPLAN model or other economic report) verifying the exposed impacts on shoreside businesses and services. Atlantic Shores must submit to BOEM a report that includes (1) a description of the structure of the Fund and its consistency with BOEM's draft Guidance and (2) an analysis of the impacts of the Project on shoreside businesses, for a 45-day review and comment period at least 90 days prior to establishment of the Fund. Atlantic Shores must resolve all comments on the report to BOEM's satisfaction before implementation of the Fund. Atlantic Shores must then submit to BOEM evidence of the implementation of the Fund, including: A description of any implementation details not covered in the report to BOEM regarding the mechanism established to compensate for losses to commercial and for-hire recreational fishermen and related shoreside businesses resulting from all phases of the project development on the Lease Area (pre-construction, construction, operation, and decommissioning); The Fund charter, including the governance structure, audit and public reporting procedures, and standards for paying compensatory mitigation for impacts to fishers and related shoreside businesses from lease area development; and Documentation regarding the funding account, including the dollar amount, establishment date, financial institution, and owner of the account.

Furthermore and as mentioned previously, Atlantic Shores has further agreed to a MOU with NJDEP through execution of a Letter of Intent, dated April 1, 2024, to work with other offshore wind developers, federal and state regulators to establish a Compensatory Mitigation Fund to compensate fishers for verifiable claims of negative impacts of a significant nature, including potential economic losses due to the construction, operation, or decommissioning of the Projects and to contribute to said fund in accordance with the BOEM Fisheries Mitigation Guidance once such guidance is finalized.

As discussed in detail above, the Project impacts to marine fish and New Jersey based fisheries will range from short term and minimal to longer term and more substantial. However, the Project is in the public interest and impacts would be mitigated through the mitigation measures required by BOEM and otherwise agreed upon by Atlantic Shores. With implementation of the above described minimization and mitigation measures, the NJDEP has concluded that there will not be a net loss in the quality and quantity of the coastal resources of concern.

Consistency with this Rule has been demonstrated.

7:7-16.3 Water quality

BOEM anticipates the impacts on water quality resulting from the Proposed Project would be minor. Impacts from routine activities including sediment resuspension during construction and decommissioning, both from regular cable laying and from prelaying; dredging; vessel discharges; sediment contamination; discharges from the WTGs or OSSs during operation; sediment plumes due to scour; and erosion and sedimentation from onshore construction, would be temporary and negligible to minor. Impacts from non-routine activities, such as accidental releases, would be minor from small spills. While a larger spill could have moderate impacts on water quality, the likelihood of a spill this size is very low. Atlantic Shores would implement its Oil Spill Response Plan that meets U.S. Coast Guard and the Bureau of Safety and Environmental Enforcement (BSEE) requirements, which would provide for rapid spill response, cleanup, and other measures to minimize any potential impact on affected resources from spills and accidental releases, including spills resulting from catastrophic events The impacts associated with the Proposed Project are likely to be temporary or small in proportion to the geographic analysis area and the resource would recover completely after decommissioning.

Consistency with this Rule has been demonstrated.

7:7-16.8 Air quality

This Rule provides protection from air contaminants that injure human health, welfare or property, and seeks the attainment and maintenance of State and Federal air quality goals and the prevention of degradation of current levels of air quality. Coastal development shall conform to all applicable State and Federal regulations, standards and guidelines and be consistent with the strategies of New Jersey's State Implementation Plan (SIP).

In addition to the Project resulting in a significant net decrease in harmful air pollutant emissions region-wide by displacing electricity from fossil fuel power plants., Atlantic Shores has proposed mitigative measures to address air quality, such as the following:

- Use the best available vessel engines that will use a combination of combustion and post-combustion controls to meet or exceed applicable marine engine standards
- Marine diesel fuel will comply with the fuel sulfur limit of 15 ppm per 40 C.F.R. § 80. For heavier residual fuel oils used in Category 2 and Category 3 engines, and for engines on foreign vessels, the Project will comply with the fuel oil sulfur content limit of 1,000 ppm set in MARPOL VI and corresponding U.S. Environmental Protection Agency ("USEPA") regulations
- Optimize construction and O&M activities to minimize vessel operating times and loads
- Obtain the OCS air permit from USEPA and meet or exceed all permit requirements
- Use sulfur hexafluoride (SF_6) -free switchgear

Air permit requirements will be met or exceeded, and Atlantic Shores will comply with all applicable air quality regulatory requirements. A key element will be obtaining the OCS air permit from USEPA. Atlantic Shores will comply with other air related regulatory requirements by using engines manufactured and maintained in compliance with the appropriate standards, which include New Source Performance Standards, National Emissions Standards for Hazardous Air Pollutants, and federal standards for nonroad and marine diesel engines.

Any required OCS air permit will address documentation of compliance with ambient air standards, documentation of no adverse impact on air quality related values at Class I Areas,

control technology review, and emission offsets. Obtaining and adhering to the standards of the OCS air permit issued by the USEPA will ensure conformance with all applicable State and Federal regulations and demonstrate consistency with this Rule.

7:7-16.9 Public access

The offshore component of the Project is not located within New Jersey territorial waters and is not adjacent to any shoreline. Therefore, consistency with this Rule is not required.

7:7-16.10 Scenic resources and design

The Scenic Resources and Design rule at N.J.A.C. 7:7-16.10(c) discourages new coastal development that is not visually compatible with existing scenic resources in terms of large-scale elements of building and site design. The rule, as discussed at N.J.A.C. 7:7-16.10(d)(2)(ii), further clarifies that wind turbines are not subject to the setback requirements and open view corridor restrictions of this rule. As discussed above, "discouraged" coastal development, as defined in the Coastal Zone Management Rules at N.J.A.C. 7:7-1.5, allows for uses that the NJDEP considers to be in the public interest provided mitigating or compensating measures can be taken so that there is a net gain in quality and quantity of the coastal resource of concern. As discussed in the Project Public Interest section of this report, the construction of Atlantic Shores' offshore wind farms and associated infrastructure is in the public interest.

BOEM awarded Atlantic Shores a lease area within which an offshore wind farm could be planned. ASOW does not have access to other parts of the outer continental shelf outside of the lease area for potential wind farm development. Atlantic Shores' Lease Area begins approximately 9 miles off New Jersey's coast and extends offshore to about 24 miles.

As proposed, the Project will include up to 200 WTGs extending up to 1,046.6 feet (319.0 meters) above (mean lower low water) MLLW, a single permanent met tower extending up to 590.6 feet (180 meters) above MLLW, and up to 10 OSSs extending up to 344.5 feet (105 meters) above MLLW in the Lease Area.

The DEIS included a Visual Impact Assessment (VIA) in Appendix H, which presents the seascape, landscape, and visual impact assessment (SLVIA) methodology and key findings that BOEM used to identify the potential impacts of offshore wind structures (WTGs and OSSs) on scenic and visual resources within the geographic analysis area. The VIA uses factors such as viewing distance, viewing angle, sun angle, time of day, atmospheric conditions, and the curvature of the earth to assess the visual impact at various locations along the shore. Specifically, the VIA identified a 45.1-mile radius geographic area for evaluating visual impacts resulting from the Project. Viewpoints to the nearest WTG vary from approximately 8.7 miles from the North Brigantine Natural Area (NJ State Park) to 45 miles from Cape May Point State Park. The Beach Haven Historic District is approximately 13.5 miles from the nearest WTG and Gillian's Wonderland Amusement Park in Ocean City is approximately 17 miles.

The VIA concludes the following with respect to the potential shoreline viewing receptors and the Proposed WTGs and met tower: (1) the first row of Atlantic Shores South WTGs and met tower would be visible from the nearest shoreline key observation point (8.7 miles (14.0 kilometers) over approximately 50 percent of the year; (2) the first two rows would be visible over approximately 40 percent of the year; and (3) portions of the nearest four rows could be visible during approximately 25 percent of the year. According to the DEIS, an analysis of the meteorological data for 13 key observation points for each of the 12 months of the year

revealed that January conditions resulted in the highest levels of WTG and met tower visibility and April conditions resulted in the lowest visibility.

The VIA further concludes that major visual impacts will occur where the Project is located between 8.7 miles to 19.4 miles from shore and includes locations such as the Atlantic City Convention Center, Ocean Casino Resort in Atlantic City, the North Brigantine Natural Area, the Beach Haven Historic District, the Edwin B. Forsythe National Wildlife Reserve, and Lucy the Elephant in Margate, Gillian's Wonderland Amusement Park in Ocean City, and Ship Bottom Borough Municipal Park.

Moderate visual impacts are anticipated where the portion of the Project is between 21.7 miles and 32.6 miles from shore and includes locations such as Barnegat Lighthouse State Park, Island Beach State Park Corson's Inlet State Park, and the Townsend Inlet Bridge.

Additionally, the Project would add to the cumulative viewshed impact posed by multiple proposed offshore wind farms.

However, WTG visibility would vary daily depending on many factors, such as view angle, sun angle, and atmospheric conditions. The photo simulations that were produced to assess project impacts illustrated typical high visibility conditions where the proposed WTGs would not be obscured by atmospheric haze or fog. Therefore, the simulations developed from these locations are representative of a conservative worst-case assessment of Project visibility and potential visual impact. The actual visual impact is anticipated to be less than what is depicted in the worst-case scenarios, as the impacts were found to be highly variable depending on atmospheric perspective and lighting conditions throughout the year. According to the DEIS, variations through the course of the day may result in periods of moderate to major visual effects while at other times of day would have minor or negligible effects.

According to the DEIS, a 2013 study by Sullivan et al. concluded that the predominant focus of visual attention occurs at distances up to 10 miles (16 kilometers); facilities were noticeable to casual observers at distances of almost 18 miles (29 kilometers); and were visible with extended or concentrated viewing at distances beyond 25 miles (40 kilometers). Because the proposed Project's WTGs are approximately twice as tall as those described in the study, the DEIS points out that the WTGs would be noticeable at farther distances during clear conditions.

The DEIS also cites a University of Delaware study that evaluated the impacts of visible offshore WTGs on beach use and the study found that WTGs visible more than 15 miles (24.1 kilometers) from the viewer would have negligible impacts on businesses dependent on recreation and tourism activity (Parsons and Firestone 2018). The study participants viewed visual simulations of WTGs in clear, hazy, and nighttime conditions (without Aircraft Detection Lighting Systems); however, the WTGs for the study were 574 feet tall, which is about half the height of the proposed Project's WTGs. Therefore, the DEIS acknowledges that the visual prominence of the proposed WTGs would be greater than what is represented in the study. A 2017 visual preference study conducted by North Carolina State University evaluated the impact of offshore wind facilities on vacation rental prices. The study found that nighttime views of aviation hazard lighting, without Aircraft Detection Lighting Systems, for WTGs close to shore (5–8 miles [8–13 kilometers]) would adversely affect the rental price of properties with ocean views (Lutzeyer et al. 2017). ADLS lighting eliminates the need for continuous lighting by activating the hazard lighting system in response to detection of nearby aircraft. It did not specifically address the relationship between lighting, nighttime views, and tourism for WTGs 15

or more miles (24.1 or more kilometers) from shore. According to the DEIS, more than 95 percent of the WTG positions likely to be present based on anticipated offshore wind lease area build-out in the geographic analysis area would be more than 15 miles (24.1 kilometers) from coastal locations with views of the WTGs.

Additionally, the COP cites a 2021 Rutgers visibility study that predicted that visibility over the water from July through August, the height of the tourist season when most people would view the Project, would typically range from 5 to 12 miles, while visibility over the ocean in the spring and early summer (April through June), would be expected to be 2.5 to 10 miles, suggesting that Project visibility would be even more limited during this period. In fact, the study found that high visibility conditions would occur over a period of less than 23 percent of the daylight hours in a given year.

Minimization of visual impacts

In order to address minimization of visual impacts, the VIA analyzed three alternative WTG layouts, Alternatives D1, D2, and D3. These alternatives moved the nearest offshore point of the WTA from 9 mi to 12.7 mi, 12.8 mi, and 10.6 mi, respectively. The DEIS concluded that the change in visual impacts from shifting the WTA westward by 1.6 mi to 3.8 mi was negligible.

The Project as proposed has been designed to minimize visual impacts to the extent feasible, by incorporating the measures discussed below.

The larger of the OSSs will be located further offshore to minimize their visibility from the shore (DEIS, Appendix G, p 21).

In addition, the WTGs would be color treated white or light gray, no lighter than RAL 9010 Pure White and no darker than RAL 7035 Light Grey. WTGs color treated with RAL 7035 Light Grey would help reduce potential visibility against the horizon. Using these colors eliminates the need for daytime warning lights or red paint marking of the blade tips (DEIS, Appendix G, p 22).

Further, the WTGs and OSSs will be required to have FAA aviation warning lighting, which would be visible from beaches and coastlines. In order to minimize the impact of continuous flashing warning lights on the viewshed, particularly the nighttime skyline, Atlantic Shores is considering use of an FAA-approved Aircraft Detection Lighting Systems (ADLS), subject to FAA and BOEM approval, which is a lighting system that would only activate WTG and met tower lighting when aircraft enter a predefined airspace. ADLS lighting eliminates the need for continuous lighting by activating the hazard lighting system in response to detection of nearby aircraft. The synchronized flashing of the navigational lights, if ADLS is implemented, would result in shorter-duration night sky impacts on the seascape, landscape, and viewers. The shorter-duration synchronized flashing of the ADLS is anticipated to have reduced visual impacts at night as compared to the standard continuous, medium-intensity red strobe FAA warning system due to the duration of activation. According to the DEIS, activation of ADLS, if implemented, would occur for less than 11 hours per year, as compared to standard continuous FAA hazard lighting. An ADLS-controlled obstruction lighting system could result in an over 99 percent reduction in system activated duration as compared to a traditional always-on obstruction lighting system. Atlantic Shores will mark and light all structures in accordance with FAA, BOEM and USCG guidelines (DEIS, Appendix G, page 36).

Although the visual impact is predicted to be significant, the overall impact to tourism may vary. Studies and surveys that have evaluated the impacts of offshore wind facilities on tourism have identified variable reactions to offshore wind, with respondents having positive, neutral, or negative views of the effect that offshore wind infrastructure would have on their experience of coastal recreation.

Atlantic Shores has agreed to prepare and implement a scenic and visual resource monitoring plan that monitors and compares the visual effects of the Project during construction, operation and maintenance phases (daytime and nighttime) to the finding in the Visual Impact Assessment (COP, Appendix II-M) and verifies the accuracy of the visual simulations. The plan will include documentation of meteorological influences on actual wind turbine visibility over a duration of time from selected key onshore observation points as determined by BOEM and Atlantic Shores. The plan will also include aircraft detection lighting system monitoring and documentation of effectiveness. The DEIS acknowledges that this mitigation measure would not reduce the visual impact of the offshore wind farm. However, these Atlantic Shores commitments will support the science relevant to simulating and evaluating potential scenic and visual effects associated with offshore wind development.

Given that the Project is in the public interest, has incorporated mitigating measures to lessen visual impacts, and has proposed on-going monitoring to assess the visual impacts, consistency with this Rule has been demonstrated.

7:7-16.11 Buffers and compatibility of uses

Buffers are natural or man-made areas, structures, or objects that serve to separate distinct uses or areas. Compatibility of uses is the ability for uses to exist together without aesthetic or functional conflicts. This rule states that development shall be compatible with adjacent land uses to the maximum extent practicable, and development that is likely to adversely affect adjacent areas, particularly special areas, N.J.A.C. 7:7-9, or residential or recreation uses, is prohibited unless the impact is mitigated by an adequate buffer.

As proposed, the WTA at its closest point to shore is located approximately 8.7 miles off the coast of North Brigantine Natural Area, New Jersey, and is not adjacent to any existing use (although other windfarms are proposed in the vicinity of the Lease area). The Project is anticipated to have impacts on viewsheds as discussed in the Scenic Resources and Design rule section above. The 'buffer' from shore is a minimum of 8.7 miles. ASOW is limited to the lease area and cannot shift the project farther from shore without losing project area.

The visual presence of the WTGs and OSSs will be mitigated through the use of Aircraft Detection Lighting Systems (ADLS), which will eliminate the need for continuous lighting, and through the use of white and gray paint colors to minimize the contrast of the structures with the sky.

Because the Project is located in an offshore marine environment, the implementation of a vegetated buffer is not applicable. Consistency with this Rule has been demonstrated.

7:7-16.12 Traffic

There are no mapped navigation channels within the Offshore Project area. No structures will be placed within 50 feet of any navigational channel. While the rule defines traffic as the movement of vehicles, pedestrians, and ships, the Traffic Rule does not contain any standards for ships or vessels. Nonetheless, the offshore wind component of the Project would

generate vessel traffic during construction, operation, and decommissioning within the navigation and vessel traffic geographic analysis area. Other vessel traffic in the Project area consists of transits of fishing and pleasure vessels to or from three major New Jersey commercial fishing ports: Long Beach-Barnegat, Atlantic City, and Cape May-Wildwood. To facilitate safe navigation, all offshore structures will include appropriate marine navigation lighting and marking in accordance with USCG and BOEM guidance. Atlantic Shores will continue to work with the U.S. Coast Guard and BOEM to determine the appropriate marine lighting and marking schemes for the proposed offshore facilities.

Consistency with this Rule has been demonstrated.

Conclusion

RECOMMEND CONCURRENCE

The Director of DLRP hereby finds that the applicable findings as embodied in the Coastal Zone Management Rules, will be met provided all agreed upon measures of the Federal Consistency Certification are met.

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